DRAFT

ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL IMPACT STATEMENT

Potrero HOPE SF Master Plan

PLANNING DEPARTMENT
CASE NO. 2010.0515E

STATE CLEARINGHOUSE NO. 2010112029

Draft EIR/EIS Publication Date:	**November 5, 2014**
Draft EIR/EIS Public Hearing Date:	**December 11, 2014**
Draft EIR Public Comment Period:	**November 7, 2014 through December 22, 2014**

SAN FRANCISCO PLANNING DEPARTMENT

Written comments should be sent to:
Environmental Review Officer | 1650 Mission Street, Suite 400 | San Francisco, CA 94103

SAN FRANCISCO
PLANNING DEPARTMENT

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

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

DATE: November 5, 2014

TO: Distribution List for the Potrero HOPE SF Master Plan Draft EIR/EIS

FROM: Sarah B. Jones, Environmental Review Officer

SUBJECT: Request for the Final Environmental Impact Report for the Potrero HOPE SF Master Plan Project (Planning Department File No. 2010.0515E)

This is the Draft of the Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) for the Potrero HOPE SF Master Plan Project. A public hearing will be held on the adequacy and accuracy of this document. After the public hearing, our office will prepare and publish a document titled "Responses to Comments," which will contain a summary of all relevant comments on this Draft EIR/EIS and our responses to those comments. It may also specify changes to this Draft EIR/EIS. Those who testify at the hearing on the Draft EIR/EIS will automatically receive a copy of the Responses to Comments document, along with notice of the date reserved for certification; others may receive a copy of the Responses to Comments and notice by request or by visiting our office. This Draft EIR/EIS together with the Responses to Comments document will be considered by the Planning Commission in an advertised public meeting and will be certified as a Final EIR/EIS if deemed adequate.

After certification, we will modify the Draft EIR/EIS as specified by the Responses to Comments document and print both documents in a single publication called the Final EIR/EIS. The Final EIR/EIS will add no new information to the combination of the two documents except to reproduce the certification resolution. It will simply provide the information in one document, rather than two. Therefore, if you receive a copy of the Responses to Comments document in addition to this copy of the Draft EIR/EIS, you will technically have a copy of the Final EIR.

We are aware that many people who receive the Draft EIR/EIS and Responses to Comments have no interest in receiving virtually the same information after the EIR has been certified. To avoid expending money and paper needlessly, we would like to send copies of the Final EIR/EIS in Adobe Acrobat format on a CD to private individuals only if they request them. Therefore, if you would like a copy of the Final EIR/EIS, please fill out and mail the postcard provided inside the back cover to the Environmental Planning division of the Planning Department within two weeks after certification of the EIR/EIS. Any private party not requesting a Final EIR/EIS by that time will not be mailed a copy. Public agencies on the distribution list will automatically receive a copy of the Final EIR/EIS.

Thank you for your interest in this project.

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SAN FRANCISCO
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Potrero HOPE SF Master Plan
Draft EIR/EIS
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ACRONYMS AND ABBREVIATIONS

°F	Fahrenheit
µg/m^3	micrograms per cubic meter
AB	Assembly Bill
AB 1327	California Solid Waste Reuse and Recycling Access Act of 1991
AB 32	Assembly Bill 32
ABAG	Association of Bay Area Governments
AC Transit	Alameda-Contra Costa Transit
ACM	asbestos-containing materials
ACS	American Community Survey
ADA	Americans with Disabilities Act
ADMP	Asbestos Dust Mitigation Plan
ADRP	archaeological data recovery plan
ADT	average daily traffic
AMP	archaeological monitoring program
APE	Area of Potential Effect
APN	Assessor's Parcel Number
ARB	California Air Resources Board
ASD	acceptable separation distance
ATCM	Airborne Toxic Control Measure
ATEC	Assessment Tools for Environmental Compliance
ATP	archaeological testing plan
AWSS	auxiliary water supply system
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Basin Plan	Water Quality Control Plan for the San Francisco Bay Basin
Bay Area	San Francisco Bay Area
BCDC	Bay Conservation and Development Commission
Bicycle Plan	San Francisco Bicycle Plan
BLIP	Branch Library Improvement Program
BMP	best management practice
BRIDGE Housing	BRIDGE Housing Corporation
Building Code	San Francisco Building Code
BWWFs	Bayside Wet Weather Facilities
C&D	construction and demolition
C-3	Downtown Commercial

CAA	Clean Air Act
CAFE	corporate average fuel economy
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Department of Industrial Relations, Division of Occupational Safety and Health
CalRecycle	Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CALVENO	California Vehicle Noise Reference Energy Mean Emission Levels
CAP	Clean Air Plan
CBC	California Building Code
CBRS	Coastal Barrier Resources System
CCAA	California Clean Air Act
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CDBG	Community Development Block Grant
CDFW	California Department of Fish and Wildlife
CDMG	California Division of Mines and Geology
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CFW Code	California Fish and Wildlife Code
CGS	California State Geologist
CH_4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CIP	capital improvement program
City	City of San Francisco
CIWMB	California Integrated Waste Management Board's
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide

CO_2E	carbon dioxide equivalent
CRHR	California Register of Historic Resources
CSO	combined sewer overflow
CSO Control Policy	Combined Sewer Overflow Control Policy
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CY	cubic yards
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibels
dBC	C-weighted decibels
DBI	San Francisco Department of Building Inspection
DCDG	Development Controls and Design Guidelines
DCP	Dust Control Plan
DD-60	Deputy Directive 60
Design Guidelines	Design Standards and Guidelines
District 10	Tenth Supervisorial District
DNL	Day/Night Noise Level
DPH	San Francisco Department of Public Health
DPM	diesel particulate matter
DPW	Department of Public Works
DTSC	California Department of Toxic Substances Control
Dust Ordinance	Construction Dust Control Ordinance
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EISA	Energy and Independence Security Act of 2007
EMT	Emergency Medical Technicians
EO	Executive Order
EO 12898	Executive Order 12898
EOC	Emergency Operations Center
ER	Emergency Response Plan
ERO	Environmental Review Officer
ESA	Environmental Site Assessment
ESL	environmental screening level
FAA	Federal Aviation Administration
FARR	Final Archaeological Resources Report

FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
FFPA	Federal Farmland Protection Act
FHWA	Federal Highway Administration
FIRMs	Flood Insurance Rate Maps
FTA	Federal Transit Administration
FTA Guidelines	Transit Noise Impact and Vibration Assessment
FY	Fiscal Year
General Plan	San Francisco General Plan
GGNRA	Golden Gate National Recreation Area
GGT	Golden Gate Transit
GHG	greenhouse gas
gpm	gallons per minute
GPR	GreenPoint Rated
GVW	gross vehicle weight
GWh	gigawatt-hours
Harry Tracy WTP	Harry Tracy Water Treatment Plant
HCD	California Department of Housing and Community Development
HEPA	High Efficiency Particulate Air Filter
HFCs	hydrofluorocarbons
HMUPA	Hazardous Materials Unified Program Agency
HOME	Home Investment Partnership Program
HOPE	Housing Opportunities for People Everywhere
HOPE SF	San Francisco Housing Opportunities for People Everywhere SF Program
hp	horsepower
HRE	Historical Resources Evaluation Report
HRER	Historic Resource Evaluation Response
HUD	U.S. Department of Housing and Urban Development
HVAC	heating, ventilation, and air conditioning
HWCA	Hazardous Waste Control Act
I-280	Interstate 280
I-80	Interstate 80
IBC	International Building Code
in/sec	inch per second

ISCOTT	Interdepartmental Staff Committee on Traffic and Transportation
Islais Basin	Islais Valley groundwater basin
ITE	Institute of Transportation Engineers
kWh	kilowatt-hours
LBP	lead-based paint
L_{dn}	day-night average sound level
LEED NC	Leadership in Energy and Environmental Design-New Construction
LEED®	Leadership in Energy and Environmental Design
LEED-ND	Leadership in Energy & Environmental Design-Neighborhood Development
LID	Low Impact Design
L_n	sound levels
LOS	level of service
LUA	Land Use Allocation
LVW	loaded vehicle weight
M	magnitude
MBTA	Migratory Bird Treaty Act
MCS	Motor Coach Standard
MEI	maximally exposed individual
mg/kg	milligrams per kilogram
mgd	million gallons per day
MLD	most likely descendant
MLP	maximum load point
MOD	Mayor's Office of Disability
MOH	Mayor's Office of Housing
MOHCD	Mayor's Office of Housing and Community Development
MOU	Memorandum of Understanding
mpg	miles per gallon
mph	miles per hour
MRZ-4	Mineral Resource Zone 4
msl	mean sea level
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System
Muni	San Francisco Municipal Railway
MWh	megawatt-hours

MY	model year
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NAG	Noise Assessment Guidelines
NAHC	Native American Heritage Commission
NCRS	Natural Resources Conservation Service
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOA	naturally occurring asbestos
NOI	Notice of Intent
NOIRROF	Notice of Intent to Request a Release of Funds
NOP	Notice of Preparation
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPRA	National Park and Recreation Association
NPS	National Park Service
NPWWF	North Point Wet Weather Facility
NRHP	National Register of Historic Places
NSR	New Source Review
NWIC	Northwest Information Center
OEHHA	Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OSHA	Occupation Safety and Health Administration
OSP	Oceanside Water Pollution Control Plant
P	Public
PA	Programmatic Agreement
PAR	Preliminary Archaeological Review
PCBs	polychlorinated biphenyls
PDR	production, distribution, and repair
PG&E	Pacific Gas and Electric Company

Phase I ESA	Phase I Environmental Site Assessment
PHF	peak hour factor
Plan	Construction Emissions Minimization Plan
Planning Code	San Francisco Planning Code
PM	particulate matter
PM10	10 microns in diameter or less
PM2.5	particulate matter of 2.5 microns in diameter or less
POPOS	privately-owned public open spaces
PPD	per person per day
pphm	parts per hundred million
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RECs	recognized environmental conditions
RFS	Renewable Fuel Standard
RHNA	Regional Housing Needs Allocation
RM	Residential Mixed
RM-2	Residential Mixed Moderate Density District
ROG	reactive organic gases
ROSE	Recreation and Open Space Element
ROWD	report of waste discharge
RPD	Recreation and Park Department
RPP	Residential Parking Permit
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
RWS	Regional Water System
SAAQS	state ambient air quality standards (California)
SAM	Site Assessment & Mitigation Program
SamTrans	San Mateo Transit District
San Francisco Bay RWQCB	San Francisco Bay Regional Water Quality Control Board
SAR	Sampling and Analysis Report
SB	Senate Bill
SCP	Stormwater Control Plan

SDG	Stormwater Design Guidelines
SEP	Southeast Water Pollution Control Plant
SEWPCP	Southeast Water Pollution Control Plant
sf	square feet
SF Environment	San Francisco Department of the Environment
SFBAAB	San Francisco Bay Area Air Basin
SFBC	San Francisco Building Code
SF-CHAMP	San Francisco County Transportation Authority's Chain Activity Modeling Process
SFDPH	San Francisco Department of Public Health
SFFD	San Francisco Fire Department
SFGBO	San Francisco Green Building Ordinance
SFHA	San Francisco Housing Authority
SFMTA	San Francisco Municipal Transportation Authority
SFO	San Francisco International Airport
SFPD	San Francisco Police Department
SFPL	San Francisco Public Library
SFPUC	San Francisco Public Utilities Commission
SFRPD	San Francisco Recreation and Park Department
SFRWQCB	San Francisco Bay Regional Water Quality Control Board
SFUSD	San Francisco Unified School District
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMO	Stormwater Management Ordinance
SMP	Site Management Plan
SO_2	sulfur dioxide
SRI	Solar Reflectance Index
SS	Sustainable Sites
SSIP	Sewer System Improvement Program
State Water Board	State Water Resources Control Board
SUD	Special Use District
SVWTP	Sunol Valley Water Treatment Plant
SWPCP	Southeast Water Pollution Control Plant
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAAS	Theoretically Available Annual Sunlight

TACs	Toxic air contaminants
TASC	Transportation Advisory Staff Committee
TAZs	Traffic Analysis Zones
TCP	Transportation Control Plan
TCS	Trolley Coach Standard
TDM	transportation demand management
TEP	Transit Effectiveness Project
TIS	transportation impact study
TMDL	total maximum daily load
TOG	total organic gases
TSCA	Toxic Substances Control Act
TTLC	Total Threshold Limit Concentration
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
URA	Federal Uniform Relocation Act
US 101	U.S. Highway 101
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USEPA Levels	Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety
USFWS	U.S. Fish and Wildlife Service
USHA	United States Housing Act
UST	underground storage tank
UV	ultraviolet
UWMP	Urban Water Management Plan
VdB	vibration decibels
VDECS	Verified Diesel Emissions Control Strategy
VOC	volatile organic compounds
vph	vehicles per hour
VRAP	Voluntary Remedial Action Program
WDR	waste discharge requirement
WHO	World Health Organization
WSA	Water Supply Assessment
WSIP	Water System Improvement Program
WWII	World War II

SUMMARY

S.1 INTRODUCTION

This document is a joint Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) prepared for the Potrero HOPE SF Master Plan Project (Proposed Project). This EIR/EIS has been prepared by the San Francisco Planning Department in cooperation with the City of San Francisco's Mayor's Office of Housing and Community Development (MOHCD), as lead agencies under California Environmental Quality Act (CEQA) and National Environmental Policy Act[1] (NEPA), respectively. This Draft EIR/EIS is intended to comply with both CEQA and NEPA. See Title 14, Division 6, Chapter 3 of the California Code of Regulations (CCR) (the CEQA Guidelines), Section 15222 (*Preparation of Joint Documents*); and Title 40, Sections 1502.25, 1506.2, and 1506.4 of the Code of Federal Regulations (40 CFR 1502.25, 1506.2, 1506.4) (authority for combining federal and state environmental documents). This document analyzes the environmental impacts resulting from implementation of the Project. This Draft EIR/EIS uses "Proposed Project." The "Proposed Action" under NEPA is identified only after the analysis is complete, which is to say, after each of the proposed alternatives has been analyzed in full. Under NEPA all alternatives are analyzed in full so that the impacts each can be taken into account prior to selecting the "Proposed Action".

The San Francisco Housing for People Everywhere (HOPE) SF Program,[2] a partnership between the MOHCD and the San Francisco Housing Authority (SFHA), proposes to redevelop the Potrero Terrace and Annex (Potrero) housing developments as a part of its program to revitalize distressed public housing developments in San Francisco. The program, which also includes Hunters View, Sunnydale-Velasco, Westside Courts, and Alice Griffith public housing developments, proposes to replace every housing unit, provide homes for current residents, and add new housing at a variety of income levels. HOPE SF plans to redesign these communities with new buildings, streets, utilities infrastructure, parks, and landscaping. BRIDGE Housing Corporation is the developer and project applicant for Potrero HOPE SF.

In developing the Proposed Project, MOHCD, SFHA, and BRIDGE Housing, in consultation with current residents, neighbors, and neighborhood organizations, determined the appropriate mix of public housing, below market rate, and market rate housing that would best meet the objectives and goals of the HOPE SF program and the San Francisco General Plan policies applicable to the Project site, including the Residence Element and the Showplace Square/Potrero Area Plan.

The Project site is located in the southeastern area of the Potrero Hill neighborhood. The Project site is one and one-half blocks (0.2 miles) west of Interstate 280 (I-280), four blocks east of U.S. Highway

[1] National Environmental Policy Act of 1969, as amended, 42 U.S.C. §§ 4321-4347

[2] Refer to the HOPE SF website for an in-depth description. Available at: http://hope-sf.org/about.php.

101 (US 101) (0.4 miles), and two blocks north of Cesar Chavez Street (0.2 miles), and is bordered to the northwest by the Potrero Hill Recreation Center. The eastern edge of the site sits on a ridge paralleling Pennsylvania Street below. As detailed in Chapter 1, *Project Purpose, Need, and Objectives*, the Project site comprises several parcels totaling approximately 39 acres, including roads. Areas of the Project site have very steep slopes. The highest topographic elevation is to the north at the intersection of 23rd Street and Arkansas Street at 265 feet above mean sea level (msl) and the lowest elevation is to the south at the intersection of 26th Street and Connecticut Street at 40 feet above msl.

S.2 PROJECT PURPOSE, NEED, AND OBJECTIVES

The HOPE SF program has identified the need for redevelopment of the Potrero housing developments and has included it as a part of its program to revitalize distressed public housing developments in San Francisco. The Project site is comprised of two of the oldest public housing developments in San Francisco, Potrero Terrace and Potrero Annex, and contains 620 residences[3] that are in various stages of physical decay. Together, these public housing developments house a population of approximately 1,280 people, a Family Resource Center, and a child care center. In addition to distressed and deteriorated housing, the development contains dead-end streets and steep topography that isolate residents from the surrounding Potrero Hill neighborhood. The Proposed Project would replace the deteriorated existing housing units and provide new infrastructure and other site improvements.

Objectives are important for the selection and consideration of alternatives under CEQA and NEPA.

To meet this general goal, HOPE SF has identified the following project objectives:

- Implement the City's HOPE SF Initiative and the Showplace Square/Potrero Area Plan;
- Create an economically integrated neighborhood with new public housing units, affordable rental apartments, and market rate and/or rental homes;
- Establish physical and social connections between the Potrero Terrace and Annex Project site and the larger Potrero Hill neighborhood;
- Provide employment opportunities for current public housing residents;
- Provide community facilities, including space for on-site services and programs;
- Create a comprehensive services plan to address gaps in services and facilitate access to existing programs and resources;

[3] This Draft EIR/EIS states throughout that there are 620 residential units currently at the Project site. However, 14 of these units are currently used as a childcare center and 606 are currently used for residential purposes. The 606 residential units would be replaced as affordable housing on a one-for-one basis. The remaining 14 units would be replaced in the childcare center in the proposed community center. Thus, the existing uses of all the 620 units would be replaced.

- Build a new 24th Street neighborhood center with a community center, senior housing, and a park;
- Build new safe streets and open spaces;
- Develop as much housing as possible and feasible in buildings that would range from three to six stories tall;
- Provide space for community-serving retail stores;
- Create a financially feasible plan for redevelopment within the constraint of limited availability of public subsidies; and
- Incorporate green and healthy development principles that include:
  - > Green construction and healthy buildings[4]
  - > A walkable neighborhood
  - > Stormwater management
  - > Meet requirements for Leadership in Energy & Environmental Design-Neighborhood Development (LEED-ND)

S.3 TYPE OF EIR/EIS

An EIR/EIS is composed of a draft document known as a Draft EIR/EIS, and the lead agency's written responses to public and public-agency comments on the draft document (a Final EIR/EIS). This Draft EIR/EIS evaluates the potential impacts on the human and natural environment resulting from implementation of the Proposed Project. The Draft EIR/EIS proposes mitigation measures and alternatives that may reduce or avoid adverse impacts. Following public review of this Draft EIR/EIS, a Final EIR/EIS will be prepared, in which the City, as lead agency, will provide responses to comments relating to the analysis provided in the Draft EIR/EIS.

This document is a joint EIR/EIS that complies with both CEQA and NEPA requirements for evaluation of project impacts.

S.4 CEQA/NEPA REQUIREMENTS FOR PROJECT DESCRIPTION AND EVALUATION OF ALTERNATIVES

The *Project Alternatives and Project Description* chapter of an EIS is critical to evaluating environmental impacts and identifying a "Proposed Project" under NEPA. NEPA requires a

[4] Healthy building-scale principles include energy-efficient buildings incorporating modern code-compliant materials. This would provide better indoor air quality and facilitate better occupant health. Water conservation measures are also part of meeting environmental goals. Buildings would be integrated with the streetscape and open space system. This would allow for better observation of semi-public and public open space and promote safety of the residents and greater sense of community.

thorough evaluation of the impacts and merits of all project alternatives, so that the "Proposed Action" is identified at the conclusion of the environmental review, after the analysis has been conducted, rather than at the outset. The Council on Environmental Quality (CEQ) Regulations state:

NEPA requires that an EIS must:

> "[r]igorously explore and objectively evaluate all reasonable alternatives" and
>
> "[d]evote substantial treatment to each alternative considered in detail including the proposed project so that reviewers may evaluate their comparative merits."[5]

The EIS must consider and evaluate the no project alternative, identify the environment affected by the proposed project and indicate the direct and indirect effects of the proposed project and each alternative, together with their significance on various environmental values. It must evaluate impacts proportionately with respect to their significance and must consider a range of alternatives that will be considered by MOHCD and by the lead agency in making its decision.[6]

The guiding principles for the content of a project description in an EIR are provided by the State CEQA Guidelines (Title 14, Section 15124 of the California Code of Regulations [14 CCR Section 15124]). Section 15124 states that "[t]he description of the project shall contain the following information, but should not supply extensive detail beyond that needed for evaluation and review of the environmental impact." The contents of a project description shall include:

- The precise location and boundaries of the proposed project, preferably on a detailed topographic map, along with the general location of the project on a regional map
- A statement of the objectives sought by the proposed project, including the underlying purpose of the project, designed to assist the lead agency in the formulation of alternatives and preparation of findings or a statement of overriding considerations, if necessary
- A general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities
- A statement briefly describing the intended uses of the EIR, including (to the extent the information is known to the lead agency) a list of the agencies that are expected to use the EIR in their decision-making, a list of permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies

[5] 40 Code of Federal Regulations 1502.14 (July 1, 2012)

[6] Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions rather than justifying decisions already made. 40 CFR 1502.2(g).

The Proposed Project and Alternative descriptions summarized below and described in Chapter 2, *Project Alternatives and Project Description*, satisfy the NEPA and CEQA requirements.

S.5 DESCRIPTION OF ALTERNATIVES AND PROPOSED PROJECT

This document analyzes the potential environmental consequences associated with the Proposed Project, two build alternatives, and the No Project Alternative. The alternatives are described in detail in Chapter 2, *Project Alternatives and Project Description*, and are summarized below.

The Proposed Project would increase the number of dwelling units on the site from 620 to approximately 1,700, an increase of approximately 1,080 residential units. The final number of units is dependent on the unit mix. Of the new units, 606 would be replacement public housing dwelling units, on a one-for-one basis, that would remain affordable housing, subsidized by the San Francisco Housing Authority but under management by, and ownership of, the project applicant or related entities.[7] Of the additional approximately 1,080 units, 42 percent (approximately 450 units) would be affordable housing while 58 percent (approximately 630 units) would be market rate housing. In total, approximately 63 percent of the Proposed Project would be affordable housing while the remaining 37 percent would be set aside as market rate housing. The Proposed Project would include buildings between three and six stories, and ranging in height from 32 feet to 65 feet.

The proposed density of the Project could be approved through a Height and Map Amendment to change the height and bulk designations for portions of the site that are proposed above 40 feet. In addition, the Proposed Project would require a Special Use District (SUD) to allow the transfer of densities across newly created lots and to allow more retail uses, and a rezoning of the former San Francisco Unified School District (SFUSD) site, also referred to as Block X, from P to a RM-2 District. The zoning amendment would require Board of Supervisors approval, with recommendation from the Planning Commission. Other entitlement paths are possible to enable the project. Given the length of the buildout period for the Proposed Project, *Design Standards and Guidelines* (*Design Guidelines*) has been prepared to provide further description and design controls for the Proposed Project and would become an exhibit to the SUD.

Up to 15,000 square feet (sf) of ground-floor, neighborhood-serving retail or flex space[8] would be developed along 24th Street between Arkansas Street and Missouri Street. The Proposed Project would also include a Community Center and public and private open space throughout the Project

[7] This Draft EIR/EIS states throughout that there are 620 units at the Project site. Due to a change in the use of units (i.e., formerly residential units being used for daycare), there are currently 606 units available for occupancy at the Project site. The analysis in this Draft EIR/EIS assumes that 620 residential units are present.

[8] Areas defined as flex space would ideally be used for retail and commercial uses. However, if demand is low for retail and commercial uses, then flex space would also allow active live/work use.

site. The Community Center, which would include daycare and preschool facilities, would be located on 24th Street between Arkansas Street and Missouri Street and would be up to 35,000 sf in size.

The Proposed Project would include approximately 1,055 off-street parking spaces, primarily within underground or structured parking garages. Of the proposed parking spaces, 45 would be handicap accessible. In addition, the Proposed Project would include approximately 600 unmetered on-street parking spaces.

Alternative 1 – Reduced Development Alternative

Alternative 1 would retain the same development footprint as the Proposed Project; however, the maximum building heights in this alternative would not exceed 40 feet. Thus, compared to the Proposed Project, fewer housing units would be developed if this alternative is implemented. Alternative 1 would develop up to 1,280 residential units, including up to 80 affordable senior units, up to 796 affordable units (including 620 replacement public housing units), and up to 404 market rate units.

Similar to the Proposed Project, the proposed density of Alternative 1 could be approved through a Height and Map Amendment to change the height and bulk designations for portions of the site. In addition, Alternative 1 would require a SUD to allow the transfer of densities across newly created lots and to allow more retail uses, and a rezoning of the former SFUSD site, also referred to as Block X, from P to a RM-2 District.

Alternative 2 – Housing Replacement Alternative

As part of Alternative 2, all existing housing units at the Project site would be demolished and rebuilt using the same building pattern that currently exists. The existing site plan and street pattern at the Project site would be retained. As such, this alternative would reconstruct the existing affordable housing units at the Project site, a 35-space preschool center, a 15-space child day care center, and associated residential parking facilities. Secured bicycle parking would be provided at the ground floor of each reconstructed residential building at or near building entrances. Other amenities provided under the Proposed Project, such as additional parks, retail facilities, and the Community Center, would not be provided as part of this alternative. Parking would remain the same with approximately 1,301 on-street parking spaces and 64 off-street parking spaces. Other amenities provided under the Proposed Project, such as additional parks, retail facilities, and the Community Center, would not be provided as part of this alternative.

Alternative 3 – No Project Alternative

Alternative 3 would analyze the continuation of uses on the site; therefore, existing buildings and tenants would remain at the Project site and no new buildings or uses would be constructed.

S.6 SUMMARY OF IMPACTS AND MITIGATION MEASURES

The impact analysis of the Proposed Project and alternatives are discussed in Chapter 5, *Environmental Consequences*. Table S-1 summarizes the Proposed Project and alternatives impacts and mitigation measures.

S.7 SCOPE AND AREAS OF KNOWN CONTROVERSY

S.7.1 Scoping Process

On November 10, 2010, the Planning Department in compliance with CEQA and its CEQA procedures, issued a Notice of Preparation (NOP) to prepare a Draft Environmental Impact Report (see Appendix 1). Individuals and agencies that received these notices included: all occupants of the Potrero Terrace and Annex housing developments; owners of properties within 300 feet of the Project site; owners and tenants of properties adjacent to the Project site; other potentially interested parties, including various regional and state agencies; and neighborhood organizations. A scoping meeting was held on November 22, 2010. The scoping meeting provided the public and affected governmental agencies with an opportunity to present their environmental concerns regarding the Proposed Project.

In July 2011, in accordance with applicable NEPA requirements, the MOHCD determined that the Proposed Project would have potentially significant and unavoidable operational and cumulative traffic impacts and, thus, an EIS would be required. On May 2, 2012, HUD issued a notice of intent (NOI) to prepare a Draft Environmental Impact Statement (see Appendix 1) to inform agencies and the general public that a joint EIR/EIS was being prepared and invited comments on the scope and content of the document. The NOI provided contact information for City staff responsible for the NOI, and stated that a public scoping meeting would be held no less than 15 days following publication of the NOI. The scoping meeting held on May 17, 2012 provided the public and affected governmental agencies with an opportunity to present their environmental concerns regarding the Proposed Project.

Concerns that arose during the CEQA and NEPA scoping process are summarized in Section 1.5.2 of this chapter and can be found in Appendix 1. The comments made during the NOP and NOI scoping periods that pertain to potential environmental impacts and analysis are addressed in this Draft EIR/EIS.

As stated in the NOP and NOI, the Proposed Project could result in potentially significant environmental effects. As required by CEQA and NEPA, this Draft EIR/EIS will examine those effects, identify potential mitigation measures, and analyze whether proposed mitigation measures would reduce the environmental effects to a less-than-significant level. This Draft EIR/EIS will also present an analysis of alternatives to the Proposed Project that may reduce or eliminate one or more of the potential impacts of the Proposed Project. This Draft EIR/EIS will analyze the environmental

issues listed below. For each impact area, this Draft EIR/EIS will identify whether the subject area is analyzed for CEQA or NEPA purposes or both and if both, any differences in significance criteria applied under CEQA and NEPA.

- Land Use and Land Use Planning
- Visual Quality/Aesthetics
- Socioeconomics and Community
- Environmental Justice
- Cultural and Paleontological Resources
- Transportation and Circulation
- Noise
- Air Quality
- Greenhouse Gas Emissions
- Wind and Shadow
- Recreation
- Utilities and Service Systems
- Public Services
- Biological Resources
- Geology and Soils
- Hydrology and Water Quality
- Hazards and Hazardous Materials
- Mineral and Energy Resources
- Agricultural and Forest Resources

S.7.2 Changes to CEQA – Senate Bill 743

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014. Among other provisions, SB 743 added Section 21099 to the Public Resources Code (PRC) and eliminated the analysis of aesthetics and parking impacts for certain 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. Accordingly, this document does not provide CEQA conclusions regarding aesthetics and parking, which can no longer be considered in determining the significance of the Proposed Project's physical environmental effects under CEQA. Implementation of SB 743 was subsequent to the publication of the NOP, which had indicated that the EIR would include a discussion of aesthetics- and parking-related impacts of the Proposed Project. However, since the Proposed Project is subject to NEPA, comments submitted on the NOI relating to aesthetics and parking impacts are addressed in Sections 5.3, *Visual Quality/Aesthetics* and 5.7, *Transportation and Circulation*, and NEPA conclusions are provided.

S.7.3 Areas of Known Controversy and Issues to be Resolved

This Draft EIR/EIS assesses the Proposed Project's contribution to land use changes at the Potrero Terrace and Annex housing developments. It also evaluates the public's concerns raised during the scoping period. Issues raised during the scoping period included the following:

- Preservation of mature trees.
- Reduction or changes in open space.
- Location of affordable housing in relation to market rate housing.

- Preservation of the vistas for all neighborhood residents and overall aesthetics of the new development.
- Soil stability after gradation or development of the site.
- Increased noise from more people and traffic.
- Increased vehicular traffic.
- Safety.
- Vehicle parking.
- Displacement of residents during construction phase.

The Draft EIR/EIS addresses these concerns by analyzing the potential impacts and proposing mitigation measures, where needed, to minimize and avoid potential impacts to aesthetics, biological resources, geology and soils, population and housing, recreation, noise, transportation and safety. Refer to Appendix 1 for NOP and NOI comments.

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
5.2 Land Use and Planning					
Impact LU 1: Effects Related to Physical Division					
CEQA: The Proposed Project or its alternatives would not physically divide an established community.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: This impact criterion is not applicable under NEPA. Please see Section 5.4, *Socioeconomics and Community*, for an analysis of socioeconomic effects related to physical barriers of a particular group.	n/a	n/a	n/a	n/a	n/a
Impact LU 2: Effects Related to Plan Consistency					
CEQA: The Proposed Project or its alternatives would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than Significant	Less than Significant	No Impact	Less than Significant	n/a
NEPA: The Proposed Project or its alternatives would not be inconsistent with applicable land use plans and policies.	Less than Significant	Less than Significant	No Impact	Less than Significant	n/a
Impact LU 3: Effects on Existing Character					
CEQA: The Proposed Project or its alternatives would not have an adverse impact on the existing land use character of the Project site and vicinity.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
NEPA: The Proposed Project or its alternatives would not be incompatible with surrounding development.	No Impact	No Impact	No Impact	Less than Significant	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
Impact C-LU-1: Cumulative Effects on Land Use					
CEQA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative land use impacts.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative land use impacts.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
5.3 Aesthetics					
Impact AE-1: Effects on Views					
CEQA: This topic is not applicable under CEQA for the Proposed Project.	n/a	n/a	n/a	n/a	n/a
NEPA: The Proposed Project or its alternatives would not block or disrupt views of scenic resources or reduce public opportunities to view scenic resources.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
Impact AE-2: Effects on Visual Character during Construction					
CEQA: This topic is not applicable under CEQA for the Proposed Project.	n/a	n/a	n/a	n/a	n/a
NEPA: The Proposed Project or its alternatives would potentially introduce elements that are out of character or scale with the existing physical environment or detract from the aesthetic appeal of the surrounding area during construction.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Improvement Measure IM-AE-2a – Construction Period Screening and Cleaning

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact AE-3: Effects on Visual Character during Operation					
CEQA: This topic is not applicable under CEQA for the Proposed Project.	n/a	n/a	n/a	n/a	n/a
NEPA: The Proposed Project or its alternatives would not introduce elements that are out of character or scale with the existing physical environment or that detract from the aesthetic appeal of the surrounding area during operation.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact AE-4: Alteration of the Land Form or Existing Features					
CEQA: This topic is not applicable under CEQA for the Proposed Project.	n/a	n/a	n/a	n/a	n/a
NEPA: The Proposed Project or its alternatives would not substantially alter the land form or demonstrably destroy or alter the natural or man-made features.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact AE-5: Conformance to Locally Adopted Design Guidelines					
CEQA: This topic is not applicable under CEQA for the Proposed Project.	n/a	n/a	n/a	n/a	n/a
NEPA: The Proposed Project or its alternatives would conform to locally adopted design guidelines.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact C-AE-1: Aesthetics Cumulative Impact					
CEQA: This topic is not applicable under CEQA for the Proposed Project.	n/a	n/a	n/a	n/a	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to aesthetics.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
5.4 Socioeconomics and Community					
Impact SC 1: Displacement Effects					
CEQA: The Proposed Project or its alternatives would temporarily displace existing housing units and residents, but this displacement would not necessitate the construction of replacement housing elsewhere.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
NEPA: The Proposed Project or its alternatives would not result in permanent displacement of existing residents or businesses.	Less then Significant	Less than Significant	No Impact	No Impact	n/a
Impact SC 2: Effects on Growth					
CEQA: The Proposed Project or its alternatives would not induce substantial population growth, either directly or indirectly.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
NEPA: The Proposed Project or its alternatives would not induce a substantial amount of unplanned growth.	No Impact	No Impact	No Impact	No Impact	n/a
Impact SC 3: Physical Barrier Effects					
CEQA: This topic is not covered under CEQA. Please see Section 5.2, *Land Use and Land Use Planning*, for an analysis of land use effects related to physical division of an established community.	n/a	n/a	n/a	n/a	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
NEPA: The Proposed Project would not result in physical barriers or reduced access that would isolate a particular neighborhood or population group.	No Impact	No Impact	No Impact	No Impact	n/a
Impact SC 4: Employment Effects					
CEQA: This topic is not covered under CEQA.	n/a	n/a	n/a	n/a	n/a
NEPA: The Proposed Project or its alternatives would not cause a decrease in local or regional employment.	No Impact	No Impact	No Impact	No Impact	n/a
Impact C-SC-1: Cumulative Impacts to Socioeconomics, Population, and Housing					
CEQA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative population and housing impacts.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, not would result in significant adverse cumulative socioeconomics impacts.	Less then Significant	Less than Significant	Less than Significant	Less than Significant	n/a
5.5 Environmental Justice					
Impact EJ-1: Socioeconomic Effects					
CEQA: This topic is not covered under CEQA	n/a	n/a	n/a	n/a	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Proposed Project or its alternatives could result in substantial environmental impacts that would disproportionately affect low-income and minority populations.	Construction: Less than Significant. Operation: Beneficial	Beneficial	Beneficial	Significant and Unavoidable	Mitigation Measures M-AQ-4, M-AQ-2a, M-AQ-2b, M-NO-1a, M-NO-1b; and M-HZ-2.1 through M-HZ-2.4. See below for more detailed information on these Mitigation Measures.
Impact C-EJ-1: Cumulative Impacts to Socioeconomics					
CEQA: This topic is not covered under CEQA	n/a	n/a	n/a	n/a	n/a
NEPA: The Proposed Project and its alternatives, would result in a beneficial cumulative socioeconomic impact that affects low-income and minority populations	Beneficial	Beneficial	Beneficial	Beneficial	n/a
5.6 Cultural and Paleontological Resources					
Impact CP-1: Effects on Historical Resources					
CEQA: The Proposed Project or its alternatives would not cause a substantial adverse change in the significance of a historical resource as defined in §15064.5, including those resources listed in Article 10 or Article 11 of the *San Francisco Planning Code*.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not have an adverse effect on an historic-era district, site, building, structure, or object listed in, or eligible for listing in, the NRHP maintained by the U.S. Secretary of the Interior.	No Impact	No Impact	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact CP-2: Effects on Archaeological Resources					
CEQA: The Proposed Project or its alternatives could cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-CP-2a – Archaeological Resource Discovery, M-CP-2b – Archaeological Monitoring Program.
NEPA: The Proposed Project or its alternatives could have an effect on a prehistoric-era district, site, building, structure, or object listed in, or eligible for listing in, the NRHP maintained by the U.S. Secretary of the Interior	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-CP-2a – Archaeological Resource Discovery, M-CP-2b – Archaeological Monitoring Program.
Impact CP-3: Effects on Paleontological Resources					
CEQA: The Proposed Project or its alternatives could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-CP-3a – Discovery of Paleontological Resources
NEPA: This topic is not covered under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact CP-4: Effects on Human Remains					
CEQA: The Proposed Project or its alternatives could disturb human remains, including those interred outside of formal cemeteries.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-CP-2a – Archaeological Resource Discovery
NEPA: The Proposed Project or its alternatives could have a significant impact on historic-era or prehistoric-era human remains eligible for listing in the NRHP maintained by the U.S. Secretary of the Interior.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-CP-2a – Archaeological Resource Discovery

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
Impact CP-5: Effects on Consistency with Cultural Resources Management Plans					
CEQA: This topic is not covered under CEQA.	n/a	n/a	n/a	n/a	n/a
NEPA: The Proposed Project or its alternatives would not be inconsistent with established management plans and agreements for cultural resources, including the 2007 PA.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-CP-2a – Archaeological Resource Discovery
Impact C-CP-1: Cumulative Effects on Historic Archaeological Resources					
CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse cumulative impact related to historic architectural resources.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse cumulative impact on historic architectural resources.	No Impact	No Impact	No Impact	No Impact	n/a
Impact C-CP-2: Cumulative Effects on Paleontological Resources					
CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, could result in a significant cumulative impact related to archaeological resources.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Mitigation Measure M-CP-2a – Archaeological Resource Discovery

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, could result in a significant cumulative impact related to archaeological resources.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Mitigation Measure M-CP-2a – Archaeological Resource Discovery
Impact C-CP-3: Cumulative Effects on Paleontological Resources					
CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, could result in a significant cumulative impact related to paleontological resources.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Mitigation Measure M-CP-2a – Archaeological Resource Discovery
NEPA: This is not a topic covered under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact C-CP-4: Cumulative Effects on Human Remains					
CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, could result in a significant cumulative impact related to human remains resources.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Mitigation Measure M-CP-2a – Archaeological Resource Discovery
NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, could result in a significant cumulative impact related to human remains resources.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	Mitigation Measure M-CP-2a – Archaeological Resource Discovery

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
5.7 Transportation and Circulation					
Impact TR-1(a): Effects on Levels of Service					
CEQA: The Proposed Project and the Reduced Development Alternative would not cause levels of service at local intersections to deteriorate, and would therefore not conflict with any applicable congestion management programs, plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system at those locations.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would not result in the deterioration in LOS to a significant extent.	Less than Significant	Less than Significant	—	—	n/a
Impact TR-1(b): Effects on Level of Service					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not cause levels of service at local intersections to deteriorate, and would therefore not conflict with any applicable congestion management programs, plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system at those locations.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in the deterioration in LOS to a significant extent.	—	—	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact TR-2(a): Effects on Freeway Segments					
CEQA: The Proposed Project and Reduced Development Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway segment	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and Reduced Development Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway segment.	Less than Significant	Less than Significant	—	—	n/a
Impact TR-2(b): Effects on Freeway Segments					
CEQA: The Proposed Project and the Reduced Development Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway ramp.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway segment.	—	—	No Impact	No Impact	n/a
Impact TR-3(a): Effects on Freeway Ramps					
CEQA: The Proposed Project and Reduced Development Alternative would not result in the deterioration of LOS at freeway ramp junctions.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and Reduced Development Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway ramp.	Less than Significant	Less than Significant	—	—	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
Impact TR-3(b): Effects on Freeway Ramps					
CEQA: The Housing Replacement Alternative and No Project Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway ramp.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and No Project Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway ramp.	—	—	No Impact	No Impact	n/a
Impact TR-4(a): Effects on Transit Capacity – Muni 10 Townsend Line					
CEQA: The Proposed Project and the Reduced Development Alternative would increase ridership on the Muni 10 Townsend line, which would result in an exceedance of Muni's 85 percent capacity utilization threshold.	Significant and Unavoidable with Mitigation	Significant and Unavoidable	—	—	Mitigation Measure M-TR-4 – Fair-Share Contribution to Improve 10 Townsend Line Capacity (Proposed Project and Reduced Development Alternative Only)
NEPA: The Proposed Project and the Reduced Development Alternative would substantially increase transit demand that could not be accommodated by transit capacity.	Less than Significant	Less than Significant	—	—	
Impact TR-4(b): Effects on Transit Capacity – Muni 10 Polk and 48 Quintara-24th Street Lines					
CEQA: The Proposed Project and the Reduced Development Alternative would not increase ridership on the Muni 19 Polk and 48 Quintara-24th Street lines, which would not result in an exceedance of Muni's 85 percent capacity utilization threshold.	Less than Significant	Less than Significant	—	—	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
NEPA: The Proposed Project and the Reduced Development Alternative would not substantially increase transit demand that could not be accommodated by transit capacity.	Less than Significant	Less than Significant	—	—	n/a
Impact TR-4(c): Effects on Transit Capacity – Muni 19 Polk, 10 Townsend, and 48 Quintara-24th Street Lines					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not increase ridership on Muni 19 Polk, 10 Townsend, and 48 Quintara-24th Street lines, which would not result in an exceedance of Muni's 85 percent capacity utilization threshold.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not substantially increase transit demand that could not be accommodated by transit capacity.	—	—	No Impact	No Impact	n/a
Impact TR-5(a): Effects on Screenline Ridership					
CEQA: The Proposed Project and the Reduced Development Alternative would result in a minimal increase in Muni Southeast screenline ridership and would not result in an exceedance of capacity utilizations.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project ant the Reduced Development Alternative would result in a minimal increase in Muni Southeast screenline ridership and would not result in an exceedance of capacity utilizations.	Less than Significant	Less than Significant	—	—	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
Impact TR-5(b): Effects of Screenline Ridership					
CEQA: The Housing Replacement Alternative and the No Project Alternative would result in a minimal increase in Muni Southeast screenline ridership and would not result in an exceedance of capacity utilizations.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would result in a minimal increase in Muni Southeast screenline ridership and would not result in an exceedance of capacity utilizations.	—	—	No Impact	No Impact	n/a
Impact TR-6(a): Effects on Screenline Ridership					
CEQA: The Proposed Project and Reduced Development Alternative would result in a minimal increase in regional screenline ridership and would not result in an exceedance of capacity utilizations.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and Reduced Development Alternative would result in a minimal increase in regional screenline ridership and would not result in an exceedance of capacity utilizations.	Less than Significant	Less than Significant	—	—	n/a
Impact TR-6(b): Effects on Screenline Ridership					
CEQA: The Housing Replacement Alternative and the No Project Alternative would result in a minimal increase in regional screenline ridership and would not result in an exceedance of capacity utilizations.	—	—	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Housing Replacement Alternative and the No Project Alternative would result in a minimal increase in regional screenline ridership and would not result in an exceedance of capacity utilizations.	—	—	No Impact	No Impact	n/a
Impact TR-7(a): Effects on Transit Operations					
CEQA: The Proposed Project and the Reduced Development Alternative would not affect Muni operations due to underground parking driveway placement in the Project site.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would not affect Muni operations due to underground parking driveway placement in the Project site.	Less than Significant	Less than Significant	—	—	n/a
Impact TR-7(b): Effects on Transit Operations					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not affect Muni operations due to underground parking driveway placement in the Project site.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not affect Muni operations due to underground parking driveway placement in the Project site.	—	—	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
Impact TR-8(a): Effects on Street Network					
CEQA: The Proposed Project and the Reduced Development Alternative would modify the existing street network within the Project site, resulting in rerouting of the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would modify the existing street network within the Project site, resulting in rerouting of the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines.	Less than Significant	Less than Significant	—	—	n/a
Impact TR 8(b): Effects on Street Network					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not modify the existing street network within the Project site and, therefore, would not result in the rerouting of the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not modify the existing street network within the Project site and, therefore, would not result in the rerouting of the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines.	—	—	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact TR-9(a): Effects on Bus Stops					
CEQA: The Proposed Project and the Reduced Development Alternative would modify the existing street network, resulting in relocation of bus stops for 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines within the Project site.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would modify the existing street network, resulting in relocation of bus stops for 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines within the Project site.	Less than Significant	Less than Significant	—	—	n/a
Impact TR 9(b): Effects on Bus Stops					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not modify the existing street network and, therefore, would not result in the relocation of bus stops for 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines within the Project site.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not modify the existing street network and, therefore, would not result in the relocation of bus stops for 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines within the Project site.	—	—	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
Impact TR-10(a): Effects on Pedestrian Facilities					
CEQA: The Proposed Project and the Reduced Development Alternative would increase the demand for additional pedestrian facilities.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would increase the demand for additional pedestrian facilities.	Less than Significant	Less than Significant	—	—	n/a
Impact TR-10(b): Effects on Pedestrian Facilities					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not increase the demand for additional pedestrian facilities.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not increase the demand for additional pedestrian facilities.	—	—	No Impact	No Impact	n/a
Impact TR-11(a): Effects on Bicycle Facilities					
CEQA: The Proposed Project and the Reduced Development Alternative would result in the demand for new bicycle parking spaces and additional bicycle routes.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would result in the demand for new bicycle parking spaces and additional bicycle routes.	Less than Significant	Less than Significant	—	—	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact TR-11(b): Effects on Bicycle Facilities					
The Housing Replacement Alternative and the No Project Alternative would not result in the demand for new bicycle parking spaces and additional bicycle routes.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in the demand for new bicycle parking spaces and additional bicycle routes.	—	—	No Impact	No Impact	n/a
Impact TR-12(a): Effects on Loading					
CEQA: The Proposed Project and the Reduced Development Alternative would include activities that would increase loading space demand.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would include activities that would increase loading space demand.	Less than Significant	Less than Significant	—	—	n/a
Impact TR-12(b): Effects on Loading					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not include activities that would increase loading space demand.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not include activities that would increase loading space demand.	—	—	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
Impact TR-13(a): Effects on Circulation					
CEQA: The Proposed Project and the Reduced Development Alternative would modify the Project site circulation network and connections to the existing off-site roadway network, but this would not adversely affect emergency access.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would modify the Project site circulation network and connections to the existing off-site roadway network, but this would not adversely affect emergency access.	Less than Significant	Less than Significant	—	—	n/a
Impact TR-13(b): Effects on Circulation					
CEQA: The Housing Replacement Alternative and the No Project Alternative would retain the existing Project site circulation network and connections to the existing off-site roadway network.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would retain the existing Project site circulation network and connections to the existing off-site roadway network.	—	—	No Impact	No Impact	n/a
Impact TR-14(a): Construction Effects on Circulation					
CEQA: The Proposed Project, the Reduced Development Alternative, and the Housing Replacement Alternative would involve extensive construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	—	Mitigation Measure M-TR-14 – Construction Traffic Control Plan (Proposed Project, Reduced Development Alterative, and Housing Replacement Alternative)

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Proposed Project, the Reduced Development Alternative, and the Housing Replacement Alternative would involve extensive construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	—	Mitigation Measure M-TR-14 – Construction Traffic Control Plan (Proposed Project, Reduced Development Alterative, and Housing Replacement Alternative)
Impact TR-14(b): Construction Effects on Circulation					
CEQA: The No Project Alternative would not involve construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures.	—	—	—	No Impact	n/a
NEPA: The No Project Alternative would not involve construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures.	—	—	—	No Impact	n/a
Impact TR-15(a): Effects on Parking					
CEQA: This topic is not covered under CEQA.	n/a	n/a	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would provide parking consistent with local planning requirements.	No Impact	No Impact	—	—	n/a
Impact TR-15(b): Effects on Parking					
CEQA: This topic is not covered under CEQA.	—	—	n/a	n/a	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Housing Replacement Alternative and the No Project Alternative would provide parking consistent with local planning requirements.	—	—	No Impact	No Impact	n/a
Impact TR-16(a): Effects on Site Access and On-Site Circulation					
CEQA: The newly constructed roadway network associated with the Proposed Project and the Reduced Development Alternative would effectively connect the local roadway system, but could impact internal circulation	Less than Significant with Mitigation	Less than Significant with Mitigation	—	—	Mitigation Measure M-TR-16 – Design of Bulb-Outs and Driveways (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative)
NEPA: The Proposed Project or it's alternatives	Less than Significant with Mitigation	Less than Significant with Mitigation	—	—	Mitigation Measure M-TR-16 – Design of Bulb-Outs and Driveways (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative)
Impact TR-16(b): Effects on Site Access and On-Site Circulation					
CEQA: With the Housing Replacement Alternative and the No Project Alternative the existing roadway would remain, therefore; would not result in an impact to internal circulation.	—	—	No Impact	No Impact	n/a
NEPA: With the Housing Replacement Alternative and the No Project Alternative the existing roadway would remain, therefore; would not result in an impact to internal circulation.	—	—	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact C-TR-1(a): 2030 Cumulative Impacts					
CEQA: The Proposed Project and its alternatives would not result in a cumulatively considerable contribution to delay exceedances at intersection #2—Cesar Chavez Street/ Pennsylvania Avenue/Northbound I-280 Off-Ramp.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would not result in a cumulatively considerable contribution to delay exceedances at intersection #2—Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp.	Less than Significant	Less than Significant	—	—	n/a
Impact C-TR-1(b):					
CEQA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to delay exceedances at four intersections: #3 – Pennsylvania Avenue/SB I-280 Off-Ramp, #4 – 25th Street/Indiana Street/NB I-280 On-Ramp, #12 – Cesar Chavez Street/Vermont Street and #13 – Cesar Chavez Street/US 101 Off-Ramp.	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation	—	—	Mitigation Measure C-M-TR-1a – Pennsylvania Avenue/Southbound I 280 Off-Ramp Traffic Signal (Proposed Project and Reduced Development Alternative Only) Mitigation Measure C-M-TR-1b – 25th Street/Indiana Street/Northbound I 280 On-Ramp Eastbound Approach Turn Lane Modification or Traffic Signal (Proposed Project Only)

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
					Mitigation Measure C-M-TR-1c – Cesar Chavez Street/Vermont Street Intersection Traffic Signal (Proposed Project and Reduced Development Alternative Only)
					Mitigation Measure C-M-TR-1d – Cesar Chavez Street/U.S. 101 Off-Ramp Traffic Signal (Proposed Project and Reduced Development Alternative Only)
NEPA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to delay exceedances at four intersections: #3 – Pennsylvania Avenue/SB I-280 Off-Ramp, #4 – 25th Street/Indiana Street/NB I-280 On-Ramp, #12 – Cesar Chavez Street/Vermont Street and #13 – Cesar Chavez Street/US 101 Off-Ramp.	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation			Mitigation Measure C-M-TR-1a – Pennsylvania Avenue/Southbound I 280 Off-Ramp Traffic Signal (Proposed Project and Reduced Development Alternative Only)
					Mitigation Measure C-M-TR-1b – 25th Street/Indiana Street/Northbound I 280 On-Ramp Eastbound Approach Turn Lane Modification or Traffic Signal (Proposed Project Only)

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
					Mitigation Measure C-M-TR-1c – Cesar Chavez Street/Vermont Street Intersection Traffic Signal (Proposed Project and Reduced Development Alternative Only) Mitigation Measure C-M-TR-1d – Cesar Chavez Street/U.S. 101 Off-Ramp Traffic Signal (Proposed Project and Reduced Development Alternative Only)
Impact C-TR-1(c): 2030 Cumulative Effects					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to delay exceedances at Project study intersections.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to delay exceedances at Project study intersections.	—	—	No Impact	No Impact	n/a
Impact C-TR-2(a): 2030 Cumulative Effects on LOS					
CEQA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to LOS F conditions in the PM peak hour at the Northbound I-280 (north of Indiana Street On-Ramp) freeway segment.	Less than Significant	Less than Significant	—	—	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to LOS F conditions in the PM peak hour at the Northbound I-280 (north of Indiana Street On-Ramp) freeway segment.	Less than Significant	Less than Significant	—	—	n/a
Impact C-TR-2(b): 2030 Cumulative Effects on LOS					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to LOS F conditions in the PM peak hour at the Northbound I-280 (north of Indiana Street On-Ramp) freeway segment.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to LOS F conditions in the PM peak hour at the Northbound I-280 (north of Indiana Street On-Ramp) freeway segment.	—	—	No Impact	No Impact	n/a
Impact C-TR-3(a): 2030 Cumulative Effects on Freeways					
CEQA: The Proposed Project and the Reduced Development Alternative would not result in a cumulatively considerable contribution to freeway ramp junction operations.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would not result in a cumulatively considerable contribution to freeway ramp junction operations.	Less than Significant	Less than Significant	—	—	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
Impact C-TR-3(b): 2030 Cumulative Effects on Freeways					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to freeway ramp junction operations	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to freeway ramp junction operations	—	—	No Impact	No Impact	n/a
Impact C-TR-4(a): 2030 Cumulative Effects on Transit Capacity					
CEQA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to capacity utilization exceedances on the 10 Townsend and 48 Quintara-24th Street Muni lines.	Significant and Unavoidable	Significant and Unavoidable	—	—	Mitigation Measure M-TR-4 – Fair-Share Contribution to Improve 10 Townsend Line Capacity (Proposed Project and Reduced Development Alternative Only)
NEPA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to capacity utilization exceedances on the 10 Townsend and 48 Quintara-24th Street Muni lines.	Less than Significant with Mitigation	Less than Significant with Mitigation	—	—	Mitigation Measure M-TR-4 – Fair-Share Contribution to Improve 10 Townsend Line Capacity (Proposed Project and Reduced Development Alternative Only)
Impact C-TR-4(b): 2030 Cumulative Effects on Transit Capacity					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to capacity utilization exceedances on the 10 Townsend and 48 Quintara-24th Street Muni lines.	—	—	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to capacity utilization exceedances on the 10 Townsend and 48 Quintara-24th Street Muni lines.	—	—	No Impact	No Impact	n/a
Impact C-TR-5(a): 2030 Cumulative Effects on Municipal Screenline Capacity					
CEQA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to capacity utilization exceedances on Muni Southeast screenline.	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation	—	—	Mitigation Measure C-M-TR-5 – Fair-Share Contribution for Southeast Screenline Improvements (Proposed Project and Reduced Development Alternative Only)
NEPA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to capacity utilization exceedances on Muni Southeast screenline.	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation	—	—	Mitigation Measure C-M-TR-5 – Fair-Share Contribution for Southeast Screenline Improvements (Proposed Project and Reduced Development Alternative Only)
Impact C-TR-5(b): 2030 Cumulative Effects on Municipal Screenline Capacity					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to capacity utilization exceedances on Muni Southeast Screenline.	—	—	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to capacity utilization exceedances on Muni Southeast Screenline.	—	—	No Impact	No Impact	n/a
Impact C-TR-6(a): 2030 Cumulative Effects on Regional Screenline Capacity					
CEQA: The Proposed Project and the Reduced Development Alternative would not result in a substantial contribution to capacity utilization of regional transit screenline providers. transit screenline providers.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and the Reduced Development Alternative would not result in a substantial contribution to capacity utilization of regional transit screenline providers.	Less than Significant	Less than Significant	—	—	n/a
Impact C-TR-6(b): 2030 Cumulative Effects on Regional Screenline Capacity					
CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a substantial contribution to capacity utilization of regional transit screenline providers.	—	—	No Impact	No Impact	n/a
NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a substantial contribution to capacity utilization of regional transit screenline providers.	—	—	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
5.8 Noise					
Impact NO 1: Exposure of Persons to or Generation of Noise Levels in Excess of Standards					
CEQA: The Proposed Project or its alternatives would not 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.	Construction: Less than Significant with Mitigation; Operation: Less than Significant	Construction: Less than Significant with Mitigation; Operation: Less than Significant	Construction: Less than Significant with Mitigation; Operation: Less than Significant	No Impact	Mitigation Measure M-NO-1a – Submit a Construction Noise Plan to Reduce Construction Noise Mitigation Measure M-NO-1b – Implement a Construction Noise Plan to Reduce Construction Noise
NEPA: The Proposed Project or its alternatives would not expose residents of public housing to background noise levels that exceed HUD's acceptable noise level of 65 dB DNL.	Construction: Less than Significant with Mitigation; Operation: Less than Significant	Construction: Less than Significant with Mitigation; Operation: Less than Significant	Construction: Less than Significant with Mitigation; Operation: Less than Significant	No Impact	Mitigation Measure M-NO-1a – Submit a Construction Noise Plan to Reduce Construction Noise Mitigation Measure M-NO-1b – Implement a Construction Noise Plan to Reduce Construction Noise
Impact NO 2: Exposure of Persons to or Generation of Excessive Groundborne Vibration					
CEQA: The Proposed Project or its alternatives would not result in exposure of persons to or generation of excessive vibration.	Construction: Less than Significant; Operation: Less than Significant	Construction: Less than Significant; Operation: Less than Significant	Construction: Less than Significant; Operation: Less than Significant	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not result in exposure of persons to or generation of excessive vibration.	Construction: Less than Significant; Operation: Less than Significant	Construction: Less than Significant; Operation: Less than Significant	Construction: Less than Significant; Operation: Less than Significant	No Impact	Mitigation Measures M-NO-1a, M-NO-1b

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact NO 3: Substantial Permanent Increase in Ambient Noise					
CEQA: The Proposed Project or its alternatives would not cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the project.	Significant and Unavoidable	Significant and Unavoidable	Less than Significant	No Impact	Mitigation Measures M-NO-1a, M-NO-1b
NEPA: The Proposed Project or its alternatives would not result in a substantial permanent increase in ambient noise levels for existing off-site sensitive receptors.	Less than Significant	Less than Significant	Less than Significant	No Impact	Mitigation Measures M-NO-1a, M-NO-1b
Impact NO 4: Substantial Temporary Increase in Ambient Noise Levels					
CEQA: The Proposed Project or its alternatives would cause a substantial temporary increase in ambient noise levels during construction.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measures M-NO-1a
NEPA: This topic is analyzed separately under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact C-NO-1: Cumulative Noise Impacts					
CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to noise.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to noise.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
5.9 Air Quality					
Impact AQ-1: Conflict with Air Quality Plan					
CEQA: The Proposed Project or its alternatives would not conflict with or obstruct implementation of the applicable air quality plan.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: The Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact AQ-2: Violate Air Quality Standard during Construction					
CEQA: During the construction, the Proposed Project or its alternatives would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants.	Significant and Unavoidable	Significant and Unavoidable	Less than Significant with Mitigation	No Impact	Mitigation Measure M-AQ-2a – Utilize Efficient Construction Equipment Mitigation Measure M-AQ-2b – Utilize Efficient Construction Equipment after 2016
NEPA: During construction, the Proposed Project or its alternatives would violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.	Significant and Unavoidable	Significant and Unavoidable	Less than Significant with Mitigation	No Impact	Mitigation Measure M-AQ-2a – Utilize Efficient Construction Equipment Mitigation Measure M-AQ-2b – Utilize Efficient Construction Equipment after 2016

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact AQ-3: Violate Air Quality Standard during Operation					
CEQA: At buildout, the Proposed Project or its alternatives would not violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: At buildout, the Proposed Project or its alternatives would not violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact AQ-4: Expose Sensitive Receptors to Substantial Pollutant Concentrations					
CEQA: The Proposed Project or its alternatives could expose sensitive receptors to substantial pollutant concentrations.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-AQ-4: Construction Emissions Minimization
NEPA: The Proposed Project or its alternatives could expose sensitive receptors to substantial pollutant concentrations.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-AQ-4: Construction Emissions Minimization
Impact AQ-5: Expose Residents to Objectionable Odors					
CEQA: The Proposed Project or its alternatives would not expose residents to objectionable odors	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: The Proposed Project or it's alternatives would not expose residents to objectionable odors.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
Impact AQ-6: Trigger Need for General Conformity Assessment					
CEQA: This topic is not covered under CEQA.	n/a	n/a	n/a	n/a	n/a
NEPA: The Proposed Project or it's alternatives would not generate criteria pollutants or their precursors in quantities that would trigger the need for a general conformity assessment.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact C-AQ-1:					
CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would result in a significant cumulative impact related to air quality.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable	No Impact	Mitigation Measures M-AQ-2a, M-AQ-2b and M-AQ-4
NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would result in a significant cumulative impact related to air quality.	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable	No Impact	Mitigation Measures M-AQ-2a, M-AQ-2b and M-AQ-4
5.10 Greenhouse Gas Emissions					
Impact C-GG 1: Cumulative Greenhouse Gas Effects					
CEQA: The Proposed Project or its alternatives would generate greenhouse gas emissions, but not at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
NEPA: The Proposed Project or its alternatives would generate greenhouse gas emissions, but not to the level that would exceed the Clean Air Act Reporting Limit of 25,000 metric tons of carbon dioxide equivalent ($MTCO_2E$) per year.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
5.11 Wind and Shadow					
Impact WS-1: Wind Effects					
CEQA: The Proposed Project or its alternatives would not alter wind in a manner that substantially affects public areas.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: This topic is not analyzed under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact WS-2: Shadow Effects on Recreation Facilities					
CEQA: The Proposed Project or its alternatives would not result in new shadows in a manner that substantially affects outdoor recreation facilities or other public areas.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: This topic is not analyzed under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact C-WS-1: Wind Effects					
CEQA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not alter wind or shadow in a manner that substantially affects public areas.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
NEPA: This topic is not analyzed under NEPA.	n/a	n/a	n/a	n/a	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
5.12 Recreation					
Impact RE 1: Effects Due to Increased Use					
CEQA: The Proposed Project or its alternatives would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration or degradation of the facilities would occur or be accelerated.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for parks and recreation.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
Impact RE 2: Effects Due to Construction					
CEQA: The Proposed Project or its alternatives would include the construction of recreational facilities; however, construction would be temporary and would not have an adverse physical effect on the environment.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: This topic is not covered under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact C-RE-1: Cumulative Impacts to Recreation					
CEQA: The Proposed Project and the alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to recreation.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse recreation impacts.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
5.13 Utilities and Service Systems					
Impact UT 1: Effects on Wastewater Conveyance and Treatment					
CEQA: The Proposed Project or its alternatives would not exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not exceed the existing or proposed capacity of municipal utility systems or providers of wastewater conveyance and treatment.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact UT 2: Effects Related to Construction of New Facilities					
CEQA: The Proposed Project or its alternatives would not require or result in the construction of new water or wastewater treatment facilities or new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: This topic is not separately analyzed under NEPA.	n/a	n/a	n/a	n/a	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact UT 3: Effects on Water Supply					
CEQA: The Proposed Project or its alternatives would have sufficient water supply available to serve the Proposed Project of Alternative from existing entitlements and resources and would not require the expansion of existing water treatment facilities.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not exceed the existing or proposed capacity of municipal utility systems or providers of water supply.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact UT 4: Effects on Solid Waste Collection and Disposal					
CEQA: The Proposed Project or its alternatives would comply with solid waste regulations and would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not exceed the existing or proposed capacity of municipal utility systems or providers of solid waste collection and disposal.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact C-UT-1: Cumulative Impacts to Utilities and Service Systems					
CEQA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to utilities and service systems.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse utilities and service systems impacts.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
5.14 Public Services					
Impact PS 1: Effects on Public Services					
CEQA: The Proposed Project or its alternatives would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection, fire services, schools, and libraries.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for police services, fire protection and emergency medical services, schools, or libraries.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
Impact C-PS-1: Cumulative Effects on Public Services					
CEQA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to public services.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse public services impacts.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
5.15 Biological Resources					
Impact BI-1: Effects on Special-Status Species					
CEQA: The Proposed Project or its alternatives would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not have a substantial adverse effect on special-status species (identified at the federal, state or local level) or other legally protected species.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact BI-2: Effects on Habitat					
CEQA: The Proposed Project or its alternatives would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
NEPA: The Proposed Project or its alternatives would not have a substantial adverse effect on sensitive or critical habitat (identified at the federal, state, or local level).	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact BI-3: Effects on Wetlands					
CEQA: The Proposed Project or its alternatives would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not have a substantial adverse effect on wetlands or other waters of the U.S. subject to jurisdiction under Section 404 of the Clean Water Act.	No Impact	No Impact	No Impact	No Impact	n/a
Impact BI-4: Effects on Wildlife Movement					
CEQA: The Proposed Project or its alternatives could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-BI-4a – Bird Nest Pre-Construction Survey Mitigation Measure M-BI-4b – Bird Nest Buffer Zone
NEPA: The Proposed Project or its alternatives would not interfere substantially with an existing wildlife corridor.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-BI-4a – Bird Nest Pre-Construction Survey

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
					Mitigation Measure M-BI-4b – Bird Nest Buffer Zone
Impact BI-5: Effects on Local Biological Resources					
CEQA: The Proposed Project or its alternatives would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not have a substantial adverse effect on locally-protected trees.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact BI-6: Effects Related to Habitat Conservation Plans					
CEQA: The Proposed Project or its alternatives would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plans.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not conflict with an adopted Habitat Conservation Plan.	No Impact	No Impact	No Impact	No Impact	n/a
Impact C-BI-1: Cumulative Effects on Biological Resources					
CEQA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to biological resources.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse biological resource impacts.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
5.16 Geology and Soils					
Impact GE 1: Seismic Effects					
CEQA: The Proposed Project or its alternatives could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic ground-shaking, liquefaction, or lateral spreading.	Less than Significant with Mitigation	Less than Significant with Mitigation [Landslide Hazard Only]	Less than Significant	No Impact	Mitigation Measure M-GE-1 – Landslide Hazard Mitigation (Proposed Project, and Reduced Development Alternative Only)
NEPA: The Proposed Project or its alternatives could result in substantial risk of injury or death due to collapse of structures or damage to infrastructure because of ground failure or groundshaking, nor would it result in substantial damage to foundations or other infrastructure due to liquefaction, differential settlement, lateral spreading, expansive soils, corrosive soils, or other adverse engineering properties of soils.	Less than Significant with Mitigation	Less than Significant with Mitigation [Landslide Hazard Only]	Less than Significant	No Impact	Mitigation Measure M-GE-1 – Landslide Hazard Mitigation (Proposed Project, and Reduced Development Alternative Only)
Impact GE 2: Erosion Effects					
CEQA: The Proposed Project Site or its alternatives is susceptible to substantial erosion, however, with mitigation substantial soil erosion or the loss of topsoil would not occur.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-GE-2a – Preventative Erosion Control Measures (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative)

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
					Mitigation Measure M-GE 2b – Cut Slopes and Engineered Fill (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative) Mitigation Measure M-GE-2c – Erosion Control Measures in Response to Heavy Rains (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative)
NEPA: The Proposed Project Site or its alternatives is susceptible to substantial erosion; however, with mitigation, substantial soil erosion or the loss of topsoil would not occur.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-GE-2a – Preventative Erosion Control Measures (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative) Mitigation Measure M-GE 2b – Cut Slopes and Engineered Fill (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative) Mitigation Measure M-GE-2c – Erosion Control Measures in Response to Heavy Rains (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative)

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact GE 3: Effects on Unstable Geologic Units					
CEQA: The Proposed Project or its alternatives could be located on a geologic unit or soil that is unstable or that would become unstable as a result of the Proposed Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant	No Impact	Mitigation Measure M-GE-3 – Unstable Soils and Slopes (Proposed Project and Reduced Development Alternative Only)
NEPA: The Proposed Project or its alternatives could destabilize existing geologic conditions or accelerate adverse geologic processes.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant	No Impact	Mitigation Measure M-GE-3 – Unstable Soils and Slopes (Proposed Project and Reduced Development Alternative Only)
Impact GE 4: Effects from Expansive Soils					
CEQA: The Proposed Project or its alternatives would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property.	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	No Impact	Mitigation Measure M-GE-4 – Expansive Soils (Proposed Project and Reduced Development Alternative Only)
NEPA: This topic is not separately covered under NEPA	n/a	n/a	n/a	n/a	n/a
Impact GE 5: Effects on Septic Tanks					
CEQA: The Proposed Project or its alternatives would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: This topic is not separately covered under NEPA	n/a	n/a	n/a	n/a	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
Impact GE 6: Effects on Topography					
CEQA: The Proposed Project or its alternatives would not substantially change the topography or any unique geologic or physical features of the Project site.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: This topic is not separately covered under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact C-GE-1: Cumulative Geology and Soils Effects					
CEQA: The Proposed Project and Reduced Development Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse geologic impacts.	Less than Significant	Less than Significant	—	—	n/a
NEPA: The Proposed Project and Reduced Development Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts on geology and soils.	Less than Significant	Less than Significant	—	—	n/a
Impact C-GE-2: Cumulative Geology and Soils Effects					
CEQA: The Housing Replacement Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse geologic impacts.	—	—	Less than Significant	—	n/a
NEPA: The Housing Replacement Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant impacts on geology and soils.	—	—	Less than Significant	—	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact C-GE-3: Cumulative Geology and Soils Effects					
CEQA: The No Project Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impact related to geology and soils.	—	—	—	No Impact	n/a
NEPA: The No Project Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse cumulative impact related to geology and soils.	—	—	—	No Impact	n/a
5.17 Hydrology and Water Quality					
Impact HY-1: Effects on Water Quality Standards					
CEQA: The Proposed Project or its alternatives would not violate any water quality standards or waste discharge requirements.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not result in depletion or degradation of surface water quality (such as through violation of existing or proposed water quality standards).	Less than Significant	Less than Significant	No Impact	No Impact	n/a
Impact HY-2: Effects on Groundwater					
CEQA: The Proposed Project or its alternatives would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	Less than Significant	Less than Significant	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Proposed Project or its alternatives would not result in depletion of groundwater volume or degradation of groundwater quality.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
Impact HY-3: Effects on Drainage					
CEQA: The Proposed Project or its alternatives would not substantially alter the existing drainage pattern of the Project site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation onsite or offsite.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: The Proposed Project or its alternatives Project would modify drainage patterns, but not in a manner that would result in on-site or off-site impacts.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
Impact HY-4: Effects on Stormwater Capacity					
CEQA: The Proposed Project or its alternatives would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality.	Less than Significant	Less than Significant	No Impact	No Impact	n/a
NEPA: This topic is not covered under NEPA.	n/a	n/a	n/a	n/a	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact HY-5: Flooding Effects on Occupied Structures					
CEQA: The Proposed Project or its alternatives would not place any buildings or structures within a designated 100-year flood hazard area, a special flood hazard area, or locate a critical action within a 500-year floodplain or coastal high hazard area.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not locate occupied structures where there are potential risks associated with flooding.	No Impact	No Impact	No Impact	No Impact	No Impact
Impact HY-6: Effects from Seiche, Tsunami, Mudflow, Levee or Dam Failure					
CEQA: The Proposed Project or its alternatives would not expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow, or flooding as a result of the failure of a levee or dam.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: This topic is not covered under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact C-HY-1: Cumulative Hydrology and Water Quality Effects					
CEQA: The Proposed Project and Reduced Development Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to hydrology and water quality.	Less than Significant	Less than Significant	—	—	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Proposed Project and Reduced Development Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant impacts to hydrology or water quality.	Less than Significant	Less than Significant	—	—	n/a
Impact C-HY-2: Cumulative Hydrology and Water Quality Effects					
CEQA: The Housing Replacement Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant impacts to hydrology or water quality.	—	—	Less than Significant	—	n/a
NEPA: The Housing Replacement Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant impacts to hydrology or water quality.	—	—	Less than Significant	—	n/a
Impact C-HY-3: Cumulative Hydrology and Water Quality Effects					
CEQA: The No Project Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant impacts to hydrology or water quality.	—	—	—	Less than Significant	n/a
NEPA: The No Project Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant impacts to hydrology or water quality.	—	—	—	Less than Significant	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
5.18 Hazards and Hazardous Materials					
Impact HZ-1: Effects Related to Hazardous Materials Emissions or Disposal					
CEQA: The Proposed Project or its alternatives would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not result in a human health or environmental hazard through the use or disposal of hazardous substances.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
Impact HZ-2: Effects Related to Release of Hazardous Materials					
CEQA: The Proposed Project or its alternatives could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-HZ-2.1 – Voluntary Remedial Action Program (VRAP) Applications and Work Plans Mitigation Measure M-HZ-2.2 – Site Mitigation Plan (SMP) Mitigation Measure M-HZ-2.3 – Dust Control Plan and Worker Health and Safety Plan Mitigation Measure M-HZ-2.4 – Underground Storage Tanks

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
NEPA: The Proposed Project or its alternatives could result in the release of hazardous substances that creates a human health or environmental hazard.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-HZ-2.1, M-HZ-2.2, M-HZ-2.3, M-HZ-2.4
Impact HZ-3: Effects of Hazardous Materials on Schools					
CEQA: The Proposed Project or its alternatives could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less than Significant with Mitigation	Less than Significant with Mitigation	Less than Significant with Mitigation	No Impact	Mitigation Measure M-HZ-2.1, M-HZ-2.2, M-HZ-2.3, M-HZ-2.4
NEPA: This topic is not covered under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact HZ-4: Effects Related to Hazardous Materials Sites					
CEQA: The Proposed Project or its alternatives would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: The Proposed Project or its alternatives would not locate an occupied structure on filled land that contains toxic chemicals or radioactive materials at concentrations that would result in exposures above U.S. EPA acceptable risk levels, nor would it locate occupied structures on or near a site which could pose potential environmental hazards, such as dumps, landfills, or industrial locations that might contain hazardous wastes.	No Impact	No Impact	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact HZ-5: Effects on Emergency/Evacuation Plans					
CEQA: The Proposed Project or its alternatives would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: This topic is not covered under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact HZ-6: Effects on Emergency/Evacuation Plans					
CEQA: The Proposed Project or its alternatives would not expose people or structures to a significant risk of loss, injury or death involving fires.	Less than Significant	Less than Significant	Less than Significant	No Impact	n/a
NEPA: The Proposed Project or its alternatives would be located at an acceptable separation distance from a fire or explosive hazards.	No Impact	No Impact	No Impact	No Impact	n/a
Impact C-HZ-1: Cumulative Hazards and Hazardous Materials Effects					
CEQA: The Proposed Project or its alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to hazards and hazardous materials.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative hazards or hazardous materials impacts.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures

Impacts/Effects	*Proposed Project*	*Alternative 1: Reduced Development Alternative*	*Alternative 2: Housing Replacement Alternative*	*Alternative 3: No Project Alternative*	*Mitigation Measures*
5.19 Mineral and Energy Resources					
Impact ME 1: Effects on Known Mineral Resources					
CEQA: The Proposed Project or its alternatives would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: This topic is not covered under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact ME 2: Effects on Mineral Resource Recovery Sites					
CEQA: The Proposed Project or its alternatives would not result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: This topic is not covered under NEPA.	n/a	n/a	n/a	n/a	n/a
Impact ME 3: Effects on Natural Resource Consumption					
CEQA: The Proposed Project or its alternatives would not encourage activities that would result in the use of large amounts of fuel, water, energy, or other resources in a wasteful manner.	Less than Significant	Less than Significant	Less than Significant	Less than Significant	n/a
NEPA: The Proposed Project or its alternatives would incorporate sufficient energy efficiency measures and would not result in energy consumption requiring a significant increase in energy production for the energy provider.	Less than Significant	Less than Significant	Less than Significant	No Impact	

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
Impact C-ME-1: Cumulative Effects on Minerals and Energy					
CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse cumulative mineral and energy impact.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse cumulative energy impact.	No Impact	No Impact	No Impact	No Impact	n/a
5.20 Agricultural and Forest Resources					
Impact AG 1: Effects on Farmland and Forestry					
CEQA: The Proposed Project or its alternatives would not (a) convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; (b) conflict with existing zoning for agricultural use, or a Williamson Act contract; (c) conflict with existing zoning for or cause rezoning of forest land or timberland; (d) result in the loss of forest land or conversion of forest land to nonforest use; or (e) involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forest land to nonforest use.	No Impact	No Impact	No Impact	No Impact	n/a

Table S-1 Summary of CEQA Impacts, NEPA Effects, and Mitigation Measures					
Impacts/Effects	***Proposed Project***	***Alternative 1: Reduced Development Alternative***	***Alternative 2: Housing Replacement Alternative***	***Alternative 3: No Project Alternative***	***Mitigation Measures***
NEPA: The Proposed Project or its alternatives would not contribute to the unnecessary conversion of prime or important farmland to nonagricultural uses or significantly affect soils that may be better suited for natural resource management activities such as farming or forestry.	No Impact	No Impact	: No Impact	No Impact	n/a
Impact C-AG-1: Cumulative Effects to Agricultural and Forestry Resources					
CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to agricultural or forest resources.	No Impact	No Impact	No Impact	No Impact	n/a
NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to agricultural or forest resources.	No Impact	No Impact	No Impact	No Impact	n/a

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CHAPTER 1 Project Purpose, Need, and Objectives

1.1 INTRODUCTION

This document is a joint Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) prepared for the Potrero HOPE SF Master Plan project (Proposed Project). The San Francisco Planning Department, as lead agency responsible for administrating the environmental review for projects in the City and County of San Francisco (City), has determined that an EIR is required based on the criteria of the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and Article 31 of the San Francisco Administrative Code. The City of San Francisco's Mayor's Office of Housing and Community Development (MOHCD), as lead agency under the National Environmental Policy Act (NEPA), has determined that the project requires the preparation of an Environmental Impact Statement (EIS) as major federal action that may significantly affect the quality of the human environment.

This Draft EIR/EIS is intended to comply with both CEQA and NEPA. See Title 14, Division 6, Chapter 3 of the California Code of Regulations (CCR) (the CEQA Guidelines), Section 15222 (*Preparation of Joint Documents*); and Title 40, Sections 1502.25, 1506.2, and 1506.4 of the Code of Federal Regulations (40 CFR 1502.25, 1506.2, 1506.4) (authority for combining federal and state environmental documents). This document analyzes the environmental impacts resulting from implementation of the Project.

A project is typically referred to as the "Proposed Project" for the purposes of CEQA and the "Proposed Action" for purposes of NEPA. This Draft EIR/EIS uses "Proposed Project." The "Proposed Action" under NEPA is identified only after the analysis is complete, which is to say, after each of the proposed alternatives has been analyzed in full. Under NEPA all alternatives are analyzed in full so that the impacts each can be taken into account prior to selecting the "Proposed Action".

1.2 PROJECT OVERVIEW

The San Francisco HOPE SF Program (HOPE SF), a partnership between the MOHCD and the San Francisco Housing Authority (SFHA), proposes to redevelop the Potrero Terrace and Annex (Potrero) housing developments as a part of its program to revitalize distressed public housing developments in San Francisco. HOPE SF is the nation's first large-scale public housing revitalization project, with the goal of prioritizing new housing for current residents while also investing in high-quality, additional sustainable housing, and broad-scale community development. The program, which also includes Hunters View, Sunnydale-Velasco, Westside Courts, Alice Griffith, Hunters Point East/Westbrook Apartments public housing developments, proposes to

replace every existing public housing unit, provide new housing for current residents, and add new housing for a variety of income levels. HOPE SF plans to redesign these communities with new buildings, including housing and community facilities, streets, utility infrastructure, parks, and landscaping. BRIDGE Housing Corporation is the developer and project applicant for Potrero HOPE SF.

As shown in Figure 1-1, the Potrero HOPE SF project site (Project site) comprises two of the oldest public housing developments in San Francisco, Potrero Terrace and Potrero Annex, constructed in 1941 and 1955. Together, these public housing developments house a population of approximately 1,280 people, a Family Resource Center, and a child care center. The Proposed Project would replace all the existing housing units, the Family Resource Center, and child care center; incorporate additional affordable housing and market-rate homes into the community; and add amenities such as open space, retail opportunities, and neighborhood services. Including the replacement housing units, the Proposed Project would build up to 1,700 homes. The Proposed Project would include, but not be limited to, new vehicle connections, new pedestrian connections, a new street and block layout, new transit stops, and new water, wastewater, and storm water infrastructure. In addition, the Proposed Project would incorporate green construction and sustainable principles, retail, community facilities, and open space. The Proposed Project would be developed in three non-overlapping phases over at least a 10-year period.

1.2.1 Project Location

The Project site is located in the southeastern area of the Potrero Hill neighborhood on the south slope of Potrero Hill. As shown in Figure 1-1, the Project site is one and one-half blocks (or approximately 1,500 linear feet) west of Interstate 280 (I-280), four blocks (approximately 1,850 linear feet) east of U.S. Highway 101 (US 101), two blocks (approximately 950 linear feet) north of Cesar Chavez Street, and is bordered on the northwest by the Potrero Hill Recreation Center. The eastern edge of the site sits on a ridge paralleling Pennsylvania Avenue below. As detailed in Table 1-1, *Potrero HOPE SF Master Plan Parcels by Assessor's Parcel Number (APN)*, the Project site comprises several parcels totaling approximately 39 acres, including roads. Areas of the Project site have very steep slopes. The highest topographic elevation is to the north at the intersection of 23rd Street and Arkansas Street at 265 feet above mean sea level (msl), and the lowest elevation is to the south at the intersection of 26th Street and Connecticut Street at 40 feet above msl.

SOURCE: Atkins, 2011; ICF, 2014.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 1-1: PROJECT LOCATION - AERIAL VIEW

Table 1-1 Potrero HOPE SF Master Plan Parcels by Assessor's Parcel Number (APN)

	Block	*Lot*
Potrero Terrace	4167	004A 004
Potrero Annex	4220A	001
	4223	001
	4285B	001
San Francisco Unified School District Parcel	4287	001A

SOURCE: San Francisco Property Information Map (2014).

Existing Vegetation

The existing vegetation on the Project site primarily consists of nonnative ornamental shrubs, and ruderal (weedy) herbaceous vegetation. The Project site does not support any street trees or landmark trees, as defined under the San Francisco Urban Forestry Ordinance.[1] A total of 254 significant trees were identified as occurring on or adjacent to the Project site.[2] *Significant trees* are defined under the San Francisco Urban Forestry Ordinance as "any trees within 10 feet of a lot line abutting a public right-of-way that are above 20 feet in height, or with a canopy greater than 15 feet in diameter, or with a trunk greater than 12 inches in diameter at breast height."[3] Of the total 254 significant trees identified, 249 significant trees occur on the Project site and five significant trees occur on an adjacent property overhanging the Project site.[4]

Surrounding Land Uses

Surrounding land uses include residential, commercial, recreational, and industrial uses. To the north and northwest are multi-family residences, single-family residences, and the Potrero Hill Recreation Center. To the west are multi-family residences, single-family residences, and Starr King

[1] City and County of San Francisco Planning Department. 2013. *San Francisco Municipal Code*, Article16 (Urban Forestry Ordinance), Section 802 (Definitions) and Section 810 (Landmark Trees). Available: <http://www.amlegal.com/nxt/gateway.dll/California/publicworks/article16urbanforestryordinance?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca>.Accessed January 17, 2013.

[2] GLS Landscape/Architecture. 2010. *Tree Disclosure Submittal.* June 23, 2010. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[3] City and County of San Francisco Planning Department. 2013. *San Francisco Municipal Code*, Article 16 (Urban Forestry Ordinance), Section 810A (Significant Trees). Available: <http://www.amlegal.com/nxt/gateway.dll/California/publicworks/article16urbanforestryordinance?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca$anc=JD_810A>.Accessed: January 17, 2013.

[4] GLS Landscape/Architecture. 2010. *Tree Disclosure Submittal.* June 23, 2010. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

Elementary School. To the south are industrial uses. Across Texas Street to the east are multi-family residential, single-family residential, and industrial uses.

Planning and Zoning

The Project site is zoned RM-2 and P (Public). Under Section 206.2 of the *Planning Code*, RM-2 is defined as Residential, Mixed-Use—Moderate Density. RM-2 Districts are generally similar to RM-1 Districts, which, in turn, contain a mixture of dwelling types, including those found in the RH (Residential, House) Districts and apartment buildings in a variety of structures and a range of unit sizes. Compared to RM-1 Districts, RM-2 Districts tend to be greater in unit density and variety of building types. Where non-residential uses are allowed in the RM-2 District, they tend to offer services for wider areas than RM-1 Districts. The Project site is within a 40-X Height and Bulk District, which sets building height limits at 40 feet, with no bulk restriction. The San Francisco Unified School District (SFUSD) site is currently zoned as P. The SFUSD site is also known as Block X. A zoning amendment to change the zoning from P to RM-2 on Block X is included as part of the Proposed Project.

The Proposed Project is within the Showplace Square/Potrero Area Plan, which is a part of the greater Eastern Neighborhoods Area Plan, approved in January 2009. The Showplace Square/Potrero Area Plan identifies the Proposed Project site as an area that will be redeveloped under the HOPE SF program.

Background

There are currently 38 residential buildings in Potrero Terrace (Terrace) and 23 residential buildings in Potrero Annex (Annex). In addition to the residential buildings, there is an administrative office in the Terrace at the northeast corner of 25th Street and Connecticut Street, and a Family Resource Center and child care center in the Annex. The existing buildings are two to three stories or up to 24 to 34 feet in height. The Terrace residential buildings were constructed in 1941 and consist of one-, two-, and three-bedroom units, laundry facilities, and storage rooms. Due to the steep slope of the site, one elevation of each building is a full three stories, while the other is two stories, as shown in Figure 1-2. The Annex residential buildings were constructed in 1955 and consist of one-, two-, three-, four-, and five-bedroom units. The buildings at both sites are rectangular and are constructed of concrete block or wood-framed, with stucco covered exterior walls, built over a concrete foundation. A summary of existing residential uses is provided in Table 1-2, *Existing Residential Units*.

SOURCE: Atkins, 2013.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 1-2: EXISTING BUILDINGS AT POTRERO TERRACE

Table 1-2 Existing Residential Units

	1-BR	*2-BR*	*3-BR*	*4-BR*	*5-BR*	*Total Units*
Annex	27	46	55	18	5	151
Terrace	26	387	56	0	0	469
Total	*53*	*433*	*111*	*18*	*5*	*620*

SOURCE: San Francisco Housing Authority (2010).

Note: This Draft EIR/EIS states throughout that there are 620 units at the Project site. Due to a change in the use of units (i.e., formerly residential units being used for daycare), there are currently 606 units available for occupancy at the Project site. The analysis in this Draft EIR/EIS assumes that 620 residential units are present.

The density at the Project site is approximately 16 units per acre. This density is generally lower than the surrounding neighborhood which is more urban in nature.

The existing circulation between the buildings consists of concrete walkways, steps, and retaining walls. Behind each building are T-shaped clothesline poles. Off-street parking is available in small lots along the streets within the site. Landscaping throughout the two sites is minimal and generally consists of grass and dirt, with some mature trees. There are 249 significant trees[5] on site and five significant trees on an adjacent property overhanging the Project site.[6] There are no street trees or landmark trees on the Project site.

In addition to the Potrero Terrace and Potrero Annex properties, the Proposed Project would include the development of a small parcel owned by the SFUSD located on the southeast corner of 25th Street and Connecticut Street. The SFUSD parcel is zoned P and is currently developed with a gated functioning basketball court, vacant land, and a paved area.

Regional access to the Project site is provided by US 101 via the Cesar Chavez/Bayshore Boulevard off-ramp from the west. From the east, access is provided by I-280 via the Cesar Chavez off-ramp. Potrero Avenue and Third Street are the primary north/south arterials and Cesar Chavez Street and 16th Street are major east/west arterials in the Potrero Hill area. Connecticut Street, which travels north/south, serves Potrero as the major corridor to Cesar Chavez Street, which provides access to I-280 and US 101. The Project site is bounded by a local roadway network consisting of Wisconsin Street to the west, Texas Street to the east, 25th Street and 26th Street to the south, and 23rd Street and Missouri Street to the north. Connecticut Street and Dakota Street run northwest/southeast, bisecting the Terrace parcel. The Annex parcel includes two cul-de-sacs, Turner Terrace, and Watchman Way that extend east from Missouri Street.

[5] Significant trees are any trees within 10 feet of a lot line abutting a public right-of-way that are above 20 feet in height, or with a canopy greater than 15 feet in diameter, or with a trunk greater than 12 inches in diameter at breast height.

[6] GLS Landscape Architect. 2010. *Tree Survey Chart, Rebuild Potrero*. June 23. San Francisco, CA.

1.3 PROJECT PURPOSE, NEED, AND OBJECTIVES

The Proposed Project has been formulated to achieve the purpose, need, and objectives summarized below. Section 15124(b) of the CEQA Guidelines requires that the project description contain a clear statement of the project objectives, including the underlying purpose of the project. NEPA regulations (40 CFR 1502.13) require that an EIS contain a statement of the purpose and need that "briefly specif[ies] the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action."

1.3.1 Project Purpose and Need

The HOPE SF program has identified the need for redevelopment of the Potrero housing developments and has included it as a part of its program to revitalize distressed public housing developments in San Francisco. As noted, the Potrero Project site is comprised of two of the oldest public housing developments in San Francisco, Potrero Terrace and Potrero Annex, and contains 620 residential units that are in various stages of physical decay.[7] Together, these public housing developments house a population of approximately 1,280 people. In addition to distressed and deteriorated housing, the development contains dead-end streets and steep topography that isolate residents from the surrounding Potrero Hill neighborhood. Additionally, the City of San Francisco acknowledges a lack of sufficient affordable housing options for its residents. The Proposed Project would replace the deteriorated existing housing units, add additional units of housing, and provide new infrastructure and other site improvements.

1.3.2 Project Objectives

Objectives are important for the selection and consideration of alternatives under CEQA and NEPA. The applicant has identified the following Project objectives:

- Implement the City's HOPE SF Initiative and the Showplace Square/Potrero Area Plan;
- Create an economically integrated neighborhood with new public housing units, affordable rental apartments, and market rate and/or rental homes;
- Establish physical and social connections between the Potrero Terrace and Annex Project site and the larger Potrero Hill neighborhood;
- Provide employment opportunities for current public housing residents;
- Provide community facilities, including space for on-site services and programs;

[7] This Draft EIR/EIS states throughout that there are 620 residential units currently at the Project site. However, 14 of these units are currently used as a childcare center and 606 are currently used for residential purposes. The 606 residential units would be replaced as affordable housing on a one-for-one basis. The remaining 14 units would be replaced in the childcare center in the proposed community center. Thus, the existing uses of all the 620 units would be replaced.

- Create a comprehensive services plan to address gaps in services and facilitate access to existing programs and resources;
- Build a new 24th Street neighborhood center with a community center, senior housing, and a park;
- Build new safe streets and open spaces;
- Develop as much housing as possible and feasible in buildings that would range from three to six stories tall;
- Provide space for community-serving retail stores;
- Create a financially feasible plan for redevelopment within the constraint of limited availability of public subsidies; and
- Incorporate green and healthy development principles that include:
  - > Green construction and healthy buildings[8]
  - > A walkable neighborhood
  - > Stormwater management
  - > Meet requirements for Leadership in Energy & Environmental Design-Neighborhood Development (LEED-ND)

1.4 TYPE AND USES OF EIR/EIS

1.4.1 California Environmental Quality Act

This Draft EIR/EIS assesses potentially significant environmental impacts of the Proposed Project by considering effects on environmental factors identified in the CEQA Guidelines Appendix G, and other criteria as required by Chapter 31 of the City's Administrative Code. As defined in the CEQA Guidelines Section 15382, a "significant effect on the environment" is:

> … a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

This Draft EIR/EIS is prepared in accordance with CEQA, as amended, the CEQA Guidelines and the City's CEQA procedures in Administrative Code Chapter 31. As stated in the CEQA Guidelines,

[8] Healthy building-scale principles include energy-efficient buildings incorporating modern code-compliant materials. This would provide better indoor air quality and facilitate better occupant health. Water conservation measures are also part of meeting environmental goals. Buildings would be integrated with the streetscape and open space system. This would allow for better observation of semi-public and public open space and promote safety of the residents and greater sense of community.

an EIR is an "informational document" intended to inform public agency decision-makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. Although this Draft EIR/EIS does not control the ultimate decision on the Proposed Project, the City must consider the information in this Draft EIR/EIS and respond to each significant effect identified herein. The City will use the certified EIR/EIS, along with other information and public processes, to determine whether to approve, modify, or disapprove the Proposed Project, and to specify any applicable environmental conditions as part of project approvals. The purpose of this Draft EIR/EIS is to provide the City, public agencies, and the public in general with detailed information about the environmental effects of implementing the Proposed Project, to examine and institute methods of mitigating any adverse environmental impacts should the project be approved, and to consider alternatives to the project as proposed.

CEQA provides that public agencies should not approve projects until all feasible means available have been employed to substantially lessen the significant environmental effects of such projects. "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time taking into account economic, environmental, social, and technological factors.[9]

1.4.2 National Environmental Policy Act

The Proposed Project is also subject to NEPA because funding for the project would include HUD funds from programs subject to regulation by 24 CFR part 58; these include Community Development Block Grant (CDBG) funds under Title I of the Housing and Community Development Act of 1974; Home Investment Partnership Program (HOME) grants under Title II of the Cranston-Gonzales National Affordable Housing Act of 1990 as amended; Project Based Section 8 Vouchers under the United States Housing Act of 1937; and/or Section 8(o)(13) and Public Housing operating subsidies for mixed income developments authorized under the U.S. Housing Act of 1937, Section 35. NEPA provides an interdisciplinary framework for federal agencies to develop information that will help them to take environmental factors into account in their decision making (42 U.S. Code [USC] 4321, 40 CFR 1500.1). According to NEPA, an EIS is required whenever a proposed major federal action (e.g., a proposal for legislation or an activity financed, assisted, conducted, or approved by a federal agency) would result in significant effects on the quality of the human environment. In this case, the federal action consists of the approval of funding and agreements associated with the Proposed Action.

An EIS is intended to provide full and open disclosure of environmental consequences before agency action; an interdisciplinary approach to project evaluation; objective consideration of all reasonable alternatives; application of measures to avoid or reduce adverse impacts; and an avenue for public and agency participation in decision-making (40 CFR 1502.1). NEPA defines mitigation as

[9] *Public Resources Code* Section 21061.1.

avoiding, minimizing, rectifying, reducing, or compensating for significant effects of the proposed action (40 CFR 1508.20).

NEPA requires that a lead agency "include (in an EIS) appropriate mitigation measures not already included in the Proposed Project or alternatives" (40 CFR 1502.14[f]). An EIS shall also include discussions of "means to mitigate adverse environmental impacts (if not fully covered under Section 1502.14[f])." In preparing a record of decision under 40 CFR 1505.2, a lead agency is required to "[s]tate *whether* all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for *any* mitigation."

1.4.3 Type of EIR/EIS

An EIR/EIS is composed of a draft document known as a Draft EIR/EIS, and the lead agency's written responses to public and public-agency comments on the draft document (a Final EIR/EIS). This Draft EIR/EIS evaluates the potential impacts on the human and natural environment resulting from implementation of the Proposed Project. The Draft EIR/EIS proposes mitigation measures and alternatives that may reduce or avoid adverse impacts. Following public review of this Draft EIR/EIS, a Final EIR/EIS will be prepared, in which the City, as lead agency, will provide responses to comments relating to the analysis provided in the Draft EIR/EIS.

This document is a joint EIR/EIS that complies with both CEQA and NEPA requirements for evaluation of project impacts.

1.5 SCOPE AND AREAS OF CONTROVERSY

1.5.1 Scoping Process

On November 10, 2010, the Planning Department in compliance with CEQA and its CEQA procedures, issued a Notice of Preparation (NOP) to prepare a Draft Environmental Impact Report (see Appendix 1). Individuals and agencies that received these notices included: all occupants of the Potrero Terrace and Annex housing developments; owners of properties within 300 feet of the Project site; owners and tenants of properties adjacent to the Project site; other potentially interested parties, including various regional and state agencies; and neighborhood organizations. A scoping meeting was held on November 22, 2010. The scoping meeting provided the public and affected governmental agencies with an opportunity to present their environmental concerns regarding the Proposed Project.

In July 2011, in accordance with applicable NEPA requirements, the MOHCD determined that the Proposed Project would have potentially significant and unavoidable operational and cumulative traffic impacts and, thus, an EIS would be required. On May 2, 2012, HUD issued a notice of intent (NOI) to prepare a Draft Environmental Impact Statement (see Appendix 1) to inform agencies and

the general public that a joint EIR/EIS was being prepared and invited comments on the scope and content of the document. The NOI provided contact information for City staff responsible for the NOI, and stated that a public scoping meeting would be held no less than 15 days following publication of the NOI. The scoping meeting held on May 17, 2012 provided the public and affected governmental agencies with an opportunity to present their environmental concerns regarding the Proposed Project.

Concerns that arose during the CEQA and NEPA scoping process are summarized in Section 1.5.2 of this chapter and can be found in Appendix 1. The comments made during the NOP and NOI scoping periods that pertain to potential environmental impacts and analysis are addressed in this Draft EIR/EIS.

As stated in the NOP and NOI, the Proposed Project could result in potentially significant environmental effects. As required by CEQA and NEPA, this Draft EIR/EIS will examine those effects, identify potential mitigation measures, and analyze whether proposed mitigation measures would reduce the environmental effects to a less-than-significant level. This Draft EIR/EIS will also present an analysis of alternatives to the Proposed Project that may reduce or eliminate one or more of the potential impacts of the Proposed Project. This Draft EIR/EIS will analyze the environmental issues listed below. For each impact area, this Draft EIR/EIS will identify whether the subject area is analyzed for CEQA or NEPA purposes or both and if both, any differences in significance criteria applied under CEQA and NEPA.

- Land Use and Land Use Planning
- Visual Quality/Aesthetics
- Socioeconomics and Community
- Environmental Justice
- Cultural and Paleontological Resources
- Transportation and Circulation
- Noise
- Air Quality
- Greenhouse Gas Emissions
- Wind and Shadow
- Recreation
- Utilities and Service Systems
- Public Services
- Biological Resources
- Geology and Soils
- Hydrology and Water Quality
- Hazards and Hazardous Materials
- Mineral and Energy Resources
- Agricultural and Forest Resources

1.5.2 Changes to CEQA – Senate Bill 743

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014. Among other provisions, SB 743 added Section 21099 to the Public Resources Code (PRC) and eliminated the analysis of aesthetics and parking impacts for certain 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. Accordingly, this document does not provide CEQA conclusions regarding aesthetics and parking, which can no longer be considered in determining the significance of the Proposed Project's physical environmental effects under CEQA. Implementation of SB 743 was subsequent to the publication of the NOP, which had indicated that the EIR would include a discussion of aesthetics- and parking-related impacts of the Proposed Project. However, since the Proposed Project is subject to NEPA, comments submitted on the NOI relating to aesthetics and parking impacts are addressed in Sections 5.3, *Visual Quality/Aesthetics* and 5.7, *Transportation and Circulation*, and NEPA conclusions are provided.

1.5.3 Areas of Known Controversy and Issues to be Resolved

This Draft EIR/EIS assesses the Proposed Project's contribution to land use changes at the Potrero Terrace and Annex housing developments. It also evaluates the public's concerns raised during the scoping period. Issues raised during the scoping period included the following:

- Preservation of mature trees.
- Reduction or changes in open space.
- Location of affordable housing in relation to market rate housing.
- Preservation of the vistas for all neighborhood residents and overall aesthetics of the new development.
- Soil stability after gradation or development of the site.
- Increased noise from more people and traffic.
- Increased vehicular traffic.
- Safety.
- Vehicle parking.
- Displacement of residents during construction phase.

The Draft EIR/EIS addresses these concerns by analyzing the potential impacts and proposing mitigation measures, where needed, to minimize and avoid potential impacts to aesthetics, biological resources, geology and soils, population and housing, recreation, noise, transportation and safety. Refer to Appendix 1 for NOP and NOI comments.

1.6 AGENCY ROLES AND RESPONSIBILITIES

1.6.1 Lead Agency

This Draft EIR/EIS has been prepared by the San Francisco Planning Department for the City and County of San Francisco, the Lead Agency for the Proposed Project, in conformance with the

provisions of the CEQA Guidelines as amended.[10] The lead agency is the public agency that has the principal responsibility for carrying out or approving a project and for ensuring that the requirements of CEQA have been met.

Under NEPA, the agency with primary responsibility for complying with NEPA on a proposed action is designated as the lead agency. Generally, the lead agency under NEPA is a federal agency. Section 104 (g) of Title I of the Housing and Community Development Act (42 USC 5304[g]) allows recipients of HUD assistance to assume NEPA responsibilities in projects involving CDBG funds. State and local governments assuming this role are defined as "responsible entities" (24 CFR Section 58.2[a][7]). HUD's guidance for responsible entities is contained in 24 CFR Part 58.

MOHCD is the lead agency for the Proposed Project and responsible for compliance with NEPA (24 CFR 58.2). As a the NEPA lead agency, MOHCD assumes the responsibility for environmental review, decision making, and action that would otherwise apply to HUD under NEPA.

1.6.2 Trustee, Responsible, and Cooperating Agencies

Under CEQA, a trustee agency is a state agency that has jurisdiction by law over natural resources that are held in trust for the people of the state of California.

Under CEQA, a responsible agency is an agency, other than the lead agency, that has legal responsibility for carrying out or approving a project or elements of a project (California PRC, Section 21069).

Under NEPA, a cooperating agency is any federal agency, other than the responsible agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in an action requiring an EIS.

Responsible and cooperating agencies or entities are encouraged to actively participate in the CEQA and NEPA processes of the lead agencies, review the CEQA and NEPA documents of the lead agencies, and use the documents when making decisions on the project.

Several agencies other than the City would, or may have, jurisdiction over the implementation of the elements of the Proposed Project, as identified below.

Federal Agencies

U.S. Department of Housing and Urban Development. Proposed development is eligible for federal funding from HUD. HUD approvals are required prior to the release of funds.

[10] CEQA, *California Environmental Quality Act*, Statutes and Guidelines, Guidelines as amended January 1, 2012, published by the Governor's Office of Planning Research.

State Trustee and Responsible Agencies

California State Historic Preservation Officer. Consultation with the California State Historic Preservation Officer (SHPO) is required pursuant to Section 106 of the National Historic Preservation Act for potential impacts to cultural resources (archaeological and historical). The City has an existing Programmatic Agreement (PA) with SHPO and the Advisory Council on Historic Preservation which governs the consultation process for Part 58 projects. Accordingly, a site specific PA will be negotiated with SHPO for mitigation of potential impacts.

Regional and Local Responsible Agencies

Bay Area Air Quality Management District. The Bay Area Air Quality Management District would approve the Asbestos Dust Mitigation Plan and Dust Control Plan.

San Francisco Regional Water Quality Control Board. A National Pollutant Discharge Elimination System construction stormwater permit (Notice of Intent to Proceed under General Construction Permit) would be required for land disturbance of more than one acre.

1.7 REGULATORY REQUIREMENTS, PERMITS, AUTHORIZATIONS, AND APPROVALS

The following list identifies permits and other approval actions and authorizations expected to be needed from federal, state, regional, and local agencies for which this EIR/EIS may be used during these agencies' decision making processes.

1.7.1 Federal Actions/Permits

- Approval of a Demolition and Disposition Agreement with the Housing Authority and HUD;
- Development and Approval of a Phasing and Relocation Plan; and
- Authority to Use Grant Funds HUD 7015.16.

1.7.2 Regional and Local Actions/Permits

- Planning Commission:
  - > Certification of the Final EIR/EIS and adoption of CEQA Findings and adoption of a Mitigation Monitoring and Reporting Program;
  - > Approval of the Potrero HOPE SF Development Controls and Design Guidelines (DCDG);
  - > Approval of "Major Modifications" to the Potrero HOPE SF Design Standards and Guidelines on a project-by-project basis if requested for subsequent phases of

development, an application and approval process established in the Special Use District (SUD);

> Recommendation to the Board of Supervisors for approval of height and bulk map amendments;

> Recommendation to the Board of Supervisors of a SUD that will establish development controls largely through referencing the DCDG, and new procedures for reviewing and approving both buildings and community improvements (e.g., infrastructure); and

> Recommendation to the Board of Supervisors for an amendment to the *Planning Code* to allow a rezoning of a portion of the Project site from P to a RM-2 District.

- Planning Director:

> Final approval of "Community Improvements" (or "Development Phase") application for infrastructure and other community improvements after coordinating input from other Agencies, an application and approval process established in the SUD;

> Approval of "Design Review" application, for the construction of each individual building to assure compliance with DCDG, the *Planning Code*, and General Plan, an application and approval process established in the SUD (Director may initiate public hearing to seek input from the public and Planning Commission); and

> Approval of "Minor Modifications" to the Potrero HOPE SF Design Standards and Guidelines on a project-by-project basis if requested for subsequent phases of development.

- Board of Supervisors:

> Approval of a SUD with recommendation from the Planning Commission;

> Approval of zoning map amendments for a portion of the site from P to an RM-2 District and to map the SUD with recommendation from the Planning Commission;

> Affirm certification of EIR, if appealed;

> Approval of height and bulk map amendments with recommendation from the Planning Commission; and

> Approval of a Development Agreement with master developer after recommendation from Planning Commission.

- Housing Authority:

> Approval of HUD's Disposition and Demolition Agreement;

> Approval of a Master Development Agreement with master developer;

> Approval of Disposition and Development Agreements with master developer for each phase of development; and

> Approval of ground leases for developers of affordable rental housing sites.

- Department of Public Works (DPW):
  - > Subdivision Map and Condominium Map Approvals;
  - > Approval for changes, acceptance of, or vacations of public rights-of-way; and
  - > Permits for tree removal and replacement.
- Department of Building Inspection (DBI):
  - > Demolition Permits;
  - > Grading Permits; and
  - > Site (building) Permits, including foundation, construction and landscaping work.
- Municipal Transportation Authority (SFMTA):
  - > Relocation of bus stops; and
  - > Location of curb cuts, curbside loading zones and on-street parking spaces.

1.8 PUBLIC PARTICIPATION AND ADDITIONAL STEPS IN THE CALIFORNIA ENVIRONMENTAL QUALITY ACT/NATIONAL ENVIRONMENTAL POLICY ACT REVIEW PROCESS

1.8.1 Draft EIR/EIS

The Notice of Availability of the Draft EIR/EIS is being distributed to interested agencies and individuals for a 45-day review and comment period. This distribution ensures that interested parties have an opportunity to express their views regarding the effects of the Proposed Project and alternatives, and to ensure that information pertinent to permits and approvals is provided to decision makers.

1.8.2 Final EIR/EIS, Certification, Record of Decision, and Request for Release of Funds

Following public review of the Draft EIR/EIS, a Final EIR/EIS will be prepared. It will include responses to substantive comments on the Draft EIR/EIS and a discussion of any revisions made to the Draft EIR/EIS. In accordance with CEQA, the Final EIR/EIS will be available for public review for 15 days before the San Francisco Planning Commission considers the document for certification under CEQA. Upon CEQA certification of the EIR/EIS, the San Francisco Board of Supervisors, as well as specific city agencies, can consider the approvals listed in Section 1.7.1.

Along with the publication of the Draft EIS/EIR the director of the MOHCD as Certifying Official for Part 58 Projects will publish a Notice of Intent to Request a Release of Funds (NOIRROF). The NOIRROF, which normally has a comment period of seven days, will be held open for comment for 45 days to coincide with the timing requirements of the CEQ regulations. Upon the close of the 45

day but not before 90 days since the publication of the Draft EIR/EIS, MOHCD will publish a Record of Decision and submit the RROF to HUD. Upon submission of the RROF to HUD, the public will have the opportunity to object to HUD for a period of 15 days as set forth at 24 CFR 58.75.

The permissible bases for objections are:

- HUD (or the State), will consider objections claiming a responsible entity's noncompliance with this part based only on any of the following grounds:
  - The certification was not in fact executed by the responsible entity's Certifying Officer.
  - The responsible entity has failed to make one of the two findings pursuant to Sec. 58.40 or to make the written determination required by Secs. 58.35, 58.47 or 58.53 for the project, as applicable.
  - The responsible entity has omitted one or more of the steps set forth at subpart E of this part for the preparation, publication and completion of an EA.
  - The responsible entity has omitted one or more of the steps set forth at subparts F and G of this part for the conduct, preparation, publication and completion of an EIS.
  - The recipient or other participants in the development process have committed funds, incurred costs or undertaken activities not authorized by this part before release of funds and approval of the environmental certification by HUD (or the state).
  - Another Federal agency acting pursuant to 40 CFR part 1504 has submitted a written finding that the project is unsatisfactory from the standpoint of environmental quality.

1.9 ORGANIZATION OF THIS ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT

The joint Draft EIR/EIS is organized into the following chapters, as follows:.

Summary, presents an overview of the Proposed Project and alternatives and associated environmental impacts/consequences; a listing of environmental impacts/consequences and mitigation measures; and impact conclusions regarding growth inducement, irreversible environmental changes, and known areas of controversy and issues to be resolved.

Chapter 1, Project Purpose, Need, and Objectives, explains the CEQA and NEPA processes; lists the lead, cooperating, responsible, and trustee agencies that may have discretionary authority over the Proposed Project; specifies the underlying Project purpose, need, and objectives to which the lead agencies are responding in considering the Proposed Project and Project alternatives; outlines the organization of the document; and provides information on public participation.

Chapter 2, Project Alternatives and Project Description, presents the Proposed Project and the alternatives to the Proposed Project. This chapter contains the project description and describes the Proposed Project's characteristics and components, as well as supporting on- and off-site

infrastructure and roadway improvements. This chapter provides a description of each alternative in comparison with the Proposed Project, and describes alternatives considered but eliminated from further consideration.

Chapter 3, Plans and Policies, provides a summary of plans, policies, and regulations of the City and regional, state, and federal agencies that have policy and regulatory control over the Project area.

Chapters 4 and 5, Affected Environment and Environmental Consequences, respectively, include an introduction and 19 sections discussing particular areas of environmental effects. The introduction to these sections explains the approach to the environmental analysis, presents the assumptions used in the environmental analysis, and provides definitions of the types of environmental effects. Each of the remaining sections in Chapters 4 and 5 is devoted to a particular issue area and describes the baseline, or existing conditions, the regulatory context, followed by an analysis of impacts at an equal level of detail for all Project alternatives, including mitigation measures that would avoid or eliminate significant impacts or reduce them to a less-than-significant level, where feasible and available.

Chapter 6, Other CEQA/NEPA Considerations, describes growth-inducing effects, irreversible or irretrievable commitment of resources, and relationship between short-term uses of the environment and maintenance and enhancement of long-term productivity of the Proposed Project and alternatives under consideration.

Chapter 7, List of Preparers, lists individuals who were involved in preparing this Draft EIR/EIS.

Appendices contain the background information that supports the Draft EIR/EIS.

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CHAPTER 2 Project Alternatives (EIS) / Project Description (EIR)

2.1 INTRODUCTION

This chapter includes a detailed discussion of the Proposed Project and alternatives analyzed in this Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS). The four alternatives evaluated in this Draft EIR/EIS are:

- Proposed Project
- Alternative 1 – Reduced Development Alternative
- Alternative 2 – Housing Replacement Alternative
- Alternative 3 – No Project Alternative

In developing the Proposed Project, the San Francisco Mayor's Office of Housing and Community Development (MOHCD), the San Francisco Housing Authority, and BRIDGE Housing Corporation (project applicant) consulted with current residents, neighbors, and neighborhood organizations to determine the appropriate mix of public housing, below market-rate, and market-rate housing. Development of the Proposed Project took into consideration the objectives and goals of the HOPE SF program and the San Francisco General Plan policies applicable to the Project site, including the Residence Element and the Showplace Square/Potrero Area Plan.

The redevelopment of Potrero Terrace and Annex is guided by the *Design Standards and Guidelines* (Design Guidelines) document. The Design Guidelines provides the history of Potrero Terrance and Annex and describes the community's goals for redevelopment and the urban design concept for the site, including connectivity, open space, building form, land use, and sustainability. The Development Controls and Design Guidelines section of the document outlines requirements and recommendations for site planning, street and open space design, building controls, and design and sustainability controls. The document will be used to enhance and complement the San Francisco *Planning Code* and current Planning Department policy throughout the design process.

The master planning process involved residents of the Potrero Terrace and Potrero Annex and surrounding neighbors through a series of informational meetings, workshops, and town hall meetings where residents and neighbors came together to explore how the site might be reconfigured and integrated into the larger Potrero Hill neighborhood. Among the topics for discussion and input were safety, opportunities and constraints, sustainability, building types, and community/open spaces. These workshops, in turn, established goals that guided the development of multiple design concepts and alternatives presented during an all-day open house. A preferred alternative and final proposed plan were presented at town hall meetings.

Overall, neighborhood input was sought in dozens of workshops, presentations, project tours, and environmental review scoping sessions between summer 2008 and summer 2010 when the environmental review process was initiated. Nearly 1,000 Potrero Terrace and Potrero Annex and other neighborhood residents participated in these meetings.

The Proposed Project is taking a comprehensive approach to improving the health, education and economic outcomes for children and their families living in public housing. A comprehensive household assessment was conducted to better understand the current conditions and needs of families and to set the stage for development of an effective program and service delivery strategy. The project applicant is working with the City to ensure that local resources across departments will be used to most effectively serve residents. Regarding employment, the project applicant will enter into a Workforce Memorandum of Understanding (MOU) with the City that will establish hiring and contracting goals and timetables for the Project.

In addition, a number of different development scenarios were considered to meet the Proposed Project objectives and the goals of the HOPE SF program. Based on this evaluation, it was determined that up to 1,700 residential units, 15,000 square feet (sf) of retail/flex space,[1] 35,000 sf of a Community Center (including a 7,500-sf day care, and a 3,500-sf preschool), and approximately 3.62 acres of public open space would best satisfy these criteria. The Proposed Project is further described in Section 2.3. Because the purpose and need are focused on the need to redevelop the Project site, no off-site alternatives were considered.

Alternative 1. The Reduced Development Alternative (referred to, interchangeably, as Alternative 1) would reduce the size of the proposed land uses and associated parking and loading spaces as compared to the Proposed Project in order to lessen the impacts of the Proposed Project. This alternative would construct up to 1,280 residential units, 15,000 sf of retail/flex space, 25,000 sf of community space, and approximately 3.62 acres of public open space. Alternative 1 is further described in Section 2.3.

Alternative 2. The Housing Replacement Alternative (referred to, interchangeably, as Alternative 2) was developed to minimize the short-term construction impacts by limiting redevelopment to replacing the existing 620 public housing units on the same building footprint as currently exists. Alternative 2 is further described in Section 2.3.

Alternative 3. Under the No Project Alternative (referred to, interchangeably, as Alternative 3), the Potrero Terrace and Potrero Annex sites would continue to consist of 620 public housing units, 14 of which consist of a Family Support Center and child care center. Under Alternative 3, the street network system would not be connected to the surrounding Potrero Hill neighborhood. This

[1] Areas defined as flex space would ideally be used for retail and commercial uses. However, if demand is low for retail and commercial uses, then flex space would also allow active live/work use.

alternative would not replace the existing housing units and would not provide new infrastructure and other site improvements. This alternative would not create a new, economically integrated neighborhood with new public housing units, affordable rental apartments, and market-rate for-sale and/or rental homes or provide the Community Center.

2.2 CEQA/NEPA REQUIREMENTS FOR PROJECT DESCRIPTION AND EVALUATION OF ALTERNATIVES

2.2.1 CEQA Requirements

Project Description

The guiding principles for the content of a project description in an EIR are provided by the State CEQA Guidelines (Title 14, Section 15124 of the California Code of Regulations [14 CCR Section 15124]). Section 15124 states that "[t]he description of the project shall contain the following information, but should not supply extensive detail beyond that needed for evaluation and review of the environmental impact." The contents of a project description shall include:

- The precise location and boundaries of the proposed project, preferably on a detailed topographic map, along with the general location of the project on a regional map.
- A statement of the objectives sought by the proposed project, including the underlying purpose of the project, designed to assist the lead agency in the formulation of alternatives and preparation of findings or a statement of overriding considerations, if necessary.
- A general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities.
- A statement briefly describing the intended uses of the EIR, including (to the extent the information is known to the lead agency) a list of the agencies that are expected to use the EIR in their decision-making, a list of permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies.

Chapters 1 and 2 of this Draft EIR/EIS, and in the case of Chapter 2, specifically Section 2.3, *Alternatives Carried Forward for Evaluation in this EIR/EIS*, combined with the alternatives analysis required by both CEQA and NEPA, fulfill all of the requirements of CEQA for a project description.

Focus of the EIR Alternatives Analysis

CCR Title 14 Section 15126.6(a) of the CEQA Guidelines requires that an EIR:

- Describe a range of reasonable alternatives to a proposed project, or to the location of the project, that would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects of the project;
- Evaluate the comparative merits of the alternatives; and

- An EIR need not consider every conceivable alternative to a proposed project, but must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.

The range of alternatives required to be evaluated in an EIR is governed by a "rule of reason" that requires the EIR to consider only those alternatives necessary to permit a reasoned choice (14 CCR 15126.6(f)). The EIR must examine in detail only those alternatives that the lead agency determines could feasibly attain most of the basic project objectives, taking into account factors that include site suitability; economic viability; availability of infrastructure; general plan consistency; other plans or regulatory limitations; jurisdictional boundaries; and whether the proponent can reasonably acquire, control, or otherwise have access to any alternative sites (14 CCR Section 15126.6(f).) CEQA does not require the alternatives to be evaluated at the same level of detail as the proposed project.

The CEQA Guidelines recommend that an EIR briefly describe the rationale for selecting the alternatives to be discussed, identify any alternatives that were considered by the lead agency but eliminated as infeasible, and briefly explain the reasons underlying the lead agency's determination (14 CCR Section 15126.6(c).) An EIR must also evaluate a "no-project" alternative, which represents "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (14 CCR Section 15126.6(e)(2)).

Screening Criteria

Consistent with the requirements of CEQA, the City used the CEQA project objectives identified in Chapter 1, *Project Purpose, Need, and Objectives*, as criteria to screen the alternatives that should be considered in this Draft EIR/EIS and to determine whether the alternatives would avoid or substantially lessen any of the significant environmental impacts of the project.

2.2.2 NEPA Requirements

The *Project Alternatives and Project Description* chapter of an EIS is a critical piece to evaluating environmental impacts and identifying a "Proposed Action" under NEPA. NEPA requires a thorough evaluation of the impacts and merits of all project alternatives, so that the "Proposed Action" is identified at the conclusion of the environmental review, rather than at the outset. Specifically, the Council on Environmental Quality (CEQ) Regulations for implementing NEPA (Title 40 of the Code of Federal Regulations [CFR], Section 1502.14 – Section 1502.16 [40 CFR 1502.14-40 CFR 1502.16]) require that an EIS:

- Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated;
- Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits;

- Include reasonable alternatives not within the jurisdiction of the lead agency;
- Include the alternative of no action;
- Include an affected environment section, describing the existing conditions;
- Include an environmental consequences section that presents the environmental impacts of the alternatives;
- Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference; and
- Include appropriate mitigation measures not already included in the proposed action or alternatives.

This chapter of the Draft EIR/EIS describes the Proposed Project and alternatives. Chapters 4 and 5 (*Affected Environment* and *Environmental Consequences*, respectively) assess the existing condition of the Project site, analyze the comparative impact on the natural and human environment, and identify appropriate mitigation measures.

Unlike CEQA, which permits the evaluation of alternatives to occur in less detail than is provided for the proposed project, NEPA requires that alternatives be analyzed at a substantially similar level of detail as that devoted to the proposed project. All alternatives considered, including the preferred alternative, if any, must be evaluated compared to the "no-action alternative" future (without project). Therefore, consistent with NEPA regulations, this Draft EIR/EIS evaluates the Proposed Project and the alternatives at a similar level of detail.

2.3 ALTERNATIVES CARRIED FORWARD FOR EVALUATION IN THIS EIR/EIS

2.3.1 Proposed Project

The Proposed Project would demolish 620 public housing units and develop housing for a range of income levels for a total up to 1,700 new units on the Project site.[2] Construction of the development would occur in phases and, where possible, on-site relocation would take place to minimize disruption to existing residents. Relocation of existing residents is discussed further under *Project Phasing*, below.

The proposed density of the Project could be approved through a Height and Map Amendment to change the height and bulk designations for portions of the site that are proposed above 40 feet. In

[2] This Draft EIR/EIS states throughout that there are 620 residential units currently at the Project site. Of these 620 units, 14 are used for childcare and service space and 606 are used for residential purposes. The Project would replace 606 public housing units on a one-for-one basis. The remaining 14 units would effectively be replaced by providing childcare and service space in the proposed Community Center. Thus, all current uses would be replaced by the Project.

addition, the Proposed Project would require a Special Use District (SUD) to allow the transfer of densities across newly created lots and to allow more retail uses, and a rezoning of the former San Francisco Unified School District (SFUSD) site, also referred to as Block X, from P to a RM-2 District. The zoning amendment would require Board of Supervisors approval, with recommendation from the Planning Commission. Other entitlement paths are possible to enable the project. Given the length of the buildout period for the Proposed Project, *Design Standards and Guidelines* (*Design Guidelines*) has been prepared to provide further description and design controls for the Proposed Project and would become an exhibit to the SUD.

The Proposed Project would be built to Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) standards.

Figure 2-1, *Proposed Project Site Plan*, shows the proposed site plan.

Residential Uses

As shown in Table 2-1, the Proposed Project would increase the number of units on the site from 620 to approximately 1,700, an increase of approximately 1,080 residential units. The final number of units is dependent on the unit mix. Of the new units, 606 would serve as replacement public housing dwelling units, on a one-for-one basis, that would remain affordable housing, subsidized by the San Francisco Housing Authority but under management by and ownership of the project applicant or related entities. Of the additional approximately 1,080 units, 42 percent (approximately 450 units) would be affordable housing while 58 percent (approximately 630 units) would be market-rate housing. In total, approximately 63 percent of the Proposed Project would be affordable housing while the remaining 37 percent would be set aside as market-rate housing.

Every resident residing in a public housing dwelling unit and in good standing (lease compliant) at the start of their relocation phase and during their relocation phase would have the right to return to the Project site. Returning residents would be provided a preference for occupancy of replacement units and, if needed, affordable tax credit units, prior to other eligible households. This preference would be retained even if the resident has received permanent relocation benefits, and would remain until the newly constructed replacement units are fully leased.

All replacement public housing units will not be available until all phases of the Project are constructed. If the number of households electing to return to the Project site exceeds the number of public housing units available at that time, they would be offered an affordable housing tax credit unit which would have a unit-based rent subsidy. The replacement public housing units developed on the Project site would reflect the number of bedrooms per unit that are needed to adequately serve returning tenants, households that are currently on the waiting list, and that are needed based on other market data. In the instances in which residents of the public housing dwelling units need a different number of bedrooms than has been developed in the replacement housing, residents would be offered a tenant-based rental subsidy voucher to use in a neighborhood of their choice.

SOURCE: Van Meter Williams Pollack LLP., 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 2-1: PROPOSED PROJECT SITE PLAN

The unit-based rent subsidies would include the rent subsidies under the Section 8 or 9 of the United States Housing Act of 1937, Section 202 of the Housing Act of 1959, and Section 811 of the National Affordable Housing Act of 1990 or such other rent or operating subsidies that would be provided by HUD.

Table 2-1 Proposed Project Summary Table

	Total
Affordable Senior Units	Up to 100
Affordable Family Units	Up to 970
Market-Rate Units	Up to 630
Total Housing Units	*Up to 1,700*
Off-Street Parking Spaces	1,055
On-Street Parking Spaces	600
Retail/Flex Space	Up to 15,000 sf
Community	Up to 35,000 sf
Public Open Space[a]	Approximately 3.62 acres
New Streets	Approximately 13.2 acres

SOURCE: BRIDGE Housing (2012).
a. Includes parks, plazas, stairs, and hillsides.

Figure 2-2, *Proposed Project Land Use Plan*, depicts the types of buildings and number of units that are proposed. Residential buildings would consist of townhomes, townhomes over flats, and stacked flats. Townhomes would range from two to three stories and would be attached to horizontally or vertically adjoining units with a common exterior wall. Townhomes would be two to four bedrooms. Flats are, by definition, single-story units. Flats would generally be stacked vertically with other flats or townhomes. Flats would be one to four bedrooms.

The Proposed Project would include buildings from three to six stories, and would range in height from 32 feet to 65 feet. The various residential building heights are shown in Figure 2-4, *Proposed Project Building Heights*.

Commercial Uses

Up to 15,000 sf of ground-floor, neighborhood-serving retail or flex space would be developed along 24th Street between Arkansas Street and Missouri Street and at the corner of 25th Street and Connecticut Street, as shown in Figure 2-2, *Proposed Project Land Use Plan*.

SOURCE: Van Meter Williams Pollack LLP., 2014.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 2-2: PROPOSED PROJECT LAND USE PLAN

Community Center, Open Space, and Landscaping

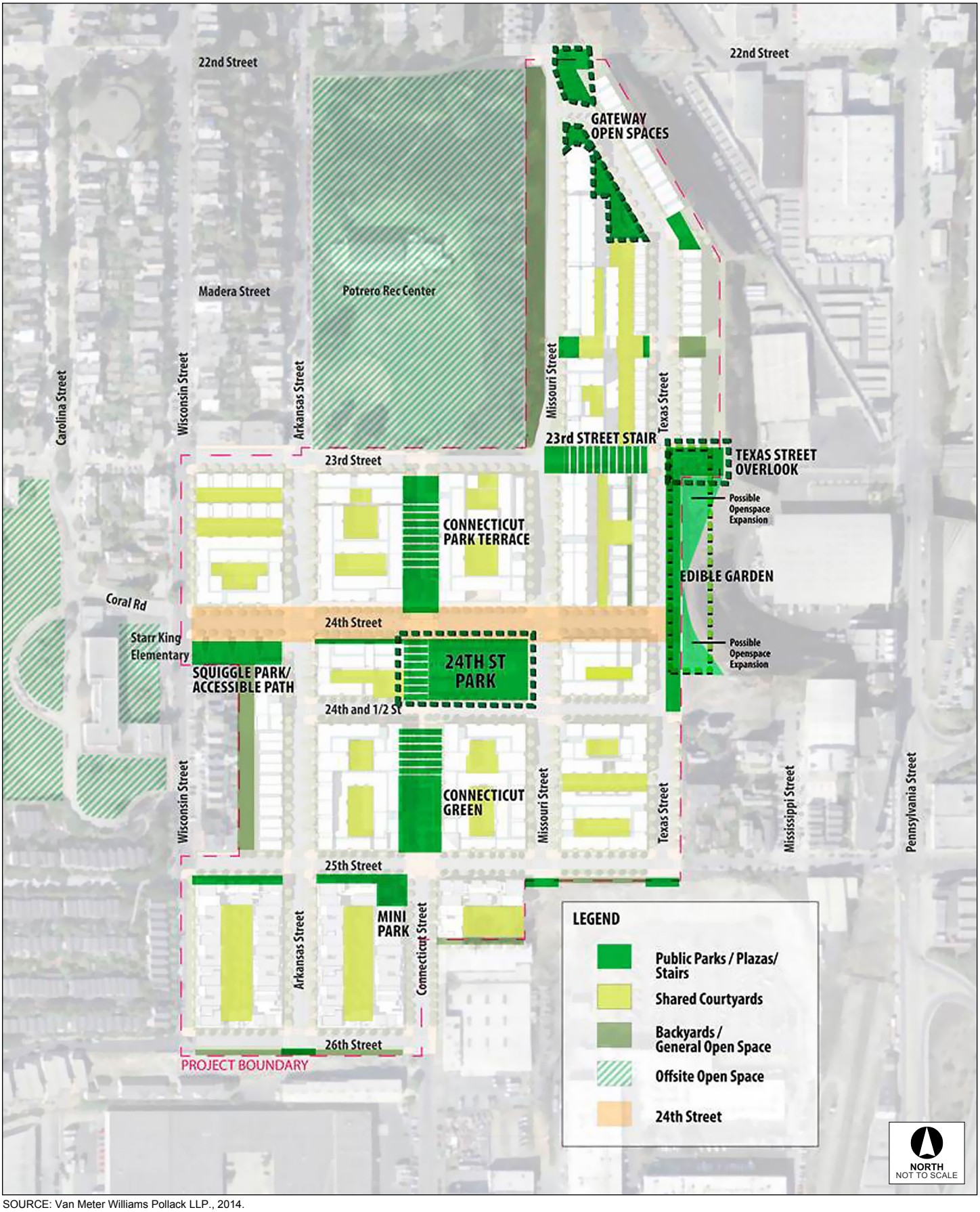
The Proposed Project would include the Community Center, public open space, and landscaping throughout the Project site. Private open space would be included within residential buildings as required under the *Planning Code*. The Community Center, including replacement daycare and preschool facilities, would be located on 24th Street between Arkansas Street and Missouri Street and would be up to 35,000 sf in size. The Community Center is illustrated in Figure 2-2, *Proposed Project Land Use Plan*. Figure 2-3, *Proposed Project Recreation and Open Space*, illustrates the open space areas. The Community Center, public open space areas, and landscaping are described in more detail below.

Community Center

Approximately 7,500 sf of the 35,000-sf Community Center on Block G would house a preschool and daycare. The preschool and daycare capacity would increase over existing conditions. Specifically, daycare slots would be increased from 15 to 45 and preschool slots would increase from 35 to 100. Other uses anticipated for the Community Center include a computer lab, community meeting room, family support center, and a senior center.

24th Street Park

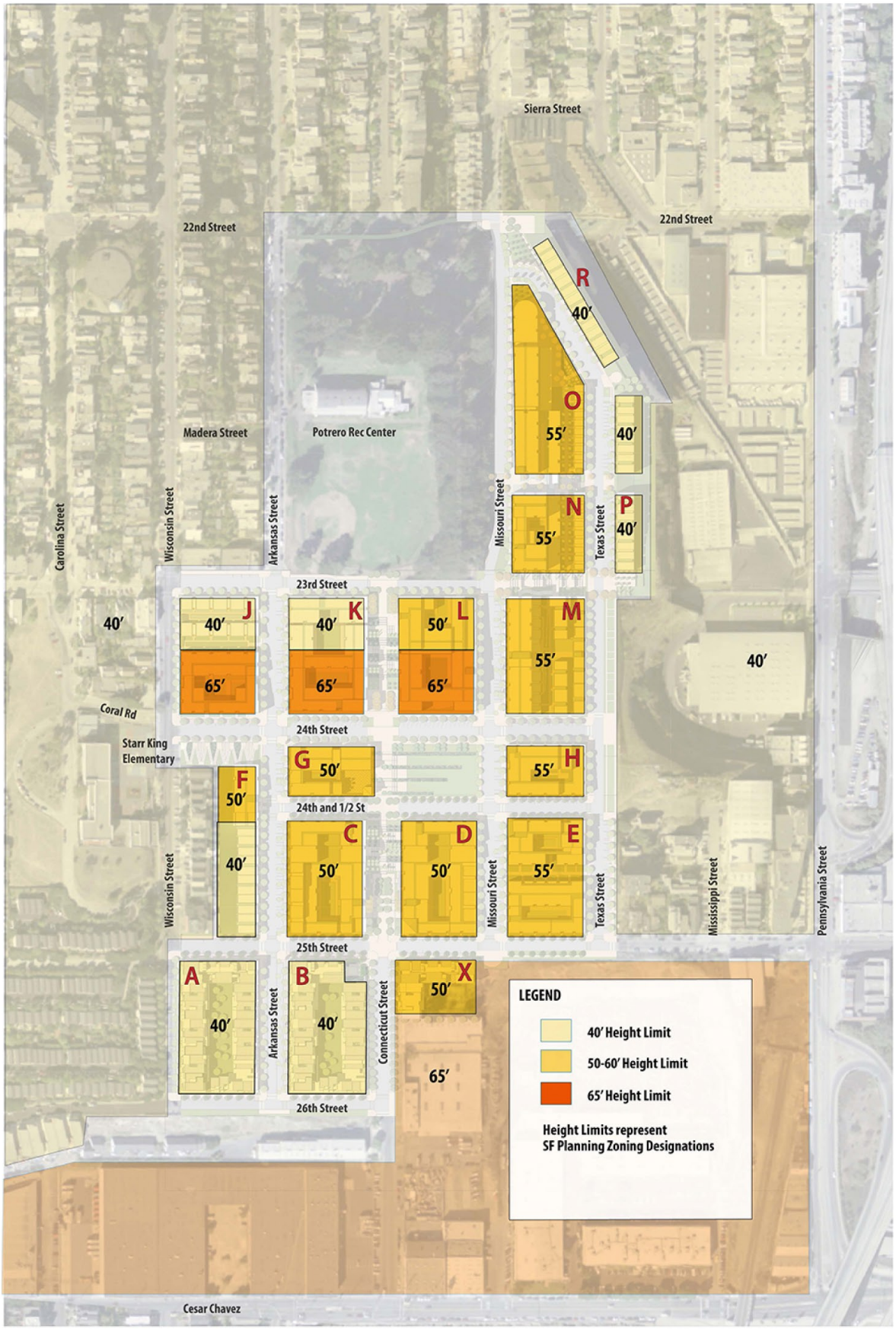
The 24th Street Park would be approximately 37,050 sf in size and located at the middle of the proposed 24th street retail/community corridor. The park is located immediately adjacent to the proposed Community Center. To the west, the public park would be connected to Starr King Open Space through the proposed "outdoor rooms" and Squiggle Park (described below). To the north, the park would connect to the Potrero Hill Recreation Center through the proposed Connecticut Park Terrace (also described below). To conform to the topography, the park would have a flat terrace along 24th Street and a sloping lawn along Missouri and 24 and ½ Streets. A series of landscaped stairs and flat lawn terraces with seating would be designed to accommodate the sloping topography and connect 24th and 24 and ½ Streets. The 24th Street Park would be designed as a flexible public open space with shared uses. The upper park level along 24th Street would accommodate accessible parking and provide a series of "outdoor rooms" that would orient users towards retail/commercial uses. These landscaped "rooms" would be shaded by tree branches and could be programmed for different uses such as art displays, a playground, and picnic areas.



SOURCE: Van Meter Williams Pollack LLP., 2014.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 2-3: Proposed Project Recreation and Open Space



SOURCE: Van Meter Williams Pollack LLP., 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 2-4: PROPOSED PROJECT BUILDING HEIGHTS

Connecticut Park Terrace

The Connecticut Park Terrace would be approximately 23,670 sf in size and consist of a series of public open spaces, stairs, and parks that connect 25th Street to 23rd Street. Between 25th and 24 and ½ Streets, the park roughly follows the existing topography for the first 150 feet and then transforms into a stair and terrace to climb up to 24 and ½ Street. The Connecticut Park Terrace between 24th and 23rd Streets would contain two small plazas with seating and planting, providing opportunities for passive recreation. There would be a seasonal stormwater "fountain" integrated into the design of this park.

Squiggle Park

Squiggle Park would be an approximately 11,800 sf public recreational area located at the western end of the 24th Street retail corridor, between Wisconsin and Arkansas Streets. The area for the proposed park currently slopes more than the maximum allowable slope for accessibility and, therefore, a ramp would provide accessibility between Starr King Elementary School and the Community Center. The ramp would meander through the park.

25th and Connecticut Mini Park

The 25th and Connecticut Mini Park would be an approximately 4,000-sf recreational area accessible from the corner of Connecticut and 25th Street. The mini park would be designed for intensive use with low fences, sculptural play equipment for children, and landscaped seating areas.

Getaway Open Space

The proposed 16,400-sf Getaway Open Space is located in the northern tip of the Project site, along Missouri and Texas Streets. The public open space would involve small plazas that would provide connections to the Potrero Hill Recreation Center and a terraced garden.

23rd Street Stair

The 23rd Street Stair public open space would be approximately 12,760 sf. The park would provide a pedestrian connection between Missouri and Texas Streets and recreational opportunities for the adjacent neighborhood and community.

Texas Street Overlook/ Edible Garden

The 28,350-sf Texas Street Overlook/Edible Garden would transform the eastern edge of Texas Street from 23rd to 24 and ½ Streets into an urban farm and overlook. Public paths through the garden would be open to the public during daylight hours. There is potential for expanding the garden to the east, down the slope of the hill. The expansion area is located on property not owned by the San Francisco Housing Authority and would require cooperation and approval by adjacent landowners.

Landscaping

As discussed in Chapter 1, *Project Purpose, Need, and Objectives*, the Project site contains 249 significant trees and five significant trees occurring on an adjacent property overhang the Project site. All trees would be removed as part of the Project. Removal of the affected on- and off-site trees would require a permit from the Department of Public Works under the Urban Forestry Ordinance, and the permit would include conditions that would govern the replacement planting of trees as part of Proposed Project development. *Planning Code* Section 138.1 requires one street tree for every 20 feet of street frontage.

Landscaping on the Project site would consist of street trees, park trees, shrubs, native grasses, and lawn. Trees planted on the Project site would include a mix of evergreen and deciduous, chosen to provide variety and resiliency to disease, and aid in stormwater management. Shrubs and groundcovers would be chosen to provide an intermediate scale of detail and texture between trees and buildings at parks, streets, and residential areas.

Parking and Circulation

Parking

The Proposed Project would include approximately 1,055 off-street parking spaces, primarily within underground or structured parking garages. Parking would be accommodated in each building or by block and would not be provided in a separate, stand-alone structure. Of the proposed parking spaces, 45 would be handicap accessible. This reflects 0.85 spaces for each market-rate unit and a ratio of 0.5 spaces for each affordable unit excluding the senior housing, which would have a ratio of 0.2 spaces per unit. Approximately 15 of these spaces would be designated for retail use and the Community Center. In addition, the Proposed Project would provide nine car-share spaces, the location of which would be determined when building designs are developed. The Proposed Project would also provide approximately 600 unmetered on-street parking spaces. Many of the north-south streets would include 90-degree parking to take advantage of the street width to maximize available on-street parking. Parking on 24th Street adjacent to the retail and Community Center would be back-in diagonal to enhance bicycle and pedestrian safety.

Roadway Network

The Proposed Project would incorporate existing and reconfigured roadways on the Project site. Wisconsin Street, 23rd Street, 25th Street, and 26th Street would remain in their general current alignment. Texas Street and Missouri Street would be extended and aligned to connect at the northern border of the Project site. Arkansas Street would be extended from 23rd Street south to 26th Street. Connecticut Street would be realigned in a north-south configuration and would consist primarily of stairs. Two new streets are proposed for an east-west alignment: a 24th Street extension and 24 and ½ Street. The 24th Street extension would travel east-west from Wisconsin Street to Texas Street. The 24 and ½ Street, south of 24th Street, would extend from Arkansas Street to Texas Street.

Dakota Street, Turner Terrace, and Watchman Way would be eliminated Figure 2-2, *Proposed Project Land Use Plan*, shows the proposed roadway system, which includes the extension of 23rd Street onto the Project site.

The proposed roadway network and associated lighting would adhere to the standards outlined in the San Francisco Better Streets Plan. Streets would be developed to support all modes of circulation: walking, bicycling, automotive and anticipated parking needs. In compliance with the Better Streets Plan, the Project would utilize paving material with Solar Reflectance Index (SRI) of at least 29 for more than 50 percent of paving (can include courtyards).

Pedestrian Access

Sidewalks within the Project site would be built with a width of 5 to 14 feet and would be provided along all blocks of the Project site for pedestrian safety, walking comfort, and convenience. In addition, pedestrian bulb-outs and sidewalks with a width of at least six feet would be provided at intersections to improve the walking experience. The following new pedestrian connections would be provided to link new and existing neighborhood amenities:

- Connecticut Street would be transformed into a grand series of stairways between 25th Street and 23rd Street linking residents to the Potrero Hill Recreation Center.
- A new stairway, the 23rd Street Stairway, would be provided between Missouri Street and Texas Street. This stairway would be aligned with 23rd Street and would extend east of Texas Street and terminate at the Texas Street Overlook, an elevated platform or small plaza that is marked by a grove of trees.
- A new stairway along 22nd Street is proposed between Missouri Street and Texas Street. It is anticipated that this new facility would offer a pedestrian connection to the 22nd Street Caltrain Station, the 23rd Street T Third Street Station, and 22nd Street mixed-use district. Even though the project applicant is interested in providing this pedestrian route, it is located on private land, is not approved, and is preliminary in nature. Therefore, this improvement is not included in the Proposed Project. The project applicant would continue to work with the City and surrounding private property owners to encourage the construction of this pathway; however, it may or may not be provided.

Bicycle Network and Facilities

The Proposed Project would provide dedicated bicycle facilities in various locations throughout the Project site. The Proposed Project would provide bicycle parking spaces in accordance with *Planning Code* requirements. Bicycle parking would consist of secured spaces distributed within the residential buildings and the Community Center while the remaining spaces would be provided through on-street bicycle racks. In addition, street and landscape design, and roadway accommodations, including wider sidewalks, better internal connections, and more public pathways would promote multimodal use of the street network. These amenities would have a traffic calming effect and would offer a more inviting environment for bicycle riders to utilize lower speed roadways. The least steep streets on the Project site would provide key Class III bicycle connections

to existing City bicycle networks and have the ability to be signed and marked as Class II Bicycle Facilities in the future.[3,4]

Transit Network and Facilities

The San Francisco Municipal Railway (Muni) currently operates bus lines 10 Townsend, 19 Polk, and 48 Quintara-24th Street within the Project vicinity. Several new transit stops are proposed within the Project site on the reconfigured street system. The Proposed Project would relocate/consolidate existing bus stops and create new ones as follows:

- Bus stops serving the 19 Polk and located along northbound Connecticut Street (the corner of 25th and Wisconsin Streets), southbound Connecticut Street (north of 26th Street), and southbound Wisconsin Street (south of Coral Street) would be eliminated, since the 19 Polk would not travel through the Project site in the near future.
- Bus stop serving the outbound 10 Townsend and located along westbound 25th Street (east of Connecticut Street) would be relocated to southbound Arkansas Street (north of 24th Street).
- Bus stops serving the inbound 10 Townsend and located along northbound Dakota Street (between 25th and 23rd Streets, and south of 23rd Street) and westbound 23rd Street (east of Wisconsin Street) would be relocated and consolidated at northbound Wisconsin Street (south of 24th Street).
- Bus stop serving the 48 Quintara-24th Street and located along eastbound 25th Street (west of Dakota Street) would be relocated to eastbound 25th Street (west of Connecticut Street).
- Bus stops serving the 10 Polk and 48 Quintara-24th Street located at northbound Wisconsin Street (north of 26th Street and south of 25th Street) would be consolidated at northbound Wisconsin Street (south of 25th Street).
- New bus stops would be created along westbound 25th Street (east of Wisconsin Street), westbound 25th Street (west of Connecticut Street), and various locations along Missouri Street in both the directions, including north of 24th Street, corner of 23rd and Texas Streets, and north of Texas Street. These new bus stops are planned to serve the new 58 24th Street line and other Muni routes.

As summarized above, three existing bus stops would be eliminated, four would be relocated, two would be consolidated, and five new bus stops would be created. In total, 12 bus stops would be provided as part of the Proposed Project.

Infrastructure

The Proposed Project would upgrade and resize water, wastewater, drainage, gas and electric, and other utility infrastructure, within the site as necessary. All onsite utilities would be undergrounded as a part of the Proposed Project.

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[3] Class III Bike Facilities provide for shared use with pedestrian or motor vehicle traffic as designated by signage and sharrows (share arrows) marked on the lane.

[4] Bicycle Facilities would be upgraded to Class II with the inclusion of a striped lane for one-way bike traffic.

In accordance with the Stormwater Management Ordinance (SMO), the Project site would be designed with Low Impact Design (LID) approaches and stormwater management systems to comply with the Stormwater Design Guidelines. The Project would implement a stormwater management approach to reduce existing peak stormwater runoff flow rate and total volume by 25 percent for a two-year 24-hour design storm. The Proposed Project would minimize disruption of natural hydrology by implementing LID approaches such as reduced impervious cover, reuse of stormwater, or increased infiltration.[5] The Project would also comply with the San Francisco Better Streets Plan, which includes stormwater treatment requirements and measures to manage on-site stormwater to reduce combined sewer overflows.

Specifically, the Proposed Project would incorporate stormwater management strategies to reduce stormwater discharge, including the following:

- **Block Strategies**—Each block would be evaluated to determine whether implementation of water re-use and retention strategies are applicable and each building would need to meet discharge targets to meet site goals.
- **Stormwater Irrigation Re-Use**—Opportunity for re-use of stormwater to irrigate along the 24th and Connecticut Streets.
- **Permeable Street Opportunity**—Small-scale cisterns.
- **Stormwater Cisterns**—Opportunity for retention and release.
- **Rain Gardens and Vegetated Swales Opportunities**—Opportunities for stormwater attenuation and small-scale detention.

The required stormwater controls would minimize impacts to urban hydrology, the combined sewer collection system, and water quality.

Project Phasing

Development is contemplated to occur in three non-overlapping phases, spanning from about 2015 to 2025 or longer, to minimize disruption to existing residents. Figure 2-5, *Proposed Project Construction Phasing*, shows the three currently contemplated phases of construction.

Phase 1 of construction would consist of the vicinity south of 25th Street in the existing Potrero Terrace portion of the Project site. Phase 2 would consist of the area between 23rd Street and 25th Street, or the remaining portions of the existing Potrero Terrace site. Phase 3 would include development of the entire existing Annex site. The exact timing of construction of each phase has not been determined. However, it is anticipated that Phase 1 would last approximately 26 months with streets closed for approximately eight months, and Phases 2 and 3 would each last approximately 48 months with streets closed for approximately 12 months during each phase.

[5] City and County of San Francisco, Planning Department, Memo to MEA CEQA Coordinators, regarding CEQA Language – Storm Water Management Ordinance and Stormwater Design Guidelines (November 29, 2010).

SOURCE: Atkins, 2013.

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FIGURE 2-5: PROPOSED PROJECT CONSTRUCTION PHASING

With the existing occupancy of the Project site at approximately 85 percent, there are residents currently living in each of the three Project phases who would have to be relocated while that phase is being developed.

During construction, current residents would be moved to available (vacant) residences on the project site as each phase is constructed, or, at their option, they would be given housing vouchers by the Housing Authority for relocation elsewhere during the construction period. The duration of temporary relocation would typically exceed 12-months but the exact duration is unknown. The new dwellings would be occupied as each phase is completed. Existing residents in good standing who had moved off-site during construction would be given the first opportunity to return.

Every resident residing in a public housing dwelling unit and in good standing (lease compliant) at the start of their relocation phase and during their relocation phase would have the right to return to the Project site. Returning residents would be provided a preference for occupancy prior to other eligible households. This preference will be retained even if the resident has received permanent relocation benefits.

Based on the construction scenario implemented and the original location of the existing resident, there are many variations of on-site relocation that could occur. Specifically, for the analysis it is assumed that while Phase 1 is being conducted, the on-site residents would be located in Phase 2 or Phase 3; when Phase 2 is being constructed, residents would be in Phase 1 or Phase 3; and when Phase 3 is constructed, residents would be in Phase 1 or Phase 2. This would result in 24 distinct variations of receptor locations throughout the construction timeframe, as discussed in detail in Section 5.9, *Air Quality*. It is anticipated, however, that on-site relocations would be staged such that the residents would have the least amount of moving necessary to remain on site and to accomplish the Project needs.

During construction, the following types of activities would be expected: abatement and demolition, site preparation and earthwork/grading, new infrastructure construction, and building construction. Some activities could occur simultaneously. Demolition and construction activities would be limited to weekdays and daytime hours (7:00 a.m. to 7:00 p.m.).

Grading

Grading would be required as a part of project construction. Development of the Proposed Project would include grading of approximately 248,160 cubic yards (CY) of earthwork over an anticipated three phases of construction. Phase 1 would disturb approximately 7.4 acres with 18,000 CY of excavated soil used as fill and the remaining 7,400 CY exported offsite. During Phase 2, 19.45 acres would be disturbed with 135,680 CY excavated and used as fill onsite. However, because a total of 213,490 CY would be necessary for fill, an additional 77,810 CY of fill would need to be imported. During Phase 3, 12.34 acres would be disturbed and 35,730 CY of soil would be used as fill with

51,350 CY exported offsite. Site earthwork and grading would typically be performed using standard construction equipment, such as excavators, loaders, tractors, graders, and water trucks.

2.3.2 Alternative 1 – Reduced Development Alternative

Alternative 1 would retain the same development footprint as the Proposed Project; however, the maximum building heights in this alternative would not exceed 40 feet. Thus, compared to the Proposed Project, fewer housing units would be developed if this alternative is implemented. Similar to the Proposed Project, the proposed density of Alternative 1 could be approved through a Height and Map Amendment to change the height and bulk designations for portions of the site. In addition, Alternative 1 would require a SUD to allow the transfer of densities across newly created lots and to allow more retail uses, and a rezoning of the former SFUSD site, also referred to as Block X, from P to a RM-2 District.

Residential Uses

Alternative 1 would develop approximately up to 1,280 residential units. As shown in Table 2-2, Alternative 1 would construct up to 80 affordable senior units, up to 796 affordable units (including replacement public housing units), and up to 404 market rate units. Figure 2-6, *Reduced Development Alternative Land Use Plan*, depicts the types of buildings and number of units that are proposed under this alternative.

Table 2-2 Alternative 1, Reduced Development Alternative, Summary Table

	Total
Affordable Senior Units	Up to 80
Affordable Family Units	Up to 796
Market-Rate Units	Up to 404
Total Housing Units	*Up to 1,280*
Off-Street Parking Spaces	773
On-Street Parking Spaces	600
Retail/Flex Space	Up to 15,000 sf
Community	Up to 25,000 sf
Public Open Space[a]	Approximately 3.62 acres
New Streets	13.2 acres

SOURCE: BRIDGE Housing (2012).
a. Includes parks, plazas, stairs and hillsides.

Like the Proposed Project, residential buildings would consist of townhomes, townhomes over flats, and stacked flats. Townhomes would range from two to three stories and would be attached to horizontally or vertically adjoining units with a common exterior wall. Townhomes would be two to

four bedrooms. Flats are, by definition, single-story units. Flats would generally be stacked vertically with other flats or townhomes. Flats would be one to four bedrooms.

Commercial Uses

Up to 15,000 sf of ground-floor, neighborhood-serving retail or flex space would be developed along 24th Street between Arkansas Street and Missouri Street. Retail spaces would be located across from the Community Center as shown in Figure 2-6, *Reduced Development Alternative Land Use Plan*.

Community Center and Open Space

Alternative 1 would include the Community Center and public open space throughout the Project site. The Community Center, including replacement daycare and preschool facilities, would be located on 24th Street between Arkansas Street and Missouri Street and would be up to 25,000 sf in size. Consistent with the Proposed Project, Alternative 1 would seek LEED-ND certification.

In addition to the Community Center, Alternative 1 would incorporate 3.62 acres of public open space, the same as the Proposed Project. Public open space would consist of the 24th Street Park; two open space areas running north of Connecticut Street, between 25th and 24 and ½ Streets and 24th and 23rd Streets; Squiggle Park; 25th and Connecticut Mini Park; Getaway Open Space; 23rd Street Stair; and the Texas Street Overlook/Edible Garden. Private open space would be included with residential buildings as required under the *Planning Code*. Figure 2-3, *Proposed Project Recreation and Open Space*, and Figure 2-6, *Reduced Development Alternative Land Use Plan*, show the locations of the proposed Community Center and open space under the Reduced Development Alternative.

Parking and Circulation

Alternative 1 would include approximately 773 off-street covered parking spaces, of which 10 spaces would be designated for retail uses, 5 spaces designated for the Community Center, and 30 off-street spaces for disabled and handicapped uses. In addition, seven car-share spaces would be provided within the Project site. Similar to the Proposed Project, this alternative would also provide approximately 600 on-street parking spaces. Most off-street parking would be in structured garages with a few units built over private garages.

The roadway network, pedestrian access, and transit network and facilities for Alternative 1 would be the same as under the Proposed Project as explained above. Similar to the Proposed Project, bicycle parking would be provided in accordance with the requirements of the *Planning Code.*

SOURCE: Van Meter Williams Pollack LLP., 2014.

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FIGURE 2-6: REDUCED DEVELOPMENT ALTERNATIVE LAND USE PLAN

Infrastructure

Similar to the Proposed Project, Alternative 1 would upgrade and resize water, wastewater, drainage, gas and electric, and other utility infrastructure, within the site as necessary. All design features would remain the same as the Proposed Project as described above.

Project Phasing

Construction of Alternative 1 would occur in three phases and on the same schedule as the Proposed Project to minimize disruption to existing residents. Where possible, the project would accommodate on-site relocation of existing residents. Qualified residents would be able to move into the new apartments as they become available.

Grading

Grading would be required as a part of project construction and would be similar to the Proposed Project as described above.

2.3.3 Alternative 2 – Housing Replacement Alternative

As part of Alternative 2, all existing housing units at the Project site would be demolished and rebuilt using the same building pattern that currently exists. The existing site plan and street pattern at the Project site would be retained. As such, this alternative would reconstruct 620 affordable housing units, a 35-space preschool center, a 15-space child day care center, and associated residential parking facilities. Secured bicycle parking would be provided at the ground floor of each reconstructed residential building at or near building entrances. Parking would remain the same with approximately 1,301 on-street parking spaces and 64 off-street parking spaces. Other amenities provided under the Proposed Project, such as additional parks, retail facilities, and the Community Center, would not be provided as part of this alternative.

Project Phasing

Similar to the Proposed Project, construction of Alternative 2 would occur in three phases. The duration of each phase would be less than the Proposed Project. For Alternative 2, phase 1 would be 20 months, phase 2 would last 34 months and phase 3 would last 35 months. Construction of Alternative 2 would take approximately 7.5 years to minimize disruption to existing residents. Where possible, Alternative 2 would accommodate on-site relocation of existing residents. Qualified residents would be able to move into the new apartments as they become available.

2.3.4 Alternative 3 – No Project Alternative

Alternative 3 would analyze the continuation of uses on the site; therefore, existing buildings and tenants would remain at the Project site and no new buildings or uses would be constructed.

Table 2-3 presents a comparison of the Proposed Project and Alternatives.

Table 2-3 Proposed Project and Alternatives Comparison Summary Table

	Proposed Project	*Alternative 1*	*Alternative 2*	*Alternative 3*
Affordable Senior Units	Up to 100	Up to 80	n/a	n/a
Affordable Family Units	Up to 970	Up to 796	n/a	n/a
Market-Rate Units	Up to 630	Up to 404	n/a	n/a
Affordable Housing units			620	620
Total Housing Units	*Up to 1,700*	*Up to 1,280*	*620*	*620*
Off-Street Parking Spaces	1,055	773	64	64
On-Street Parking Spaces	600	600	1,301	1,301
Retail/Flex Space	Up to 15,000 sf	Up to 15,000 sf	n/a	n/a
Community	Up to 35,000 sf	Up to 25,000 sf	n/a	n/a
Public Open Space	Approximately 3.62 acres	Approximately 3.62 acres	n/a	n/a
New Streets	Approximately 13.2 acres	Approximately 13.2 acres	n/a	n/a

Source: BRIDGE Housing, 2014.

2.4 ALTERNATIVES CONSIDERED, BUT ELIMINATED FROM FURTHER CONSIDERATION

An alternative involving the development of 80-foot tall buildings was considered by the project applicant. This alternative would be similar to the Proposed Project, but instead of having buildings up to 65 feet, it would include buildings up to 80 feet. This alternative was considered because it offered greater population concentration on the main street that would support the retail, contributing to its success. However, this alternative was eliminated from future consideration because of potential land use, aesthetic, and wind and shadow impacts that the other alternatives would not have.

Additionally, no feasible offsite alternative locations were identified within San Francisco where the Proposed Project could be constructed and meet the project applicant's objectives. There are very few, if any, 39-acre vacant sites in San Francisco that are properly zoned, owned by the City or project applicant, and could accommodate the program of replacing all public housing units as part of a mixed-income, mixed-use community.

CHAPTER 3 **Plans and Policies**

In accordance with the California Environmental Quality Act (CEQA) Guidelines Section 15125(d), this section provides a summary of the plans, policies, and land use regulations of the City and County of San Francisco and regional agencies that have policy and regulatory control over the Proposed Project. A discussion of relevant plans, policies, and land use regulations in the context of NEPA is provided in Section 5.2, *Land Use and Land Use Planning*. For informational purposes, this section also describes citywide planning initiatives and programs that relate to the Proposed Project. All associated physical impacts of the Proposed Project are discussed in the corresponding topical section of Chapter 5, *Environmental Consequences*.

A conflict between a Proposed Project and a General Plan policy does not, in itself, indicate a significant effect on the environment within the context of the CEQA. Any conflicts between implementation of the Proposed Project and policies relating to physical environmental issues are discussed in the relevant environmental topic sections of Chapter 4, *Affected Environment*, of this Draft EIR/EIS. In general, potential conflicts with the General Plan are considered by the decisions-makers (normally the Planning Commission) independently of the environmental review process. Thus, in addition to considering inconsistencies that affect environmental issues, the Planning Commission considers other potential inconsistencies with the General Plan, independently of the environmental review process, as part of the decision to approve or disapprove a proposed project. Any potential conflict not identified in this environmental document would be considered in that context and would not alter the physical environmental effects of the Proposed Project that are analyzed in this Draft EIR/EIS.

3.1 SAN FRANCISCO PLANS AND POLICIES

This section addresses the consistency of the Proposed Project and alternatives with the City's plans and policies.

3.1.1 San Francisco General Plan

The San Francisco General Plan (General Plan), adopted by the Planning Commission and the Board of Supervisors, is both a strategic and long-term document, broad in scope and specific in nature. The General Plan is the embodiment of the City's collective vision for the future of San Francisco, and comprises ten elements, each of which deals with a particular topic, that apply citywide. The General Plan contains the following elements: Air Quality, Arts, Commerce and Industry, Community Facilities, Community Safety, Environmental Protection, Housing, Recreation and Open Space, Transportation, and Urban Design. The General Plan does not include a separate Land Use Element; rather, land use policies are dispersed throughout the other elements of the General Plan, as well as in its various area plans and indexed in the General Plan's Land Use Index. The General

Plan includes 15 area plans that identify specific localized goals and objectives for a neighborhood or district and guide the nature of future development within specific geographic areas of the City. Adoption of area plans has been accompanied by parallel revisions or additions to the San Francisco Planning Code (*Planning Code*) that serve as detailed implementation controls for such plans. The area plan that applies to the Proposed Project and alternatives is the Showplace Square/Potrero Area Plan. The compatibility of the Proposed Project with General Plan policies that do not relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the Proposed Project.

The following discussion summarizes the Housing Element, Urban Design Element, Environmental Protection Element, Recreation and Open Space Element, Transportation Element, Air Quality Element, Community Safety Element, and the Showplace Square/Potrero Area Plan. The Arts Element, Commerce and Industry Element, and Community Facilities Element contain no objectives or policies relevant to the Proposed Project and alternatives.

Housing Element

The Housing Element provides objectives and policies that promote and direct the development of housing in appropriate locations in a manner that enhances existing neighborhood character, locates infill housing on appropriate sites in established residential neighborhoods, and increases the supply of housing.[1]

The 2009 Housing Element focuses on goals, objectives, and policies to foster the development of housing in San Francisco that meets a range of needs on affordability, housing type, and location. The Proposed Project and alternatives would be consistent with the applicable objectives and policies of the Housing Element because it would promote permanent affordable housing, improve the conditions of existing public housing, and consider the proximity of quality of life elements such as open space, child care, and neighborhood services.

Urban Design Element

The Urban Design Element of the General Plan is concerned with the physical character and environment of the City with respect to development and preservation. The Urban Design Element addresses issues related to city pattern, guidelines for major new development, and neighborhood environment.

The Proposed Project and Alternative 1 would result in a more dense development than under existing conditions. Roadways would be realigned and straightened, and existing open space areas and buildings would be redeveloped. The Proposed Project would result in a change in orientation and views, and new buildings would represent a departure from the existing architectural styles of

[1] City and County of San Francisco. 2011. *2009 Housing Element*. March. San Francisco, CA. Available: <http://www.sf-planning.org/ftp/General_Plan/I1_Housing.html>. Accessed: February 25, 2014.

the Project site and surrounding neighborhoods. The new buildings would be generally taller than those nearby. The Proposed Project and Alternative 1 would be consistent with the Urban Design Element because it would improve the site's connectivity to the surrounding community though the reconfiguration of the roadways on the Project site. Alternatives 2 and 3 would not improve community's connectivity to adjacent neighborhoods or improve pedestrian pathways and, thus, would not be consistent with this element of the General Plan. The project's physical environmental effects on aesthetics are discussed in Section 5.3, *Visual Quality/Aesthetics*.

Environmental Protection Element

The Environmental Protection Element is concerned with the impact of urbanization, including effects of the use of oil and gas resources and hazardous waste on the natural environment. The Environmental Protection Element addresses the City's land resources including open space; the impact of noise on affected areas; land use compatibility; and community noise levels.

The Proposed Project and alternatives would be consistent with the applicable objectives and policies of the Environmental Protection Element by increasing open space in the Project area and incorporating energy efficiency measures in the development. The Project's physical environmental effects related to open space, noise, and land use are analyzed in the following Sections, respectively: 4.12 and 5.12, *Recreation*; 4.8 and 5.8 *Noise*; and 4.2 and 5.2, *Land Use and Land Use Planning and 5.3, Visual Quality/Aesthetics*.

Recreation and Open Space Element

The Recreation and Open Space Element sets forth goals and objectives to improve utilizations, maintenance and design of open spaces in the city. The policies in the Recreation and Open Space Element promote the design of open space that includes both active and passive uses, supports urban agriculture, the preservation of sunlight in public open space and encourages private recreational facilities on private land that provide a community–benefit, particularly to low and moderate-income residents.

The Proposed Project and alternatives would be consistent with the applicable objectives and policies of the Recreation and Open Space Element because it would not result in the loss of existing open space. The Proposed Project and Alternative 1 would provide open space for the residential units and privately owned publicly accessible open space. The Project's physical environmental effects related to recreation and open space are analyzed in Section 4.12 and 5.12, *Recreation*.

Community Safety Element

The Community Safety Element of the General Plan addresses the need to reduce future loss of life, injuries, property loss, environmental damage, and social and economic disruption from natural or technological disasters.

The Proposed Project and alternatives would be consistent with the applicable objectives and policies of the Community Safety Element because they would promote green stormwater management and demolish aging structures and replace them with new structures that meet current structural and life safety standards. The Project's physical environmental effects related to hazards, geology and soils, and stormwater management are analyzed in the following Sections, respectively: 4.18 and 5.18, *Hazards and Hazardous Materials*; 4.16 and 5.16, *Geology and Soils*; and 4.17 and 5.17, *Hydrology and Water Quality*.

Transportation Element

The Transportation Element of the General Plan contains objectives and policies that relate to the nine aspects of the citywide transportation system: General, Regional Transportation, Congestion Management, Vehicle Circulation, Transit, Pedestrian, Bicycles, Citywide Parking, and Goods Movement. The Transportation Element goals, policies, and objectives provide detailed guidance on all forms of transportation in San Francisco, but emphasize plans and measures to reduce the number of private automobile trips and to bring about an overall reduction in automobile dependency through education, assistance, and incentives.

The Proposed Project and Alternative 1 would be consistent with the Transportation Element because it would improve access for bicycles on city streets and improve Project area connectivity to public transit. Alternatives 2 and 3 would not be consistent with the Transportation Element because they would not improve the existing transportation infrastructure on the Project site. Sections 4.7 and 5.7, *Transportation and Circulation*, include a discussion and analysis of the transportation components of the Proposed Project and alternatives.

Air Quality Element

The General Plan's Air Quality Element promotes the goal of clean air through objectives and policies aimed at adhering to air quality regulations and encouraging a land use pattern that focuses development near transit services and supports transportation programs that advocate alternatives to the private automobile. These transportation programs are part of air quality strategies in the Bay Area, where motor vehicles generate the majority of reactive organic gas, nitrogen oxide, and carbon monoxide emissions.

The Proposed Project and alternatives would be in compliance with the Air Quality Plan by adhering to state and federal air quality standards. The Proposed Project and Alternative 1 would be consistent with more of the Air Quality Element's policies and objectives through the encouragement of mixed land use development near transit lines, and incorporation of energy conservation measures in the development. Alternatives 2 and 3 do not propose mixed land use development or energy efficiency measures like the Proposed Project and Alternative 1; therefore, these alternatives would not be consistent with the Air Quality Element. Sections 4.9 and 5.9, *Air*

Quality, include a discussion and analysis of the air emissions associated with of the Proposed Project and alternatives and consistency with the Air Quality Element.

Eastern Neighborhoods Rezoning and Area Plan

The Mission, Central Waterfront, East South of Market, and Showplace Square/Potrero Hill neighborhoods include much of the City's industrially-zoned land. The goal of the Eastern Neighborhoods Program is to transition approximately half of the existing industrial areas in these neighborhoods to mixed use zones that encourage new housing. The remaining half of the industrial areas is reserved for Production, Distribution, and Repair zones, which prohibit residential development and limit office, retail, and institutional uses. The Project site is geographically located within the boundaries of the Eastern Neighborhoods, but the Project itself was not included in the Plan.

Showplace Square/Potrero Area Plan

The Showplace Square/Potrero Area Plan is an area plan of the General Plan and was adopted as part of the greater Eastern Neighborhoods Program, approved in January 2009. The plan area is bound by Bryant Street and Seventh Street to the north, I-280 to the east, Potrero Avenue to the west, and 25th Street, 26th Street, and Cesar Chavez Avenue to the south. This Showplace Square/Potrero Area Plan anticipated that the Project site could be rezoned at the conclusion of a community engagement process; therefore the rezoning included as part of the Proposed Project and Alternative 1 is consistent with the Area Plan. Sections 4.2 and 5.2, *Land Use and Land Use Planning*, include a discussion of the Project's consistency with applicable land use plans.

3.1.2 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 definition 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 and County of San Francisco was a result of community collaboration with the intent of establishing sustainable development as a fundamental goal of municipal public policy.[2]

The Sustainability Plan is divided into 15 topic areas, 10 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;

[2] City and County of San Francisco, Department of the Environment.1997. *Sustainability Plan.* July. San Francisco, CA.

transportation; and water and wastewater), and five that are broader in scope and cover many issues (economy and economic development; environmental justice; municipal expenditures; public information and education; and risk management). Additionally, 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.

The Proposed Project and alternatives would further the intent of the Sustainability Plan in many ways, including by encouraging housing near transit, promoting sustainable infrastructure, and including environmentally-friendly housing. No inconsistencies have been identified between the Proposed Project and alternatives and the Sustainability Plan.

3.1.3 The Climate Action Plan

In February 2002, the San Francisco Board of Supervisors passed the Greenhouse Gas Emissions Reduction Resolution 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, and other appropriate City agencies to complete and coordinate an analysis and planning of a local action plan targeting GHG emission reduction activities. In September 2004, the San Francisco Department of the Environment and the San Francisco Public Utilities Commission published the *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Emissions*.[3] 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 from 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 Plan. Although the Board of Supervisors has not formally committed the City to perform the actions addressed in the Plan, and many of the actions require further development and commitment of resources, the Plan serves as a blueprint for GHG emission reductions, and several actions are now in progress. The GHG reduction goals were amended in 2008.

The Proposed Project and alternatives would generally be consistent with the Climate Action Plan. The Proposed Project and alternatives would support the Plan's goals related to the reduction of GHG emissions, including seeking LEED-ND rating. Sections 4.10 and 5.10, *Greenhouse Gas*

[3] San Francisco Department of the Environment and San Francisco Public Utilities Commission. 2004. *Climate Action Plan for San Francisco, Local Actions to Reduce Greenhouse Emissions*. September. San Francisco, CA. Available: http://www.sfenvironment.org/sites/default/files/fliers/files/climateactionplan.pdf>. Accessed: February 13, 2014.

Emissions, include a discussion and analysis of the GHG reduction components of the Proposed Project and alternatives and consistency with the Climate Action Plan.

3.1.4 Better Streets Plan

In December 2010, the City and County of San Francisco adopted the Better Streets Plan, with the aim of creating a unified set of standards, guidelines, and implementation strategies to govern how the City designs, builds, and maintains public streets and rights-of-way. The Planning Department, San Francisco Metropolitan Transportation Agency, Department of Public Works, and San Francisco Public Utilities Commission are joint project applicants of the Plan on behalf of the City and County of San Francisco. The Better Streets Plan seeks to balance the needs of all street users, with a particular focus on the pedestrian environment and how streets can be used as public space. The Plan reflects the understanding that streets are about much more than just transportation and that streets serve a multitude of social, recreational and ecological needs that must be considered when deciding on the most appropriate design. The Better Streets Plan carries out the intent of San Francisco's Better Streets Policy, adopted by the Board of Supervisors in 2006.

The Proposed Project and Alternative 1 have developed several objectives of the project applicant that would encourage a more positive pedestrian environment, including, but not limited to, establishing a physical connection between the Proposed Project site and the larger Potrero Hill neighborhood, building safe streets, and creating a more walkable neighborhood. Also, the Design Guidelines which direct the design of future development on the Project site specify that consistency with the Better Streets Plan would be required. Thus, the Proposed Project and Alternative 1 would be consistent with the Better Streets Plan. Alternatives 2 and 3 would not be consistent with the Better Streets Plan because these alternatives would not improve pedestrian accessibility to the larger Potrero Hill neighborhood. Sections 4.7 and 5.7, *Transportation and Circulation*, include a discussion and analysis of the transportation components of the Proposed Project and alternatives and consistency with the Better Streets Plan.

3.1.5 San Francisco Bicycle Plan

In August 2009, the Board of Supervisors approved the San Francisco Bicycle Plan (Bicycle Plan), an update of the 1997 Plan. The Bicycle Plan includes a citywide bicycle transportation plan and implementation of specific bicycle improvements identified within the Plan. The draft Bicycle Plan includes objectives and identifies policy changes that would enhance the City's bike-ability. It also describes the existing bicycle route network (a series of interconnected streets on which bicycling is encouraged), and identifies gaps within the citywide bicycle route network that require improvement. The Bicycle Plan includes a total of 56 short-term and long-term bicycle improvement projects. However, no bicycle routes or proposed improvements identified in the Bicycle Plan are in the Project site. The Bicycle Plan includes new bike routes on Kansas Street, Cesar Chavez Street, and Pennsylvania Avenue. The Proposed Project and alternatives would not conflict with the

Bicycle Plan. However, the Proposed Project and Alternative 1 would support the goal of the Bicycle Plan by improving bicycle connectivity to surrounding neighborhoods. Alternative 2 and 3 would not support the Bicycle Plan because it would not improve the Project site's bike-ability and connectivity to the surrounding neighborhoods. Sections 4.7 and 5.7, *Transportation and Circulation*, include a discussion and analysis of the transportation components of the Proposed Project and alternatives and consistency with the San Francisco Bicycle Plan.

3.1.6 Transit First Policy

The City of San Francisco's Transit First policy, adopted by the Board of Supervisors in 1973, 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 following ten principles constitute the City's Transit First policy:

1. To ensure quality of life and economic health in San Francisco, the primary objective of the transportation system must be the safe and efficient movement of people and goods.
2. Public transit, including taxis and vanpools, is an economically and environmentally sound alternative to transportation by individual automobiles. Within San Francisco, travel by public transit, by bicycle and on foot must be an attractive alternative to travel by private automobile.
3. Decisions regarding the use of limited public street and sidewalk space shall encourage the use of public rights of way by pedestrians, bicyclists, and public transit, and shall strive to reduce and improve public health and safety.
4. Transit policy improvements, such as designated transit lanes and streets and improved signalization, shall be made to expedite the movement of public transit vehicles (including taxis and vanpools) and to improve public safety.
5. Pedestrian areas shall be enhanced wherever possible to improve the safety and comfort of pedestrians and to encourage travel by foot.
6. Bicycling shall be promoted by encouraging safe streets for riding, convenient access to transit, bicycle lanes, and secure bicycle parking.
7. Parking policies for areas well served by public transit shall be designed to encourage travel by public transit and alternative transportation.
8. New transportation investment should be allocated to meet the demand for public transit generated by new public and private commercial and residential developments.

9. The ability of the City and County of San Francisco to reduce traffic congestion depends on the adequacy of regional public transportation. The City and County shall promote the use of regional mass transit and the continued development of an integrated, reliable, regional public transportation system.
10. The City and County shall encourage innovative solutions to meet public transportation needs wherever possible and where the provision of such service will not adversely affect the service provided by the Municipal Railway. (Added November 1999.)

In the context of the Transit First policy, the Proposed Project and Alternative 1 would result in new development in an existing urban area. The Proposed Project would encourage multi-modal transportation use by providing improved pedestrian connections, updating the Project site's bicycle network and facilities, reconfiguring the existing roadway network, and installing new transit stops on the reconfigured street system. Thus, the Proposed Project and Alternative 1 would not conflict with this policy. However, Alternatives 2 and 3 would conflict with Transit First Policy because these alternatives would not encourage bicycling and improve accessibility to public transit. Sections 4.7 and 5.7, *Transportation and Circulation*, include a discussion and analysis of the transportation components of the Proposed Project and alternatives and consistency with the Transit First Policy.

3.1.7 San Francisco Planning Code

The *Planning Code*, which incorporates by reference the City's Zoning Maps, governs permitted uses, densities, and configuration of buildings in San Francisco. Permits to construct new buildings (or to alter or demolish existing ones) may not be issued unless (1) the proposed action conforms to the *Planning Code,* (2) allowable exceptions are granted pursuant to provisions of the *Planning Code*, or (3) amendments to the *Planning Code* are included as part of the project.

The majority of the Project site is located within an RM-2 District, which is defined under Section 206.2 of the *Planning Code* as Residential, Mixed-Use – Moderate Density. Per Section 206.2 of the *Planning Code*, RM-2 Districts are generally similar to RM-1 Districts, which contain a mixture of dwelling types including those found in the RH (Residential, House) Districts and apartment buildings in a variety of structures and a range of unit sizes. RM-2 Districts tend to be greater in unit density, and the variety of building types and unit sizes are often more pronounced than RM-1 Districts. Where non-residential uses are allowed in the RM-2 District, they tend to offer services for wider areas than RM-1 Districts.

The Project site is within a 40-X Height and Bulk District, which sets building height limits at 40 feet. The "X" of the 40-X designation indicates no bulk restriction. Properties in the Project vicinity (several blocks to the east, west, and north of the Project site, with some exceptions) are also in the 40-X Height and Bulk District, with properties to the south in the 65-J Height and Bulk Districts. Figure 2-4, in Chapter 2, *Project Alternatives and Project Description*, shows the existing and proposed height limits in the Project vicinity.

Per *Planning Code* Section 209.1 dwelling units are permitted within RM-2 Districts at a density ratio not exceeding one dwelling unit for each 600 square feet of lot area. As such, the 33-acre Project site (not including streets) would be able to accommodate a maximum of 2,396 units.[4] As the Proposed Project would develop up to 1,700 dwelling units, Alternative 1 would develop up to 1,280 dwelling units, and Alternative 2 would develop 620 dwelling units on the site, the Proposed Project and alternatives would not exceed the maximum density limits established by *Planning Code* Section 209.1 for the entire site.

In addition to the Potrero Terrace and Potrero Annex properties, the Proposed Project would include the development of a small parcel owned by the San Francisco Unified School District (SFUSD) located on the southeast corner of 25th Street and Connecticut Street, designated as Block X by the project applicant. The SFUSD parcel is currently split zoned RM-2 and P (Public); the majority of the site is zoned P, with the most northwestern corner zoned RM-2. Per Section 234, the designation of "P District" applies to land owned by a governmental agency and is in some form of public use. Principal uses permitted in P Districts include structures and uses of governmental agencies. As explained further discussed in Chapter 2, *Project Alternative and Project Description*, a zoning amendment to change the zoning from a P District to RM-2 District is included as part of the Proposed Project.

Sections 4.3 and 5.3, *Visual Quality/Aesthetics*, describe the effect of proposed buildings that would be up to 65 feet high with the proposed height district change. Alternatives 2 and 3 would not require any land use amendments, while Alternative 1 would require the rezoning of the SFUSD site from P) to an RM-2 District.

San Francisco Planning Code Section 415

Section 415 of the *Planning Code* outlines the housing requirements for residential development projects. Due to the need for affordable housing within the City, the Inclusionary Housing Ordinance outlines requirements for developers must adhere to when building housing units within the City. The Project's on-site affordable housing percentage, including replacement of existing units as well as new affordable units, exceeds the 12 percent on-site inclusionary affordable housing requirements of sections 415–415.9 of the *Planning Code*. Accordingly, as agreed to in the Development Agreement between the project applicant and the City, the San Francisco Mayor's Office of Housing and Community Development has the right and authority to determine that one or more of the requirements of sections 415-415.9 of the *Planning Code*, including the payment of the affordable housing fee, are not applicable to the market rate units associated with the Project.

[4] 1 acre = 43,560 square feet (sf). 43,560 sf x 33 acres = 1,437,480 sf/600 sf (1 dwelling unit per 600 sf) = 2,396 dwelling units. The Project site is 33 acres excluding roadways. Total acreage including roadways is 39 acres.

San Francisco Planning Code Section 423—Eastern Neighborhoods Impact Fee

The Eastern Neighborhoods Plan identifies the need for new housing affordable to low, moderate, and middle income families and individuals and for "complete neighborhoods" to provide amenities for these new residents. In order to meet this goal, all new development within the Eastern Neighborhoods is required to pay an Eastern Neighborhood Impact Fee. Section 423 of the *Planning Code* sets forth the requirements and procedures for the Eastern Neighborhoods Impact Fee. As a part of the Proposed Project the project applicant would be required to pay a fee or provide in-kind facilities calculated by the Planning Department and determined at the time of Project design. Credits for on-site public improvements may also be applied by the Planning Department via in-kind agreements with the project sponsor.

3.1.8 San Francisco Green Building Ordinance (SFGBO)

In 2008, the City adopted Chapter 13C (Green Building Requirements) into the San Francisco Building Code. The requirements promote the health, safety, and welfare of San Francisco residents, workers, and visitors by minimizing the use and waste of energy, water and other resources in the construction and operation of the buildings within the city and by providing a healthy indoor environment. The requirements are based on LEED[5] or GreenPoints[6] rating systems. Upon full implementation of the SFGBO in 2012, residential development will be required to achieve the following minimum standards:

1. Small residential (four or fewer units) – 75 GreenPoints
2. Mid-sized residential (five or more units less than 75 feet in height) – 75 GreenPoints
3. High-rise large residential – 75 GreenPoints or LEED Silver

The ordinance requires compliance with the applicable LEED performance standards or GreenPoint Rated checklists (which applies mostly to residential buildings) for New Construction, Version 2.2, LEED criteria Sustainable Sites (SS) 6.1 and SS6.2 for stormwater management, as well as the best management practices (BMPs) and Stormwater Design Guidelines of the SFPUC (1304C.0.3). Additionally, for high-rise residential buildings (1304C.1.3), new group B (Business) and M (Mercantile) occupancy buildings (1304C.2), and new large commercial buildings (1304C.2.2), water efficient landscaping (LEED credit WE1.1) and water conservation are required (LEED credit WE3.2).

[5] U.S. Green Building Council.2011. LEED Rating Systems information. Available: <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=222>. Accessed: April 18, 2011.

[6] Build It Green. 2011. GreenPoint ratings information. Available: <http://www.builditgreen.org/greenpoint-rated/>. Accessed: April 18, 2011.

LEED SS6.2 addresses stormwater management and has been adopted by the San Francisco Stormwater Design Guidelines for MS4s.[7] The stormwater management program seeks to reduce impervious cover, promote infiltration, and capture and treat 90 percent of the runoff from an average annual rainfall event (for semi-arid watersheds; in San Francisco, treatment of 90 percent is interpreted as treating runoff produced by a rain event generating 0.75 inch) using acceptable BMPs. In addition, BMPs used to treat runoff must be capable of removing 80 percent of the average annual post development total suspended solid load contained in stormwater runoff. The BMPs are considered to meet these criteria if (1) they are designed in accordance with standards and specifications from a state or local program that has adopted these performance standards, or (2) there are filed performance monitoring data that demonstrate compliance with the criteria. LEED WE1.1 addresses water efficient landscaping. New construction that is required to comply with this credit must submit documentation verifying a minimum of 50 percent reduction in use of potable water for landscaping (compared to the mid-summer baseline case). LEED WE3.2 addresses water use reduction. Permit applicants must submit documentation demonstrating achievement of a minimum 20 percent reduction in the use of potable water. Effective January 1, 2011, the required reduction in use of water is 30 percent (compared to the water use baseline calculated for the building [not including irrigation] after meeting the USEPA Energy Policy Act of 1992 requirements).

The Proposed Project and alternatives would be consistent with the Green Building Ordinance. New construction would be designed, constructed, and operated in accordance with the City's green building requirements. Additionally, the Proposed Project and Alternative 1 intend to attain LEED-ND certification.

3.1.9 Accountable Planning Initiative

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1(b) to the *Planning Code* to establish eight priority policies. These policies are (1) preservation and enhancement of neighborhood-serving retail uses; (2) protection of neighborhood character; (3) preservation and enhancement of affordable housing; (4) discouragement of commuter automobiles; (5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership; (6) maximization of earthquake preparedness; (7) preservation of landmark and historic buildings; and (8) protection of open space.

Prior to issuing a permit for any project that 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 that requires

[7] An MS4 is a conveyance or system of conveyances that is owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.; designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.); not a combined sewer; and not part of a Publicly Owned Treatment Works (sewage treatment plant).

a finding of consistency with the General Plan, Section 101.1 of the *Planning Code* requires that the City find that the proposed project or legislation would be consistent with the priority policies. In evaluating General Plan consistency of the Proposed Project and reviewing the building permit application for the Proposed Project, the Planning Commission and/or Planning Department will consider whether, on balance, the Proposed Project is consistent with the priority policies.

3.2 REGIONAL PLANS AND POLICIES

The five principal regional planning agencies and their policy plans that guide planning in the nine-county Bay Area are (1) the Association for Bay Area Governments' *A Land Use Policy Framework and Projections 2009* and *Building Momentum: Projections and Priorities 2009*, (2) the Bay Area Air Quality Management District's (BAAQMD) *Clean Air Plan and Bay Area 2005 Ozone Strategy*, (3) the Metropolitan Transportation Commission's *Regional Transportation Plan* (RTP) – Transportation 2030, (4) the San Francisco Regional Water Quality Control Board's (RWQCB) *San Francisco Basin Plan*, and (5) the San Francisco Bay Conservation and Development Commission's (BCDC) *San Francisco Bay Plan*. In August 2009, the Association of Bay Area Governments released *Building Momentum: Projections and Priorities 2009*, which provided insight into the region's economy and presented impacts on carbon dioxide emissions from cars and light trucks as well as other measures.[8] *Building Momentum: Projections and Priorities 2009* forecasts population, employment, income and households for the San Francisco Bay Area for 2000, 2005, 2010, 2015, 2020, 2025, 2030, and 2035 for the region, nine counties, and over 100 cities. Due to the size, location, and nature of the Proposed Project and alternatives, there would be no anticipated conflicts with regional plans. Where possible conflicts between the Proposed Project and alternatives and the existing plans and policies may occur, this Draft EIR/EIS examines the Proposed Project's potential physical effects.

[8] Association of Bay Area Governments. 2009. *Building Momentum: Projections and Priorities 2009*. August. San Francisco, CA. Available: https://store.abag.ca.gov/projections.asp#pro09>. Accessed: October 8, 2014.

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CHAPTER 4 Affected Environment

4.1 INTRODUCTION

This chapter of the Draft EIR/EIS describes the existing conditions at the Project site as they relate to each environmental topic evaluated in this document. This chapter also identifies applicable federal, state, and local plans, policies, and regulations that pertain to the environmental topics considered in the analysis.

4.1.1 Scope of the Analysis

This chapter and Chapter 5, *Environmental Consequences*, address the full range of environmental topics required by CEQA and those topical areas required under NEPA (per CEQ Regulations [40 CFR §1502.15]). This chapter describes the existing physical environmental conditions in the Project area with respect to each environmental topic at an appropriate level of detail that will allow the reader to understand the impact analysis presented in Chapter 5.

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4.2 LAND USE AND LAND USE PLANNING

4.2.1 Introduction

This section describes the general land use setting of the Project site and vicinity. Several land use issues were raised during the Notice of Preparation and Notice of Intent scoping periods. Specifically, comments were made regarding the proposed density of the Project site, the mix of uses, Project conflicts with land use and zoning laws, design of the new development, and impacts to neighborhood character. These areas of concern will be addressed in Section 5.2, *Land Use and Land Use Planning*.

4.2.2 Environmental Setting

Existing Land Uses

The Project site is located on the southeastern border of the Potrero Hill neighborhood. As shown in Figure 1-1 in Chapter 1, *Project Purpose, Need, and Objectives*, the Project site is one and one-half blocks (or approximately 1,500 linear feet) west of Interstate 280 (I-280), four blocks (or approximately 1,850 linear feet) east of U.S. Highway 101 (US 101), and two blocks (approximately 950 linear feet) north of Cesar Chavez Street, and is bordered to the northwest by the Potrero Hill Recreation Center. The eastern edge of the site sits on a ridge paralleling Pennsylvania Avenue below. The Project site comprises several parcels, as follows:

- Potrero Terrace: Assessor's Parcel Numbers (APNs) 4167/004A and 004,
- Potrero Annex: APNs 4220A/001, 4223/001, and 4285B/001, and
- San Francisco Unified School District: APN 4287/001A.

Combined, these parcels have a total acreage of approximately 39 acres, including internal roadways. Some areas of the Project site have very steep slopes. The highest topographic elevation within the Project site is to the north at the intersection of 23rd Street and Arkansas Street at 265 feet above mean sea level (msl) and the lowest elevation is to the south at the intersection of 26th Street and Connecticut Street at 40 feet above msl. The Project site is generally sloped from north to south and from west to east.

The physical character of the Project site is typical of public housing developments constructed during the 1940s and 1950s and is distinctively different from the surrounding area.[1] There are 38 residential buildings in the Terrace and 23 residential buildings in the Annex for a total of 620 units. The existing buildings are two to three stories tall with typical heights of approximately 24 to 34 feet, depending on where they are measured from. The buildings are rectangular and low-slung, with

[1] San Francisco Planning Department. 2011. Historic Resource Evaluation Response, 1095 Connecticut Street (Potrero Terrace/Annex). July. San Francisco, CA.

relatively little architectural detail. The 38 Terrace buildings have some architectural variation, but, on the whole, have a very uniform appearance. The 23 Annex buildings are distinguishable from the Terrace buildings, but bear a strong resemblance to them. The architectural style of the buildings on the Project site is not similar to other surrounding residential developments.

The buildings across the Terrace site are nearly identical, as are the buildings on the Annex site. Terrace buildings are distinguishable from Annex buildings because they feature a hipped mission barrel tile roof. The footprint of each building is aligned with the natural topography of the steeply sloping site. This gives the overall appearance that the buildings are situated randomly on the site, although they actually follow the natural contours of the land. This design was employed to minimize the amount of cut and fill needed, and to minimize erosion. The areas surrounding the buildings feature concrete walkways, steps, retaining walls, and limited vegetation. Behind each building are T-shaped clothesline poles. Currently, there is generally limited programmed outdoor space on the Project site.

In addition to the residential buildings, there is an administrative office in the Terrace at the northeast corner of 25th Street and Connecticut Street, and a Family Support Center and child care center in the Annex. The San Francisco Unified School District site is currently vacant. In general, the development pattern of the Project site appears to be inconsistent with the pattern of the surrounding neighborhood and the bisecting streets do no not follow the typical grid pattern of City streets. As shown in Figure 1-1 in Chapter 1, *Project Purpose, Need, and Objectives*, the existing streets within the Project site travel in a curvilinear (northwest/southeast) direction or end in a cul-de-sac, which lends to the distinctive character of the site.

Surrounding Land Uses

Surrounding land uses include residential, commercial, recreational, institutional, production, distribution, and repair (PDR), and industrial uses. Most residential buildings in the Project vicinity are two to four stories tall with typical heights of approximately 25 to 35 feet. Land uses to the north include multi-family residences, single-family residences, and the Potrero Hill Recreation Center (generally zoned RH-2, RH-1, and P). Further to the north is the Potrero Hill neighborhood core. North of the Potrero Hill neighborhood is Showplace Square and further north is the South of Market neighborhood. Land uses to the west include multi-family residences, single-family residences, and Starr King Elementary School (generally zoned RH-2, RH-1, and P). Farther west, US 101 and Potrero Avenue separate Potrero Hill from the Mission neighborhood. Figure 4.2-1 illustrates the existing land uses in the areas surrounding the Project site.

SOURCE: Atkins, 2011.

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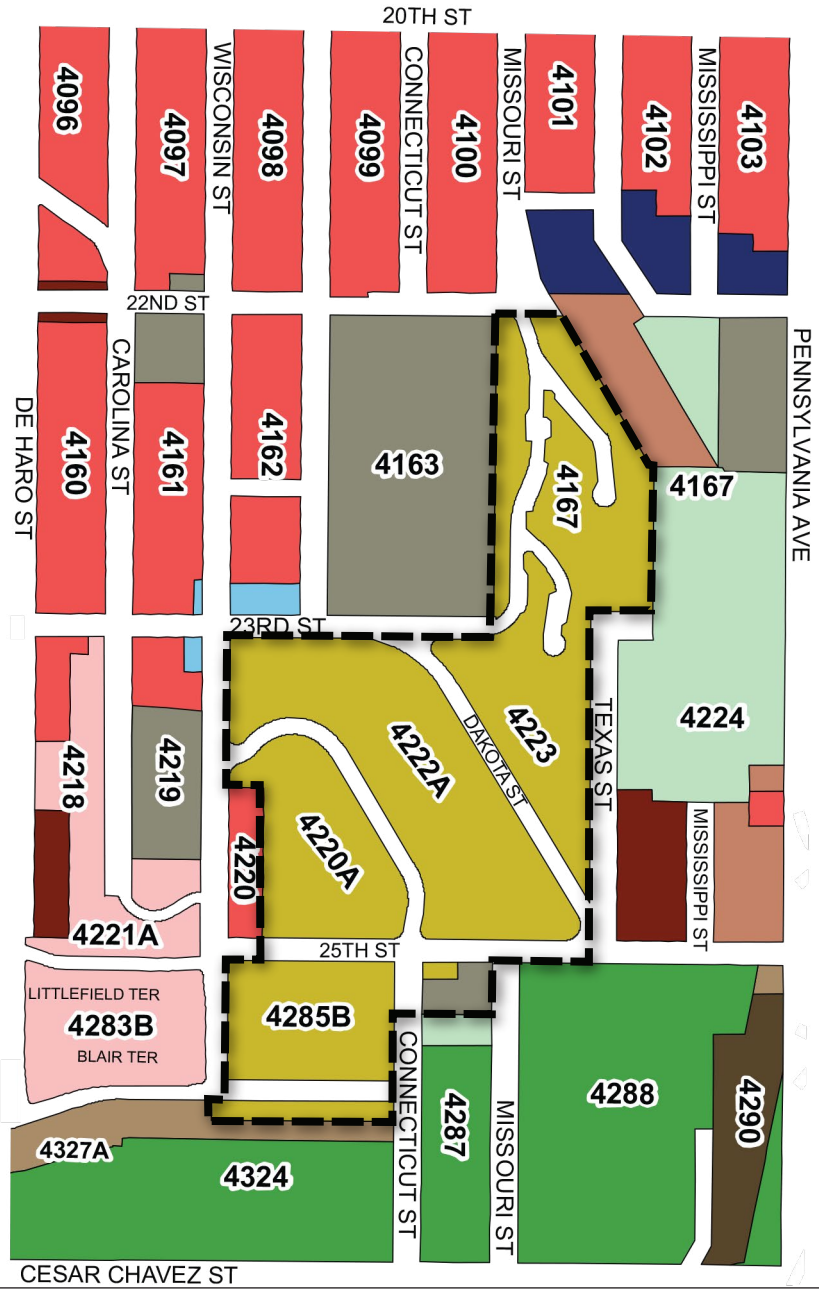
FIGURE 4.2-1: EXISTING LAND USES

Land uses to the south and east include industrial and PDR uses (generally zoned PDR-1-G and PDR-2). PDR uses refer to a wide variety of activities which typically occur in industrially zoned areas. PDR-1-G Districts are intended to retain and encourage production, distribution, and repair activities and promote new business formation. This district prohibits residential and office uses, and limits retail and industrial uses.[2] PDR-2 Districts are intended to encourage the introduction, intensification, and protection of a wide range of light and contemporary industrial activities. These districts prohibit new housing, large office developments, large-scale retail, most institutional uses, and the heaviest industrial uses. All other uses are generally permitted.[3] Existing zoning districts in the Project area are shown in Figure 4.2-2.

Cesar Chavez Street to the south marks the border between Potrero Hill and the Bayview-Hunters Point neighborhood. Across Texas Street to the east are multi-family residential, single-family residential, and industrial uses. East of Texas Street, Pennsylvania Avenue separates Potrero Hill from the Dogpatch and Central Waterfront neighborhoods. I-280 and the Caltrain corridor run parallel to Pennsylvania Avenue and provide a physical barrier between Potrero Hill and the areas to the immediate east. A Caltrain station is located on 22nd Street underneath I-280, just down the hill and west of the northern border of the Project site.

[2] City and County of San Francisco. 2013. *San Francisco Planning Code*. December. Available: < http://www.amlegal.com/nxt/gateway.dll/California/planning/planningcode?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca$sync=1>. Accessed: February 25, 2014.

[3] City and County of San Francisco. 2013. *San Francisco Planning Code*. December. Available: < http://www.amlegal.com/nxt/gateway.dll/California/planning/planningcode?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca$sync=1>. Accessed February 25, 2014.



SOURCE: City and County of San Francisco, 2011.

FIGURE 4.2-2: EXISTING ZONING DISTRICTS

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4.3 VISUAL QUALITY/AESTHETICS

4.3.1 Introduction

This section describes the visual character and aesthetics of the affected environment within and around the Project site. The visual character and aesthetics of an area is created by elements of the natural and built environment and their physical relationship to each other, as perceived by people. This section focuses on the existing visual character of the Potrero Hill area and the Project site, including the views of and from the Project site.

Several comments on aesthetics were submitted during the Notice of Preparation (NOP) and Notice of Intent (NOI) scoping periods. Specifically, concerns were raised regarding: increased building heights, inconsistency with the design of existing buildings, impacts to existing views and vistas, tree removal, reductions in open space, and lighting and glare impacts. However, comments made on the NOP are not addressed in this document as they relate to CEQA. On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014. Among other provisions, SB 743 added Section 21099 to the Public Resources Code and eliminated the analysis of aesthetics for certain 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. Accordingly, this document does not provide CEQA conclusions regarding aesthetics, which can no longer be considered in determining the significance of the Proposed Project's physical environmental effects under CEQA. Implementation of SB 743 was subsequent to the publication of the NOP, which had indicated that the EIR would include a discussion of aesthetics-related impacts of the Proposed Project. However, since the Proposed Project is subject to NEPA, comments made on the NOI as they relate to aesthetics are addressed and NEPA conclusions are provided in Section 5.3.

4.3.2 Environmental Setting

Regional Visual Setting

The Project site is situated on the southern and eastern slope of Potrero Hill, which is located in the southeast portion of the City. As shown in Figure 1-1 (Chapter 1, *Project Purpose, Need, and Objectives*), the neighborhood is generally bound by 16th Street to the north, Interstate 280 (I-280) to the east, 25th Street/26th Street to the south, and U.S. Highway 101 (US 101)/Potrero Avenue to the west. North of the Potrero Hill neighborhood is Showplace Square, and further north is the South of Market neighborhood. The Project site is approximately 1 mile west of the San Francisco Bay. The visual character of the vicinity is that of a built-out urban area. Generally, the City has a rectilinear street grid, and buildings are constructed to the lot line.

Local Visual Setting

The residential portion of Potrero Hill can be separated between the northern and southern portions. The northern slope has unobstructed views of the high-rise buildings in the Financial District to the north and the Bay to the east. This area of Potrero Hill has a fairly uniform development pattern consisting of Victorian-era and early 20th century single-family and multi-family dwellings, two- to three-stories in height, with limited setbacks. The residential streets on the northern slope are relatively wide, allowing for ample street parking. The northern slope also includes neighborhood commercial corridors, which are pedestrian-oriented and contribute to a fine pattern and an intimate scale.[1]

The southern slope has a greater mix of uses, resulting in a less coherent development pattern. Towards the base of the hill to the south, and along the I-280 corridor to the east, the local streets are lined with industrial uses and large warehouse buildings with associated parking lots. As the hill slopes upward, the Potrero Terrace (Terrace) and Potrero Annex (Annex) housing developments (the Project site, as described in more detail below) encompass a large portion of the hillside. More uniform single-family and multi-family residential units and Starr King Elementary School are located to the west of Wisconsin Street. Most residential buildings in the Project vicinity are two to four stories tall with typical heights of approximately 25 to 35 feet. At the apex of the hill sits the 9.6-acre Potrero Hill Recreation Center; however, due to its location at a higher elevation, the Recreation Center is not a dominant characteristic visible from the lower portion of neighborhood. Regional vehicular access to/from Potrero Hill is provided by I-280 and US 101, located to the east and west of Potrero Hill, respectively.

Project Site Visual Setting

The Project site comprises several parcels that contain the Terrace, the Annex, and an adjacent San Francisco Unified School District (SFUSD)-owned property. Combined, these parcels total approximately 39 acres. The Project site includes 38 residential buildings on the Terrace parcel and 23 residential buildings on the Annex parcel. The SFUSD site, also referred to as Block X, is vacant. The existing buildings are two to three stories tall with typical heights of approximately 24 to 34 feet. The circulation between the buildings consists of concrete walkways, steps, and retaining walls.

Currently, there are 254 trees that would be considered "significant" on and within the vicinity of the Project site.[2] The significance determination is based on the following: the trees are within 10 feet of a lot line abutting a public right-of-way and are above 20 feet in height, have a canopy greater than 15 feet in diameter, or have a trunk diameter greater than 12 inches at breast height. Out of the

[1] City and County of San Francisco, Planning Department, *Eastern Neighborhoods Rezoning and Area Plans Final EIR* (August 2008), http://www.sf-planning.org/Modules/ShowDocument.aspx?documentid=3999 (accessed July 11, 2011).

[2] GLS Landscape/Architecture, Tree Disclosure Statement (June 23, 2010).

254 significant trees, 249 are located on the Project site, while five trees are on adjacent properties that overhang the Project site. There are no landmark trees or street trees.[3]

Potrero Terrace

The Terrace site is generally bound by 23rd Street to the north, Dakota Street to the east, 26th Street to the south, and Wisconsin Street to the west. The 17.6-acre Terrace site currently includes 38 separate buildings, open spaces, mature trees, limited vegetation, and parking for residents.

On-Site Topography. The Project site is characterized by steep topography and uneven slopes. The highest topographic elevation is to the north at the intersection of 23rd Street and Arkansas Street at 265 feet above mean sea level (msl) and the lowest elevation is to the south at the intersection of 26th Street and Connecticut Street at 40 feet above msl. The footprint of each building is aligned with the site topography, oriented according to the slope.

Visual Character and Development Pattern. The most prominent feature at the Terrace site is the topography. Due to the steep terrain, the Terrace buildings and the streets were constructed to match the contours of the hillside. This gives the appearance that the buildings are situated randomly on the hillside; however, they actually follow the contours of the land to reduce the required amount of soil cut and fill and to help prevent erosion. As such, the development pattern of the Project site is visually inconsistent with its surroundings and the bisecting streets do no not follow the typical grid pattern of City streets.

Each of the buildings is rectangular in plan, constructed of reinforced poured-in-place concrete, and features a hipped, mission barrel tile roof. Because of the steep slopes at the Terrace site, the buildings are two stories in height on the uphill side and three stories on the downhill side. The alternating blue-, white-, and terracotta-colored buildings have minimal architectural articulation and detail. The façades facing south feature a second-floor balcony with metal wire-mesh railing. The entry doors are located on both the northern and southern façades at ground level and the windows are relatively small and uniform. The side elevations of the buildings feature a single entry door with wire-mesh railing and a flat concrete awning projection above.

The areas surrounding the buildings feature concrete walkways, steps, retaining walls, and limited vegetation. T-shaped pipes, which are visible from the surrounding streets, are evenly spaced along the internal walkways for hanging laundry. Overhead wires with utility poles are prominent features along the Project site perimeter and traverse the site in some areas. In addition, parking stalls are provided in designated areas at 90-degree angles in driveways.

The moderate-scale development and open space between the buildings at the Project site are inconsistent with surrounding industrial uses to the east and south and gridded streets with dense housing to the north and west. This contrast contributes to an incoherent visual pattern with limited

[3] GLS Landscape/Architecture, Tree Disclosure Statement (June 23, 2010).

unity between the Terrace site and its surroundings. However, the Terrace site is visually consistent with the development at the Annex site, which is discussed in more detail below.

Vegetation and Lighting. Vegetation throughout the Terrace site is in poor condition and sparse. Between the buildings and concrete walkways is a combination of grass, dirt, small shrubs, and mature trees. The mature trees are scattered intermittently throughout the site without a consistent pattern. There are no street trees. Sloped lawns are located between the buildings to the west of Connecticut Street. In addition, flower beds are located immediately in front of the south-facing façades of the buildings. The buildings between Dakota Street and Connecticut Street are on a steeper slope, making landscaping difficult to grow and maintain. Therefore, vegetation is sparse in this area.

Street lighting is currently limited at the Terrace site. Cobra-style street lighting[4] is evenly spaced along Dakota Street, Connecticut Street, Wisconsin Street, 23rd Street, 25th Street, and 26th Street. No lighting is provided on the walkways or open spaces between or around the units. One wall-mounted light fixture is provided at each door, along the roofline. At night, some interior light from the buildings spills onto the adjacent open spaces and streets.

Potrero Annex

The Annex site is generally bound by Missouri Street to the north and west, Texas Street to the east, and Dakota Street to the south and west. Separating the site from I-280 are industrial uses/warehouses to the east. Potrero Hill Recreation Center borders the site to the west. The 7.24-acre site currently includes 23 separate buildings, open spaces, mature trees, limited vegetation, and parking for residents.

On-Site Topography. The Project site is characterized by steep topography and uneven slopes, which have been significantly modified from their natural, undeveloped state. The highest topographic elevation is to the northwest along Missouri Street at 220 feet above msl and the lowest elevation is to the east along Texas Street at 60 feet above msl. The footprint of each building is aligned with the topography, oriented according to the slope.

Visual Character and Development Pattern. The most prominent feature at the Annex site is the topography. Due to the steep terrain, the Annex buildings and the streets were constructed to match the contours of the hillside. Two cul-de-sacs, Watchman Way and Turner Terrace, extend east into the development from Missouri Street. Texas Street, to the east of the site, is an extremely narrow, unevenly paved, unmarked roadway.

The wood-framed, rectangular buildings painted in blue, white, and terra-cotta colors have flat roofs canted at a slight angle. The two- and three-story buildings feature a combination of the original

[4] Cobra-style lamps are the most common form of street lighting, with the luminaire mounted on a utility pole that curves to hang over the street.

windows and replacement windows, evenly spaced along the façades of the buildings. The east-facing elevations feature second- and third-floor balconies with clapboard rails. The west elevations feature entries with flat awnings, some of which provide an area for flower pots. Buildings include staircases leading from the second-level balcony to the third-level balcony on either the north- or south-facing façade.

The areas surrounding the buildings include a circulation network of concrete walkways and stairs, with chain-link fencing and some mature trees. Play areas are enclosed by chain-link fencing on the east-facing, level areas adjacent to some buildings. Overhead wires with utility poles traverse the site in certain areas. In addition, limited parking areas are provided at 90-degree angles in areas removed from the street. Most parking areas are paved and unmarked. Along Texas Street, off-street parking is provided in unmarked, dirt offshoots. Parallel parking is also available.

The moderate-scale development and expanse of open space between the buildings is inconsistent with industrial uses to the east and the Potrero Hill Recreation Center to the west. The various uses provide incoherent visual patterns and limited unity of the Annex site with respect to its surroundings. However, the Annex site is similar to the development at the Terrace site, which is discussed above.

Vegetation and Lighting. Landscaping throughout the Annex site is minimal. The landscaping is urban and limited to mature trees and dirt hills with non-native, ruderal groundcover and shrubs. The mature trees are scattered intermittently throughout the site and there are no street trees. Lighting is currently limited. Cobra-style lighting is evenly spaced along Missouri Street, Turner Terrace, and Watchman Way. Texas Street features only two light fixtures, which are attached to the utility poles that run east/west along the hill. Wall-mounted light fixtures are provided on the exteriors of each building. No lighting is provided on the walkways or open spaces between or around the units. At night, some interior light from the buildings spills onto the adjacent open spaces and streets.

SFUSD Site

The SFUSD site is bound by 25th Street to the north; a vacant site to the east; a plumbing, heating, and cooling supplies warehouse to the south, and Connecticut Street to the west. The SFUSD site consists of a paved basketball court and a paved area with cracked asphalt and weeds; both of which are open to the public. A chain-link fence lines the perimeter of the basketball court. To the south of the basketball court is a paved area with ruderal vegetation, also surrounded by a chain-link fence. To the south of this area, between the warehouse building and the SFUSD site, are several mature trees. No lighting is provided at the site.

Site Visibility and Existing Views

A "viewshed" is an expansive, visually-important area of land, water, and/or other environmental and physical elements visible from a fixed vantage point. More specifically, viewsheds allow the public panoramic view access to natural features, including views of the ocean, striking or unusual natural terrain, or unique urban or historic features, also referred to as scenic resources. The term "view corridor" refers to views of significant features from along a path, roadway, or other horizontal corridor. View corridors often have limited visibility to either side due to obstructions such as development or vegetation; a view from a view corridor that has limited lateral visibility is referred to as a channelized view. Sensitive viewing points within the City include parks, historic properties, publicly-accessible buildings, and public rights-of-way that offer a view of the urban and natural landscapes making up the viewshed.

Due to the steep topography of the Project site and low-scale development in the immediate vicinity, views to and from the Project site are extensive. Foreground views from the Project site include the existing housing developments at Terrace and Annex sites and the limited mature trees and vegetation. Foreground views of the adjacent Potrero Hill Recreation Center from the north (Terrace) and west (Annex) is limited due to the park's higher elevation; only the retaining wall and perimeter vegetation is visible.

Immediate middleground views from the Project site include the surrounding development, with the warehouses and industrial uses to east and south, and the residential development and Starr King Elementary School to the west. In addition, the Annex site includes mid-range views of the residential area in the northern portion of Potrero Hill. This view includes dense, mainly single-family residential units with landscaped front and backyards. Middleground views extend further away from the Project site and encompass the dense development in the southeastern portion of the City.

Features that are visible from the Project site, looking east and south, include: warehouse and industrial buildings with massive footprints that are relatively low in height; residential buildings and associated landscaping in the Bayview, Bernal Heights, Glen Park, Visitación Valley, and Dogpatch neighborhoods; the Hunters Point Shipyard and its shipping cranes and docks; India Basin and its bayside factory buildings and smokestacks; the Islais Creek Channel; Candlestick Point and the football stadium. The areas adjacent to the Bay and at the base of Potrero Hill are relatively flat; however, there are several higher elevation hills and ridges visible including Hunters Point Hill, Bayview Hill, Mount St. Joseph, and John McLaren Park and Ridge. The visual pattern as viewed from the Project site is relatively consistent manmade development; however, I-280 travels through the middleground view, visually encroaching on the area and dividing the development.

Foreground or middleground "viewsheds," as defined above, are limited. From the Project site, mainly views of local development exist, which are not considered significant visual resources. However, the higher elevation hills and ridges are considered to be middleground viewsheds.

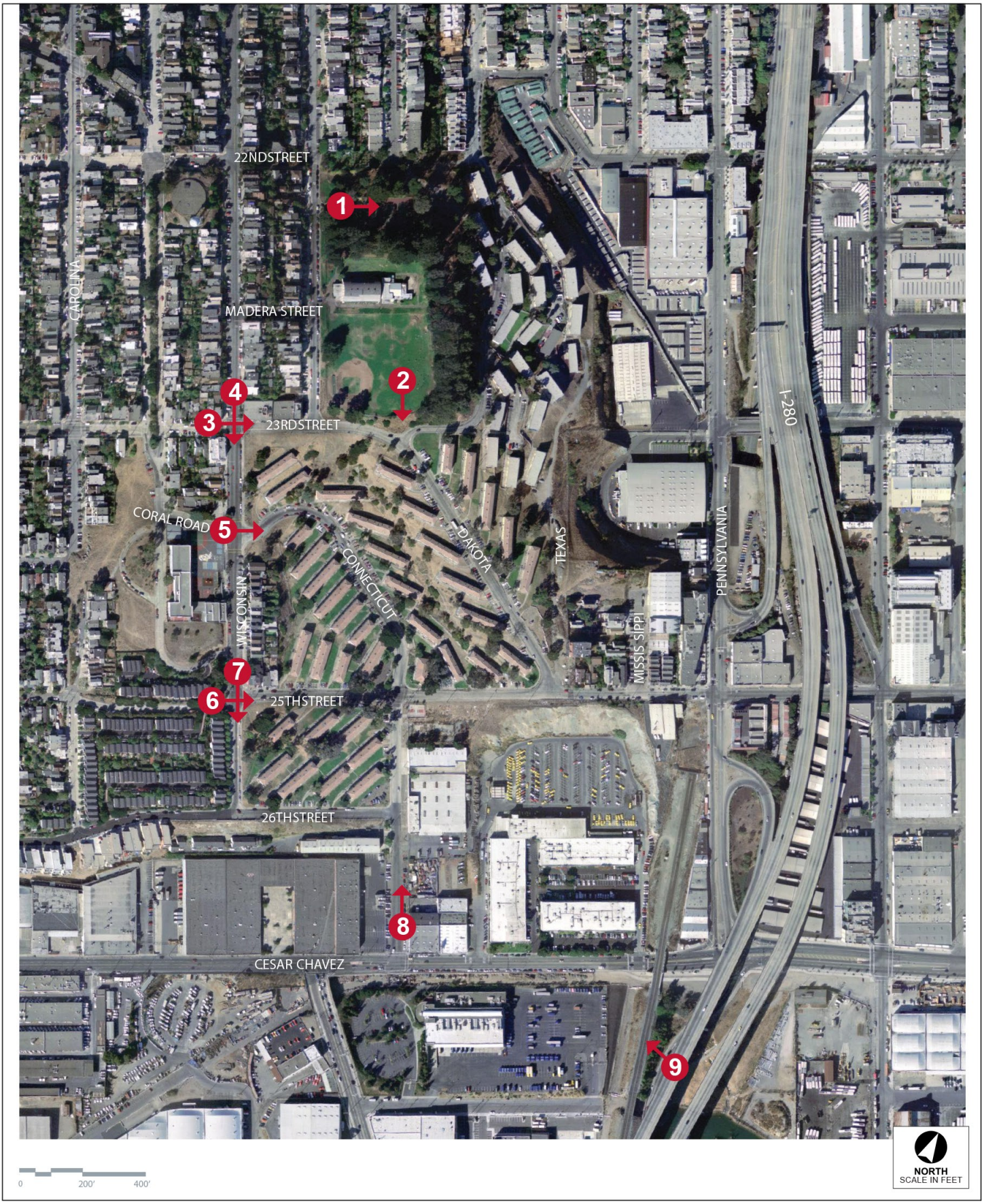
Long-range views are extensive and include many significant areas within the City as well as areas beyond the City in the East Bay and the San Francisco Peninsula (Peninsula). These views are considered to be viewsheds. Looking north from the Annex site, the high-rise buildings of the San Francisco Financial District are visible next to the southern towers of the Bay Bridge and Treasure Island. To the east, the Project site has unobstructed views of the Bay, the East Bay Hills and the East Bay cities along the Bay, including the City of Oakland and its financial district. Facing south, the northern slope of San Bruno Mountain is visible beyond John McLaren Ridge and the Santa Cruz Mountain Range extends southward down the Peninsula. Depending on the viewer location, long-range views from publicly-accessible streets are generally only blocked by mature trees or the on-site dwelling units; otherwise these long range views tend to be broad and unobstructed.

Just as many areas are visible from the Project site, the Project site is visible from several surrounding areas. Figure 4.3-1 depicts a photo location map of various viewpoints in the vicinity of the Project site. Figure 4.3-2 through Figure 4.3-6 show the existing visual character of the Project site, view corridors, and viewsheds to and from the Project site.

As described below, Viewpoints 1 and 2 represent views from a scenic vista, in this case, from the Potrero Hill Recreation Center. Viewpoints 3 through 8 represent public views of and through the Project site from outside the Project site. Viewpoint 9 represents a view from a state scenic highway, I-280, as described below. Given the high visibility from public view corridors to the Project site, these areas are considered sensitive viewer locations.

Potrero Hill Recreation Center. The Potrero Hill Recreation Center is a 9.6-acre facility owned and operated by the San Francisco Recreation and Parks Department. This park includes a playground, baseball field, basketball court, dog play area, ball fields, two lighted tennis courts, picnic tables, and a recreation center with a gymnasium, stage, and auditorium.[5] The Recreation Center is surrounded by a chain-link fence and dense mature trees, and sits atop a high retaining wall. Due to these features and the higher elevation, the Recreation Center is not a dominant characteristic visible from the lower neighborhood and the Project site. From the upper portion of the Project site, along 23rd Street, only the perimeter chain-link fence, mature trees, and retaining walls associated with the Recreation Center are visible. In addition, since the Recreation Center is uphill from the Terrace and Annex housing developments and features dense vegetation along the eastern perimeter, the existing buildings are not currently visible to park users.

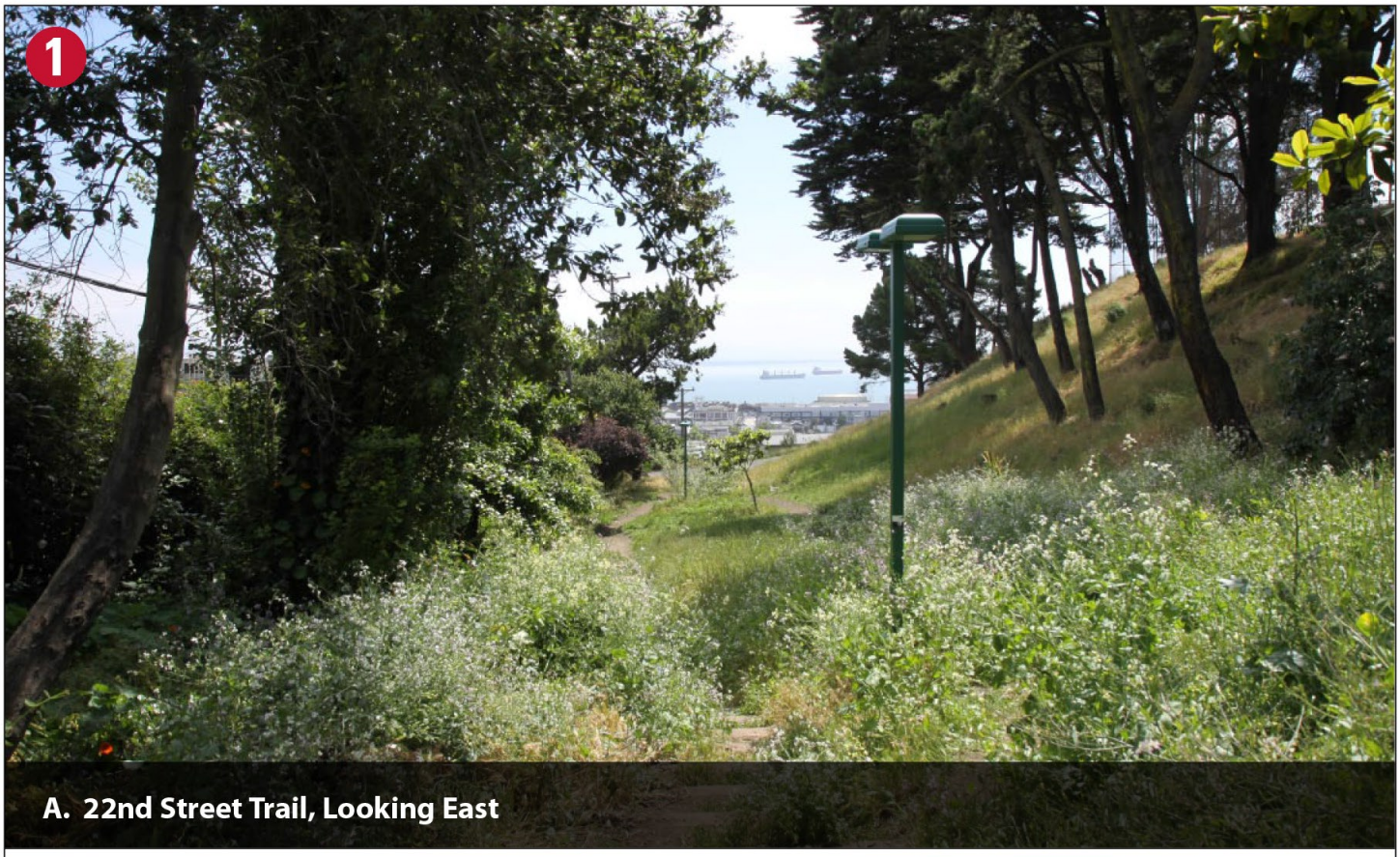
[5] City and County of San Francisco, San Francisco Recreation and Parks Department. *Full Service Rec Centers: Potrero Hill Recreation Center*. Available: <http://sfrecpark.org/Rec-RecCenters.aspx#/?i=2>. Accessed: May 7, 2012.



SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

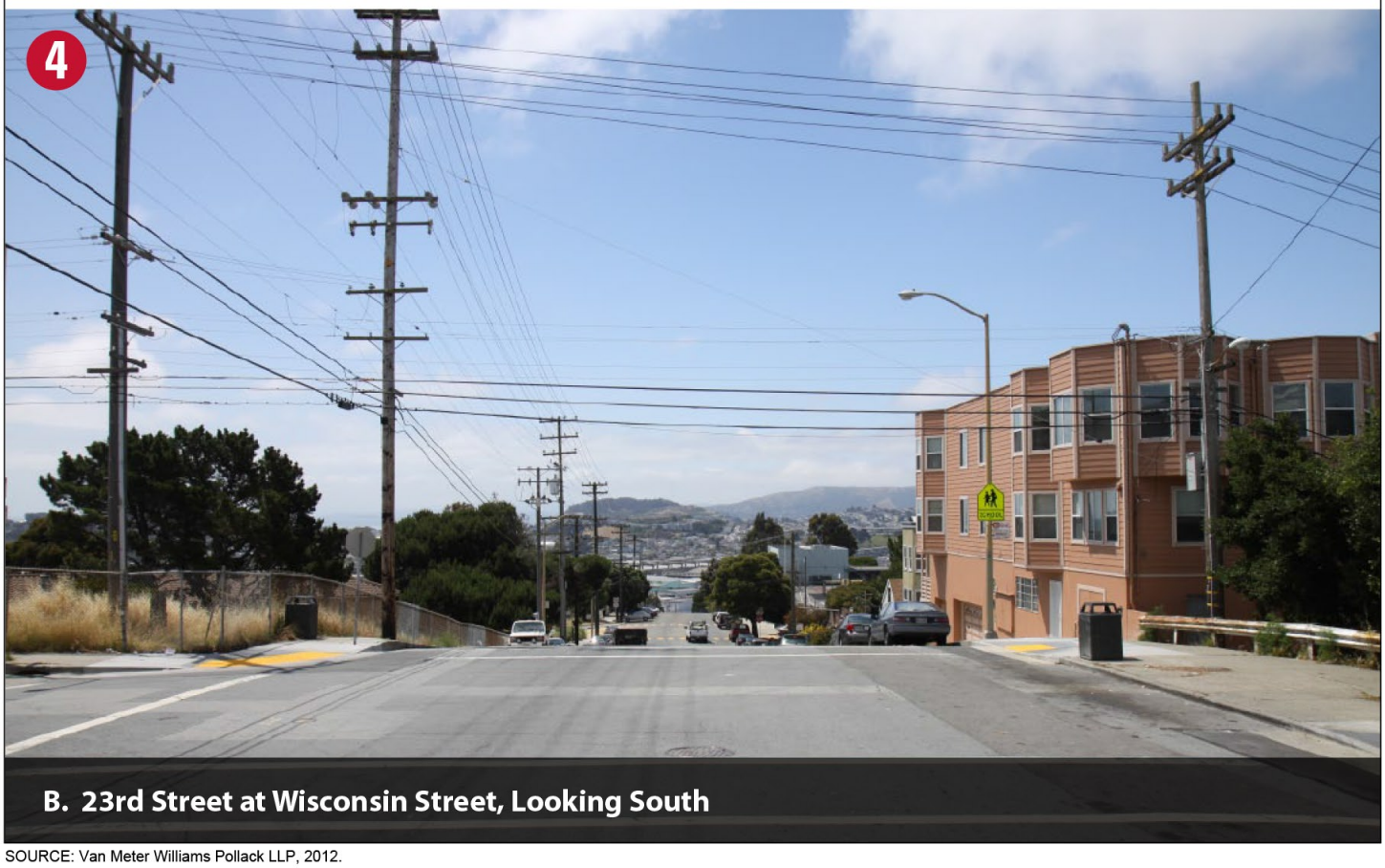
FIGURE 4.3-1: VIEWPOINTS LOCATION MAP



SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

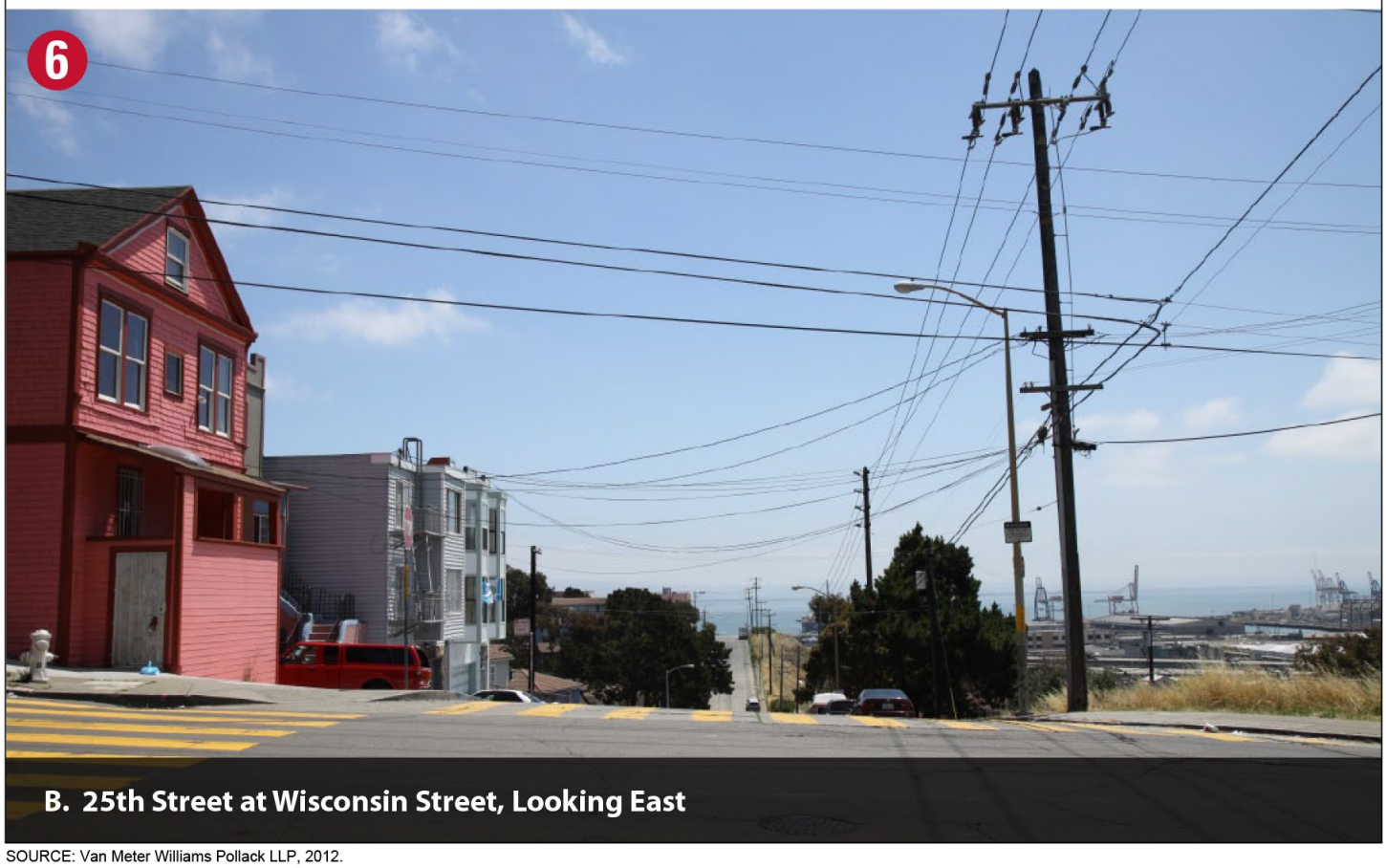
FIGURE 4.3-2: EXISTING VIEWS (VIEWPOINTS 1 AND 2)



SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 4.3-3: EXISTING VIEWS (VIEWPOINTS 3 AND 4)



SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 4.3-4: EXISTING VIEWS (VIEWPOINTS 5 AND 6)

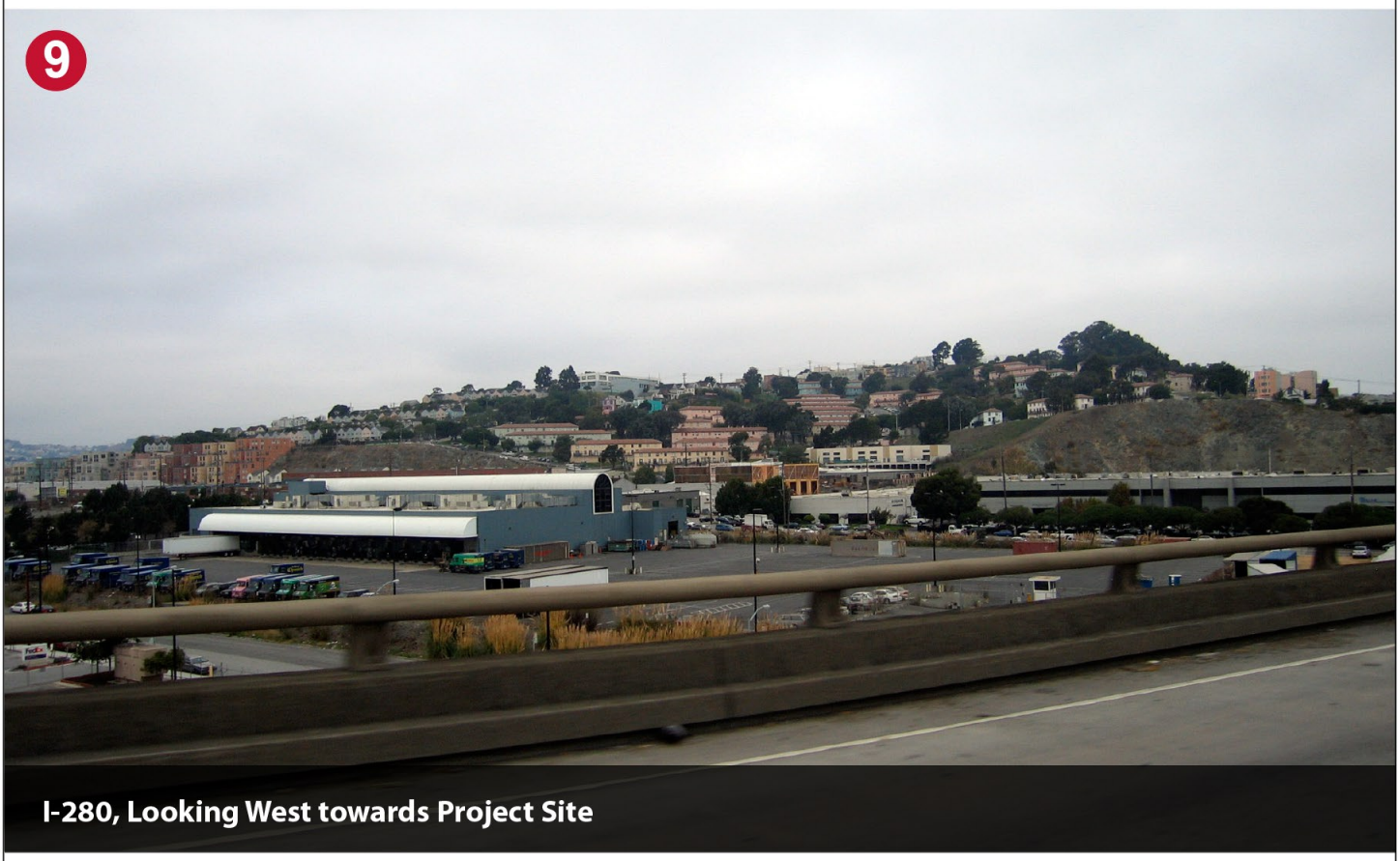
A. Wisconsin Street at 25th Street, Looking South

B. Connecticut Street at Cesar Chavez Street, Looking South

SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 4.3-5: EXISTING VIEWS (VIEWPOINTS 7 AND 8)



SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 4.3-6: EXISTING VIEWS (VIEWPOINT 9)

Due to the views of the Bay and surrounding hills from certain portions of this public location (in particular, from the southern perimeter), users of the Potrero Hill Recreation Center are currently afforded a scenic vista. As shown in Figure 4.3-2A (Viewpoint 1), the northern portion of the Recreation Center includes natural features and a path toward 22nd Street. Looking east, a channelized view of the Bay and East Bay Hills is provided through the dense vegetation. Figure 4.3-2B (Viewpoint 2) includes a view from the southern portion of the Recreation Center at the baseball field. Long-range views are limited due to the chain-link fence and dense vegetation. However, intermittent long-range views of the surrounding higher elevations to the south can be seen from this location, including McLaren Ridge and San Bruno Mountain. As shown in Figure 4.3-2A and Figure 4.3-2B, the Project site is not visible from most locations within the park; the rooftops of existing buildings are only visible by users of the Recreation Center along the immediate perimeter, through the chain-link fence and dense vegetation.

Local Streets Surrounding the Project Site. According to the Urban Design Element of the General Plan, views along streets should be protected, especially when the Bay is visible.[6] Figure 4.3-3A through Figure 4.3-5A, represent viewpoints along Wisconsin Street. From the corner of Wisconsin Street and 23rd Street at Viewpoints 3 and 4 (Figure 4.3-3A and B), views of the existing housing development at the Terrace site are limited to a few rooftops due to the hillside. Views of the Bay and other long-range views facing east are limited and views of San Bruno Mountain and Candlestick Hill are channelized due to buildings, mature vegetation, and utility lines.

Figure 4.3-4A (Viewpoint 5) shows the existing view from the corner of Wisconsin Street and Coral Road, facing east. The dominant features visible from this viewpoint are the mature trees at the Terrace site, but the view also includes street pavement and overhead wires, along with partially blocked views of the buildings at the Terrace site and the Bay. A view corridor of the Bay is visible between existing vegetation and the buildings at the Project site. This vantage point also represents the view from Starr King Elementary School.

Further down the street at the corner of Wisconsin Street and 25th Street, views of the Bay are more prominent, but are still partially blocked by vegetation, utility poles and wires, and foreground and middleground development. Figure 4.3-4B (Viewpoint 6) depicts the views of the Bay and nearby manmade futures, such as the shipping cranes at Hunters Point Shipyard. The dense, single-family and multifamily units along 25th Street, which are not part of the Project site, are also visible in the foreground. The East Bay Hills provide background views on clear days. Looking south from Viewpoint 7, as shown in Figure 4.3-5A, the Project site is visible to the east although no existing housing units can be seen due to the topography. Also in the foreground, to the west, are the townhouses of the Parkview Heights development. Although mainly blocked by dense vegetation, some of the townhome façades and entry staircases are visible. Further to the south, the area

[6] City and County of San Francisco, *San Francisco General Plan*, Urban Design Element (adopted December 7, 2010). Available: <http://www.sf-planning.org/ftp/General_Plan/I5_Urban_Design.htm>. Accessed: May 7, 2012.

provides channelized views of the industrial development at the base of Potrero Hill, I-280, Mount St. Joseph, Candlestick Hill, and San Bruno Mountain.

Figure 4.3-5B (Viewpoint 8) shows the existing interior view of the Project site looking north at Cesar Chavez Street and Connecticut Street. Due to the steep terrain, several Terrace buildings are visible and appear to be staggered on the hillside between mature trees. To the west of Connecticut Street, the buildings seem denser, with no mature trees between the housing units. However on the east side of Connecticut Street, the buildings are more intermittently spaced, with dense trees between the structures, blocking several buildings from view. Although the Project site is highly visible from this location, it would not be considered a sensitive viewer location since the area consists of warehouses and industrial uses with no housing units present. In addition, views looking south (away from the Project site) are relatively level until Cesar Chavez Street, providing no views of the Bay or other significant natural features. Although there is a drop in elevation to the south of Cesar Chavez, no scenic views are held from Viewpoint 8, looking south.

I-280. I-280 is designated as an eligible state scenic highway from the State Route (SR) 17 interchange in San Jose to the I-80 interchange in San Francisco under the state's Scenic Highway Program.[7] Scenic highways are highways that traverse land with unique or outstanding scenic quality or provide access to regionally significant scenic and recreational areas.

Unobstructed views of the Annex site are visible from southbound and northbound I-280 near Pennsylvania Avenue and 23rd Street. Industrial and warehouse buildings and storage units are located at the base of Potrero Hill in this area. The hill rises almost vertically above the industrial parcels and the housing units are perched within the hillside, towards the top. Behind the Annex Site, the extremely mature, dense trees at the Potrero Hill Recreation Center are visible. To the south of the Annex site, a few of the higher elevation Terrace buildings can be seen behind tall trees. Figure 4.3-6 (Viewpoint 9) shows the interior view of the Project site from Pennsylvania Avenue and 23rd Street. This view is similar from I-280 except in this location the housing development is more level with the viewer's line-of-sight and the utility poles and wires are not a dominant feature.

The Terrace site is also visible from I-280, but due to its south-facing direction on the hillside, it is not immediately visible to motorists. Southbound vehicles do not have a direct view of the Terrace site since warehouse buildings and other residential development blocks the site. Once the site is visible, the motorists are driving away from the site. Northbound vehicles have direct views of the Project site, but due to distance and intervening development, topography, and vegetation, the Terrace site blends with its surroundings and is not a dominant feature.

[7] California Department of Transportation, Scenic Highway Program, *Eligible (E) and Officially Designated (OD) Routes*. Available: <http://www.dot.ca.gov/hq/LandArch/scenic/cahisys4.htm>. Accessed: May 7, 2012).

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4.4 SOCIOECONOMICS AND COMMUNITY/POPULATION AND HOUSING

4.4.1 Introduction

This section presents the population and housing and socioeconomic setting for the Project site. As shown in Figure 4.4-1, the Project site is within U.S. Census Bureau Tract 614, which is generally bordered by 20th Street and 22nd Street to the north, I-280 to the east, 25th Street and 26th Street to the south, and US 101 to the west. The Project site is also part of the larger Showplace Square/Potrero neighborhood, as identified in the General Plan. This section compares data for the Proposed Project with that of the City and County of San Francisco, Census Tract 614, and the greater Showplace Square/Potrero neighborhood. A small portion of the Project site known as Block X is within Census Tract 9809. Block X is currently vacant and Census Tract 9809 consists primarily of industrial land uses. For these reasons, and because Census Tract 614 is more representative of the existing and proposed land uses, Census Tract 9809 is not included in the discussion below.

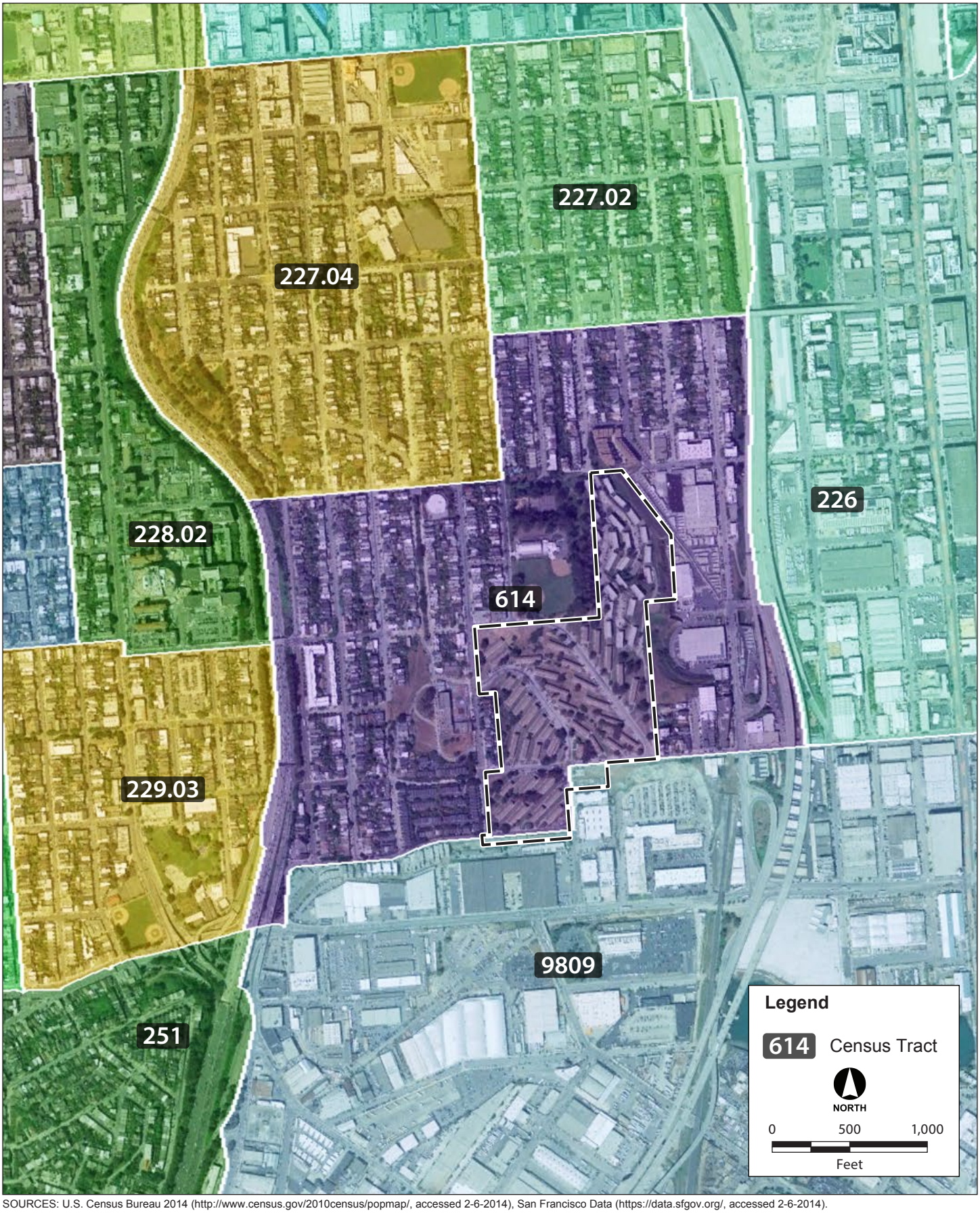
Several population and housing-related issues were raised during the Notice of Preparation (NOP) and Notice of Intent scoping periods. Specifically, concerns were made regarding the distribution of affordable and market rate housing within the site, the development intensity, and potential displacement of existing residents. Section 5.4, *Socioeconomics and Community/Population and Housing*, discusses the housing affordability levels in more detail, and addresses the issue of potential displacement. The potential secondary effects resulting from an increase in density on the Project site are discussed throughout this document.

4.4.2 Population

The Association of Bay Area Governments (ABAG) conducts long-term forecasts of population, households, and employment for the nine-county San Francisco Bay Area (Bay Area),[1] in order to project growth in the region. The analysis in this Draft EIR/EIS relies on ABAG *Projections 2009*[2] which were the most recent available at the time the NOP was published. As discussed in Part I of the 2009 Housing Element, adopted on March 24, 2011, the Planning Department completed a citywide projection effort, allocating growth throughout the city through 2030 to accommodate the adopted ABAG *Projections 2009* target.

[1] The Bay Area is defined as the nine counties that make up the region: Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco counties.

[2] Association for Bay Area Governments. 2009. *Projections and Priorities 2009, San Francisco Bay Area Population, Household, and Job Forecasts.* Data from Projections 2009 were included in Part I of the 2009 City of San Francisco Housing Element.



SOURCES: U.S. Census Bureau 2014 (http://www.census.gov/2010census/popmap/, accessed 2-6-2014), San Francisco Data (https://data.sfgov.org/, accessed 2-6-2014).

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FIGURE 4.4-1: CENSUS TRACTS IN THE PROJECT AREA

Table 4.4-1 presents 2010 Census population data and ABAG population projections for 2010 through 2030 in the city. According to the 2010 Census, the population in the nine-county Bay Area region was approximately 7.15 million residents. By 2030, the population in the Bay Area region is projected to reach over 8.7 million, an increase of approximately 21.9 percent over a 20-year period (2010 to 2030). In comparison, the 2010 Census population for San Francisco was 805,235 residents.[3] According to ABAG projections, San Francisco is expected to reach a population of approximately 934,800 by 2030, a growth of approximately 16.1 percent between 2010 and 2030.

Table 4.4-1 Population Trends in San Francisco 2010–2030

	Census Tract 614	*City/County of San Francisco*					
	2010[a]	*2010[b]*	*2015[c]*	*2020[c]*	*2025[c]*	*2030[c]*	*Growth (2010-2030)*
Population	5,395	805,235	837,500	867,100	900,500	934,800	129,565 (16.1%)

SOURCES:
a. U.S. Census (2010).
b. U.S. Census (2010).
c. ABAG, *Projections 2009*.

As stated above, and included in Table 4.4-1, the Project site is within U.S. Census Bureau Tract 614. As of 2010, there were approximately 5,395 residents living in this census tract.[4] The Project site is also within the Showplace Square/Potrero neighborhood, as identified in the General Plan (refer to Chapter 3, *Plans and Policies*, for more information regarding the Showplace Square/Potrero Area Plan). The production of affordable housing in order to provide housing for residents who are overburdened by their housing costs is one of the main goals of the Showplace Square/Potrero Area Plan. This neighborhood is home to over 11,000 residents,[5] or approximately 1.4 percent of the City's total population in 2010.

4.4.3 Housing

The number of housing units and households[6] within the Bay Area has increased substantially since the 1960s and growth is projected to continue through 2030.[7] The number of households within the

[3] U.S. Census Bureau. 2012. *American Fact Finder, Table DP-1, "Profile of General Population and Housing Characteristics: 2010 Demographic Profile Data," Geography: San Francisco County, California*. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed: April 24, 2012.

[4] U.S. Census Bureau. 2012. *American Fact Finder, Table DP-1, "Profile of General Population and Housing Characteristics: 2010 Demographic Profile Data," Geography: Census Tract 614, San Francisco County, California*. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed April 24, 2012.

[5] City and County of San Francisco Planning Department. 2008. *San Francisco General Plan, Showplace Square/Potrero Area Plan, adopted by the Board of Supervisors as Ordinance No. 297-08*. December. Available: <http://www.sf-planning.org/ftp/General_Plan/Showplace_Square_Potrero.htm#SHP_HSG>. Accessed April 25, 2012.

[6] ABAG defines a "household" as "… another term for an occupied dwelling unit. A household includes all persons who occupy a housing unit. A housing unit is a group of rooms or a single room occupied as separate living quarters where occupants live separately from other persons in the building and have direct access from outside the building or through a common hall. A household can include more than one family." Source: ABAG Projections 2009, CD Appendix p. 13.

Bay Area is projected to increase from approximately 2.67 million in 2010 to 3.2 million in 2030, for a total growth rate of 18.9 percent. Similarly, the household population is expected to increase by 19.0 percent over this same period.

Table 4.4-2 presents the existing household population, households, and average household size for the City and County of San Francisco and Census Tract 614. In addition, this table shows the projected growth trends between 2010 and 2030 for the city. Currently, there are 345,811 households in the city,[8] and it is projected that household growth will continue through 2030, for a total of 400,700 households. This growth over the 20-year period equates to an overall increase of approximately 54,889 households, a 13.7 percent increase from 2010.[9] As shown in Table 4.4-2, San Francisco had a persons-per-household ratio of 2.26 in 2010. According to the 2010 Census, San Francisco had a total of approximately 376,942 housing units in 2010, with a vacancy rate of 8.3 percent.[10]

Table 4.4-2 Household Population and Household Growth in Census Tract 614 and the City and County of San Francisco 2010–2030

	Census Tract 614	*City/County of San Francisco*					
	2010[a]	*2010[b]*	*2015[c]*	*2020[c]*	*2025[c]*	*2030[c]*	*Growth (2010–2030)*
Household Population	5,387	780,971	816,400	845,800	879,200	913,000	132,029 (14.5%)
Households	2,354	345,811	359,170	372,750	386,800	400,700	54,889 (13.7%)
Average Household Size	2.29	2.26	2.27	2.27	2.27	2.28	-

SOURCES:
a. U.S. Census (2010).
b. U.S. Census (2010).
c. ABAG, *Projections 2009*.

Table 4.4-2 also shows the current household population, households, and average household size within Census Tract 614. According to the 2010 Census, Census Tract 614 includes a household population of 5,387 and approximately 2,354 households, for an average persons-per-household ratio of approximately 2.29. This ratio is slightly higher than the citywide ratio of 2.26 persons per household. The Showplace Square/Potrero neighborhood, which includes the Project site, contains

[7] Association for Bay Area Governments. 2009. *Projections and Priorities 2009, San Francisco Bay Area Population, Household, and Job Forecasts*. San Francisco, CA.

[8] U.S. Census Bureau. 2012. *American Fact Finder, Table DP-1, "Profile of General Population and Housing Characteristics: 2010 Demographic Profile Data," Geography: San Francisco County, California*. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed: April 24, 2012.

[9] Association for Bay Area Governments. 2009. *Projections and Priorities 2009, San Francisco Bay Area Population, Household, and Job Forecasts*. San Francisco, CA.

[10] U.S. Census Bureau. 2012. *American Fact Finder, Table DP-1, "Profile of General Population and Housing Characteristics: 2010 Demographic Profile Data," Geography: San Francisco County, California*. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed: April 24, 2012.

more than 5,000 households, the majority of which are concentrated on Potrero Hill.[11] This equates to approximately 2.15 persons per household. As such, the persons per household ratio for the Showplace Square/Potrero neighborhood is slightly lower than the averages for the city and Census Tract 614.[12]

Table 4.4-3 presents the structure type, unit size, and age of housing in the City and County of San Francisco and Census Tract 614 in 2010.[13,14] The housing units in San Francisco consist of roughly equal proportions of low-density (single-family units), medium-density (two to nine units), and high-density structures (structures with 10 or more units). In comparison, Census Tract 614 consists of more medium-density units (approximately 43.4 percent) and fewer high-density units (approximately 22.2 percent). In addition, as shown in Table 4.4-3, the largest percentage of housing stock in both the city and Census Tract 614 was built prior to 1940.

Table 4.4-3 San Francisco City and County Housing Characteristics

Characteristics	*Units in Census Tract 614 (2010)*	*Units in City/County (2010)*
Structure Type		
Low Density (Single Family)	34.5%	31.5%
Medium Density (2–9 units)	43.4%	33.8%
High Density (10 or more units)	22.2%	34.7%
Other	0.0%	0.1%
Age of Housing by Year Built		
2000 and later	11.6%	6.4%
1980–1999	25.9%	9.9%
1960–1979	3.5%	14.7%
1940–1959	21.9%	20.6%
1939 or earlier	37.1%	48.4%

SOURCE: U.S. Census Bureau (2012).

[11] City and County of San Francisco Planning Department. 2008. *San Francisco General Plan, Showplace Square/Potrero Area Plan, adopted by the Board of Supervisors as Ordinance No. 297-08*. December. Available: <http://www.sf-planning.org/ftp/General_Plan/Showplace_Square_Potrero.htm#SHP_HSG>. Accessed: April 25, 2012.

[12] City and County of San Francisco Planning Department. 2007. *Eastern Neighborhoods and Rezoning Area Plans Draft EIR, Case No. 2004.0160E, Table 19, "Population in the Eastern Neighborhoods and in San Francisco, 2000."* p. 181. June 30. Available: <http://www.sf-planning.org/Modules/ShowDocument.aspx?documentid=3975>. Accessed April 25, 2012.

[13] U.S. Census Bureau. 2012. *American Fact Finder, CP04, "Selected Housing Characteristics 2006-2010 American Community Survey 1-Year Estimate," Geography: San Francisco County, California*. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed: April 24, 2012.

[14] U.S. Census Bureau. 2012. *American Fact Finder, DP04, "Selected Housing Characteristics 2006-2010 American Community Survey 5-Year Estimate," Geography: Census Tract 614, San Francisco County, California*. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed: April 24, 2012.

The Project site itself currently comprises two of the oldest public housing developments in San Francisco, Potrero Terrace and Potrero Annex, built in 1941 and 1955, respectively. Combined, these public housing developments include a population of approximately 1,280 people in 517 households, resulting in a ratio of approximately 2.5 persons per household. All 517 households are considered to be affordable housing.[15] Currently, 85 percent of the existing units are occupied, but this number fluctuates constantly.

Regional Housing Needs Allocation

Housing affordability is a major issue for the Bay Area and especially for San Francisco. According to ABAG, in 2007, only 15 percent of Bay Area households could afford a median-priced home in the Bay Area region, while only 10 percent of households in San Francisco could afford a median-priced home. Projections indicate that housing affordability will remain a major regional issue.[16]

New housing need is determined, in part, through a Regional Housing Needs Allocation (RHNA) process. ABAG, in coordination with the California Department of Housing and Community Development (HCD), determined the Bay Area's regional housing need based on regional trends, projected job growth, and existing needs. The housing needs determination effort seeks to alleviate a tight housing market stemming from forecasted household and employment growth as well as to allocate regional household and employment growth to jurisdictions with established or planned transit infrastructures. The RHNA determination includes production targets for housing to serve various household income categories. The RHNA provides a benchmark for evaluating the adequacy of local zoning and regulatory actions to ensure each local government is sufficiently designating land and providing opportunities for housing development to address population growth and job generation.

Table 4.4-4 shows the housing need allocated to the City of San Francisco by ABAG for 2007 to 2014. According to the RHNA, the Bay Area's overall housing need is approximately 214,500 new residential dwelling units, of which San Francisco's share is a total of 31,193 units, or 4,159 units per year over this time period. As shown, approximately 38.8 percent of the units should be in the low to very low household income category.

[15] Bridge Housing. 2013. *Rebuild Potrero Community Assessment—Executive Summary*. October. San Francisco, CA.

[16] Association of Bay Area Governments. 2008. *San Francisco Bay Area Housing Needs Plan 2007–2014*. June. p. 5. Available: <http://www.abag.ca.gov/planning/pdfs/SFHousingNeedsPlan.pdf>. Accessed: April 25, 2012.

Table 4.4-4 ABAG Regional Housing Needs Allocation for San Francisco

Household Income Category	*Percentage of Area Median Income (AMI)*	*No. of Units*	*Percentage*
Very Low	< 50%	6,589	21.1
Low	51–80%	5,535	17.7
Moderate	81–120%	6,754	21.7
Above Moderate	> 120%	12,315	39.5
Total	—	*31,193*	*100%*

SOURCE: ABAG, San Francisco Bay Area Housing Needs Plan 2007–2014 (2008).

4.4.4 Employment

Table 4.4-5 shows that the total employment in San Francisco grew steadily from 1970 to 2000. However, the crash of the dot-com ventures, even with the subsequent recovery, and the recession shows a net job loss in the years between 2000 and 2010 of approximately 65,700 jobs. According to the U.S. Census American Community Survey (ACS), approximately 69 percent of San Francisco residents 16 years and older are in the labor force (but not necessarily actively working). Out of the residents who are considered to be in the labor force, there is an unemployment rate of 7.1 percent.[17] In comparison, in Census Tract 614, approximately 75.6 percent of the residents over 16 years old are in the labor force, with an unemployment rate of 10.3 percent.[18] Approximately 79 percent of the employment age residents at the Potrero Terrace and Potrero Annex are unemployed.[19] ABAG forecasts an increase in San Francisco employment between 2010 and 2030. During the 2010 to 2020 period, ABAG projects 78,460 new jobs in San Francisco, approximately 13.8 percent growth. The job growth from 2020 to 2030 is projected to be 100,910 jobs, or approximately 15.6 percent.[20, 21]

[17] According to the U. S. Census, "All civilians 16 years old and over are classified as unemployed if they (1) were neither 'at work' nor 'with a job but not at work' during the reference week, and (2) were actively looking for work during the last four weeks, and (3) were available to accept a job. Also included as unemployed are civilians who did not work at all during the reference week, were waiting to be called back to a job from which they had been laid off, and were available for work except for temporary illness."

[18] U.S. Census Bureau. 2012. *American Fact Finder, S2301, "Employment Status 2006–2010 American Community Survey 5-Year Estimate," Geography: San Francisco County, California PLUS Census Tract 614, San Francisco County, California*. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed: April 25, 2012.

[19] Charmaine Curtis, Curtis Development & Consulting—electronic communication with Atkins, November 21, 2012.

[20] City and County of San Francisco Planning Department. 2011. *Part I: Data and Needs Analysis*. February. Available: <http://housingelement2009.sfplanning.org/docs/Housing_Element_PartI_Data_Needs_Assmt_DRAFT3.pdf>. Accessed: April 25, 2012.

[21] Association for Bay Area Governments. 2009. *Projections and Priorities 2009, San Francisco Bay Area Population, Household, and Job Forecasts*. San Francisco, CA.

Table 4.4-5 San Francisco Employment Trends and Projections, 1990–2030

Year	*Total No. of Jobs*	*Growth (Loss)*	*% Change*
1990	579,180	26,980	4.9
2000	634,430	55,250	9.5
2010	568,730	(65,700)	-10.4
2020	647,190	78,460	13.8
2030	748,100	100,910	15.6

SOURCE: City and County of San Francisco Planning Department, Part I: Data and Needs Analysis (February 2011), Table I-8 at p. I.12 (U.S. Census Bureau 2000 and ABAG Projections 2009).

According to ABAG, almost all sectors of the local economy experienced net employment losses between the 2000 and 2010 census, with the greatest loss in "Professional and Managerial Services" (18 percent of this sector's jobs) and "Manufacturing and Wholesale" employment (42.4 percent of this sector's jobs). Job growth in the next 20 years is expected to be strongest in the "Professional and Managerial Services" industry (37,830 new jobs), followed by the "Health and Educational Services" category (27,590), and the "Art, Recreation, and Other Services" segment (26,470).[22]

The Project site currently includes minimal employment opportunities, with approximately 15 on-site employees, including for the daycare center and the Family Resource Center. The Potrero Terrace includes two property managers, two eligibility workers, and five generalists/groundskeepers. The Potrero Annex provides employment for two property managers, two generalists/groundskeepers, and two employees at the childcare center.[23]

[22] City and County of San Francisco Planning Department. 2011. *Part I: Data and Needs Analysis.* February. Available: <http://housingelement2009.sfplanning.org/docs/Housing_Element_PartI_Data_Needs_Assmt_DRAFT3.pdf>. Accessed: April 25, 2012.

[23] Toni Autry, HOPE SF Project Manager, San Francisco Housing Authority, Housing Development and Modernization—electronic communication with Atkins (January 2, 2013).

4.5 ENVIRONMENTAL JUSTICE

4.5.1 Introduction

The U.S. Department of Housing and Urban Development (HUD) regulations, 24 CFR Parts 50 and 58, mandate compliance with Executive Order 12898 (EO 12898), *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, for HUD and/or HUD applicants.

HUD defines low-income through a comparison of annual household income for households of various sizes with the area median income. HUD defines income guidelines for extremely low income households (those with 30 percent or less of the area median income), very low-income households (those with 50 percent or less of the area median income) and low-income households (those with 80 percent or less of the area median income).

Low-income population is defined as any readily identifiable group of low-income persons who live in geographic proximity and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by the proposed program, policy, or activity.

Minority population is defined as any readily identifiable group of minority persons who live in geographic proximity and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed program, policy, or activity.

A *minority population* is considered to be present if the minority population percentage of the affected area is greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (census tracts are generally considered appropriate). Guidance from the Council on Environmental Quality (CEQ) states that "Minority populations should be identified where either *(a)* the minority population of the affected area exceeds 50 percent or *(b)* the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis."[1]

No comments related to environmental justice were received in response to the Notice of Preparation (NOP). Several comments were received on the Notice of Intent (NOI) for the Draft EIR/EIS related to environmental justice issues. These comments express concern regarding the potential for disproportionate impacts on ethnic minorities and low-income residents as a result of the proposed Project. Specifically, NOI comments are focused on disproportionate impacts related to

[1] Council on Environmental Quality (CEQ), Environmental Justice, Guidance under the National Environmental Policy Act (December 10, 1997).

displacement, segregation, public transit, and provision of public services. These issues are addressed in the following sections of this Draft EIR/EIS: 4.4 and 5.4, *Socioeconomic and Community/Population and Housing* (displacement); 4.2 and 5.2, *Land Use and Land Use Planning* (segregation); 4.7 and 5.7, *Transportation and Circulation* (public transit); and 4.14 and 5.14, *Public Services* (public services).

4.5.2 Environmental Setting

Low-Income Communities

Poverty Levels

The Census Bureau uses a set of income thresholds that vary by family size and composition to determine who is in poverty.[2] In 2011, the federal poverty threshold for a family of four was $22,350.[3] As described above, HUD defines low-income households as those with 80 percent or less of the area median income. Project site-specific data were gathered from the San Francisco Housing Authority in order to determine the demographic and economic composition of the Project site. [4, 5] To provide local, regional, and state context, similar data are provided for three adjacent (Census Tracts: 226, 227.02, 227.04, and 9809), the County of San Francisco, and the State. The census tracts are illustrated in Figure 4.4-1. Median household income and poverty statistics are shown in Table 4.5-1.

When compared to Census Tracts adjacent to the Project site and the County of San Francisco, existing residents at the Project site meet HUD's criteria for extremely low income. The median household income for the Project site is not available, and thus the average household income is utilized to determine the level of poverty on the site. As shown in Table 4.5-1, approximately 64 percent of the families on the Project site live below the poverty line. In comparison to the percentage of families below the poverty level in the adjacent census tracts, the Project site's percentage is approximately eight times higher than San Francisco and approximately six times higher than California.

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[2] U.S. Census Bureau. 2013. *Poverty Thresholds*. Available: http://www.census.gov/hhes/www/poverty/data/threshold/index.html>. Accessed February 5, 2014.

[3] U.S. Census Bureau. 2014. *Poverty Thresholds*. Available: <http://www.census.gov/hhes/www/poverty/data/threshld/>. Accessed: February 5, 2014.

[4] LFA Group. 2012. *HOPE SF Baseline Report*. June. San Francisco, CA.

[5] San Francisco Housing Authority. 2013. *Rebuild Potrero Community Assessment*. October. San Francisco, CA.

Table 4.5-1 Study Area Household Income Statistics

	Project Site[2]	*Study Area*				*San Francisco County*	*California*
		Census Tract 226	*Census Tract 227.02*	*Census Tract 227.04*	*Census Tract 9809*		
Households	517	944	1,052	1,717	182	375,861	13,667,226
Average Annual Household Income	$14,028	$171,792	$185,756	$173,768	$147,732	$107,520	$85,265
Median Household Income	NA[3]	$129,122	$140,000	$143,846	$156,613	$73,802	$61,400
Families below poverty level	64%	0%	2.1%	1.4%	14.5%	8.1%	11.5%
Individuals below poverty level	NA[3]	2.6%	5.3%	4.2%	13.4%	13.2%	15.3%
Median Household Income in Comparison to County/State[1]	Extremely Low Income	–	–	–	–	–	–

SOURCES: LFA Group. 2012. HOPE SF Baseline Report. June. San Francisco, CA.
San Francisco Housing Authority. 2013. *Rebuild Potrero Community Assessment.* October. San Francisco, CA.
U.S. Census Bureau. 2013. *2008–2012 American Community Survey, 5-year*. Available: < https://www.census.gov/acs/www/.>

NOTE:
1 The Income Comparison in the bottom row was determined by comparing the median household income for each tract to the median income household income for San Francisco ($73,802as noted in Table 4.5-1). Per HUD guidelines the following definitions were used: Low-Income – 51% to 80% of area median income; Very Low-Income – 31 to 50% of area median income; Extremely Low-Income – 30% or less of area median income.
2 Census Tract 614 contains the Project site and immediately surrounding areas. The data in this table represents only the Project site.
3 Data not available for the Project site.

Based on the HUD guidelines referenced in Table 4.5-1 and comparing the adjacent census tracts to the average annual household income in the city illustrates that all census tracts that surround the Project site are not considered low income. The average annual household income for the Project site is less than 30 percent of the surrounding census tracts. For this reason the project site is considered to be extremely low income. As such, the Project site is considered an environmental justice community on the basis of income.

Minority Communities

Table 4.5-2 shows the racial and ethnic profile of residents of the Project site and the surrounding Potrero Hill neighborhood compared to the profiles of the county and state as a whole. These data are based on population and housing statistics from the U.S. Census Bureau's 2010 Census and demographic data provided by the San Francisco Housing Authority for the Project site.

The Project site comprises approximately 76 percent minority ethnic groups. As shown in Table 4.5-2, the percentage of minority groups at the Project site is substantially greater than in the surrounding census tracts (226, 227.02, 227.04, and 9809). Therefore, consistent with CEQ guidance on the definition of minority population, because more than 50 percent of the Project site population belongs to an ethnic minority group, the Project site is considered a minority population for the purposes of this analysis. Therefore, the Project site is designated as an environmental justice community on the basis of ethnicity.

Table 4.5-2 Study Area Race and Ethnicity Statistics (Percentage of Population)

Race/Ethnicity	*Study Area*					*San Francisco County*	*California*
	Project Site	*Census Tract 226*	*Census Tract 227.02*	*Census Tract 227.04*	*Census Tract 9809*		
White	24	74.6	77.6	77.1	61.4	48.5	57.6
African American	43	4.2	2.5	1.4	10.9	6.1	6.2
American Indian and Alaska Native	1	0.5	0.1	0.4	0.3	0.5	1.0
Asian	11	13.6	11.5	13.5	8.6	33.3	13
Native Hawaiian and other Pacific Islander	5	0.9	0.0	0.1	0.6	0.4	0.4
Other Race	15	2.3	3.3	2.0	13.4	6.6	17
Multiracial	1	4.0	5.1	5.6	4.9	4.7	4.9
Total Minorities	*76*	*25.4*	*22.4*	*22.9*	*33.8*	*51.5*	*42.4*

SOURCES: LFA Group. 2012. *HOPE SF Baseline Report*. June. San Francisco, CA.
San Francisco Housing Authority. 2013. *Rebuild Potrero Community Assessment.* October. San Francisco, CA.
U.S. Census Bureau. 2013. *2008–2012 American Community Survey, 5-year*. Available: <https://www.census.gov/acs/www/>.

Outreach to Low-Income and Minority Communities

Starting in mid-2008, the project applicant initiated an extensive public outreach process to engage residents of the Project site and the greater Potrero Hill neighborhood in the master planning efforts for the Proposed Project. The initial public workshops focused on design principles for the redevelopment of the Project site and established goals to guide the development of the Project alternatives. The Project alternatives were then presented during an all-day open house in May 2009. With approximately 76 percent of the population on the Project site fluent in English,[6] the public meetings and community outreach were conducted in English. Input from residents of the existing Potrero housing complex was sought in over 30 workshops, presentations, and Project tours between summer 2008 and summer 2010, when the Environmental Evaluation application was submitted to the Planning Department.

Further, as described in Chapter 1, *Project Purpose, Need, and Objectives*, pursuant to CEQA, a NOP was issued on November 10, 2010, and a scoping meeting was held on November 22, 2010. The scoping meeting was open to the public (including residents of the Project site) and affected governmental agencies and provided an opportunity to present any environmental concerns regarding the Proposed Project. Pursuant to NEPA, on May 2, 2012, HUD published an NOI to prepare a Draft EIS (see Appendix 1) in the Federal Register to inform agencies and the general public that a joint Draft EIR/EIS was being prepared and invited comments on the scope and content of the document. The NOI provided contact information for City staff responsible for the NOI, and stated that a public scoping meeting would be held no less than 15 days following publication of the NOI. A scoping meeting was held on May 17, 2012. The NOI was mailed to local, state, and federal

[6] San Francisco Housing Authority. 2013. *Rebuild Potrero Community Assessment*. October. San Francisco, CA.

agencies with an interest in the Proposed Project and/or jurisdiction over the Project site as well as individuals living within a 300-foot radius of the Project site.

The EIR/EIS is being distributed for a public comment period of no less than 45 days.

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4.6 CULTURAL AND PALEONTOLOGICAL RESOURCES

4.6.1 Introduction

This section briefly describes the prehistoric and historic setting of the Project area and the results of the cultural resources investigation conducted for the Proposed Project. Except where otherwise noted, the architectural history discussion in this section of the Draft EIR/EIS is based on the San Francisco Planning Department, Historic Resource Evaluation Response, 1095 Connecticut Street (Potrero Terrace/Annex), July 15, 2011; the Historical Resources Evaluation prepared by CIRCA: Historic Property Development, March 31, 2009; the Landscape Design Evaluation prepared by Carey & Co., March 31, 2011; and information from the Northwest Information Center (NWIC) of the California Historic Resource Information System. The archeological discussion is based on a Preliminary Archeological Review (PAR) prepared by the City in August 2010. The relevant historic and cultural reports are included in Appendix 4.6.

The analysis of cultural resources is guided by an existing Programmatic Agreement (PA) by and among the City and County of San Francisco, the California State Preservation Officer, and the Advisory Council on Historic Preservation regarding historic properties affected by the use of revenue from the Department of Housing and Urban Development Part 58 Programs. The PA establishes the City's Section 106 responsibilities for the administration of undertakings subject to regulation by 24 CFR 58 that may have an effect on historic properties. The City is required to comply with the stipulations set forth in the PA for all undertakings that (1) are assisted in whole or in part by revenues from U.S. Department of Housing and Urban Development programs subject to 24 CFR 58 and that (2) can result in changes in the character or use of any historic properties that are located in an undertaking's Area of Potential Effect (APE). The Proposed Project would receive funds subject to 24 CFR 58 and, thus, is subject to the stipulations of the PA.

No comments regarding potential cultural and paleontological resource impacts were received in response to the Notice of Preparation or the Notice of Intent for the Draft EIR/EIS.

4.6.2 Environmental Setting

Area of Potential Effect

As the Proposed Project (undertaking) involves the demolition and construction of housing owned and operated by the San Francisco Housing Authority (SFHA), Stipulation VI(C) of the PA applies. Stipulation VI(C) requires the City to determine and document the APE in accordance with 36 CFR 800.16(d) for all undertakings except for the rehabilitation of interior or exterior features [VI(A)] and improvements to infrastructure [VI(B)].

The APE is defined in 36 CFR 800.16(d) as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties or architectural resources, if any such resources exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

In accordance with this guidance, the Mayor's Office of Housing and Community Development (MOHCD), as the responsible agency under the National Historic Preservation Act, has determined the APE for the federal undertaking (Proposed Project) for both archaeological and historic architectural resources. The APE for archaeological resources is shown on Figure 4.6-1 and is limited to the boundaries of the Project site. The APE for archaeological resources was delineated to encompass all areas that would be subject to ground-disturbing construction activities. MOHCD based its determination of the APE for historic architectural resources on line of sight from the Project site; thus, the APE for historic architectural resources is larger than the Project site, as shown in Figure 4.6-2.

Prehistoric Background

The prehistory of the San Francisco Bay Area has been a subject of archaeological investigation for over a century. Most of the early archaeological work in the Bay Area can be attributed to Nels Nelson, who recorded 17 shellmound sites in San Francisco, and over 400 shellmound sites around the Bay Area between 1906 and 1908 (Nelson 1909). Some of the shellmounds Nelson recorded extend to a depth of 20 to 30 feet below the surface (Moratto 1984). Buried and dispersed by the rapid urban development of the Bay Area over the last 150 years, what is left of the stones, bones, and shells that compose these mounds are some of the only tangible remains of the numerous peoples who once inhabited this rich littoral environment over the past 10,000 years.

Cultural Chronology

Humans have inhabited what is now urban San Francisco for at least 6,000 years and the greater Bay Area for nearly 12,000 years. The earliest peoples to inhabit the San Francisco Bay Area were widespread, but sparse, populations of hunter-gatherers whose subsistence was based on large game, seeds, and nuts as evidenced by the presence of large projectile points and milling stones (*manos* and *metates*). These peoples lived in highly mobile bands that made less use of shoreline and wetlands resources than later prehistoric populations. Soon after 2000 B.P. (years before present), Utian (Miwok-Costanoan language family) speakers began to migrate into the Bay Area from the Central Valley, displacing the earlier Hokan language speaking populations.

The new inhabitants were bayshore- and marsh-adapted people who differed from the previous populations in a number of respects, including language; larger and more sedentary settlements; a subsistence based on acorns, shellfish, and small game; mortuary practices; personal ornaments; and perhaps the fabrication of coiled basketry. It is assumed that the Costanoan representatives of this Utian dispersal reached the northern end of the San Francisco peninsula no later than 2510 B.P.

SOURCE: Atkins, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 4.6-1: ARCHAEOLOGICAL AREA OF POTENTIAL EFFECT

SOURCE: Atkins, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 4.6-2: HISTORIC RESOURCE AREA OF POTENTIAL EFFECT

Early Holocene (11,000–8,000 B.P.)

Early Holocene human populations are known from a few Bay Area sites outside of San Francisco. Communities from this period were highly mobile hunter-gatherers. Early Holocene sites may contain handstones, milling slabs, cutting and scraping tools, bifaces, dietary remains, or human burials.

Middle Holocene (8,000–4,000 B.P.)

Middle Holocene sites are more widespread in the San Francisco Bay Area and are evidenced by substantial settlements, isolated burials, distinct cemeteries, milling slabs, mortars and pestles, and the fabrication and use of shell beads and other ornaments. Differences in burial treatment such as differential distribution of shell beads and ornaments are interpreted as evidence of possible social stratification. The expansion of San Francisco Bay's estuaries and tidal wetlands seems to have resulted in a shift toward coastal and maritime resource exploitation. San Francisco has one Middle Holocene site (CA-SFR-28), the remains of a young woman found in marsh deposits 75 feet below the surface.

Late Holocene (4,000–230 B.P.)

Previous archaeological investigations in San Francisco have identified large intact cultural deposits likely dating from 4000 to 230 B.P. During the Late Holocene, there was a general trend throughout California for groups to adapt to local environmental conditions. Shellmounds are the dominant type of site in the Bay Area from this period. Shellmounds are typically found near or along the open Bay and next to streams flowing into the Bay. There is growing evidence that shellmounds were planned, constructed landscapes on sites with ancestral, or at least mortuary, importance. Artifacts found in assemblages include stone net sinkers, pestles for grinding seeds and other plant material, bone tools manufactured from faunal remains, rectangular shell beads, stone arrowheads, and stone knives.

Historical Background

Brief History of the Area

Ethnography. The historical development of Potrero Hill and the surrounding area can be organized into several general historic periods. Before 1776, the Ohlone, a Native American people, occupied the San Francisco Peninsula during the pre-European contact era. For hundreds and perhaps thousands of years, the Ohlone lived in seasonal villages that ringed the bay, including near the creeks and shoreline that existed at the base of Potrero Hill (now filled). The Ohlone culture was dramatically changed and ultimately displaced by Europeans and Americans during the post-contact era, which largely obscures physical records of Ohlone history. No intact structures of pre-contact Ohlone origin are known to exist above current ground level in San Francisco.

Hispanic Period. The Hispanic period ranged from approximately 1776 to 1846. Starting with the establishment of a Spanish mission and colony in the current Mission District of San Francisco, and continuing through the period of Mexican California and the ranchos, Potrero Hill served as the *Potrero Nuevo*, or "new pasture." During the Spanish mission period, Ohlone "neophytes" at Mission Dolores constructed a low wall to demarcate the Potrero Nuevo, where mission cattle grazed. After the independent nation of Mexico dissolved the former Spanish mission's land holdings in 1834, Mexican ranchers continued the grazing tradition on the Potrero Nuevo, and they engaged in the lucrative international hide-and-tallow market. In 1844, Mexico granted exclusive use of the Potrero Nuevo to the de Haro family, whose patriarch was Francisco de Haro, an *alcalde* (mayor) of Yerba Buena Pueblo, which preceded the city of San Francisco. Except for construction of isolated adobe buildings and denuding of grasses by cattle, Potrero Hill continued in its natural state. No intact structures of Hispanic origin are known to exist above current ground level on Potrero Hill.[1]

American Period. The Early American period ranged from approximately 1846 to 1906. Between U.S. expansion into California in 1846 and the Gold Rush that followed soon after, and the 1906 Earthquake and Fire, the north slopes of Potrero Hill developed considerably, while the south slopes remained difficult to access and develop. By 1850, American settler George Treat had fenced off Potrero Hill from the west (along the low wall that Ohlone neophytes had constructed to demarcate the Potrero Nuevo), and squatters gradually encroached onto the hill. For decades, the de Haro family pursued their legal claim to ownership of Potrero Nuevo, and final rejection of the de Haro claim by the U.S. cleared the way for full-scale development. Filling of creeks and shoreline, installation of streetcar lines, and expansion of urban infrastructure occurred earlier near the north slopes of Potrero Hill, which were closest to the developing city of San Francisco. By the end of the 19th century, north Potrero Hill was occupied by growing residential neighborhoods, while the more remote south slopes remained sparsely developed and rural in character. Various occupants of Potrero Hill, which at that time was still located adjacent to waterfront, engaged in maritime occupations such as boat building, outfitting, and fishing. Typical properties of the period, which are extant on the south slopes of Potrero Hill, include modest wood-framed houses designed in National vernacular, Italianate, and Stick architectural styles.

After the 1906 Earthquake and Fire, (which did not significantly affect Potrero Hill), a building boom occurred in all neighborhoods of the city. The refugee/post-disaster population that gravitated towards Potrero Hill during this time was working-class in character. During this time the nearby Bayshore Cut-off was completed in 1907, which provided greater access to the south base of Potrero Hill, and facilitated the installation of railroads and commercial/industrial development in the area (as well as increased filling of creeks and shoreline).

[1] San Francisco Chronicle, San Francisco: Potrero Hill, http://www.sfgate.com/_neighborhoods/sf/potrerohill/ (accessed April 25, 2012).

During the mid-20th century, the south slopes of Potrero Hill were characterized primarily by consolidation and development of large sites for government and public uses. Around the large Project site, such as the Potrero Terrace public housing complex, private residential construction continued to fill in open lots within the neighborhoods, with flats and apartments predominating. Throughout most of the 20th century, the base of Potrero Hill was predominantly occupied by manufacturing firms, such as US Steel, the Union Iron Workers, the Western Sugar Refinery, and Bethlehem Shipbuilding Company, while families lived further up the hill. A combination of deindustrialization and the Dot-Com boom of the late 1990s spurred the conversion of factories and warehouses into offices and housing.[2]

Public Housing in San Francisco[3]

Like many other local housing authorities, the history of SFHA begins with the United States Housing Act (USHA) of 1937. Empowered by this act, the California Legislature passed the Housing Authorities Law in 1938, which allowed local communities to create their own housing authorities and begin asking for federal funding. The SFHA was formed in 1938 and San Francisco was among the first California cities to request USHA funding.

In addition to requesting funds, the SFHA's initial efforts were directed toward determining how great the need for public housing was at the time. With the first survey indicating that 46,000 homes in San Francisco were "substandard," the agency planned 11 public housing projects with a total of 2,855 units.[4] Potrero Terrace was among five public housing projects undertaken before the onset of World War II (WWII) and was completed and/or partially occupied before December 1941. Other projects that followed in the early 1950s tended to relate to the ongoing process of phasing out and disposing of temporary defense housing units that had been built during WWII. This was generally accomplished by providing new permanent housing near occupied temporary units, reusing land that had been recently cleared, or, in the case of Potrero Annex, building new units adjacent to older permanent ones.[5]

Potrero Terrace. Potrero Terrace was constructed in 1941 and designed in 1939 by Frederick H. Meyer, Warren C. Perry, and John Bakewell, Jr. Potrero Terrace consists of 469 units in 38 buildings. The development comprises 26 one-bedroom units, 387 two-bedroom units and 56 three-bedroom units. The buildings are rectangular in plan, constructed of reinforced, board-form concrete and topped by a hipped, mission tile roof. Due to the steep slopes at the development site, the buildings

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[2] San Francisco Chronicle, San Francisco: Potrero Hill, http://www.sfgate.com/_neighborhoods/sf/potrerohill/ (accessed April 25, 2012).

[3] CIRCA: Historic Property Development, *Historic Resources Evaluation, Evaluation Review and Update, Selected SFHA Properties* (March 31, 2009).

[4] CIRCA: Historic Property Development, *Historic Resources Evaluation, Evaluation Review and Update, Selected SFHA Properties* (March 31, 2009).

[5] Carey & Co., Inc., *Hunters View Housing Development: Historic Resources Evaluation* (July 26, 2001, and updated September 10, 2007), p. 7–11.

are two stories on the uphill side and three stories on the downhill side. The landscaping was designed by Thomas Church, one of the most influential mid-century landscape architects.

The Potrero Terrace was evaluated by the Planning Department to determine its eligibility for listing in the California Register of Historic Resources (CRHR). According to the Historic Resources Evaluation Response (HRER) prepared by the Planning Department, the Potrero Terrace development is eligible for listing based on its association with important events and architectural style and potentially eligible based on association with important people. Specifically, the Potrero Terrace development was one of the first "super-block" public housing complexes in San Francisco, and was occupied by WWII defense workers, both of which represent significant events in relation to the history of public housing in San Francisco and nationwide. Further, the HRER indicates that the Potrero Terrace development could be associated with the lives of important persons whose productive years may have occurred while living at Potrero Terrace. In addition, the Potrero Terrace development represents the work of significant historic architects, including Frederick C. Meyer, Warren C. Perry, and John Bakewell, Jr., and illustrates a successful example of a mid-20th century, "Mediterranean Hillside" public housing complex.[6] However, to be considered a resource for the purposes of CEQA (and to be eligible for listing in the CRHR) as an individual resource or as a contributor to a historic district, a property must be significant under the CRHR criteria, and it must demonstrate integrity. As concluded in the HRER, Potrero Terrace does not retain integrity due to cumulative physical changes to the property and, therefore, is ineligible for listing in the CRHR.

In addition, CIRCA: Historic Property Development, conducted a Historical Resources Evaluation Report (Historical Evaluation) to assess the eligibility of Potrero Terrace for inclusion on the National Register of Historic Places (NRHP). According to the Historical Evaluation, a previous evaluation of the property by Carey & Co. in 2001 found Potrero Terrace ineligible for listing in the NRHP. The 2001 determination was made on the basis that the Potrero Terrace development was "neither architecturally remarkable nor associated with significant people or events." Dr. Knox Mellon, the State Historic Preservation Officer (SHPO), supported this assessment in a letter dated September 25, 2001.[7] The Historical Evaluation concurs with the determination made by Carey & Co. and supported by SHPO that the Potrero Housing development does not maintain sufficient historical significance and is ineligible for listing in the NRHP.

A similar evaluation was conducted by Carey and Co. in 2011 to determine the historic significance of the landscape design originally developed by Thomas Church at Potrero Terrace. The analysis determined that alterations to the original landscape at Potrero Terrace have substantially and adversely impacted the integrity of the landscape design to the extent that it no longer expresses

[6] San Francisco Planning Department, Historic Resource Evaluation Response, 1095 Connecticut Street (Potrero Terrace/Annex), Case No. 2010.0515E (July 15, 2011).

[7] CIRCA: Historic Property Development, *Historic Resources Evaluation, Evaluation Review and Update, Selected SFHA Properties* (March 31, 2009).

historical significance.[8] The conclusions of the historic landscape analysis support the determination of ineligibility for listing on the CRHR based on lack of integrity.

Potrero Annex. Potrero Annex Housing was designed in 1952 by the architecture firm of Ward & Bolles and landscape architect Douglas Bayliss. Construction began in 1953 and the development was completed in 1954. The Potrero Annex site is located on marginal land that was chosen at the time because available sites were increasingly difficult to acquire. Both J. Francis Ward and John S. Bolles, lead architects for the Potrero Annex development, were prominent architects in San Francisco, most notable for their work on a number of high-end residential properties and the Ping Yuen public housing project, respectively. Douglas Bayliss is best known as one of the founders of the "California School" of landscape architecture and his work includes the San Francisco Civic Center Plaza and Washington Square in North Beach.[9]

Potrero Annex comprises 23 buildings containing 27 one-bedroom units, 46 two-bedroom units, 55 three bedroom units, 18 four-bedroom units, five five-bedroom units, and a child care center. The buildings are rectangular in shape with wood frames and flat roofs canted at a slight angle. The east-facing elevations have wood balconies with exposed joists and a closed clapboard rail at the second and third stories.

The Potrero Annex was also evaluated in the HRER under the same CRHR criteria. According to the HRER, the Potrero Annex development is potentially eligible for listing based on its association with people important in local, regional, or national history. The poet Allen Ginsberg is documented to have lived and worked in a Potrero Annex housing unit during the mid-1950s. However, the HRER could not confirm that the Potrero Annex development is an important representation of Allen Ginsberg's historic contributions.[10] As concluded in the HRER, Potrero Annex does not retain integrity due to cumulative physical changes to the property and, therefore, is ineligible for listing in the CRHR.

According to the evaluation prepared by Carey & Co. in 2001, the Potrero Annex development was found to be ineligible for listing in the NRHP under any of the established criteria. The Potrero Annex development was also found to lack integrity. Similar to the Potrero Terrace development, Dr. Knox Mellon, SHPO, supported this assessment in his September 25, 2001, letter to MOHCD. Further, the Historical Evaluation prepared by CIRCA in 2009 concurs with the previous determinations.

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[8] Carey & Co., Inc., *Potrero Terrace and Potrero Annex Housing Project, Thomas Church and Douglas Baylis Landscape Design* (March 31, 2011).

[9] Carey & Co., Inc., *Historic Resources Evaluation, Potrero Annex Housing Development, San Francisco, California* (June 22, 2001), p. 9.

[10] San Francisco Planning Department, Historic Resource Evaluation Response, 1095 Connecticut Street (Potrero Terrace/Annex), Case No. 2010.0515E (July 15, 2011).

A similar evaluation was conducted to determine the significance of the landscape architecture at Potrero Annex. An assessment of the historic significance of the landscape design originally developed by Douglas Bayliss was conducted by Carey & Co. in 2011. The analysis determined that alterations to the original landscape at Potrero Annex have substantially and adversely impacted the integrity of the landscape design to the extent that it no longer expresses historical significance.[11] The conclusions of the historic landscape analysis support the determination of ineligibility for listing on the CRHR based on lack of integrity.

Archaeological Resources

Prehistoric Archaeological Sites

Prehistoric archaeological sites in California are locations where Native Americans lived or carried out activities prior to European occupation in 1769. Prehistoric archaeological sites may contain artifacts, subsistence remains, midden, structural remains, and/or human burials. Artifacts include tools such as projectile points, scrapers, bone awls, and stone grinding implements, waste products from tool manufacture, and nonutilitarian objects such as shell beads, shell ornaments, bone whistles, and ceremonial stone objects. Subsistence remains include the inedible portions of foods, such as animal bone, shell, and charred seeds. Structural remains include features such as post holes, house floors, and fire hearths. Human burials most often are individual interments composed of the individual's physical remains either buried in their entirety or as cremations, and sometimes include grave offerings.

There are approximately 50 documented prehistoric sites in San Francisco. These prehistoric sites include several large settlement sites (inhabited up to 1,000 years), cemeteries, food-procurement camps, tool workshops, and historic-period indigenous sites. One indigenous site dated to nearly 6,000 years B.P. occurs 75 feet below the surface. In contrast to prehistoric shell mound sites found elsewhere in the Bay Area, many shell mounds discovered in San Francisco have remarkable integrity because they have been buried for several hundred years beneath native sand dune deposits, enabling the study of their use and significance in the final periods before their abandonment. The high density and number of prehistoric sites in San Francisco provide the opportunity to study them as regional and sub-regional systems.

Recent studies in the San Francisco Bay Area prehistory indicate that prehistoric sites sometimes occur in clusters with a primarily symbolic association with a focal shellmound of greater size and age. The importance of the primary shellmound may have been in the form of religious/funerary observances and burials even after its abandonment. Bay Area prehistoric shellmounds may have been planned, intentionally re-created structures (not merely inadvertent dietary refuse accumulations). Prehistoric shellmounds were sometimes constructed over preexisting cemeteries.

[11] Carey & Co., Inc., *Potrero Terrace and Potrero Annex Housing Project, Thomas Church and Douglas Baylis Landscape Design* (March 31, 2011).

Many Bay Area shell mounds were abandoned over the course of a relatively brief period. No prehistoric archaeological sites have been documented in the Project area.

Historic-Age Archaeological Sites

Historic-age archaeological sites in California are places where human activities were carried out during the historic period between 1769 up to 50 years ago. Some of these sites may be the result of Native American activities during the historic period, but most are the result of Spanish, Mexican, Asian, African-American, and Euro-American activities. Most historic archaeological sites are places where houses formerly existed and contain ceramic, metal, and glass refuse resulting from transport, preparation, presentation, and consumption of food. Such sites can also contain house foundations and structural remnants such as windowpane glass, lumber, and nails. Historical archaeological sites can also be nonresidential, reflecting agricultural, industrial, commercial, and other activities. No historic-age archaeological sites have been documented in the Project area.

Northwest Information Center Record Search

In accordance with the PA (Stipulations VII.A.2 and XI.B), a non-confidential records search was conducted for the Project site and a surrounding one-quarter-mile radius at the Northwest Information Center (NWIC) on October 24, 2011 (NWIC File Number 11-0390). The search included a review of the NRHP, the California Historical Resources Inventory, records of previously recorded cultural resources, records of previous field studies, and other historic maps and documents. The records search did not identify any previously recorded prehistoric or historic-era cultural resources or previous studies on the Project site.[12] The records search identified 16 historic properties and determined that there is low possibility of identifying Native American archaeological resources and a moderate to high possibility of identifying historic period archaeological resources within a 0.25-mile radius of the Project site.[13] The NWIC recommended a qualified archaeologist conduct further archival and field study to identify cultural resources.

Native American Consultation

A search of the Native American Heritage Commission (NAHC) sacred lands database was requested on May 10, 2011, to determine if any Native American cultural resources are present in or near the vicinity of the Project site. The sacred lands database search did not indicate the presence of Native American cultural resources in the Project area. However, in its response, the NAHC noted that the absence of cultural resource information in the sacred lands database does not preclude the presence of cultural resources in the Project area. The NAHC recommends that additional sources of

[12] Jillian Guldenbrein, California Historical Resources Information System, NWIC (File No.: 11-0390) (October 24, 2011).

[13] Jillian Guldenbrein, California Historical Resources Information System, NWIC (File No.: 11-0390) (October 24, 2011).

cultural resource information be searched for the Project area.[14] The NAHC provided a list of Native Americans who may have knowledge of cultural resources in the Project area. The San Francisco Planning Department sent letters to individuals and organizations identified on the NAHC list and Native American coordination efforts will be ongoing throughout the planning and construction process.

Historic Architectural Resources

The PA (Paragraph D of Stipulation VII) requires the City to evaluate all properties that may be affected by an undertaking (the Proposed Project) using National Register Criteria set forth in 36 CFR Section 60.4. All such evaluations are to be documented by the City on a State of California Department of Parks and Recreation Historic Resources Inventory Form.

As described above, Potrero Terrace and Potrero Annex were determined to be ineligible for listing on the NRHP. The Historical Evaluation prepared by CIRCA in 2009 determined that the Project site was not historically significant based on National Register Criteria or the CRHR Criteria for Evaluation and, therefore, the Potrero Terrace and Potrero Annex buildings do not qualify as a historic property for the purposes of Section 106 and CEQA.

In accordance with the PA, all properties within the APE are evaluated to determine eligibility for listing on the NRHP or the CRHR. As a result of this evaluation, 15 properties were identified as potentially eligible based on age (greater than 50 years old) (Table 4.6-1). The Planning Department determined that two properties within the APE are eligible for listing on the NRHP. These properties include the single-family residence at 1033 Texas Street (on the basis of distinctive characteristics of a type, period, or method of construction) and Starr King Elementary School at 1106–1120 Wisconsin Street (on the basis of association with events that have made a significant contribution to the broad patterns of history and distinctive characteristics of a type, period, or method of construction). These findings were forwarded to the SHPO, who concurred on October 11, 2012, that the two identified properties are eligible for inclusion in the NRHP.

[14] Debbie Pilas-Treadway, Native American Heritage Commission, Letter response to request for sacred lands file record search (June 10, 2011).

Table 4.6-1 Properties Evaluated within the APE

Property Address	*APN*	*Integrity*	*Significance*	*NR Status*	*CR Status*
801 Arkansas St		No	Ineligible	Ineligible	Ineligible
1920–2190 Cesar Chavez St	4324/002	No	Ineligible	Ineligible	Ineligible
1111 Connecticut St	4287/010	No	Ineligible	Ineligible	Ineligible
1056 Mississippi St	4224/021	No	Ineligible	Ineligible	Ineligible
1060 Mississippi St	4224/023	No	Ineligible	Ineligible	Ineligible
1033 Texas St	4224/036	Yes	Criterion C—Example of Folk Victorian architecture	Eligible	N/A
1051 Texas St	4224/034	No	Ineligible	Ineligible	Ineligible
980 Wisconsin St	4161/024	No	Ineligible	Ineligible	Ineligible
1026 Wisconsin St	4219/002	No	Ineligible	Ineligible	Ineligible
1040 Wisconsin St	4219/005	No	Ineligible	Ineligible	Ineligible
1106 Wisconsin St	4219/054	Yes	Criterion C—Example of Mid-Century Modern architecture	Eligible	N/A
1111 Wisconsin St	4220/039	No	Ineligible	Ineligible	Ineligible
1169 Wisconsin St	4220/030	No	Ineligible	Ineligible	Ineligible
1500 25th St	4224/043	No	Ineligible	Ineligible	Ineligible
1998 25th St	4220/028	No	Ineligible	Ineligible	Ineligible

SOURCE: Atkins (2012).

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4.7 TRANSPORTATION AND CIRCULATION

4.7.1 Introduction

The following section describes the transportation study area including roadways, intersections, public transit, and pedestrian/bicycle facilities that could be affected by the Proposed Action and alternatives. Unless otherwise noted, all information is from the transportation impact study (TIS) prepared for the project.[1] Comments received during the Notice of Preparation (NOP) and Notice of Intent (NOI) scoping periods included general transportation impacts, pedestrian-related impacts, impacts to transit, and effects on bicycle safety.

In addition, comments were submitted regarding parking impacts. However, as described on Section 1, *Project Purpose and Need*, Senate Bill (SB) 743 became effective on January 1, 2014. The Proposed Project is a qualifying infill project in a transit priority area; thus, no CEQA conclusions are provided in regard to parking. NEPA conclusions are provided. The parking-related comments made on the NOI and the NOP are addressed in Section 5.7 *Transportation and Circulation*.

4.7.2 Existing Conditions

Roadway Network

This section provides a description of the existing regional and local roadway network in the vicinity of the Project site, including the location of the nearest access points. Figure 4.7-1 shows the study area for the TIS and the intersection analysis locations.

Regional Access

United States Highway 101 (US 101) provides regional access to the project from the northern and southern counties. US 101 serves San Francisco, the Peninsula, the South Bay, and extends north via the Golden Gate Bridge to the North Bay. Within the northern part of San Francisco, sections of Lombard Street and Van Ness Avenue serve as US 101 along surface streets. Within the southern part of San Francisco and the Peninsula, US 101 is served via the Central Freeway and the Bayshore Freeway. In the project vicinity US 101 has four lanes in each direction. Access to the Project site from US 101 is primarily provided by on- and off-ramps located at Cesar Chavez Street.

[1] CDM Smith. 2012. *Potrero HOPE Transportation Study.* Final Report. October. Prepared for City and County of San Francisco Planning Department, Case No. 2010.05151.

SOURCE: Potrero HOPE Transportation Study, June 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 4.7-1: PROJECT STUDY AREA

Interstate 280 (I-280) provides regional access from the South of Market area of downtown San Francisco to the South Bay/Peninsula. In the project vicinity I-280 has three lanes in each direction. Access to the Proposed Project from northbound I-280 is provided via the off-ramp to Cesar Chavez Street and on-ramp from Indiana Street. From southbound I-280, access to the Project site is provided by on- and off-ramps at Pennsylvania Avenue. US 101 and I-280 have an interchange approximately 1.5 miles south of the Project site.

Interstate 80 (I-80) provides regional access to and from the East Bay to the Project site. I-80 connects San Francisco to the East Bay and extends east via the San Francisco-Oakland Bay Bridge. I-80 begins at the Central Freeway/US 101 and I-80 interchange, approximately 1 mile north of the Project site.

Local Access

This section describes the local roadway network in the vicinity of the project, including roadway designation, number of travel lanes, and traffic flow directions.

Cesar Chavez Street is an east/west roadway running from Douglass Street to Maryland Street located in the Port of San Francisco North Container Terminal. It operates as a local two-way roadway between Douglass Street and Guerrero Street with some interruptions, and as a major arterial eastward from Guerrero Street to Third Street. East of Third Street, Cesar Chavez Street acts as a secondary arterial that primarily serves port and pier activities in the area. In the vicinity of the Project site, Cesar Chavez Street has two lanes in either direction with on-street parking on both sides of the street. The *San Francisco General Plan* (General Plan) classifies Cesar Chavez Street as a Major Arterial in the Congestion Management Plan (CMP) Network from Guerrero Street to Third Street, a Secondary Arterial east of Third Street, and as part of the Metropolitan Transportation System (MTS) Network. Cesar Chavez Street is part of Citywide Bicycle Route 60 between Third Street and Sanchez Street. It is identified as a Route with Significant Truck Traffic east of US 101. On- and off-ramps to/from northbound and southbound US 101 can be accessed from Cesar Chavez Street. In addition, an off-ramp from northbound I-280 directly connects to Cesar Chavez Street.

Cesar Chavez Street from Hampshire to Guerrero Streets in the Mission District has been redesigned. The following elements are part of the Cesar Chavez Street Design Plan: widened and planted center median, bicycle lanes, corner bulb-outs, new street lighting, and drought tolerant landscaping. Construction was completed in February 2014.[2]

Potrero Avenue is a north/south roadway that runs between Brannan Street and Cesar Chavez Street. Potrero Avenue operates primarily as a two-way street its entire length and has a center turn lane. In the vicinity of the Project site, Potrero Avenue has two travel lanes and a five-foot wide bicycle lane in each direction, sidewalks and on-street parking on both sides of the street, and a

[2] Alex Murillo, Department of Public Works Affairs Officer. Telephone conversation with Nannie Turrell, San Francisco Planning Department, March 20, 2014.

bus/taxi-only lane in the northbound direction. North of 17th Street, Potrero Avenue generally has three travel lanes in each direction. The General Plan classifies Potrero Avenue as a Major Arterial in the CMP network, a MTS Network street, a Transit Preferential Street (secondary transit street), and a Neighborhood Commercial Street (from 24th Street to 26th Street). Potrero Avenue is part of Citywide Bicycle Route #25 between 17th Street and Cesar Chavez Street. Direct access to southbound US 101 from Potrero Avenue is available through a direct on-ramp.

Pennsylvania Avenue is a north/south roadway that runs between 17th Street and Cesar Chavez Street. In the vicinity of the Project site, Pennsylvania Avenue operates as a two-way street with one lane each way and either parallel or perpendicular parking on both sides of the street. On- and off-ramps to and from southbound I-280 are provided from Pennsylvania Avenue.

Third Street is a north/south roadway that runs between Market Street and Bayshore Boulevard. North of King Street, Third Street is a one-way northbound roadway, with four to six travel lanes, of which one lane is reserved for transit vehicles. South of King Street, Third Street generally has two travel lanes in each direction. On-street parking is generally provided along both sides of the street, subject to tow-away regulations. On-street parking on the east side of Third Street between King Street and Market Street and on the west side between Bryant Street and Market Street is subject to tow-away from 7:00 a.m. to 9:00 a.m. On-street parking is also prohibited on the east side of Third Street between Townsend Street and Market Street and on the west side between Bryant Street and Market Street (except between Harrison Street and Howard Street) from 3:00 p.m. and 7:00 p.m. In the vicinity of the Project site, Third Street operates as a two-way street with two lanes in each direction and a center median reserved for light-rail transit. The General Plan classifies Third Street as a Major Arterial in the CMP network, a MTS Network street, a Transit Preferential Street (primary transit street), a citywide Pedestrian Network Street, and a Neighborhood Commercial Street.

20th Street is a discontinuous east/west roadway that runs between Douglass Street (in Noe Valley) and east of Illinois Street, close to the San Francisco Bay. In the vicinity of the Project site, 20th Street operates as a two-way street with one travel lane in each direction. It has on-street parking and sidewalks on both sides of the street.

22nd Street is a discontinuous east/west roadway that runs between Grand View Avenue (in Noe Valley) and east of Illinois Street, near the San Francisco Bay. In the vicinity of the Project site, 22nd Street operates as a two-way street with one travel lane in each direction. It has on-street parking and sidewalks on both sides of the street.

23rd Street is an east/west roadway that runs between Grand View Avenue and east of Illinois Street, near the San Francisco Bay. West of I-280, it is discontinuous between Pennsylvania Avenue and Carolina Street. In the vicinity of the Project site, 23rd Street operates as a two-way street with one travel lane in each direction. It has on-street parking on both sides of the street, with discontinuous sidewalks located on one side of the street. 23rd Street is part of the Citywide Bicycle Route #525 between Potrero Avenue and Kansas Street.

25th Street is an east/west roadway that runs between Grand View Avenue and east of Michigan Street, near the San Francisco Bay. It is discontinuous across US 101. In the vicinity of the Project site, 25th Street operates as a two-way street with one travel lane in each direction. It has on-street parking on both sides of the street, with discontinuous sidewalks located on one side of the street.

26th Street is a discontinuous east/west roadway that runs from Douglass Street to Third Street. West of I-280, it is discontinuous between Pennsylvania Avenue and Connecticut Street, and between US 101 and Hampshire Street. In the vicinity of the Project site, 26th Street operates as a two-way street with one travel lane in each direction. It has on-street parking on both sides of the street, with discontinuous sidewalks located on one side of the street.

Wisconsin Street is a north/south roadway that runs between 16th Street and 26th Street. It is discontinuous between 17th Street and 19th Street. In the vicinity of the Project site, Wisconsin Street operates as a two-way street with one travel lane in each direction. It has on-street parallel and perpendicular parking, along with sidewalks on both sides of the street.

Arkansas Street is a north/south roadway that runs between 16th Street and 23rd Street. In the vicinity of the Project site, Arkansas Street operates as a two-way street with one travel lane in each direction, and on-street parking as well as sidewalks on both sides of the street.

Connecticut Street is a discontinuous local roadway that exists primarily within the vicinity of the Project site. Between 16th Street and 22nd Street, Connecticut Street is a north-south local roadway. Near the Project site, it runs as a westbound one-way east/west street between Wisconsin Street and 25th Street before turning into a two-way north-south street between 25th Street and Cesar Chavez Street. It has on-street parking and sidewalks on both sides of the street.

Missouri Street is a north/south roadway that runs between 16th Street and 23rd Street. In the vicinity of the Project site, Missouri Street operates as a two-way street with one travel lane in each direction, and on-street parking as well as sidewalks on both sides of the street.

Indiana Street is a north/south roadway that runs between Mariposa Street and Tulare Street. Indiana Street operates as a northbound one-way street between Cesar Chavez Street and 25th Street. At other locations, it operates as a two-way street with one lane each way and on-street parking on both sides of the street. An on-ramp to northbound I-280 can be accessed from Indiana Street. Indiana Street is part of Citywide Bicycle Route #7 between Cesar Chavez Street and Mariposa Street.

Vermont Street is a north/south roadway that runs between Division Street and Cesar Chavez Street. It is discontinuous across US 101. In the vicinity of the Project site, Vermont Street operates as a two-way street with one travel lane in each direction. On-street parking and sidewalks are provided on both sides of the street. Vermont Street is part of the Citywide Bicycle Route #525 between 26th Street and Cesar Chavez Street.

Dakota Street is a local north/south roadway within the Project site that runs between 23rd Street and 25th Street. Dakota Street operates as a two-way street with one travel lane in each direction. It has on-street parking and sidewalks on both sides of the street.

Texas Street is a north/south roadway that runs between 17th Street and 25th Street. Just north of 22nd Street, Texas Street merges with 22nd Street. South of 22nd Street, it is discontinuous and begins again just north of 25th Street North of 22nd Street, Texas Street operates as a two-way street with one travel lane in each direction, and on-street parking as well as sidewalks on both sides of the street. South of 22nd Street, Texas Street operates as a local two-way street with a narrow travel lane in each direction. No sidewalks are provided along this portion of Texas Street.

Turner Terrace is a north/south roadway that runs southeast of Missouri Street, just south of 22nd Street. It is a cul-de-sac providing local access to housing units along the Potrero Annex. Turner Terrace operates as a two-way street with one travel lane in each direction and on-street parking on both sides of the street. A sidewalk runs along the west side of the street.

Watchman Way is a north/south roadway that runs southeast of Missouri Street, just south of Turner Terrace and northeast of 23rd Street. It is a cul-de-sac providing local access to housing units along the Potrero Annex. Watchman Way operates as a two-way street with one travel lane in each direction and on-street parking on both sides of the street. A sidewalk runs along the west side of the street.

Intersection Operating Conditions

Existing intersection operating conditions were evaluated for the peak hour of the weekday PM peak period (from 4:00 p.m. to 6:00 p.m.). Intersection turning movement counts at the following study intersections were collected on Tuesday, January 4, 2011:

1. Cesar Chavez Street/Connecticut Street
2. Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp
3. Pennsylvania Avenue/Southbound I-280 Off-Ramp
4. 25th Street/Indiana Street/Northbound I-280 On-Ramp
5. 25th Street/Connecticut Street
6. 25th Street/Dakota Street/Texas Street
7. 23rd Street/Dakota Street
8. 23rd Street/Wisconsin Street
9. 20th Street/Arkansas Street
10. 22nd Street/Missouri Street
11. Potrero Avenue/23rd Street
12. Cesar Chavez Street/Vermont Street
13. Cesar Chavez Street/US 101 Off-Ramp

Traffic counts collected at the study intersections are included in Appendix 4.7, *Transportation*; the existing weekday PM peak hour turning movement volumes and geometric configurations of the study intersections are presented in Figure 4.7-2.

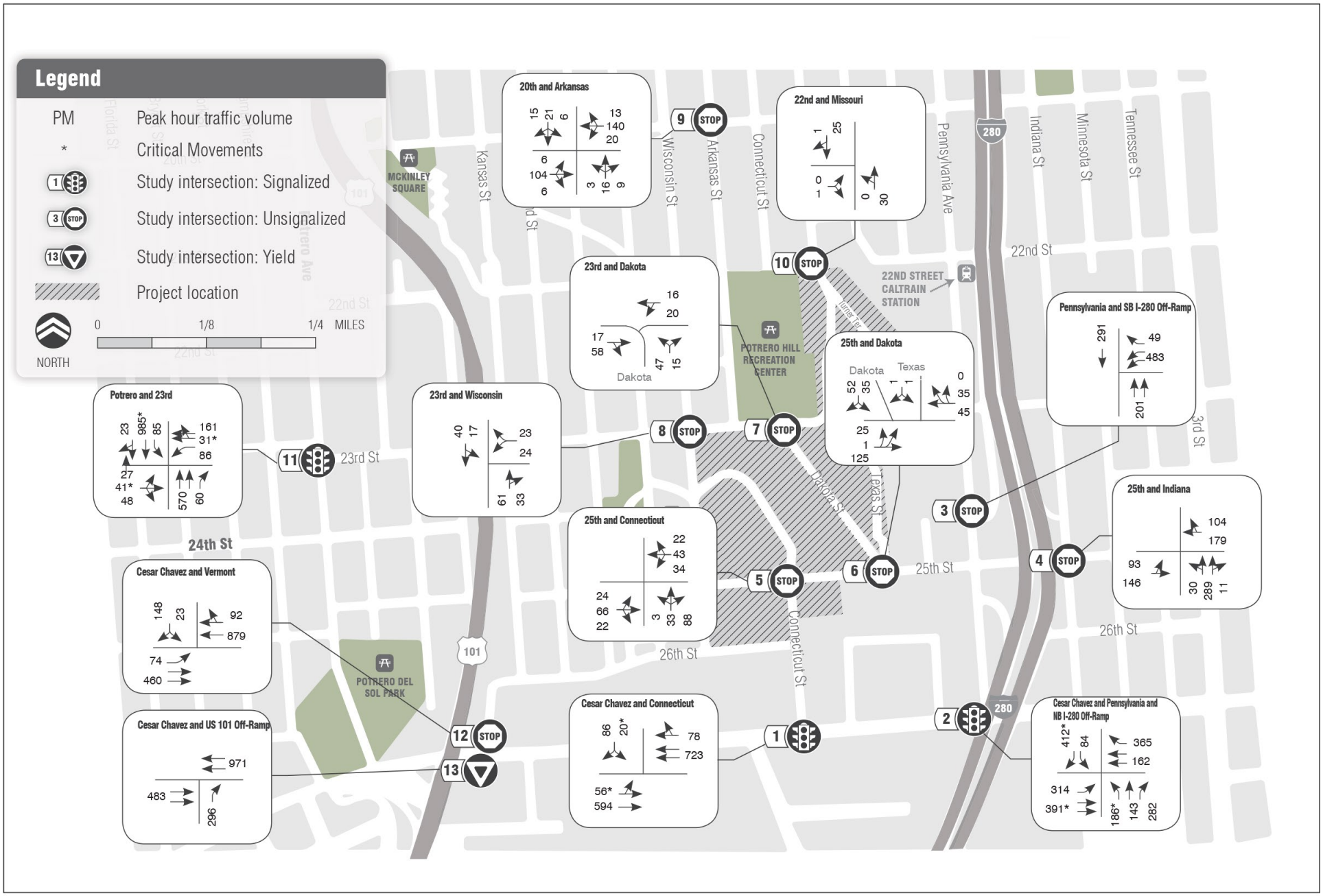
Within the project study area, three intersections (Cesar Chavez Street/Connecticut Street, Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp, and Potrero Avenue/23rd Street) are signalized, five intersections (Pennsylvania Avenue/Southbound I-280 Off-Ramp, 25th Street/Indiana Street/Northbound I-280 On-Ramp, 25th Street/Connecticut Street, 23rd Street/Wisconsin Street, and 20th Street/Arkansas Street) are all-way stop-controlled, and four intersections (25th Street/Dakota Street/Texas Street, 23rd Street/Dakota Street, 22nd Street/Missouri Street, and Cesar Chavez Street/Vermont Street) are one- or two-way stop-controlled. The Cesar Chavez Street/US 101 Off-Ramp intersection is one-way yield-controlled.

The operating characteristics of signalized and unsignalized intersections are described by the concept of level of service (LOS). LOS is a qualitative description of the performance of an intersection based on the average delay per vehicle. Intersection levels of service ranges 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.

Both signalized and unsignalized intersections were evaluated using the Highway Capacity Manual 2000 (HCM 2000) methodology. For signalized intersections, this methodology determines the capacity of each lane group approaching the intersection. The LOS is then based on average delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average delay and LOS values are presented for the intersection. For unsignalized intersections, the average delay and LOS values are calculated by approach (e.g., northbound) and movement (e.g., northbound left-turn), for those movements that are subject to delay.

Appendix 4.7 includes the LOS definitions for signalized and unsignalized intersections. LOS A through D are generally considered satisfactory for signalized intersections, and LOS E and F are generally considered unsatisfactory. Unsignalized intersections are considered to operate under unsatisfactory conditions if the worst approach operates at LOS E or F and California Department of Transportation's (Caltrans) traffic signal warrants are met. As such, in the LOS summary tables, the operating conditions of unsignalized intersections are presented for the worst approach.

A summary of the study intersection operations during the existing weekday PM peak hour is provided in Table 4.7-1. During the weekday PM peak hour, all of the study intersections operate under acceptable conditions (LOS D or better). Detailed LOS calculation sheets for the study intersections are included in Appendix 4.7.



SOURCE: Potrero HOPE Transportation Study, June 2012.

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FIGURE 4.7-2: INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS—EXISTING PM PEAK HOUR

Table 4.7-1 Existing Intersection Operations—Weekday PM Peak Hour

#	Intersection	Traffic Control	Existing Conditions	
			Delay	LOS
Signalized				
1	Cesar Chavez St/Connecticut St	Signal	16.3	B
2	Cesar Chavez St/Pennsylvania Ave/NB I-280 Off-Ramp	Signal	38.4	D
11	Potrero Ave/23rd St	Signal	22.2	C
Unsignalized				
3	Pennsylvania Ave/SB I-280 Off-Ramp	AWSC	15.2 (SB)	C
4	25th St/Indiana St/NB I-280 On-Ramp	AWSC	11.4 (EB)	B
5	25th St/Connecticut St	AWSC	8.0 (EB)	A
6	25th St/Dakota St/Texas St	TWSC	9.6 (SEB)	A
7	23rd St/Dakota St	OWSC	9.2 (NB)	A
8	23rd St/Wisconsin St	AWSC	7.5 (SB)	A
9	20th St/Arkansas St	AWSC	8.5 (WB)	A
10	22nd St/Missouri St	OWSC	8.5 (EB)	A
12	Cesar Chavez St/Vermont St	TWSC	25.8 (SB)	D
13	Cesar Chavez St/US 101 Off-Ramp	OWYC	13.3 (NB)	B

SOURCE: CDM Smith. 2012. *Potrero HOPE Transportation Study*. Final Report. October. Sacramento, CA.

Signal = traffic signal; OWSC = one-way stop-controlled; TWSC = two-way stop-controlled; AWSC = all-way stop-controlled; OWYC = one-way yield-controlled

NB = northbound, SB = southbound, EB = eastbound, WB = westbound, SEB = southeast bound

Delay is presented in seconds per vehicle; for unsignalized intersections, delay and LOS values are presented for the worst approach, annotated in parentheses ( ).

Freeway and Ramp Junction Operating Conditions

Similar to intersections, study freeway segments and ramp junctions were evaluated during the weekday PM peak hour. Traffic volumes were obtained from Caltrans counts for years 2008/2009 at the following study freeway segments:

- Northbound I-280 (south of Cesar Chavez Street Off-Ramp)
- Southbound I-280 (south of Pennsylvania Avenue On-Ramp)
- Northbound I-280 (north of Indiana Street On-Ramp)
- Southbound I-280 (north of Pennsylvania Avenue Off-Ramp)
- Northbound US 101 (north of Cesar Chavez Street On-Ramp)
- Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

In general, the latest available Caltrans counts for year 2010 were observed to be lower than those for years 2008/2009 within the study area. This temporary reduction in volumes is likely due to the economic recession. Therefore, for conservative purposes 2008/2009 traffic counts were used for analysis.

Similarly, ramp volumes for years 2008/2009 were obtained from Caltrans counts at the following ramps:

- Northbound I-280 off-ramp to Cesar Chavez Street
- Southbound I-280 off-ramp to Pennsylvania Avenue
- Northbound I-280 on-ramp from Indiana Street
- Southbound I-280 on-ramp from Pennsylvania Avenue

AM peak hour traffic volumes were observed to be either similar to or higher than the PM peak hour volumes at the following four (4) freeway segments:

- Northbound I-280 (south of Cesar Chavez Street Off-Ramp)
- Northbound I-280 (north of Indiana Street On-Ramp)
- Northbound US 101 (north of Cesar Chavez Street On-Ramp)
- Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

Therefore, the above four freeway segments were evaluated for traffic impacts during the AM peak period as well.

Similar to intersections, freeway segments and ramp junctions were evaluated based on the HCM 2000 methodology. Diverge and merge analysis was performed at the ramp junctions. HCM 2000 methodology identifies LOS of the freeway segments and ramp junctions using average vehicle density as the measure of effectiveness. Freeway segment LOS values are calculated based on traffic volume, lane geometry, vehicle type, free-flow speed, and other characteristics. Adjustments are typically made to the base free-flow speed to account for lane width, number of lanes, interchange density, and lateral clearance. Using the flow rates and speed data, average vehicle density of the freeway segment is computed.

For ramp junctions, HCM methodology computes demand flow rate using traffic volume and lane geometry data, while applying adjustments to account for the peak hour factor (PHF), heavy vehicle factor, and driver population factor. Flow rates are computed immediately upstream of ramp influence area for both merging and diverging ramps. Determination of LOS is then identified by comparing the computed demand flow rate and capacity of the ramp influence area.

Similar to intersections, LOS values of freeway segments and ramp junctions range from LOS A to F. LOS A to LOS D represent acceptable conditions, while LOS E and F represent unacceptable conditions. LOS definitions for freeway segments and ramp junctions are included in Appendix 4.7.

Traffic volumes, densities, and corresponding LOS values for the study freeway segments during the existing weekday AM and PM peak hours are shown in Table 4.7-2. During the weekday AM peak hour, all of the study freeway segments operate at LOS D or better, except for Southbound US 101 (north of the Cesar Chavez Street Off-Ramp), which operates at LOS F.

Table 4.7-2 Existing Freeway Segment Operations—Weekday AM and PM Peak Hours

#	*Study Freeway Segment*	*Volume*[a]	*Density*	*LOS*
AM Peak Hour				
1	NB I-280 (south of Cesar Chavez St Off-Ramp)	5,123	34.4	D
3	NB I-280 (north of Indiana St On-Ramp)	4,644	22.9	C
5	NB US 101 (north of Cesar Chavez St On-Ramp)	6,170	30.4	D
6	SB US 101 (north of Cesar Chavez St Off-Ramp)	8,274	>45	F
PM Peak Hour				
1	NB I-280 (south of Cesar Chavez St Off-Ramp)	2,394	16.0	B
2	SB I-280 (south of Pennsylvania Ave On-Ramp)	4,375	29.3	D
3	NB I-280 (north of Indiana St On-Ramp)	2,669	13.1	B
4	SB I-280 (north of Pennsylvania Ave Off-Ramp)	4,877	32.6	D
5	NB US 101 (north of Cesar Chavez St On-Ramp)	8,426	>45	F
6	SB US 101 (north of Cesar Chavez St Off-Ramp)	6,754	33.4	D

SOURCE: CDM Smith. 2012. *Potrero HOPE Transportation Study*. Final Report. October. Sacramento, CA.
Density is reported in passenger cars per mile per lane (pc/mi/ln).
Bold indicates unacceptable conditions (LOS E or F).
a Caltrans traffic counts (years 2008/2009).

During the weekday AM peak hour, all of the study freeway segments operate at LOS D or better, except for Southbound US 101 (north of the Cesar Chavez Street Off-Ramp). This freeway segment operates at LOS F.

During the existing weekday PM peak hour, all of the study freeway segments operate at LOS D or better, except for Northbound US 101 (north of the Cesar Chavez Street On-Ramp). This freeway segment operates at LOS F.

The study ramp junction operations during the existing weekday PM peak hour are shown in Table 4.7-3. During the existing weekday PM peak hour, all of the study ramp junctions operate under acceptable conditions (LOS D or better). Detailed LOS calculation sheets for the study freeway segments and ramp junctions are included in Appendix 4.7.

Table 4.7-3 Existing Ramp Junction Operations—Weekday PM Peak Hour

#	Study Ramp Junction	Volume[a]		Density	LOS
		Ramp	Freeway		
1	NB I-280/Cesar Chavez St Off-Ramp	731	2,394	4.8	A
2	SB I-280/Pennsylvania Ave Off-Ramp	482	4,877	29.4	D
3	NB I-280/Indiana St On-Ramp	366	2,303	17.0	B
4	SB I-280/Pennsylvania Ave On-Ramp	770	3,605	26.9	C

SOURCE: CDM Smith. 2012. *Potrero HOPE Transportation Study*. Final Report. October. Sacramento, CA.
Density is reported in passenger cars per mile per lane (pc/mi/ln).
a. Latest available Caltrans traffic counts (years 2008/2009).

Transit Network

The Project site is located in the southeast portion of San Francisco and is served by both local and regional public transit. Muni provides local transit service within the City and County of San Francisco as well as routes that travel along US 101 and I-280. Muni's fleet consists of biodiesel and electric hybrid motor coaches, electric trolley coaches, light rail (Metro) vehicles, paratransit cabs and vans, and cable cars. The motor coach fleet used by Muni includes 30-foot small, 40-foot standard, and 60-foot articulated vehicles.

Regional service to and from the East Bay is provided by Bay Area Rapid Transit (BART), Alameda-Contra Costa Transit (AC Transit), and ferries; service to and from the South Bay/Peninsula is provided by BART, San Mateo Transit District (SamTrans), and Caltrain; service to and from the North Bay is provided by Golden Gate Transit (GGT) buses and ferries.

Study Area Service. Muni operates four bus lines (Routes 10 Townsend, 19 Polk, 22 Fillmore, and 48 Quintara-24th Street) and one light rail line (Line T) that directly serve the Project site and its immediate vicinity. The majority of these routes pass by and/or through the Project site (Figure 4.7-3). Routes 10, 19, and 48 are operated by Motor Coach Standard (MCS) vehicles, and the 22 Fillmore is operated by Trolley Coach Standard (TCS) vehicles.

There are approximately 15 Muni bus stops on or near the Project site, located along Arkansas Street, Wisconsin Street, 20th Street, 23rd Street, Dakota Street, 25th Street, 26th Street, and Connecticut Street as well as two Muni light rail stations located at the Third Street/20th Street and Third Street/23rd Street intersections.

SOURCE: Potrero HOPE Transportation Study, June 2012.

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FIGURE 4.7-3: EXISTING TRANSIT NETWORK

Within the Project site, there are 10 bus stops serving the 10 Townsend, 19 Polk, and 48 Quintara-24th Street routes; at the following locations:

- Northbound Wisconsin Street—south of 25th Street
- Northbound Wisconsin Street—north of 26th Street
- Southbound Wisconsin Street—south of Coral Street
- Southbound Connecticut Street—north of 26th Street
- Northbound Connecticut Street—between 25th and Wisconsin Streets
- Westbound 25th Street—east of Connecticut Street
- Eastbound 25th Street—west of Dakota Street
- Westbound 23rd Street—east of Wisconsin Street
- Dakota Street—between 25th and 23rd Streets
- Dakota Street—south of 23rd Street

All bus stops include either pole-type bus stops with or without on-road signage or bus stops marked only by paint on the roadway.

Existing Muni Corridor Analysis. The weekday service frequencies and the nearest stop locations for the Muni lines that serve the Project site are listed in Table 4.7-4. Service frequency and hours of operation reflect the changes in Muni service that were implemented in September 2010.

Table 4.7-4 Nearby Muni Service—Weekday Conditions

Route	*Vehicle Type*[c]	*Hours of Operation*	*Minimum Frequency (per hour)*[b]			*Nearest Stop*
			AM	*MID*	*PM*	
10 Townsend	MCS	5:45 a.m.–7:15 p.m.	20	20	20	23rd/Dakota[a]
19 Polk	MCS	5:15 a.m.–12:45 a.m.	15	15	15	25th/Connecticut[a]
22 Fillmore	TCS	24 hour service	9	10	8	18th/Connecticut
48 Quintara-24th St	MCS	6:15 a.m.–11:30 p.m.	10	15	12	25th/Connecticut[a]
T Third St	LRV-1	4:45 a.m.–12:15 a.m.	10	10	9	23rd/Third

SOURCE: CDM Smith. 2012. *Potrero HOPE Transportation Study*. Final Report. October. Sacramento, CA.

Muni routes that run on Potrero Avenue and US 101 were not included as part of this analysis as they do not have stops within the vicinity of the Project site.

a. Due to the size of the Project site, multiple transit stops for these routes are located in the vicinity of the Project site. The nearest stop indicated is the most central transit stop relative to the Project site location.

b. Weekday time periods: AM (7:00 a.m.–9:00 a.m.), Midday (9:00 a.m.–4:00 p.m.), and PM (4:00 p.m.–6:00 p.m.).

c. TCS = Trolley Coach Standard; MCS = Motor Coach Standard; LRV = Light Rail Vehicle (1 or 2 cars).

Capacity utilization 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 is 119 passengers, the capacity

of historic streetcar is 70 passengers, and the capacity of a standard bus is 63 passengers. Muni's standard for capacity utilization is 85 percent.

Capacity utilization is calculated at the maximum load point for the route. The maximum load point for each route is the stop along the route with the highest ridership, regardless of the location of the stop; thus, is not necessarily the nearest or closest stop to the Project site. For example, the inbound 10 Townsend line has its MLP at the Sansome/Filbert stop, located in downtown San Francisco.

The capacity utilization at the maximum load point (MLP) during the weekday PM peak hour for the nearby Muni lines is presented in Table 4.7-5. As shown in Table 4.7-5, the inbound T Third Street Muni line has a load during the weekday PM peak hour at the Embarcadero/Folsom stop that exceeds Muni's standard of 85 percent capacity utilization. In addition, the 10 Townsend route exceeds the 85 percent utilization standard in both the inbound MLP at Sansome/Filbert and the outbound MLP at Sansome/California. All other study Muni lines operate at a capacity utilization of less than 85 percent.

Table 4.7-5 Muni Route Analysis—Existing Weekday PM Peak Hour

Route	*Direction of Travel*	*Ridership*[c]	*Capacity Utilization*	*Maximum Load Point (MLP)*
10 Townsend[a]	Inbound	186	98%	Sansome/Filbert
	Outbound	171	90%	Sansome/California
19 Polk[a]	Inbound	172	68%	7th/Howard
	Outbound	124	49%	Polk/Sutter
22 Fillmore[b]	Inbound	328	58%	16th/Folsom
	Outbound	327	58%	Fillmore/Hayes
48 Quintara-24th St[a]	Inbound	175	46%	24th/Folsom
	Outbound	180	48%	24th/Mission
T Third St[b]	Inbound	656	92%	Embarcadero/Folsom
	Outbound	554	78%	Van Ness Station

SOURCE: CDM Smith. 2012. *Potrero HOPE Transportation Study*. Final Report. October. Sacramento, CA.

Bold indicates load exceeding Muni's capacity utilization standard.

a. Data for the 10 Townsend, 19 Polk, and 48 Quintara-24th Street lines include SFMTA APC data from 2011.

b. Data included most recent TEP data (SFMTA Fall 2006—Spring 2007 TEP Monitoring data).

c. Ridership for peak hour of PM peak period; obtained from Muni TEP data. Ridership includes total riders at Maximum Load Point (MLP) of route during the weekday PM peak hour.

Existing Muni Screenline Analysis. Muni service capacity is also defined by a set of screenlines surrounding the greater downtown San Francisco area. Muni screenlines defined in the San Francisco Planning Department's 2002 Transportation Impact Analysis Guidelines for Environmental Review (SF Guidelines). These screenlines are located near the maximum load points of Muni lines crossing the screenlines. Each screenline contains several transit corridors where the majority of transit travel occurs. Four screenlines (Northeast, Northwest, Southeast, and Southwest)

are roughly located around the peak travel points going to and from the downtown area; and relatively define travel to Superdistrict 1 from Superdistricts 2, 3, and 4 (inbound) in the AM peak, and the reverse in the PM peak. The map showing locations of Muni screenlines is included in Appendix 4.7, *Transportation*. During the existing PM peak hour, the Southeast screenline in the outbound direction operates with a capacity utilization of 66 percent, below Muni's 85 percent capacity utilization standard (Table 4.7-6).

Table 4.7-6 Muni Screenline Analysis—Existing Weekday PM Peak Hour

Screenline/Corridor	*Ridership*	*Peak Hour Capacity*	*Capacity Utilization*
Southeast Screenline			
Third St Corridor	554	714	78%
Mission St Corridor	1,254	2,350	53%
San Bruno/Bayshore Corridor	1,671	2,256	74%
All Other Lines	1,189	1,708	70%
Total	*4,668*	*7,028*	*66%*

SOURCE: CDM Smith. 2012. *Potrero HOPE Transportation Study*. Final Report. October. Sacramento, CA.

Muni Transit Effectiveness Project (TEP) Recommendations. The Transit Effectiveness Project (TEP) is a review of the Muni public transportation system conducted by the San Francisco Municipal Transportation Agency (SFMTA) in collaboration with the City Controller's Office to improve reliability, reduce travel times, and provide for improved Muni service based on increasing frequencies and updating bus routes and rail lines to match with changing travel patterns throughout San Francisco, via proposed recommendations for Muni. SFMTA published a TEP Implementation Strategy in April 2011. The TEP Improvement Strategy anticipates that many of the service improvements would be implemented sometime between the end of Fiscal Year (FY) 2013 and FY 2015. The remainder of service improvements would occur in FY 2016. Within the project study area, the following changes were recommended as part of the TEP:

- The one-car K Ingleside would continue to be through-routed with the T Third Street.
- The 10 Townsend would be renamed to become the 10 Sansome. Short-line service would operate between Van Ness Avenue and Market Street to provide additional capacity, replacing the to-be-discontinued 12 Pacific service. Existing service during peak periods within the project study area would be reduced from 10-minute headways to 15-minute headways.
- The 19 Polk would be rerouted to operate between Van Ness Avenue/North Point and San Francisco General Hospital, modifying existing routing in the Civic Center area. Segments south of 24th Street would be replaced by a revised 48 Quintara-24th Street.
- The 22 Fillmore would be rerouted to continue along 16th Street to Third Street, creating new connections to Mission Bay. The segment on 17th Street, Connecticut Street, and 18th Street would be replaced by a revised 33 Stanyan and more frequent peak service would be

provided to reduce crowding (service every six minutes during the weekday PM peak period).

- Service on the 48 Quintara-24th Street would run all day from 48th Avenue to Hunters Point Shipyard, currently served by the 19 Polk, complemented by a new 58 24th Street service connecting Diamond Street with the 22nd Street Caltrain station. Segments along Douglass Street and Hoffman Street would be served by a revised 35 Eureka. Existing segments in Potrero Hill would be supplemented by the new 58 24th Street line, and service along Arkansas Street, 20th Street, and Texas Street would be eliminated.

Regional Transit Providers

BART operates regional rail transit service connecting the East Bay (from Pittsburg/Bay Point, Richmond, Dublin/Pleasanton and Fremont) and San Mateo County with San Francisco. Within San Francisco, BART operates along Market and Mission Streets. The nearest BART station is the 24th Street/Mission Station, located about 1.3 miles west of the Project site.

Caltrain provides rail passenger service on the Peninsula between Gilroy and San Francisco. The San Francisco terminal is located at Fourth and Townsend streets, in the South of Market area. The closest Caltrain station is the 22nd Street Station, located approximately 0.3 mile northeast of the Project site. This station is served by local, limited, and "baby bullet" express train service. Currently, Caltrain operates 88 trains each weekday, with a combination of express and local service.

SamTrans provides bus service between San Mateo County and San Francisco. It operates four bus lines that serve San Francisco, including one express route. In general, SamTrans service to downtown San Francisco operates along Mission Street and Potrero Avenue. The nearest SamTrans terminal is located at the Temporary Transbay Terminal on Howard Street between Main and Beale Streets, approximately 2.5 miles 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 27 routes between the East Bay and San Francisco, all of which terminate at the Temporary Transbay Terminal, located 2.5 miles north of the Project site.

Golden Gate Transit (GGT) is operated by the Golden Gate Bridge Highway and Transportation District and provides transit service between the North Bay (Marin and Sonoma counties) and San Francisco. GGT operates 23 commuter bus routes, and five basic bus routes. The closest stops are located on Market Street at Seventh and Eighth Streets, about 2 miles north of the Project site. GGT also operates ferry service between the North Bay and San Francisco. During the morning and evening commute periods, ferries run between Larkspur and San Francisco, and between Sausalito and San Francisco. The San Francisco terminal is located at the Ferry Building, about 2.8 miles north of the Project site.

The existing transit network in the vicinity of the Project site is illustrated in Figure 4.7-3. Regional routes that travel along US 101 and I-280 are shown in the figure, but were omitted from analysis as these lines do not directly serve the project study area.

Existing Regional Transit Screenline Analysis. For the East Bay, the regional transit screenline is defined by the San Francisco Bay and the Bay Bridge. This screenline accommodates AC Transit, BART, and the ferry service from Alameda and Contra Costa Counties. The North Bay screenline is defined by the San Francisco Bay as well as the Golden Gate Bridge. GGT buses and ferries provide service to and from the North Bay. The South Bay screenline is defined by the San Francisco and San Mateo County border. Transit services serving the South Bay include BART, Caltrain, and SamTrans. All regional transit providers have a 100 percent capacity utilization standard.

Table 4.7-7 summarizes capacity utilization for each regional transit screenline during the weekday PM peak hour based on ridership data obtained from the San Francisco Planning Department. During the existing PM peak hour, no regional transit provider exceeds its capacity utilization standard.

Table 4.7-7 Regional Transit Screenline Analysis—Existing Weekday PM Peak Hour

Region	*Regional Transit Operator*	*Ridership*	*Peak Hour Capacity*	*Capacity Utilization*
East Bay	BART	20,067	24,150	83%
	AC Transit	2,517	4,193	60%
	Ferries	702	1,519	46%
	Subtotal	*23,286*	*29,862*	*78%*
North Bay	GGT Buses	1,397	2,205	63%
	GGT Ferries	906	1,700	53%
	Subtotal	*2,303*	*3,905*	*59%*
South Bay	BART	10,202	16,800	61%
	Caltrain	1,986	3,250	61%
	SamTrans	575	940	61%
	Subtotal	*12,763*	*20,990*	*61*
	Total	*38,352*	*54,757*	*70%*

SOURCE: CDM Smith. 2012. *Potrero HOPE Transportation Study*. Final Report. October. Sacramento, CA.

Pedestrian Facilities

In the study area, sidewalks along most roadways are about 5- to 6-feet wide. Sidewalks are typically provided along both sides of the street, except in areas where topography constrains sidewalk availability to one side of the street, such as along the north side of 23rd Street between Arkansas Street and Dakota Street, as well as along the south side of 25th Street between Connecticut Street and Mississippi Street. On some streets where the main type of off-street parking is

perpendicular, directly adjacent to the street and with wide curb cuts, such as at Dakota Street and Connecticut Street, vehicles must cross the sidewalk to access this perpendicular parking.

About one-half of the crosswalks within the study area are striped and/or marked. At the Connecticut Street/Wisconsin Street, 25th Street/Wisconsin Street, 25th Street/Connecticut Street, 23rd Street/Wisconsin Street, and 23rd Street/Dakota Street intersections, crosswalks are marked for pedestrian crossings. Crosswalks are not marked at the intersections of: Turner Terrace/Missouri Street, 22nd Street/Missouri Street, 23rd Street/Arkansas Street, 25th Street/Dakota Street/Texas Street, 26th Street/Wisconsin Street, and 26th Street/Connecticut Street. In addition, there is one pedestrian stairway along 23rd Street at Wisconsin Street.

In general, under the existing conditions, pedestrian activity within and around the Project site is considered to be low.

Bicycle Facilities

The bicycle route network in the project study area is shown in Figure 4.7-4. Bicycle facilities are typically classified as Class I, Class II, or Class III.

Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists or pedestrians. Class II bikeways are bike lanes striped within the paved areas of roadways and established for preferential use of bicycles. Class III bikeways are signed bike routes that allow bicycles to share the road with vehicles.

There are four primary bicycle routes in the vicinity of the Project site, including the following:

- Route #25 on Potrero Avenue between 20th Street and 25th Street (Class II facility)
- Route #525 on 23rd Street between Potrero Avenue and Kansas Street, and on Kansas Street between 23rd Street and Cesar Chavez Street (Class III facility)
- Route #60 on Cesar Chavez Street between Vermont Street and Third Street (Class III facility)
- Route #7 on Indiana Street between 20th Street and Cesar Chavez Street (Class III facility)

The Route #25 Class II bicycle facility along Potrero Avenue is a continuous, striped, 5-foot-wide bicycle lane in both the northbound and southbound directions; however, at intersections along Potrero Avenue, the exclusive bicycle lanes become a shared-use facility for vehicles and bicyclists approximately 200 feet prior to the intersections. Route #525 is a Class III wide curb lane bicycle route along 23rd Street and Kansas Street, and is a shared-use facility with no specific bicycle lane or "sharrow" treatment (a painted shared-use arrow). Route #60 is a Class III bicycle route along Cesar Chavez Street. It does not include any demarcations signifying a designated bicycle route and is also treated as a shared-use facility. Route #7 is a Class III wide curb lane bicycle route along Indiana Street, and is also a shared-use facility with no specific bicycle lane or sharrow treatment. There are currently no bicycle parking spaces at the Project site.

SOURCE: Potrero HOPE Transportation Study, June 2012.

FIGURE 4.7-4: EXISTING BICYCLE NETWORK

Current access to the Project site by bicycle is minimal. Portions of 23rd Street, 25th Street, Dakota Street, and Connecticut Street are the flattest and most accessible streets for bicycles at the Project site. Given the topography of the Project site, bicycle activity in its vicinity is low. The aforementioned bicycle routes provide connections to other neighborhoods in San Francisco.

According to the SFMTA, none of the study intersections experienced a significant amount of bicycle collision injuries from 2000 to 2008.[3]

The San Francisco Bicycle Plan, certified in June 2009 by the San Francisco Planning Department, began implementing projects around the city beginning in summer 2010. As part of this plan, a total of 84 bicycle-related (60 near-term and 24 long-term) projects were proposed for implementation to encourage bicycle ridership and improve bicycle safety throughout the city.[4] Table 4.7-8 shows the San Francisco Bicycle Plan projects near the Project site.

Table 4.7-8 San Francisco Bicycle Plan Projects near the Project Site

Project Number[a]	*Bicycle Project*	*Bicycle Route Number*	*Range of Implementation*	*Description of Project*
5-1	23rd St Bicycle Lanes, Kansas St to Potrero Ave	#525	Near-Term	Conversion of existing wide curb lane bicycle route to sharrows and/or full bicycle lanes in both directions
5-5	Cesar Chavez St Bicycle Lanes, I-280 to US 101 Freeways	#60	Near-Term	Conversion of existing shared-lane bicycle route to sharrows and/or full bicycle lanes in both directions
5-8	Kansas St Bicycle Lanes, 23rd St to 26th St	#525	Near-Term	Conversion of existing wide curb lane bicycle route to sharrows and/or full bicycle lanes in both directions

SOURCES: CDM Smith. 2012. *Potrero HOPE Transportation Study.* October. Sacramento, CA.
Near-term improvement project descriptions available: <http://www.sfmta.com/cms/bproj/Bicycle_Plan_Projects_000.htm>.

a. The first number in the project number indicates the cluster number, an assigned number, to determine the closest geographic bicycle projects that would potentially have transportation impacts associated with implementation.

The following improvements to the neighboring bicycle network within the study area have been completed as part of the San Francisco Bicycle Plan:

- Project 5-1—This project converted the existing wide curb lane bicycle route along 23rd Street between Kansas Street and Potrero Avenue to sharrows in both directions
- Project 5-5—This project converted the existing shared-lane bicycle route along Cesar Chavez Street between I-280 and US 101 freeways to full bicycle lanes in both directions
- Project 5-18—This project converted the existing wide curb lane bicycle route along Kansas Street between 23rd and 26th Streets to full bicycle lanes in both directions

[3] San Francisco Municipal Transportation Agency. 2009. *2008 San Francisco Collision Report.* December.

[4] San Francisco Municipal Transportation Agency. 2009. *2009 San Francisco Bicycle Plan*. Available: <http://www.sfmta.com/projects-planning/projects/2009-san-francisco-bicycle-plan>. Accessed: February 14, 2014.

- Minor improvements to the existing bicycle route along Indiana Street between Mariposa Street and Cesar Chavez Street

Retail and Freight Loading Conditions

The Project site does not currently have any retail land uses. There are no freight loading operations within the Project site, nor does the Project site have any designated on-or off-street loading spaces.

Parking Facilities[5]

Study Area Parking. The parking study area includes the Project site and the area surrounding the Project site bounded by 20th Street on the north, 26th Street on the south, Caroline Street on the west, and Texas Street on the east (Figure 4.7-5).

The majority of the parking within the study area consists of unmetered, no-time limit on-street parking, with street cleaning restrictions. Due to the nature of the terrain of the study area, many blocks require perpendicular street parking. A small portion of the parking study area (not within the Project site), bounded by 20th Street to the north, Texas Street to the east, 22nd Street to the south, and Connecticut Street to the west, lies within the "X" Residential Parking Permit (RPP) area. Vehicles displaying a RPP within this area are not subject to posted parking time limits. Current restrictions include two-hour time limits for vehicles not displaying a RPP sticker; these restrictions are enforced Monday through Friday, from 8:00 a.m. to 6:00 p.m. All vehicles, including those with RPP stickers, are subject to current street cleaning restrictions.

Field observations indicate that there are approximately 1,301 on-street parking spaces and 64 off-street parking spaces within the study area, not including parking spaces within the Project site itself. On-street parking supply and calculated occupancy rates for the study area are listed in Table 4.7-9.

The study area's off-street parking occupancy rate was approximately 80 percent during the evening peak period (4:00 p.m. to 6:00 p.m.). Although the off-street parking occupancy rate is high, parking availability within the parking study area is generally sufficient due to the availability of ample on-street parking.

No public off-street parking facility is located within the parking study area. The closest public parking facility in the vicinity of the Project site is the San Francisco General Hospital parking garage, located approximately four blocks west of the Project site at 23rd Street and Utah Street.

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[5] As discussed in more detail in Section 5.7, *Transportation and Circulation*, the Proposed Project is subject to Senate Bill (SB) 743 and Section 21099 to the Public Resources Code, which eliminated the analysis of parking impacts for certain urban infill projects under CEQA. However, since the Proposed Project is also subject to NEPA, parking is still considered in this analysis.

SOURCE: Potrero HOPE Transportation Study, June 2012.

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FIGURE 4.7-5: PARKING STUDY AREA

Project Site Parking. There are approximately 256 off-street and approximately 100 on-street parking spaces within the existing Project site boundaries. Approximate parking occupancy rates for the Project site are listed in Table 4.7-9. These were developed based on general observations, not by actual counts. Overall, parking occupancy within the Project site was observed to be less than 50 percent for both on- and off-street facilities during the weekday PM peak period (4:00 p.m. to 6:00 p.m.).

Table 4.7-9 Existing Study Area On-Street Parking Supply and Occupancy—Weekday PM Peak Period

Block Face	*Street*	*Location*		*Parking Supply*		*Parking Occupancy*	
		From	*To*	*On-Street*	*Off-Street*	*On-Street*	*Off-Street*
N	20th St	Carolina St	Wisconsin St	8	0	25%	—
N	20th St	Wisconsin St	Arkansas St	10	0	30%	—
N	20th St	Arkansas St	Connecticut St	10	0	80%	—
N	20th St	Connecticut St	Missouri St	10	0	70%	—
N	20th St	Missouri St	Texas St	14	0	29%	—
N	22nd St	Carolina St	Wisconsin St	8	0	38%	—
N	22nd St	East of Wisconsin St		0	0	0	—
N	23rd St	Carolina St	Wisconsin St	5	0	60%	—
N	Sierra St	Missouri St	Texas St	10	0	30%	—
N	25th St	Connecticut St	Texas St	1	12	100%	92%
N	26th St	Wisconsin St	Connecticut St	16	20	69%	90%
N	Coral Rd	Carolina St	Wisconsin St	12	0	25%	—
N	Caire Ter	—		0	5	—	60%
E	Carolina St	Caire Ter	Coral Rd	0	0	—	—
E	Carolina St	Coral Rd	Coral Rd	12	0	92%	—
E	Carolina St	Coral Rd	23rd St	7	0	43%	—
E	Carolina St	23rd St	22nd St	25	0	68%	—
E	Carolina St	22nd St	20th St	60	0	50%	—
E	Wisconsin St	26th St	Blaire Ter	3	0	33%	—
E	Wisconsin St	Blaire Ter	25th St	18	0	39%	—
E	Wisconsin St	25th St	Coral Rd	6	0	0%	—
E	Wisconsin St	Coral Rd	Carolina St	48	0	33%	—
E	Wisconsin St	Carolina St	23rd St	12	0	67%	—
E	Wisconsin St	23rd St	Madera St	12	0	33%	—
E	Wisconsin St	Madera St	22nd St	18	0	67%	—
E	Wisconsin St	22nd St	20th St	32	0	47%	—
E	Arkansas St	22nd St	20th St	70	0	43%	—
E	Connecticut St	26th St	25th St	20	0	20%	—
E	Connecticut St	22nd St	20th St	75	0	57%	—
E	Missouri St	Turner Ter	Sierra St	14	0	21%	—

Table 4.7-9 Existing Study Area On-Street Parking Supply and Occupancy—Weekday PM Peak Period

Block Face	*Street*	*Location*		*Parking Supply*		*Parking Occupancy*	
		From	*To*	*On-Street*	*Off-Street*	*On-Street*	*Off-Street*
E	Missouri St	Sierra St	20th St	40	0	63%	—
E	Texas St	Sierra St	20th St	80	0	45%	—
S	20th St	Carolina St	Wisconsin St	10	0	20%	—
S	20th St	Wisconsin St	Arkansas St	10	0	60%	—
S	20th St	Arkansas St	Connecticut St	10	0	90%	—
S	20th St	Connecticut St	Missouri St	10	0	70%	—
S	20th St	Missouri St	Texas St	10	0	30%	—
S	22nd St	Carolina St	Wisconsin St	10	0	30%	—
S	22nd St	East of Wisconsin St		0	0	0	—
S	23rd St	Carolina St	Wisconsin St	5	7	20%	100%
S	Sierra St	Missouri St	Texas St	10	0	70%	—
S	25th St	Connecticut St	Texas St	5	0	60%	—
S	26th St	Wisconsin St	Connecticut St	30	0	23%	—
S	Coral Rd	Carolina St	Wisconsin St	12	0	0%	—
S	Caire Ter	—		0	12	—	58%
W	Carolina St	Caire Ter	Coral Rd	17	0	12%	—
W	Carolina St	Coral Rd	Coral Rd	12	0	83%	—
W	Carolina St	Coral Rd	23rd St	0	6	—	100%
W	Carolina St	23rd St	22nd St	36	0	53%	—
W	Carolina St	22nd St	20th St	60	0	65%	—
W	Wisconsin St	26th St	Blaire Ter	2	0	100%	—
W	Wisconsin St	Blaire Ter	25th St	10	0	0%	—
W	Wisconsin St	25th St	Coral Rd	4	0	0%	—
W	Wisconsin St	Coral Rd	Carolina St	10	0	80%	—
W	Wisconsin St	Carolina St	23rd St	12	0	58%	—
W	Wisconsin St	23rd St	Madera St	25	0	48%	—
W	Wisconsin St	Madera St	22nd St	48	0	50%	—
W	Wisconsin St	22nd St	20th St	62	0	85%	—
W	Arkansas St	22nd St	20th St	32	0	53%	—
W	Connecticut St	26th St	25th St	37	0	65%	—
W	Connecticut St	22nd St	20th St	75	0	60%	—
W	Missouri St	Turner Ter	Sierra St	1	2	0%	0%
W	Missouri St	Sierra St	20th St	20	0	50%	—
W	Texas St	Sierra St	20th St	60	0	23%	—
Total				*1,301*	*64*	*50%*	*81%*

SOURCE: CDM Smith. 2012. *Potrero HOPE Transportation Study*. Final Report. October. Sacramento, CA.

Emergency Vehicle Access

The closest fire station in the vicinity of the Project site is Fire Station #37, located northwest of the Project site at 798 Wisconsin Street, at the intersection with 22nd Street. The closest police station is the Mission Police Station, located to the northwest of the Project site at 630 Valencia Street, at the intersection with 17th Street.

The existing roadway layout allows for minimal cross-site connections for emergency vehicles and includes two cul-de-sacs within the Potrero Annex site. The Potrero Annex site can only be accessed using Missouri Street via 23rd Street and Dakota Street from the south. The southern portion of the Potrero Annex is accessible using Texas Street, which near the Project site is a narrow path that is barely wide enough for one car.

4.8 NOISE

4.8.1 Introduction

This section of the Draft EIR/EIS discusses the existing conditions with respect to the existing ambient noise environment at and in the vicinity of the Proposed Project site. Data for this section of the Draft EIR/EIS was obtained through the California Department of Transportation, the Federal Railroad Administration, the transportation impact study (TIS) prepared for the Proposed Project,[1] and other available sources of technical information. The technical data associated with this section is provided in Appendix 4.8.

Several comments were submitted during the Notice of Preparation (NOP) and Notice of Intent (NOI) scoping periods. Specifically, concerns were raised regarding construction noise, an increase in traffic noise, and an increase of human activity that could result in higher noise levels. These and other issues are addressed in Section 5.8, *Noise*. Section 5.8 includes a complete analysis of the potential environmental effects of the Proposed Project with regard to noise.

4.8.2 Environmental Setting

Acoustic Terminology and Definitions

Sound is created when vibrating objects produce pressure variations that move rapidly outward into the surrounding air. The main characteristics of these air pressure waves are amplitude, which we experience as a sound's loudness, and frequency, which humans experience as a sound's pitch.[2] The standard unit of sound amplitude is the decibel (dB). The decibel is a measure of the physical magnitude of the pressure variations relative to the human threshold of perception. The human ear's sensitivity to sound amplitude is frequency-dependent; it is more sensitive to sounds in the mid-frequency range than to sounds with much lower or higher frequencies.

Most "real world" sounds (e.g., a dog barking, a car passing, etc.) are complex mixtures of many different frequency components, each having different amplitudes. When the average amplitude of such sounds is measured with a sound level meter, it is common for the instrument to apply adjustment factors to each of the measured sound's frequency components. These factors account for the differences in perceived loudness of each of the sound's frequency components relative to those to which the human ear is most sensitive. Because the human ear is not equally sensitive to a

[1] CDM Smith. 2012. *Potrero HOPE Transportation Study*. Final Report. October. Prepared for City and County of San Francisco Planning Department, Case No. 2010.0515E.

[2] Technically, amplitude is defined as a wave's height at its crest, while frequency is the number of waves in a given period of time and is a function of wave length. The greater the amplitude, the louder a sound appears and the greater the frequency, the "higher" the sound appears.

given sound level at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. The unit of A-weighted sound amplitude is also the decibel. In reporting measurements to which A-weighting has been applied, an "A" is appended to dB (dBA) to make this clear. In some cases, however, it is useful to know the actual average sound amplitude without application of the A-weighting factors; this type of averaging is called C-weighting and its result is reported in C-weighted decibels (dBC). Finally, since environmental sound levels usually vary greatly over time, it is often useful to know the degree of variability at a particular location over any measurement period. This variability is specified in terms of statistical sound levels (L_n), where n is the percentage of time these levels are exceeded during the measurement period. For example, L_{10}, L_{50}, and L_{90} are descriptors that represent the sound level exceeded 10 percent of the time, 50 percent of the time, and 90 percent of the time, respectively, during a measurement, while L_{min} and L_{max} represent the minimum and maximum sound levels during the measurement period.

Noise is the term generally given to the intrusive, "unwanted" aspects of sound. Many factors influence how a sound is perceived and whether it is considered harmful or disruptive to an individual or a community. These factors include the primary physical characteristics of a sound (e.g., amplitude, frequency, duration, etc.), but also secondary acoustic and non-acoustic factors that can influence judgment regarding the degree to which it is intrusive and disruptive. Table 4.8-1 lists representative noise levels for the environment.

The General Plan has defined noise-sensitive uses as land uses and/or receptors that include residences of all types, schools, libraries, hospitals, convalescent facilities, rest homes, hotels, motels, and places of worship. Sensitive uses from a noise perspective include places where there is a reasonable expectation that individuals could be sleeping, learning, worshipping, or recuperating. All quantitative descriptors used to measure environmental noise exposure recognize the strong correlation between the high acoustical energy content of a sound (i.e., its loudness and duration) and the disruptive effect it is likely to have as noise. Because environmental noise fluctuates over time, most such descriptors average the sound level over the time of exposure, and some add "penalties" during the times of day when intrusive sounds would be more disruptive to listeners. The rating scales of L_{eq}, L_{min}, $L_{max,}$ $L_{dn,}$ and Community Noise Equivalent Level (CNEL) are all measures of ambient noise, as described in detail below. L_{eq} is the average A-weighted sound level measured over a given time interval. L_{eq} can be measured over any time period, but is typically measured for 1-minute, 15-minute, 1-hour, or 24-hour periods. L_{dn} is another average A-weighted sound level measured over a 24-hour time period. However, this noise scale is adjusted to account for some individuals' increased sensitivity to noise levels during the evening and nighttime hours. L_{eq}, L_{min}, and L_{max}, as well as L_{dn} and CNEL are all applicable to this analysis.

Table 4.8-1 Representative Environmental Noise Levels

Common Outdoor Activities	*Noise Level (dBA)*	*Common Indoor Activities*
	—110—	Rock Band
Jet Fly-over at 100 feet	—105—	
	—100—	
Gas Lawnmower at 3 feet	—95—	
	—90—	
	—85—	Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime	—75—	
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area	—65—	Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
	—55—	Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room
	—45—	
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime	—35—	
	—30—	Library
Quiet Rural Area during Nighttime	—25—	Bedroom at Night, Concert Hall (background)
	—20—	
	—15—	Broadcast/Recording Studio
	—10—	
	—5—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

SOURCE: California Department of Transportation, *Technical Noise Supplement* (2009).

The most commonly used noise descriptors for environmental exposures are:

- **L_{eq}**, the equivalent-energy noise level, is the average acoustic energy[3] content of noise over any chosen exposure time. The L_{eq} is the constant noise level that would deliver the same acoustic energy to the ear as the actual time-varying noise over the same exposure time. L_{eq} does not depend on the time of day during which the noise occurs. **L_{dn}**, the day-night

[3] Averaging sound levels in decibels is not done by standard arithmetic averaging, but according to the following rule: $L_{eq} = 10 \times \log((1/n) \times (10^{L1/10} + 10^{L2/10} + \ldots + 10L_{n/10})$; where L_1, L_2, L_n are n individual sound levels.
For example, the L_{eq} of the sound levels L_1 = 60 dBA and L_2 = 70 dBA is 67.4 dBA, not 65 dBA as it would if standard arithmetic averaging were used. The larger individual sound levels contribute much more substantially to the L_{eq} than they would to an average done in the standard way.

average noise level, is a 24-hour average L_{eq} with a 10 dBA "penalty" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for increased nighttime noise sensitivity. Because of this penalty, the L_{dn} would always be higher than its corresponding 24-hour L_{eq} (e.g., a constant 60 dBA noise over 24 hours would have a 60 dB L_{eq}, but a 66.4 dBA L_{dn}).

- **L_{min}**, minimum noise level, is the lowest A/B/C weighted integrated noise level during a specific period of time.
- **L_{max}**, maximum noise level, is the highest A/B/C weighted integrated noise level occurring during a specific period of time.
- **CNEL**, the community noise equivalent level, is a 24-hour average L_{eq} with a 5 dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
- **SEL**, the sound exposure level (also known as the single noise event level), is the constant noise level that would deliver the same acoustic energy to the ear of a listener during a one-second exposure as the actual time-varying noise would deliver over its entire time of occurrence.[4] SEL is typically used to characterize the effects of short-duration noise events (e.g., aircraft fly-overs or train pass-bys).

Noise levels from a particular source decline as distance to the receptor increases. Other factors, such as the weather and other reflecting or shielding factors, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., where the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., where the area between the source and receptor is unpacked earth or has vegetation, including grass). Noise from stationary or point sources (such as commercial heating and ventilation units [HVAC] or construction equipment) is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Generally, if a noise source is completely enclosed or completely shielded with a solid barrier located close to the source, an 8 dBA noise reduction can be expected; if the enclosure and/or barrier are interrupted, noise would be reduced by only 5 dBA. The exterior-to-interior reduction of newer residential units and office buildings is generally 25 dBA or more with windows and doors closed and 15 dBA with windows and doors open.

[4] For a sound lasting longer than one second, its SEL would be higher than that of the largest of the shorter-duration component sounds that make up the total. For example, if a sound with a ten- second-long duration made up of 10 one-second-long component sounds, each of 60 dBA amplitude, its SEL would be 70 dBA.

Fundamentals of Environmental Groundborne Vibration

Vibrating objects in contact with the ground radiate energy through the ground. If the object is massive enough and/or close enough to an observer, the ground vibrations are perceptible. Groundborne vibration is measured by its peak particle velocity (PPV). The PPV is normally described in inches per second. PPV is appropriate for determining potential structure damage, but it does not evaluate human response to vibration. The ground motion caused by vibration is given in decibel notation, referenced as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration relative to human response.[5] Vibration magnitude is measured in vibration decibels relative to a 1 micro-inch-per-second reference level. Background vibration levels in most inhabited areas are usually 50 VdB or lower, well below the threshold of perception (i.e., typically about 65 VdB). In most cases, when vibration is perceptible to people in their homes or workplaces, the source is within the same building (i.e., operation of HVAC equipment, movement of other occupants, slamming of doors, etc.). The outdoor sources most commonly responsible for producing perceptible vibration are heavy construction equipment, steel-wheeled trains, and motor vehicle traffic on rough roads (if the roadway is smooth, the vibration from traffic is rarely perceptible).

Vibration at high enough levels can result in human annoyance. Groundborne vibration can also potentially damage the foundations and exteriors of fragile structures if they are close enough to the vibration source. The FTA damage thresholds indicate that, for buildings not extremely sensitive to vibration, a damage threshold of between 0.2 in/sec to 0.5 in/sec PPV would apply depending on the type of building. However, damage potential is typically limited to vibration generated by impact equipment, such as pile drivers.

Health Effects of Environmental Noise

The World Health Organization (WHO) is perhaps the best source of current knowledge regarding health impacts due to the fact that the European nations have continued to study noise and its health effects, while the U.S. Environmental Protection Agency (USEPA) all but eliminated its noise investigation and control program in the 1970s.[6] According to WHO, sleep disturbance can occur when continuous indoor noise levels exceed 30 dBA or when intermittent interior noise levels reach 45 dBA, particularly if background noise is low. With a bedroom window slightly open (a reduction from outside to inside of 15 dB), the WHO criteria would suggest exterior continuous (ambient) nighttime noise levels should be 45 dBA or below, and short-term events should not generate noise

[5] Federal Railroad Administration. 2005. *High Speed Ground Transportation Noise and Vibration Impact Assessment*. October. Washington, DC.

[6] The *San Francisco General Plan* Land Use Compatibility Guidelines for Community Noise were created during the same era.

in excess of 60 dBA. WHO also notes that maintaining noise levels within the recommended levels during the first part of the night is believed to be effective for the ability to fall asleep.[7]

Other potential health effects of noise identified by WHO include decreased performance on complex cognitive tasks, such as reading, attention, problem solving, and memorization; physiological effects such as hypertension and heart disease (after many years of constant exposure, often by workers, to high noise levels); and hearing impairment (again, generally after long-term occupational exposure, although shorter-term exposure to very high noise levels, for example, exposure several times a year to concert noise at 100 dBA, can cause hearing impairment). Noise can also disrupt speech intelligibility at relatively low levels; for example, in a classroom setting, a noise level as low as 35 dBA can disrupt clear understanding. Finally, noise can cause annoyance, and can trigger emotional reactions like anger, depression, and anxiety. WHO reports that, during daytime hours, few people are seriously annoyed by activities with noise levels below 55 dBA, or moderately annoyed with noise levels below 50 dBA. The City and County of San Francisco has incorporated WHO findings into the San Francisco Noise Ordinance.

Existing Noise Environment

The Project site is located on the southern slope of Potrero Hill, which includes residential and industrial uses. Noise sources within the Project vicinity are primarily automobiles and buses. East and south of the Project site, major transportation corridors include Interstate 280 (I-280) and Cesar Chavez Street. Noise from outdoor activities (e.g., people talking) and commercial aircraft over-flights contribute to the existing noise environment to a lesser extent.

In 2008, the San Francisco Department of Public Health produced a comprehensive map showing the transportation noise levels on every street throughout the city, as well as the areas subject to noise levels over 60 dBA (L_{dn}).[8] This map was created using a digital local traffic-based model, which was based on the Federal Highway Administration (FHWA) Traffic Noise Model. The map is used as a screening tool to determine whether further acoustical studies are required.

In order to more precisely characterize the existing noise environment in the plan area, long- and short-term noise measurements were taken at five locations. One long-term (24-hour) measurement was taken at the corner of Missouri Street and Turner Terrace and was measured to be 58.7 dBA L_{eq} for the 24-hour period with a calculated day/night noise level of 62.7 dBA L_{dn}, and a maximum

[7] World Health Organization. 1999. *Guidelines for Community Noise.* Geneva. Available: <http://www.who.int/docstore/peh/noise/guidelines2.html>. Accessed: February 28, 2014.

[8] San Francisco Department of Public Health. 2008. *Transportation Noise Map 2008*. Available: <http://www.sfdph.org/dph/files/EHSdocs/ehsPublsdocs/Noise/TransitNoiseMap.pdf>. Accessed: February 28, 2014.

hourly average noise level of 61.4 dBA L_{eq} occurring between 8:00 a.m. and 9:00 a.m.[9] Maximum noise levels were likely caused by individual loud vehicles, including diesel trucks and automobiles with modified muffler systems or amplified music) on nearby roadways. Noise levels for the long- and short-term measurements are shown in Table 4.8-2, and the locations of these measurements are shown in Figure 4.8-1.

Table 4.8-2 Existing Peak-Hour Traffic Noise Measurements (L_{eq})

Noise Receptor	*Land Use Description*	*Noise Level (dBA)*			*Primary Noise Source*
		L_{eq}	L_{min}	L_{max}	
L-1	Residential uses west of I-280 on Missouri St at Turner Ter	58.7	42.9	89.9	Traffic on I-280
S-1	Dakota at 23rd St, south of Potrero Hill Recreation Center	61.8	54.2	78.5	Traffic on 23rd St
S-2	Residential uses along Dakota St between 23rd St and 25th St	64.6	54.3	79.7	Traffic along Dakota St
S-3	Residential and industrial uses on 26th St at Connecticut St	62.4	54.1	74.7	Traffic along Connecticut St
S-4	Residential and institutional uses on Wisconsin St at Connecticut St/Coral Rd	60.5	50.0	77.7	Traffic along Wisconsin St

SOURCE: Atkins (2011) (see Appendix 4.8).
Long-term noise measurement was taken from 4:00 p.m. on Tuesday June 7, 2011, to 4:00 p.m. on June 8, 2011. Short-term noise measurements were taken on June 7, 2011, between the hours of 3:30 p.m. and 5:30 p.m. for 15 minutes each.

Short-term traffic noise measurements (i.e., 15 minutes each) were also taken within the Project area at four near-curbside locations during the weekday PM peak commute period, as shown in Figure 4.8-1.[10] Short-term noise measurement locations were selected to characterize the range of daytime noise levels across the Project site.

To evaluate the compatibility of a site under U.S. Department of Housing and Urban Development (HUD) criteria, sound levels can be measured using sound meters, or sound levels can be calculated using HUD's Noise Assessment Guidelines.[11]

Noise-Sensitive Receptors

Existing noise-sensitive uses on and around the Project site include residential uses throughout the Potrero Hill neighborhood, including along 23rd Street, 25th Street, and Wisconsin Street. The nearest school to the Project site is Starr King Elementary School along Wisconsin Street, directly adjacent to the Project site. The Potrero Hill Recreation Center is located directly north of the Project site on 23rd Street at Arkansas Street.

[9] Long-term noise measurement was taken by Atkins using a Larson Davis Model 720 digital sound level meter from 4:00 p.m. on June 7, 2011, to 4:00 p.m. on June 8, 2011.

[10] Short-term noise measurements were taken by Atkins using a Larson-Davis Model 820 sound level meter on June 7, 2011, between the hours of 3:30 p.m. and 5:30 p.m. for 15 minutes each.

[11] Department of Housing and Urban Development, Environmental Planning Division, Office of Environment and Energy. 1991. *The Noise Guidebook*. September. Washington, DC.

SOURCE: Atkins, 2011.

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FIGURE 4.8-1: NOISE MONITORING LOCATIONS

Existing Traffic Noise

Existing vehicle traffic noise levels in the Project area were modeled using the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic data included in the Transportation Study for the Proposed Project.[12] The FHWA model is based on the California Vehicle Noise Reference Energy Mean Emission Levels (CALVENO) factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receptor, and ground attenuation factors.

Table 4.8-3 summarizes the modeled traffic noise levels at 50 feet from the centerline of roadways in the Project area and includes distances from the roadway centerlines to the 55 dBA and 60 dBA L_{dn} traffic noise contours. These traffic noise modeling results are based on existing average daily traffic (ADT) volumes calculated from peak hour traffic turning movements provided in the Transportation Study. As shown in Table 4.8-3, the location of the 60 dBA L_{dn} contour ranges from 0 to 106 feet from the centerline of the modeled roadways. The extent to which existing land uses in the Project area are affected by existing traffic noise depends on their respective proximity to the roadways.

As shown in Table 4.8-3 traffic noise levels due to roadways adjacent to and within the Project site would not exceed 65 dBA L_{dn}. The existing traffic noise levels shown in Table 4.8-3 would not exceed HUD's 65 dBA L_{dn} exterior noise standard and would be classified as acceptable. I-280 is located approximately 835 feet east of the Project site. Because this roadway is within 1,000 feet, the potential contribution to noise at the Project site was assessed using HUD's Noise Assessment Guidelines.[13] The noise level from I-280 traffic, not accounting for shielding by intervening buildings and topography, was estimated at 63 dBA L_{dn}, or 60 dBA L_{dn} when accounting for intervening buildings and topography.

[12] CDM Smith. 2012. *Potrero HOPE Transportation Study*, Final Report. June. This report is available for review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2010.0515E.

[13] Department of Housing and Urban Development, Environmental Planning Division, Office of Environment and Energy. 1991. *The Noise Guidebook*. September. Washington, DC.

Table 4.8-3 Existing Modeled Traffic Noise Levels along Local Roadways

Roadway	Roadway Segment		L_{dn} (dBA) at 100 feet	Distance (feet) from Roadway Centerline to L_{dn} Contour			
	From	To		70 dBA	65 dBA	60 dBA	55 dBA
Cesar Chavez St	York St	Vermont St	63	11	33	106	335
Cesar Chavez St	Vermont St	Connecticut St	63	10	31	99	313
Cesar Chavez St	Connecticut St	Pennsylvania Ave	63	10	30	96	303
Cesar Chavez St	Pennsylvania Ave	Tennessee St	62	9	28	87	275
25th St	Wisconsin St	Connecticut St	51	1	2	7	22
25th St	Connecticut St	Dakota St	53	1	4	11	35
25th St	Dakota St	Indiana St	53	1	3	11	34
25th St	Indiana St	3rd St	56	2	6	19	61
23rd St	Folsom St	Potrero Ave	51	1	2	6	18
23rd St	Potrero Ave	SR-101	56	2	6	20	65
23rd St	Wisconsin St	Dakota St	49	0	1	4	14
23rd St	Dakota St	Missouri St	48	0	1	3	9
20th St	Rhode Island St	Arkansas St	54	1	4	12	38
20th St	Arkansas St	Missouri St	54	1	4	13	41
Potrero Ave	21st St	23rd St	63	9	28	90	283
Potrero Ave	23rd St	25th St	62	8	27	85	268
Wisconsin St	20th St	23rd St	51	1	2	6	20
Wisconsin St	23rd St	26th St	51	1	2	7	22
Arkansas St	18th St	20th St	48	0	1	3	11
Arkansas St	20th St	23rd St	48	0	1	3	10
Connecticut St	Cesar Chavez St	25th St	53	1	3	11	33
Connecticut St	25th St	23rd St	48	0	1	3	11
Dakota St	25th St	23rd St	51	1	2	6	20
Texas St	25th St	22nd St	34	0	0	0	0
Missouri St	20th St	22nd St	47	0	1	2	8
Missouri St	22nd St	23rd St	47	0	1	2	8
Pennsylvania St	Cesar Chavez St	25th St	61	6	18	58	183
Pennsylvania St	25th St	22nd St	57	2	8	24	75
Indiana St	23rd St	25th St	56	2	7	21	68
Indiana St	25th St	Cesar Chavez St	55	1	5	15	46

SOURCE: Modeled by Atkins (2012) (see Appendix 4.8).

Existing Rail Noise

Caltrain is approximately 575 feet west of the Project site; however, the train enters a tunnel just south and east of the site and is shielded by light industrial buildings and topographic features prior to entering the tunnel. Because this railway is within 3,000 feet, the potential contribution to noise at the Project site was assessed using HUD's Noise Assessment Guidelines.[14] Noise from these sources was calculated using the model defaults and train volumes of 90 diesel trains per day.[15] The noise level from diesel trains, not accounting for shielding by intervening buildings and topography or entering the tunnel, was estimated at 62 dBA L_{dn}, which is classified as acceptable. Taking into account intervening structures and topography as well as the trains entering the tunnel, a conservative 10 dBA reduction was assumed, resulting in a noise level of approximately 52 dBA L_{dn}.

Existing Airport Noise

San Francisco International Airport is approximately 8.5 miles south and Oakland International Airport is approximately 9.5 miles east of the Project site. The Project site is located well outside the 55 dBA CNEL noise contour of both airports.[16]

Combined

In order to calculate existing sound levels using HUD's Noise Assessment Guidelines, the following existing noise sources are considered: airports within 15 miles, railroads within 3,000 feet, and arterial roadways within 1,000 feet of the Project site. As the noise levels in the area are considered to be made up of multiple sources, the combination of calculated traffic (62 dBA L_{dn}), aircraft (50 dBA L_{dn}), and rail (59 dBA L_{dn}) noise sources were calculated for the Project site. Based on this calculation (see Appendix 4.8), the existing combined ambient noise level at the Project site is approximately 64 dBA L_{dn}.[17]

Existing Groundborne Vibration

Typical sources of groundborne vibration in the Project area are heavy-duty vehicular travel (e.g., refuse trucks, delivery trucks, and transit buses) on local roadways such as Wisconsin Street, 25th

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[14] Department of Housing and Urban Development. 1991. *The Noise Guidebook*. September. Washington, DC.

[15] Caltrain. 2012. *Schedules*. Available: < http://www.caltrain.com/Assets/Stats+and+Reports/Ridership/2012+Annual+Ridership+Counts.pdf, and http://511.org/>. Accessed: June 20, 2012; MUNI (San Francisco Metropolitan Transportation Agency). 2012. *Schedules*: Route KT Ingleside/Third Street. Available: <http://transit.511.org/accessible/schedules>. Accessed June 20, 2012).

[16] City/County Association of Governments of San Mateo County Redwood City. 2012. *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport.* Final Draft. May. Prepared by Ricondo & Associates, Inc. Chicago, IL.

[17] Department of Housing and Urban Development. 2012. *Day/Night Noise Level Electronic Assessment Tool*. Available: <http://www.hud.gov/offices/cpd/environment/dnlcalculatortool.cfm>. Accessed: December 11, 2012.

Street, and Connecticut Street. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB, and these levels could reach 72 VdB where trucks and buses pass over bumps in the road.[18]

[18] CDM Smith. 2012. *Potrero HOPE Transportation Study*. Final Report. October. Prepared for City and County of San Francisco Planning Department, Case No. 2010.0515E.

4.9 AIR QUALITY

4.9.1 Introduction

This section of the Draft EIR/EIS discusses the existing air quality conditions in the area for the Proposed Project for both criteria and non-criteria air pollutants. Data for this section of the Draft EIR/EIS were obtained through the Bay Area Air Quality Management District (BAAQMD), U.S. Environmental Protection Agency (USEPA), and the California Air Resources Board (ARB).

Several comments were submitted during the Notice of Preparation (NOP) and Notice of Intent (NOI) scoping periods. Specifically, concerns were raised regarding air quality associated with adjacency to Interstate 280 (I-280) and U.S. Highway 101 (US 101), and air quality impacts from increased vehicular traffic. These and other issues are addressed in Section 5.9, *Air Quality*.

4.9.2 Environmental Setting

Climate and Meteorology

The Project area is located within the San Francisco Bay Area Air Basin (SFBAAB). The air basin's moderate climate steers storm tracks away from the region for much of the year, although storms generally affect the region from November through April. San Francisco's proximity to the onshore breezes stimulated by the Pacific Ocean and the Golden Gate to the west provide for generally very good air quality in the Project area.

Temperatures in the vicinity of the Project site average in the mid-50s annually, generally ranging from the low 40s on winter mornings to mid-70s during summer afternoons. Daily and seasonal oscillations of temperature are small because of the moderating effects of the nearby San Francisco Bay. In contrast to the steady temperature regime, rainfall is highly variable and confined almost exclusively to the "rainy" period from November through April. Precipitation may vary widely from year to year as a shift in the annual storm track of a few hundred miles can mean the difference between a very wet year and drought conditions.

Atmospheric conditions—such as wind speed, wind direction, and air temperature gradients—interact with the physical features of the landscape to determine the movement and dispersal of air pollutants regionally. The Project site lies within the San Francisco Peninsula climatological subregion. Marine air traveling through the Golden Gate is a dominant weather factor affecting dispersal of air pollutants within the region. Wind measurements collected on the San Francisco mainland indicate a prevailing wind direction from the west and an average annual wind speed of

10.7 miles per hour.[1] Increased temperatures create conditions that support increased ozone formation.

Criteria Air Pollutants

As required by the 1970 federal Clean Air Act, 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. USEPA calls these pollutants "criteria air pollutants" because the agency has regulated them by developing specific public-health and welfare-based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead are the six criteria air pollutants originally identified by USEPA. Since that time, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less (PM10) and particulate matter of 2.5 microns in diameter or less (PM2.5).

The BAAQMD is the regional agency with jurisdiction for regulating air quality within the nine county SFBAAB. The region's air quality monitoring network provides information on ambient concentrations of criteria air pollutants at various locations in the San Francisco Bay Area. Table 4.9-1 presents a 5-year summary for the period between 2009 and 2013 of the highest annual criteria air pollutant concentrations, collected at the air quality monitoring station operated and maintained by BAAQMD at 16th and Arkansas Streets, in San Francisco's lower Potrero Hill area. The 16th and Arkansas Streets station is the closest monitoring station to the Project site, located about 0.6 to 1.0 miles north of the Project site. Table 4.9-1 also compares measured pollutant concentrations with the most stringent applicable ambient air quality standards (state or federal). Concentrations shown in bold indicate an exceedance of the standard.

Table 4.9-1 Summary of San Francisco Air Quality Monitoring Data Measured at 16th and Arkansas Streets Station (2009–2013)

Pollutant	*Most Stringent Applicable Standard*	*Number of Days Standards Were Exceeded and Maximum Concentrations Measured*[a]				
		2009	*2010*	*2011*	*2012*	*2013*
Ozone						
- Days 1-Hour Standard Exceeded		0	0	0	0	0
- Maximum 1-Hour Concentration (pphm)	>9 pphm[b]	7	8	7	7	7
- Days 8-Hour Standard Exceeded		0	0	0	0	0
- Maximum 8-Hour Concentration (pphm)	>7 pphm[c]	6	5	5	5	6

[1] Western Regional Climate Center. 2013. *Prevailing Wind Direction for California 1992–2002*. Available: <http://www.wrcc.dri.edu/htmlfiles/westwinddir.html#CALIFORNIA>. Accessed: December 3, 2013.

Table 4.9-1 Summary of San Francisco Air Quality Monitoring Data Measured at 16th and Arkansas Streets Station (2009–2013)

Pollutant	*Most Stringent Applicable Standard*	*Number of Days Standards Were Exceeded and Maximum Concentrations Measured*[a]				
		2009	*2010*	*2011*	*2012*	*2013*
Carbon Monoxide (CO)						
- Days 1-Hour Standard Exceeded		0	0	0	0	0
- Maximum 1-Hour Concentration (ppm)	>20 ppm[b]	4.3	1.8	1.8	2.0	1.8
- Days 8-Hour Standard Exceeded		0	0	0	0	0
- Maximum 8-Hour Concentration (ppm)	>9 ppm[b]	2.9	1.4	1.2	1.2	ND
Suspended Particulates (PM10)						
- Days 24-Hour Standard Exceeded[d]		0	0	0	1	0
- Maximum 24-Hour Concentration (µg/m^3)	>50 µg/m^3 [b]	36	40	46	51	44
Suspended Particulates (PM2.5)						
- Days 24-Hour Standard Exceeded		1	3	2	1	2
- Maximum 24-Hour Concentration (µg/m^3)	>35 µg/m^3 [c]	36	45	48	36	49
- Annual Average (µg/m^3)	>12 µg/m^3 [b,c,e]	9.6	10.5	9.5	8.2	10.1
Nitrogen Dioxide (NO_2)						
- Days 1-Hour Standard Exceeded		0	0	0	1	0
- Maximum 1-Hour Concentration (pphm)	>10 pphm[c]	6	9	9	12	7
Sulfur Dioxide (SO_2)[f]						
- Days 24-Hour Standard Exceeded		ND	ND	ND	ND	ND
- Maximum 24-Hour Concentration (ppb)	>40 ppb[b]	ND	ND	ND	ND	ND

NOTES:

Bold values are in excess of applicable standard. "ND" indicates that data is not available.

ppm = parts per million; pphm = parts per hundred million; ppb=parts per billion

µg/m^3 = micrograms per cubic meter

ND = No data or insufficient data.

a Number of days exceeded is for all days in a given year, except for particulate matter. PM10 and PM2.5 are monitored every six days and therefore the number of days exceeded is out of approximately 60 annual samples.

b State standard, not to be exceeded.

c Federal standard, not to be exceeded.

d Based on a sampling schedule of one out of every six days, for a total of approximately 60 samples per year.

e On December 14, 2012, USEPA lowered the federal primary PM2.5 annual standard from 15.0 to 12.0 µg/m3 and future monitoring will be evaluated based on this standard.

f Sulfur dioxide monitoring was terminated in 2009.

SOURCE: California Air Resources Board. 2014. *iADAM: Air Quality Data Statistics Top 4 Summary*. Available: http://www.arb.ca.gov/adam/topfour/topfour1.php>. Accessed: August 1, 2014.

U.S. Environmental Protection Agency. 2013. *Monitor Values Report*. Available: http://www.epa.gov/airdata/ad_rep_mon.html>. Accessed: August 1, 2014.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG, also sometimes referred to as volatile organic compounds or VOC by some regulating agencies) and nitrogen oxides (NOx). The main sources of ROG and NOx, often referred to as ozone precursors, are combustion processes (including 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. Table 4.9-1 shows that, according to published data, the most stringent applicable standards (state 1-hour standard of 9 parts per hundred million [pphm] and the federal 8-hour standard of 8 pphm) were not exceeded in San Francisco between 2009 and 2013.

Carbon Monoxide (CO)

CO is an odorless, colorless gas usually formed as a 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 acceleration. 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 4.9-1, the more stringent state CO standards were not exceeded between 2009 and 2013. Measurements of CO indicate hourly maximums ranging between 9 to 29 percent of the more stringent state standard, and maximum 8-hour CO levels that are approximately 13 to 32 percent of the allowable 8-hour standard.

Particulate Matter (PM10 and PM2.5)

Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from man-made and natural sources. There are ambient air quality standards for two size ranges of particulate matter: PM10 for particles less than 10 microns in diameter, and PM2.5 for particles less than 2.5 microns in diameter. In the Bay Area, motor vehicles generate about one half of the air basin'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 are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to 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 growth in children." 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.[2] Among the criteria pollutants that are regulated, particulates appear to represent a serious ongoing health hazard. As long ago as 1999, the BAAQMD was reporting, in its *CEQA Air Quality Guidelines*, that studies had shown that elevated particulate levels contribute to the death of approximately 200 to 500 people per year in the Bay Area. High levels of particulate matter can exacerbate chronic respiratory ailments, such as bronchitis and asthma, and have been associated with increased emergency room visits and hospital admissions.[3]

PM2.5 is of particular concern because it bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs, resulting in increased asthma symptoms, respiratory infections and decreased pulmonary function and lung development in children.

Table 4.9-1 shows that a violation of the state PM10 standard occurred on one monitored occasion over the past 5 years in San Francisco. It is estimated that the state 24-hour PM10 standard of 50 micrograms per cubic meter ($\mu g/m^3$) was exceeded on up to 6 days per year between 2009 and 2013.[4] BAAQMD began monitoring PM2.5 concentrations in San Francisco in 2002. The federal 24-hour PM2.5 standard was not exceeded until 2006, when the standard was lowered from 65 $\mu g/m^3$ to 35 $\mu g/m^3$. It is estimated that the state 24-hour PM2.5 standard was exceeded on up to 54 days per year between 2009 and 2013. The state annual average standard was not exceeded between 2009 and 2013. In January 2013, USEPA increased the stringency of the PM2.5 standard by lowering it to 12 $\mu g/m^3$. The new standard is consistent with the state's PM2.5 standard.

Nitrogen Dioxide (NO_2)

NO_2 is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. Table 4.9-1 shows that the current state standard for NO_2 is being met in San Francisco. In 2010, USEPA implemented a new 1-hour NO_2 standard presented in Table 4.9-2. ARB recommended

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[2] California Air Resources, Board. 2004. *Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution*. January. Available: <http://www.wrapair.org/forums/amc/documents/PMNAAQS/Health_Effects_of_PM-03fs.pdf>. Accessed: March 3, 2014.

[3] Bay Area Air Quality Management District. 1999. *CEQA Guidelines*. Available: <http://www.baaqmd.gov/Divisions/Planning-and-Research/Planning-Programs-and-Initiatives/~/media/8C1411130E9947DC939B618A43732FCF.ashx>. Accessed: March 3, 2014.

[4] PM10 is sampled every sixth day; therefore, actual days over the standard can be estimated to be six times the numbers listed in the table.

that the SFBAAB be designated as an attainment area for the standard in 2010.[5] This new federal standard was exceeded on one day at the Arkansas Street Station between 2009 and 2013.

Table 4.9-2 State and Federal Ambient Air Quality Standards and SFBAAB Attainment Status

Pollutant	*Averaging Time*	*State (SAAQs[a])*		*Federal (NAAQS[b])*	
		Standard	*Attainment Status*	*Standard*	*Attainment Status*
Ozone	1 hour	0.09 ppm	N	NA	See Note c
	8 hour	0.070 ppm	U[d]	0.075 ppm	N/Marginal
Carbon Monoxide (CO)	1 hour	20 ppm	A	35 ppm	A
	8 hour	9.0 ppm	A	9 ppm	A
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	A	0.100 ppm	U
	Annual	0.030 ppm	NA	0.053 ppm	A
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	A	75 ppb	A
	24 hour	0.04 ppm	A	0.14 ppm	A
	Annual	NA	NA	0.030 ppm	A
Particulate Matter (PM10)	24 hour	50 µg/m^3	N	150 µg/m^3	U
	Annual[e]	20 µg/m^3 [f]	N	NA	NA
Fine Particulate Matter (PM2.5)	24 hour	NA	NA	35 µg/m^3	N
	Annual	12 µg/m^3	N	12.0 µg/m^3 [g]	A
Sulfates	24 hour	25 µg/m^3	A	NA	NA
Lead	30 day	1.5 µg/m^3	A	NA	NA
	Cal. Quarter	NA	NA	1.5 µg/m^3	A
	Rolling 3-Month Average	NA	NA	0.15 µg/m^3	NA
Hydrogen Sulfide	1 hour	0.03 ppm	U	NA	NA
Visibility-Reducing Particles	8 hour	See Note h	A	NA	NA

[5] California Air Resources Board. 2011. *Recommended Area Designations for the 2010 Nitrogen Dioxide Standards, Technical Support Document*. January. Available: <http://www.airquality.org/plans/federal/no2/NO2Enclosure_1.pdf>. Accessed: March 3 ,2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, in Case File No. 2010.0515E.

Table 4.9-2 State and Federal Ambient Air Quality Standards and SFBAAB Attainment Status

NOTES:

A = Attainment; N = Nonattainment; U = Unclassified; NA = Not Applicable, no applicable standard; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

a SAAQS = state ambient air quality standards (California). SAAQS for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), 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 NAAQs = 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 0.08 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 PM2.5 standard is attained when the three-year average of the 98th percentile is less than the standard.

c The United States Environmental Protection Agency (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 = annual geometric mean; national standard = annual arithmetic mean.

f In June 2002, The California Air Resources Board (ARB) established new annual standards for PM2.5 and PM10.

g On December 14, 2012, USEPA lowered the federal primary PM2.5 annual standard from 15.0 to 12.0 µg/m3. The new annual standard became effective 60 days after publication in the Federal Register, which was published on January 15, 2013. The USEPA anticipates making initial attainment/nonattainment designations by December 2014, with those designations likely becoming effective in early 2015.

h 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.

SOURCE: Bay Area Air Quality Management District. 2013. *Ambient Air Quality Standards*. Available: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>. Accessed: March 3, 2014.

USEPA has also established requirements for a new monitoring network to measure NO_2 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. These monitors were required to be deployed by January 2013. However, USEPA updated the implementation date for the monitors in March 2013. Two of the monitors are now required to be deployed by January 2014 and the third is required by January 2015.[6] The new monitoring data may result in a need to change area designations in the future. ARB will revise the area designation recommendations, as appropriate, once the new monitoring data become available.

Sulfur Dioxide (SO_2)

SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels, such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute

[6] Bay Area Air Quality Management District. 2013. *2012 Air Monitoring Network Plan*. July. Available: <http://www.baaqmd.gov/~/media/Files/Technical%20Services/2012_Network_Plan.ashx>. Accessed: March 3, 2014.

and chronic respiratory disease.[7] Table 4.9-1 shows that the state standard for SO_2 is being met in the Bay Area, and pollutant trends suggest that the air basin will continue to meet this standard for the foreseeable future. Monitoring data are not available after 2009, because SO_2 monitoring at the 16th and Arkansas Streets station was discontinued in 2009.

In 2010, USEPA implemented a new 1-hour SO_2 standard presented in Table 4.9-2. 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 new federal standard for NO_2, USEPA established requirements for a new monitoring network to measure SO_2 concentrations to be operational by January 2013.[8] However, because the BAAQMD has never had a non-attainment designation for SO_2, no additional monitoring requirements are required for SO_2.[6]

Lead

Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses, cars), smelters (metal refineries), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects, which puts children 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, USEPA strengthened the national ambient air quality standard for lead by lowering it from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$. 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.[9]

Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they

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[7] Bay Area Air Quality Management District. 2012. *CEQA Air Quality Guidelines*. May. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en>. p. C-16. Accessed: March 3, 2014.

[8] U.S. Environmental Protection Agency. 2014. *Fact Sheet: Revisions to the Primary National Ambient Air Quality Standard, Monitoring Network, and Data Reporting Requirements for Sulfur Dioxide*. Available: <http://www.epa.gov/air/sulfurdioxide/pdfs/20100602fs.pdf>. Accessed: March 3, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, in Case File No. 2010.0515E.

[9] U.S. Environmental Protection Agency. 2014. *Fact Sheet Revisions to Lead Ambient Air Quality Monitoring Requirements*. Available: <http://www.epa.gov/air/lead/pdfs/Leadmonitoring_FS.pdf>. Accessed: March 3, 2014.

present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

Construction activities typically require the use of heavy-duty diesel vehicles and equipment, which emit DPM, an identified TAC. 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 roadways. Other sources of health risks and hazards include gas stations, stationary diesel engines (i.e., backup generators), dry cleaners, crematories, spray booths, diesel-fueled railroads, major ports, railyards, airports, oil refineries, power plants, and cement plants.[10]

TACs do not have ambient air quality standards, but are regulated by 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, to provide quantitative estimates of health risks.[11]

In addition to monitoring criteria pollutants, both BAAQMD and ARB operate TAC monitoring networks in the SFBAAB. 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 ambient air and, therefore, tend to produce the greatest health risk. The BAAQMD operates an ambient TAC monitoring station at its 16th and Arkansas streets facility, which is the only monitoring site for air toxics in the City. Table 4.9-3 shows ambient concentrations of carcinogenic TACs measured at the 16th and Arkansas Streets station, as well as the estimated cancer risks from a lifetime exposure (70 years) to these substances. When TAC measurements at this 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 station do not appear to be any greater than for the Bay Area as a region.

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[10] Bay Area Air Quality Management District. 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Risk%20Modeling%20Approach%20May%202012.ashx?la=en>. Accessed: March 3, 2014.

[11] 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 suggest a potential public health risk; then the applicant is subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, calculating the increased risk of cancer as a result of exposure to one or more TACs.

Table 4.9-3 Annual Average Ambient Concentrations of Carcinogenic toxic air contaminants Measured at 16th and Arkansas Streets Station

Substance	*Concentration*	*Cancer Risk per Million*[a]
Gaseous TACs	*(ppb)*	
Acetaldehyde	0.68	3
Benzene	0.23	21
1,3-Butadiene	0.044	17
para-Dichlorobenzene	ND	ND
Carbon Tetrachloride	0.088	23
Formaldehyde	1.32	10
Perchloroethylene	0.018	0.7
Methylene Chloride	0.12	0.4
Chloroform	0.023	0.6
Trichloroethylene	0.01	0.1
Particulate TACs	(ng/m^3)	
Chromium (Hexavalent)	0.05	8
Total Risk for All TACs		73.8

NOTES:
TACs = toxic air contaminants; BAAQMD = Bay Area Air Quality Management District; ppb = part per billion; ng/m^3 = nanograms per cubic meter.
a Cancer risks were estimated by applying published unit risk values to the measured concentrations.
SOURCE: California Air Resources Board. 2011. *Ambient Air Toxics Summary-2011*. Available: <http://www.arb.ca.gov/aaqm/toxics.htm>. Accessed: March 3, 2014.
b ND: No data

Roadway-Related Pollutants

Motor vehicles are responsible for a large share of air pollution, especially in California. Vehicle tailpipe emissions contain diverse forms of particles and gases and also contribute to particulates by generating road dust and through tire wear. Epidemiologic studies[12] have demonstrated that people living in proximity to freeways or busy roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in children. Air pollution monitoring conducted in conjunction with epidemiologic studies has confirmed that roadway-related health effects vary with modeled exposure to particulate matter and nitrogen dioxide. In traffic-related studies, the additional non-cancer health

[12] San Francisco Department of Public Health. 2008. *Assessment and Mitigation of Air Pollutant Health Effect from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review*. May. p. 7. Available: <http://www.sfphes.org/component/jdownloads/finish/3-air/90-assessment-and-mitigation-of-air-pollutant-health-effects-from-intra-urban-roadways-guidance-for-land-use-planning-and-environmental-review/0?Itemid=62>. Accessed: March 3, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, in Case File No. 2010.0515E.

risk attributable to roadway proximity was seen within 1,000 feet of the roadway and was strongest within 300 feet.[13] In 2008, the City of San Francisco adopted amendments to the *San Francisco Health Code* (discussed in Section 5.9, *Air Quality*), requiring new residential projects near high-volume roadways to be screened for particulate matter exposure hazards and, where indicated, to conduct an analysis of exposure and to reduce indoor particulate matter exposure through building design and ventilation.

Diesel Particulate Matter (DPM)

ARB identified diesel particulate matter (DPM) as a toxic air contaminant in 1998, primarily based on evidence demonstrating cancer effects in humans. 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. ARB estimated that the average Bay Area cancer risk from exposure to diesel particulate, based on a population-weighted average ambient diesel particulate concentration, is about 480 in one million, as of 2000, which is much higher than the risk associated with any other toxic air pollutant routinely measured in the region. The statewide risk from DPM, as determined by ARB, declined from 750 in one million in 1990 to 570 in one million in 1995; by 2000, ARB estimated the average statewide cancer risk from DPM at 480 in one million.[14,15]

In 2000, ARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Subsequent ARB regulations apply to new trucks and to diesel fuel. With new controls and fuel requirements, 60 trucks built in 2007 would have the same particulate exhaust emissions as one truck built in 1988.[16] The regulation is anticipated to result in an 80-percent decrease in statewide diesel health risk in 2020 as compared to the diesel risk in 2000. Despite notable emission reductions, ARB recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary, ARB's position is that infill development, mixed use, higher density, transit-oriented development, and

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[13] California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April. p. 6. Available: <http://www.arb.ca.gov/ch/handbook.pdf>. Accessed: March 3, 2014.

[14] California Air Resources Board. 2009. *California Almanac of Emissions and Air Quality-2009 Edition*, Table 5-44 and Figure 5-12. Available: <http://www.arb.ca.gov/aqd/almanac/almanac09/chap509.htm>. Accessed: March 3, 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 38 percent for females and 44 percent for males, according to the American Cancer Society. (American Cancer Society. 2013. *Lifetime Probability of Developing or Dying from Cancer*. September 05. Available: <http://www.cancer.org/cancer/cancerbasics/lifetime-probability-of-developing-or-dying-from-cancer>.

[16] Pollution Engineering. 2006. *New Clean Diesel Fuel Rules Start*. July. Available: <http://www.pollutionengineering.com/articles/85480-new-clean-diesel-fuel-rules-start>. Accessed: March 3, 2014.

other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level.[17]

Naturally Occurring Asbestos

As noted in Section 4.16, *Geology and Soils*, serpentine bedrock is present on existing cut slopes and in sporadic outcrops within and immediately adjacent to the site. The most extensive areas of serpentine outcrops occur as linear features on the south side of 26th Street, on the west side of Wisconsin Street south of Carolina Street, along 23rd Street, and along Texas Street. Serpentine bedrock is also in underlying materials at a minimum depth of 2.5 feet below ground surface and at maximum depths of 11 to 15 feet in the area of fill along Connecticut Street.[18] Serpentine rock can contain concentrations of naturally occurring asbestos (NOA)[19] at concentrations less than one percent and up to approximately 25 percent. Laboratory analysis indicates that the serpentine bedrock at the Project site contains chrysotile, a mineral found in asbestos, as a result of the weathering of serpentine found within the underlying Franciscan bedrock.[20]

As long as chrysotile and other asbestos minerals are not disturbed and fibers are not released into the air, no health risk exists. However, through construction activities, such as excavation and grading, as well as natural weathering processes, NOA can be released into the air. Exposure to airborne asbestos fibers from NOA may result in lung disease or other pulmonary complications.

Sensitive Receptors

Air quality does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Population subgroups sensitive to the health effects of air pollutants include the elderly and the young; population subgroups with higher rates of respiratory disease, such as asthma and chronic obstructive pulmonary disease; and populations with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases. BAAQMD defines sensitive receptors as children, adults, and seniors occupying or residing in residential dwellings, schools, colleges and universities, day care, hospitals, and senior-care facilities. Workers are not considered sensitive receptors because all

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[17] California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April. p. 6. Available: <http://www.arb.ca.gov/ch/handbook.pdf>. Accessed: March 3, 2014.

[18] ENGEO Incorporated. 2009. *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA, Figure 5.* July 10. (See Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[19] "Asbestos" is a term used for several types of naturally occurring fibrous minerals found in many parts of California.

[20] ENGEO Inc. 2009. *Geotechnical Exploration, Potrero Annex and Terrace Redevelopment San Francisco, CA*. July 10. San Francisco, CA. (See Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

employers must follow regulations set forth by the Occupation Safety and Health Administration (OSHA) to ensure the health and well-being of their employees.[21]

As discussed in Chapter 2, *Project Alternatives and Project Description*, the Project area has residential and school/daycare land uses both on the Project site and adjacent to it. The closest school is Starr King Elementary School, located approximately 60 feet west of the Project site directly across Wisconsin Street. Residential land uses surround the Project site to the west, west of Wisconsin Street, and to the north, north of 23rd Street and to the north along both the east and west sides of Missouri Street. The nearest residential receptors are located adjacent to the Project boundaries, just east of Wisconsin Street. Additionally, there are residential land uses east of Texas Street and north of 25th Street that would be adjacent to construction activities.

Existing Stationary Sources of Local Air Pollution

While most of San Francisco is endowed with good air quality, portions of the City that are close to freeways, busy roadways, and other sources of air pollution experience much higher concentrations of air pollutants. These air pollution exposure areas result in additional health risks for affected populations.

In an effort to identify air pollution exposure areas, San Francisco has partnered with the BAAQMD to inventory and assess air pollution and exposures from mobile, stationary, and area sources within San Francisco. This modeling effort includes dispersion modeling of emissions from the primary sources of air pollutants in San Francisco and therefore, represents a comprehensive assessment of cumulative exposures to air pollution throughout the City. The BAAQMD has conducted dispersion modeling using AERMOD[22] to assess the emissions from the following primary sources: roadways, permitted stationary sources, port and maritime sources, and Caltrain. PM10, PM2.5, and total organic gases (TOG) were modeled on a 20 meter by 20 meter receptor grid covering the entire City.[23]

Using the citywide air pollution model, areas with higher concentrations of TACs, termed the "air pollution exposure zone," were 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

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[21] Bay Area Air Quality Management District. 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Risk%20Modeling%20Approach%20May%202012.ashx?la=en>. Accessed: March 3, 2014.

[22] AERMOD is the USEPAs preferred/recommended steady state air dispersion plume model. For more information on AERMOD and to download the AERMOD Implementation Guide, see: <http://www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod>.

[23] Bay Area Air Quality Management District, San Francisco Department of Public Health, and San Francisco Planning Department. 2012. *The San Francisco Community Risk Reduction Plan: Technical Support Documentation.* December. San Francisco, CA.

persons exposed, and (2) cumulative PM2.5 concentrations in excess of 10 μg/m^3. These criteria are further discussed in Section 5.9 *Air Quality*.

The Project site is located in an area with relatively low annual average PM2.5 concentrations: annual average PM2.5 concentrations are less than 9 μg/m^3. Cancer risk near the Project site is also relatively low, with a risk of less than 50 cases per 1,000,000. These indicators suggest that there are relatively few sources that contribute to PM2.5 concentrations and excess cancer risk.

Odor Emissions

Odor sources include land uses such as wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants. The Project site is approximately 0.6 mile northwest of the Southeast Treatment Plant, a large wastewater treatment plant that handles approximately 80 percent of San Francisco's wastewater.[24] This distance (0.6 mile) would be the shortest distance between the Project area and treatment plant, and was measured using the straight line distance between the residential units at the corner of 26th Street and Connecticut Street and the northern most wastewater clarifier at the Southeast Treatment Plant, where partially treated wastewater sits uncovered. The entire Project area would be within 1 mile of the nearest wastewater clarifier.

The topography between the treatment plant and the Project area is relatively flat, with an elevation profile that increases by approximately 45 feet from the treatment plant northward to the southern boundary of the Project area. The elevation profile of the Project area then becomes more dramatic, increasing by 250 feet between the southern and northern boundaries of the Project area, which is a distance of approximately 0.4 mile from the treatment plant.

The landscape of the area between the Project area and treatment plant consists of commercial and industrial buildings, parking lots, vehicle storage yards, local roads, a major interstate (I-280), and a narrow branch of San Francisco Bay. There is little vegetated or natural land between the Project area and the treatment plant.

The predominant wind direction in the area of the Southeast Treatment Plant is from the west and southwest.

Odor Complaint History of the Southeast Treatment Plant

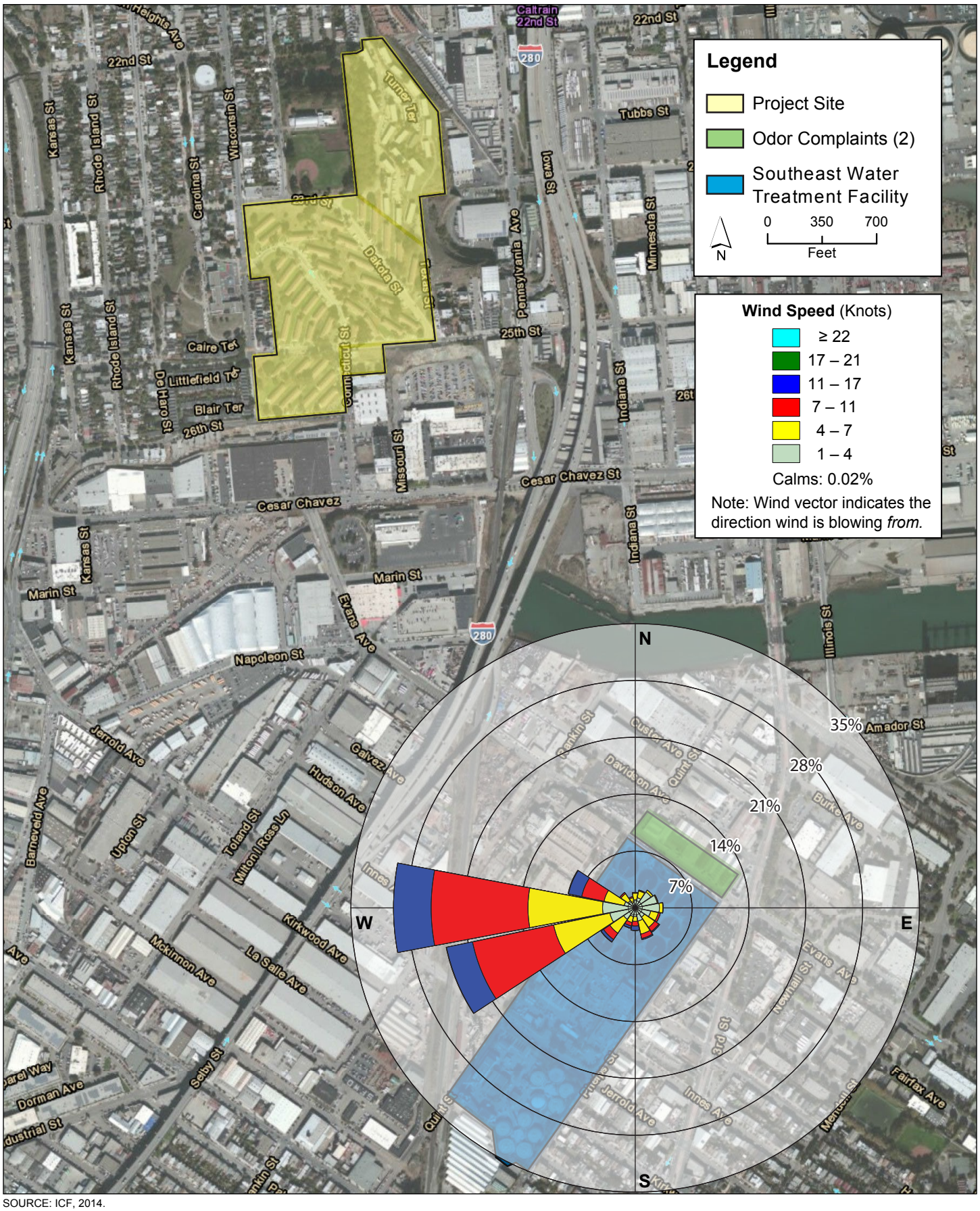
The odor complaint history of the Southeast Treatment Plant was obtained from the BAAQMD, and it was found that there have been three confirmed complaints associated with the treatment plant between 2011 and 2013. All three complaints were received by the BAAQMD in 2012. Two

[24] San Francisco Public Utilities Commission. 2014. *Southeast Treatment Plant*. Available: <http://sfwater.org/index.aspx?page=616>. Accessed: March 3, 2014.

complaints occurred from complainants on the 1600 block of Evans Avenue in San Francisco, and the location of the third complainant is unknown.

The two complaints that originated from the 1600 block of Evans Avenue are adjacent to the Southeast Treatment Plant. The façade of the buildings on the 1600 block of Evans Avenue are within 200 feet to the northeast of the wastewater clarifiers at the treatment plant. There is a fence around the treatment plant that is approximately 8 to 10 feet high that separates the wastewater clarifiers from the buildings. The land between the clarifiers and the buildings along the 1600 block of Evans Avenue is flat and includes landscaped grass and paved surface. In addition, meteorological data at the nearest weather station indicates that the prevailing wind direction in the area is from the west/southwest.

Figure 4.9-1 shows the prevailing wind direction, the locations of the treatment plant, confirmed complaints associated with the treatment plant, and the Project site. Although there have been three confirmed complaints associated with the Southeast Treatment Plant over the previous five years, the location of one confirmed complaint is unknown; thus, only two confirmed complaints are shown in Figure 4.9-1.



SOURCE: ICF, 2014.

FIGURE 4.9-1: CONFIRMED ODOR COMPLAINTS ASSOCIATED WITH THE SOUTHEAST TREATMENT PLANT AND PREDOMINANT WIND DIRECTION IN THE PROJECT VICINITY

4.10 GREENHOUSE GAS EMISSIONS

4.10.1 Introduction

This section provides a description of global climate change, greenhouse gas (GHG) emissions, the existing regulatory framework governing GHG emissions, and an analysis of the impacts related to GHGs associated with development of the Proposed Project. The Proposed Project's GHG emissions are evaluated based on compliance with plans and policies adopted for the purpose of reducing GHG emissions, namely the City's local GHG reduction plan, *Strategies to Address Greenhouse Gas Emissions*.[1] Comments regarding tree removal were submitted during the Notice of Preparation (NOP) and Notice of Intent (NOI) scoping periods. This issue is addressed in Section 5.10, *Greenhouse Gas Emissions*.

4.10.2 Environmental Setting

Sources of Greenhouse Gas Emissions

Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as the driving force for global climate change. The primary GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone, and water vapor. Black carbon has recently emerged as a major contributor to global climate change, possibly second only to CO_2.

Individual projects contribute to the cumulative effects of climate change by emitting GHGs during demolition, construction, and operational phases. While the presence of the primary GHGs in the atmosphere is naturally occurring, CO_2, CH_4, and N_2O are largely emitted from human activities, accelerating the rate at which these compounds accumulate in the earth's atmosphere. Emissions of CO_2 are largely byproducts of fossil fuel combustion, whereas CH_4 is a component of natural gas and also a byproduct of off-gassing associated with agricultural practices and landfills. Black carbon is produced naturally and by human activities as a result of the incomplete combustion of fossil fuels, biofuels, and biomass.[2] N_2O is a byproduct of various industrial processes and has a number of uses, including use as an anesthetic and as an aerosol propellant. Other GHGs include

[1] City and County of San Francisco. 2010. *Strategies to Address Greenhouse Gas Emissions*. November. Available: <http://sfmea.sfplanning.org/GHG_Reduction_Strategy.pdf>. Accessed August 22, 2012.

[2] Center for Climate and Energy Solutions. 2010. *What is Black Carbon?* April. Available: <http://www.c2es.org/docUploads/what-is-black-carbon.pdf>. Accessed: August 24, 2012.

hydrofluorocarbons (HFCs), perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. GHGs are typically reported in "carbon dioxide equivalent" (CO_2E) measures.[3]

Potential Effects of Human Activity on GHG Emissions

There is international scientific consensus that human-caused increases in GHGs have contributed and will continue to contribute to global warming, although there is uncertainty concerning the magnitude and rate of the warming. Many impacts resulting from climate change, including increased fires, sea level rise, floods, severe storms, and heat waves, already occur and will only become more frequent and more costly.[4] Secondary effects of climate change are likely to include impacts to agriculture, water resources, the state's electricity system, and native freshwater fish ecosystems, an increase in the vulnerability of levees in the Sacramento–San Joaquin Delta, changes in disease vectors, and changes in habitat and biodiversity.[5,6]

Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions (and, thus, substantial increases in atmospheric concentrations). Atmospheric CO_2 concentrations have increased by 40 percent above pre-industrial concentrations.[7]

As the California Air Resources Board's (ARB) Climate Change Scoping Plan noted, in enacting Assembly Bill (AB) 32, the legislature found that global warming would cause detrimental effects to some of the state's largest industries, including agriculture, winemaking, tourism, skiing, commercial and recreational fishing, forestry, and electrical power generation. The Climate Change Scoping Plan states:[8]

> "The impacts of global warming are already being felt in California. The Sierra snowpack, an important source of water supply for the state, has shrunk 10 percent in the last 100

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[3] Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in terms of "carbon dioxide-equivalent" (CO_2E) to account for each gas's heat absorption or global warming potential.

[4] State of California. 2012. *California Climate Change Portal*. Available: <http://www.climatechange.ca.gov/>. Accessed: September 25, 2012.

[5] State of California. 2012. *California Climate Change Portal*. Available: <http://www.climatechange.ca.gov/>. Accessed: September 25, 2012.

[6] California Climate Change Center. 2012. *Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California*, CEC-500-2012-007. July. Available: <http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf>. Accessed: August 21, 2012.

[7] Intergovernmental Panel on Climate Change. 2013. Climate Change 2013: The Physical Science Basis – Summary for Policy Makers. Page 11. Available: <http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf >. Accessed: August 5, 2014.

[8] California Air Resources Board. 2011. *Climate Change Scoping Plan*. Adopted December 11, 2008; re-approved August 24, 2011. Sacramento, CA. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, in Project Case File No. 2010.0515E.

years. It is expected to continue to decrease by as much as 25 percent by 2050. Worldwide changes are causing sea levels to rise—about 8 inches of increase has been recorded at the Golden Gate Bridge over the past 100 years—threatening low coastal areas with inundation and serious damage from storms."

Impacts of Climate Change

Ecosystem and Biodiversity Impacts

Climate change affects diverse types of ecosystems, from oceans to forests.[9] As temperatures and precipitation change, seasonal shifts in vegetation would occur; this could affect the distribution of associated flora and fauna species. As the range of species shifts, habitat fragmentation could occur, with acute impacts on the distribution of certain sensitive species. The Intergovernmental Panel on Climate Change states that "20 percent to 30 percent of species assessed may be at risk of extinction from climate change impacts within this century if global mean temperatures exceed 2 to 3°C (3.6 to 5.4°F) relative to pre-industrial levels."[10] Shifts in existing biomes could also make ecosystems vulnerable to encroachment by invasive species. Wildfires, which are an important control mechanism in many ecosystems, may become more severe and more frequent, making it difficult for native plant species to repeatedly re-germinate. In general terms, climate change is expected to put a number of stressors on ecosystems, with potentially catastrophic effects on biodiversity.

Human Health Impacts

Climate change may increase the risk of vector-borne infectious diseases, particularly those found in tropical areas and spread by insects such as malaria, dengue fever, yellow fever, and encephalitis.[11] Cholera, which is associated with algal blooms, could also increase. While these health impacts would largely affect tropical areas in other parts of the world, effects would also be felt in California. Warming of the atmosphere would be expected to increase smog and particulate pollution, which

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[9] Michelle D. Staudinger, Nancy B. Grimm, Amanda Staudt, Shawn L. Carter, F. Stuart Chapin III, Peter Kareiva, Mary Ruckelshaus, Bruce A. Stein. 2012. *Impacts of Climate Change on Biodiversity, Ecosystems, and Ecosystem Services: Technical Input to the 2013 National Climate Assessment*. Cooperative Report to the 2013 National Climate Assessment. 296 p. Available: <http://assessment.globalchange.gov>. Accessed: March 2, 2014.

[10] Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.)]. Cambridge University Press, Cambridge, United Kingdom. Available: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4_wg2_full_report.pdf>. Accessed: March 2, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, in Project Case File No. 2010.0515E.

[11] Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.)]. Cambridge University Press, Cambridge, United Kingdom. Available: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4_wg2_full_report.pdf>. Accessed: March 2, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, in Project Case File No. 2010.0515E.

could adversely affect individuals with respiratory problems, such as asthma[12]. Extreme heat events would also be expected to occur with more frequency and could adversely affect the elderly, children, and the homeless[13]. Finally, the water supply impacts and seasonal temperature variations expected as a result of climate change, could affect the viability of existing agricultural operations, making the food supply more vulnerable.[14]

Greenhouse Gas Emissions Estimates

Global Emissions

Worldwide emissions of GHGs in 2005 were 39 billion tons of CO_2E per year.[15] This includes both ongoing emissions from industrial and agricultural sources but excludes emissions from land use changes.

U.S. Emissions

In 2009, the United States emitted about 6.7 billion tons of CO_2E or about 21 tons per year per person. Of the four major sectors nationwide — residential, commercial, industrial, and transportation — transportation accounts for the highest fraction of GHG emissions (approximately 33 percent); these emissions are entirely generated from direct fossil fuel combustion.[16]

State of California Emissions

The ARB estimated that in 2010 California produced about 452 million gross metric tons ($MMTCO_2E$; about 498 million U.S. tons) of CO_2E.[17] The ARB found that transportation is the source of 38 percent of the state's GHG emissions, followed by electricity generation (both in-state and out-

[12] U.S. Environmental Protection Agency. 2013. Climate Change – Impacts & Adaptation – Human Health. Available: <http://www.epa.gov/climatechange/impacts-adaptation/health.html>. Accessed: August 5, 2014.

[13] Centers for Disease Control. Climate Change and Extreme Heat Events. Available: <http://www.cdc.gov/climateandhealth/pubs/ClimateChangeandExtremeHeatEvents.pdf>. Accessed: August 5, 2014.

[14] Food and Agriculture Organization of the United Nations. 2011. Climate Change, Water and Food Security. Available: <http://www.fao.org/docrep/014/i2096e/i2096e.pdf>. Accessed: August 5, 2014.

[15] United States Environmental Protection Agency. 2013. *Climate Change Indicators in the United States, Global Greenhouse Gas Emissions*. Available: <http://www.epa.gov/climatechange/science/indicators/ghg/global-ghg-emissions.html>. Accessed: April 29, 2013. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, in Project Case File No. 2010.0515E.

[16] United States Environmental Protection Agency. 2011. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2009; Executive Summary*. Available: <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2011-Executive-Summary.pdf>. Accessed: March 3, 2014. This document is available for review at the Planning Department, 1650 Mission Street, San Francisco, California, Suite 400, in Project Case File No. 2010.0515E.

[17] The abbreviation for "million metric tons" is MMT; thus, "million metric tons of CO_2 equivalents is written as $MMTCO_2E$.

of-state) at 21 percent and industrial sources at 19 percent. Commercial and residential fuel use (primarily for heating) accounted for 10 percent of GHG emissions.[18]

Bay Area Emissions

In San Francisco, on-road transportation (vehicles on highways, city streets, and other paved roads) and natural gas (consumption for residential, commercial, and industrial use) sectors were the two largest sources of GHG emissions, accounting for approximately 40 percent (2.1 $MMTCO_2E$) and 29 percent (1.5 $MMTCO_2E$), respectively, of San Francisco's 5.3 $MMTCO_2E$ emitted in 2010. Electricity consumption (residential, commercial, municipal buildings, and BART and Muni transportation systems) accounts for approximately 25 percent (1.3 $MMTCO_2E$) of San Francisco's GHG emissions.[19]

Electricity in San Francisco is currently primarily provided by Pacific Gas & Electric (PG&E) and the San Francisco Public Utilities Commission (SFPUC). In 2010, electricity consumption in San Francisco was approximately 6.1 million megawatt-hours (MWh), accounting for approximately 25 percent (1.3 $MMTCO_2E$) of San Francisco's total 2010 GHG emissions. Of those totals, PG&E produces approximately 73 percent of electricity distributed (4.5 million MWh), accounting for approximately 79 percent (1.1 $MMTCO_2E$) of GHG emissions, and the SFPUC produces approximately 14 percent (0.9 million MWh) of electricity distributed, accounting for 0.01 percent (12,489 $MTCO_2E$) of GHG emissions.[20,21]

In 2010, PG&E's total power mix was as follows: 20 percent natural gas, 24 percent nuclear, 16 percent eligible renewables (described below), 16 percent large hydroelectric, 23 percent unspecified power, one percent coal, and one percent other fossil fuels.[22] Pending California Public Utilities Commission approval, PG&E would include a "Green Option" program that would allow

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[18] California Air Resources Board. 2013. *California Greenhouse Gas Inventory for 2000-2010—by Category as Defined in the Scoping Plan*. Available: <http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-10_2013-02-19.pdf>. Accessed: April 29, 2013. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, in Project Case File No. 2010.0515E.

[19] California Air Resources Board. 2013. *California Greenhouse Gas Inventory for 2000-2010—by Category as Defined in the Scoping Plan*. Available: <http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-10_2013-02-19.pdf>. Accessed: April 29, 2013. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, in Project Case File No. 2010.0515E.

[20] San Francisco Department of Environment (DOE), *San Francisco Climate Action Strategy, 2013 Update*.

[21] Bay Area Air Quality Management District. 2008. *Source Inventory of Bay Area Greenhouse Gas Emissions: Base Year 2007*. December. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Emission%20Inventory/regionalinventory2007_003_000_000_000.ashx>. Accessed: March 3, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, in Project Case File No. 2010.0515E.

[22] Pacific Gas & Electric (PG&E), "PG&E's 2010 Electric Power Mix Delivered to Retail Customers." Available: <http://www.pge.com/myhome/edusafety/systemworks/electric/energymix/>. Accessed: June 10, 2013 (2013a).

customers an opportunity to pay into a program that may lead to the development of up to 250 MW of new clean energy projects in the PG&E service area.[23]

SFPUC provides energy supplies produced from three hydroelectric power plants that the SFPUC owns and operates in association with San Francisco's Hetch Hetchy water supply and distribution system. This system has the lowest GHG emissions of any large electric utility in California and currently supplies electricity for use by Muni, city buildings, and a limited number of other commercial accounts.[24]

[23] PG&E, "New Green Option (Community Solar) FAQ." Available: <http://www.pge.com/about/environment/pge/greenoption/faq/>. Accessed: June 10, 2013 (2013b).

[24] San Francisco Public Utilities Commission (SFPUC), "Agenda Item No 20, Adopt an Enforcement Program as required under the California Renewable Energy Resources Act," December 13, 2011. Available: <http://www.energy.ca.gov/portfolio/rps_pou_reports.html>. Accessed: June 10, 2013.

4.11 WIND AND SHADOW

4.11.1 Introduction

This section describes the wind and shadow setting in San Francisco and the Project area. Because wind and shadow contribute substantially to the San Francisco environment and can be highly susceptible to an impact from development, these issues are analyzed as part of CEQA review in San Francisco. Several wind-related issues were raised during the Notice of Preparation (NOP) and scoping period. Specifically, comments were made regarding new wind patterns resulting from a realigned street grid, wind resulting from taller buildings on the site, and shadow effects on existing off-site residential uses on 25th Street and at the intersection of 25th and Wisconsin Streets. No comments related to wind and shadow were received during the Notice of Intent (NOI) scoping period. These areas of concern will be addressed in Section 5.2, *Land Use and Planning*.

4.11.2 Environmental Setting

Wind

Existing Climate and Wind Conditions

The difference in atmospheric pressure between two points on the earth causes air masses to move from the area of higher pressure to the area of lower pressure. This movement of air masses results in wind currents. Meteorological data measured at the San Francisco Airport and averaged from 2006 to 2013 shows that winds from the northwest, west-northwest, west, and west-southwest, reflecting the persistence of sea breezes, are the most prevalent in San Francisco. Wind direction is most variable during the winter, when strong southerly winds, which are frequent during the approach of a winter storm, occur. Average wind speeds are highest during the summer and lowest during the winter. Typically, the highest wind speeds occur during the mid-afternoon and the lowest wind speeds occur during the early morning.

Buildings and Wind Speed

The direction and speed of wind currents can be altered by natural features of the land or by buildings and structures. Groups of buildings clustered together tend to act as obstacles that reduce wind speeds; the heights, massing, and orientations or profiles of the buildings are some of the factors that can affect wind speeds.

When a building is much taller than those around it, it can intercept and redirect winds downward that might otherwise flow overhead. The winds can be directed down the vertical face of the building to ground level, and these redirected winds can be relatively strong and relatively turbulent.

The massing of a building can affect wind speeds. In general, slab-shaped buildings have the greatest potential to accelerate ground-level winds, while buildings that have unusual shapes or are more geometrically complex tend to have lesser effects.

The orientation or profile of a building can also affect wind speeds. When the wide face of a building, as opposed to its narrow face, is oriented toward the prevailing wind direction, the building has more surface area to intercept and redirect winds down to ground level.

Wind Speed and Pedestrian Comfort

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 winds from 4 to 8 mph, wind is felt on the face. Winds from 8 to 13 mph will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole. Winds from 13 to 19 mph will raise loose paper, dust, and dry soil, and will disarrange hair. With winds from 19 to 26 mph, the force of the wind will be felt on the body. With 26 to 34 mph winds, umbrellas are used with difficulty, walking steadily is difficult, and wind noise is unpleasant. Winds over 34 mph increase difficulty with balance and gusts can be hazardous and can blow people over.

Winds vary at pedestrian levels within a city. In San Francisco, wind strength is generally greater, on average, along streets that run east-west as buildings tend to channel westerly winds along these streets. Streets running north-south tend to have lighter winds, on average, due to the shelter offered by buildings on the west side of the street. The Potrero Hill neighborhood is mainly on a north-south and east-west grid.

Shadow

Shadow Terminology

Shadow is an important environmental issue because the users or occupants of certain land uses, such as residential, recreational/parks, churches, schools, outdoor restaurants, and pedestrian areas have some reasonable expectations for direct sunlight and warmth from the sun. These land uses are termed "shadow-sensitive." Shadow lengths are dependent on the height and size of the building or object from which they are cast and the angle of the sun. The angle of the sun varies with the time of day and change in seasons. The longest shadows are cast during the winter months and the shortest shadows are cast during the summer months.

In San Francisco, the presence of the sun's warming rays is essential to enjoying open space. Climatic factors, including ambient temperature, humidity, and wind, often combine to create a comfortable climate only when direct sunlight is present. Therefore, the shadows created by new development can critically diminish the utility of the open space. This problem is more acute in the Downtown area and in adjacent neighborhoods, where there is a limited amount of open space, pressure for new development, and zoning controls that allow tall buildings.

Potrero Hill Recreation Center

Within the Potrero Hill District area[1] there are five children's play areas[2], two dog play areas[3], three community gardens,[4] a recreation center, and open space. Adjacent to the Project site is the Potrero Hill Recreation Center. The entire Potrero Hill Recreation Center is 9.54 acres. As shown in Figure 4.12-1 in Section 4.12, *Recreation*, the Potrero Hill Recreation Center includes the Potrero Hill Children's Play Areas, the Potrero Hill Recreation Center Dog Play Area, the Tot Play Area, baseball/softball/soccer fields, two tennis courts, a basketball court, picnic area, walking paths, and an indoor recreation center that includes an auditorium, stage, and gym with programming for youths, adults, and seniors. Mature trees that vary in height from approximately 10 to 30 feet exist along the perimeter of the park, with large concentrations in the eastern and northern perimeters.

The indoor recreation center is open between 9:00 a.m. and 9:00 p.m., Tuesday through Friday, and on Saturday between 9:00 a.m. and 5:00 p.m. The recreation center and the ball fields are locked and closed on Sunday and Monday; however, during summer the Recreation Center is open Monday between 9:00 a.m. and 5:00 p.m. The Recreation Center buildings and sports fields are locked and closed outside of operating hours. However, the dog play area, children's play areas, tennis courts, and basketball court are not restricted. All park hours are enforced by Park Patrol for the Recreation Center and sports fields.

Additionally, two parks, McKinley Square and Jackson Playground, are located near the Project site. McKinley Square is an approximately 2.81-acre park located 0.40 mile west of the Project site. This park is accessible to the public and includes a playground, dog play area, community garden, and open space. Jackson Playground is an approximately 4.41-acre park located 0.50 mile north of the Project site. This park is also accessible to the public and includes a playground, picnic areas, tennis courts, basketball courts, and two ball fields. McKinley Square and Jackson Playground are not within reach of shadows cast by the current buildings at the Project site. There are no privately-owned public open spaces (POPOS) within the Project vicinity.[5]

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[1] The Potrero Hill District is bordered by 16th Street to the north, Potrero Avenue and U.S. Route 101 (below 20th Street) to the west, Interstate 280 to the east, and Cesar Chavez Street to the south.

[2] The five play areas in the district are Potrero Hill Recreation Center Children's Play Area, Potrero Hill Recreation Center Tot Play Area, Jackson Playground Children's Play Area, Jackson Playground Tot Play Area, and McKinley Square Children's Play Area.

[3] The two dog play areas are Potrero Hill Dog Play Area at Potrero Hill Recreation Center and McKinley Square Dog Play Area.

[4] The three gardens are the Potrero Hill Community Garden located at McKinley Square, the Connecticut Friendship Garden (land owned by the Department of Public Works [DPW]; managed by the Recreation and Park Department [RPD]), and the Arkansas Friendship Garden (land owned by DPW; managed by RPD).

[5] San Francisco Planning Department. 2013. Privately-Owned Public Open Space and Public Art. <http://www.sf-planning.org/index.aspx?page=3339> October. Accessed March 2, 2014.

San Francisco has a temperate climate that allows Potrero Hill Recreation Center's parks tennis courts, basketball courts, baseball fields, and other amenities to be open year-round. According to the Recreation and Park Department, the park and its various amenities generally have a consistent demand throughout the year.[6] However, for some amenities, demand is heavier depending on the season. For example, during the winter, the basketball court in the recreation center building is booked on most days. Similarly, the baseball fields are booked many weekdays and most weekends during the spring and summer baseball season. After-school activity groups and summer camps actively use the Potrero Hill Recreation Center.

Potrero Hill Recreation Center has 1,546,911,552 square feet hours of Theoretically Available Annual Sunlight ("TAAS"), which is the amount of theoretically available sunlight on the park, annually, if there were no shadows from structures, trees, or other facilities. Shadows currently exist on the Potrero Hill Recreation Center, primarily in the morning and midday hours along the southern and western boundaries of the park.[7] The existing shadow load for the Potrero Hill Recreation Center is 155,558,367 square foot hours annually. This is 10.06 percent of the total TAAS for the Potrero Hill Recreation Center.

The existing shadow on the Potrero Hill Recreation Center is caused by the recreation center building located in the park.[8] That building is approximately 25 feet high and casts a shadow across the park throughout the year.[9] In the winter, the residential buildings along Arkansas Street cast a shadow along the western edge of the park that reaches a small part of the ball fields and the children's play area in the northwest corner of the Potrero Hill Recreation Center.

During the spring and autumn, Potrero Hill Recreation Center is sunny from approximately 10:00 a.m. to 5:00 p.m.; however, the toddler play area of the park is shadowed by the recreation center building during the late afternoon and early evening. Existing buildings shadow the walking paths along the northeastern edge of the park during the early morning. At noon and during the afternoon (around 3:00 p.m.), the park is mostly without shadows.

During the summer, Potrero Hill Recreation Center is sunny from approximately 9:00 a.m. to 6:00 p.m.; however, the toddler play area is shadowed by the recreation center building during the late afternoon and early evening. At noon and in the afternoon (3:00 p.m.), the park is mostly without shadows.

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[6] Recreation and Park Department. 2014. Potrero Hill Recreation Center. Personal Communications with front desk attendant. February 27.

[7] The Potrero Hill Recreation Park is 415,680 square feet.

[8] Shadow analysis for the purpose of this document takes into account shadows created by buildings rather than by trees.

[9] CADP. 2014. *Potrero HOPE SF Master Plan EIR/EIS Shadow Analysis*. February. The shadow calculations and diagrams are available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

During the winter, Potrero Hill Recreation Center is mostly sunny from approximately 10:00 a.m. to 3:00 p.m.; however, the toddler play area and walking paths are shadowed by the recreation center building during the early morning, late afternoon, and early evening. The western edge of the park and a small portion of the ball field are shadowed by existing residential buildings along Arkansas Street and 23rd Street during the afternoon and early evening. At noon, open space to the north of the recreation center building is shadowed.

During sunrise on December 20th, open space to the northwest of the recreation center building is shadowed and the walking paths on the northeastern edge of the park are shadowed by existing buildings. During sunrise on September 20th and March 20th, open space to the west of the recreation center building is shadowed and walking paths on the northeastern edge of the park are shadowed by existing buildings.

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4.12 RECREATION

4.12.1 Introduction

This section describes existing recreational facilities in San Francisco and within the vicinity of the Project site. Several recreation issues were raised during the Notice of Preparation (NOP) and Notice of Intent (NOI) scoping periods. Specifically, comments were made regarding the degradation of existing recreational resources, including the neighboring Potrero Hill Recreation Center. These areas of concern will be addressed in this section.

4.12.2 Environmental Setting

For purposes of this Draft EIR/EIS, parks are generally defined as areas of land set aside for various recreational opportunities for the public. Recreational facilities are those structures and/or improvements that are built at parks (e.g., benches, picnic tables, tennis courts, etc.). Open space areas are typically unimproved parkland. Therefore, parks and recreational facilities are typically used interchangeably, whereas open space areas refer to those areas where the land is either kept in its natural state or enhanced in order to return the land to its natural state. However, when calculating the city's overall park acreage, open space areas are considered part of the total.

Citywide Resources

Property in San Francisco that is permanently dedicated to publicly accessible park and recreational uses totals approximately 4,090 acres.[1] According to the 2010 Census, the city had a population of 805,235 residents in 2010,[2] yielding a ratio of approximately 5.08 acres of open space per 1,000 San Francisco residents. The City has not established a citywide target ratio of parkland to residents, nor has it adopted a Quimby Act ordinance requiring land dedications or in-lieu fees, because San Francisco's population density, small land mass, and other development constraints make such policies infeasible.

A majority of local-serving parks and recreation facilities within San Francisco are owned and operated by the San Francisco Recreation and Park Department (SFRPD). The SFRPD maintains over 220 parks, playgrounds, and open spaces throughout the city, which function mainly for neighborhood use. The park system also includes 25 large, full-complex recreation centers, nine

[1] San Francisco Planning Department. 2014. *San Francisco General Plan, Recreation and Open Space Element*. April. Available: http://openspace.sfplanning.org/docs/Recreation-and-Open-Space-Element_APRIL-2014-ADOPTED.pdf>. Accessed: May 22, 2014). This number includes SFRPD, state and federal open space land in the City and County of San Francisco.

[2] U.S. Census Bureau. 2014. *American Fact Finder, 2010 Demographic Profile Data, County of San Francisco*. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.> Accessed February 26, 2014.

swimming pools, and five golf courses, as well as numerous tennis courts, baseball diamonds, athletic fields, and basketball courts. The SFRPD also manages the Marina Yacht Harbor, Candlestick Park, the San Francisco Zoo, and the Lake Merced Community Complex. The SFRPD currently owns and manages a total of approximately 3,433 acres of recreational and open space.[3] The State owns approximately 255 acres at the Candlestick Point State Recreation Area and Mount Sutro Open Space and the federal government owns approximately 1,642 acres, primarily at the Presidio, which are managed by the U.S. Department of Interior's National Park Service (NPS) as part of the Golden Gate National Recreation Area (GGNRA). In addition, there are 560 additional acres of recreation and open space areas within San Francisco including campuses, pilot program schoolyards, SFPUC lands, San Francisco Redevelopment Agency parks, San Francisco Port parks, linear open spaces such as boulevards and parkways, and privately owned, publicly accessible open spaces in Downtown. [4]

The Project site is located in the Tenth Supervisorial District (District 10), within the Potrero Hill neighborhood. The Potrero Hill neighborhood is located on the eastern border of San Francisco. District 10 consists of Bayview-Hunters Point, Candlestick Point, Dogpatch, India Basin, Little Hollywood, McLaren Park, part of the Portola, Potrero Hill, Silver Terrace, Sunnydale and Visitación Valley and includes 458 acres of parks and open space.[5] Due to the scarcity and high cost of vacant land in San Francisco, existing recreation facilities represent a major city resource.[6] As opportunities to acquire new parkland and develop recreation facilities are limited, the Recreation and Open Space Element of San Francisco's General Plan has identified high-need areas which are given highest priority for the construction of new parks and recreation improvements. The Potrero Hill neighborhood has not been identified as high need area in the General Plan.[7]

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[3] San Francisco Recreation and Parks Department. 2014. *Who We Are*. Available: http://sfrecpark.org/about/who-we-are/>. Accessed: January 24, 2013.

[4] San Francisco Planning Department. 2014. *San Francisco General Plan*, *Recreation and Open Space Element*. April. Available: http://openspace.sfplanning.org/docs/Recreation-and-Open-Space-Element_APRIL-2014-ADOPTED.pdf>. Accessed: May 22, 2014. This number includes SFRPD, state and federal open space land in the City and County of San Francisco.

[5] San Francisco Recreation and Parks Department. *Park Index*. Available: http://sfrecpark.org/destinationtype/park/. Accessed May 23, 2014.

[6] San Francisco Planning Department. 2014. *San Francisco General Plan*, *Recreation and Open Space Element*. April. Available: http://openspace.sfplanning.org/docs/Recreation-and-Open-Space-Element_APRIL-2014-ADOPTED.pdf>. Accessed: May 22, 2014. This number includes SFRPD, state and federal open space land in the City and County of San Francisco.

[7] San Francisco Planning Department. 2014. *San Francisco General Plan*, *Recreation and Open Space Element*. April. Available: http://openspace.sfplanning.org/docs/Recreation-and-Open-Space-Element_APRIL-2014-ADOPTED.pdf>. Accessed: May 22, 2014. This number includes SFRPD, state and federal open space land in the City and County of San Francisco.

Nearby and Adjacent Recreational Facilities

Within the Potrero Hill District area are five children's play areas, two dog play areas, three community gardens, a recreation center, and open space. Adjacent to the Project site is the Potrero Hill Recreation Center itself, which measures a total of 9.54 acres, as shown in Figure 4.12-1, and has the Potrero Hill Recreation Center Children's Play Areas (6,223.52 sf), the Potrero Hill Recreation Center Dog Play Area (17,897.88 sf)[8], baseball/softball/soccer fields, two tennis courts, a basketball court, picnic area, walking paths, and an indoor recreation center that includes an auditorium, stage, and gym with programming for youths, adults, and seniors. Mature trees that vary in height from approximately 10 to 30 feet exist along the perimeter of the park, with large concentrations on the eastern and northern perimeters.

The indoor recreation center and fields are open between 9:00 a.m. and 9:00 p.m. Tuesday through Friday, and on Saturday between 9:00 a.m. and 5:00 p.m. Additionally, the indoor recreation center and fields are locked and closed on Sunday and Monday. There is a gate on site restricting access to the fields. In the summer, the indoor recreation center and fields are also open on Mondays between 9:00 a.m. and 6:00 p.m. All park hours are enforced by Park Patrol.

Additionally there are three parks, McKinley Square, Jackson Playground, and the Potrero Hill Mini Park, near the Project site. McKinley Square is an approximately 2.81-acre park, accessible to the public, located approximately 0.40 mile west of the Project site, with a playground, community garden, dog play area, and open space. Jackson Playground is an approximately 4.41-acre park, accessible to the public, located approximately 0.50 mile north of the Project site, with a playground, picnic areas, tennis courts, basketball courts, and two ball fields. The Potrero Hill Mini Park is 0.22-acre and is located at Connecticut Street and 22nd Street. There are two community gardens managed by SFRPD located adjacent to the Potrero Hill Recreation Center. The Arkansas Friendship Garden (5,638.58 sf) is located at Arkansas Street and 22nd Street and the Connecticut Friendship Garden (5,903.56 sf) is located at Connecticut Street and 22nd Street.

San Francisco has a temperate climate that allows the park's tennis courts, basketball courts, baseball fields, and other amenities to be open year-round. The fields at Potrero Hill Recreation Center and Jackson Playground are booked most days from 3:00 p.m. to 7:00 p.m. During the summer, the fields are used during the day for summer camps. Jackson Playground includes night lighting allowing it to be used Monday through Friday 7:00 p.m. to 10:00 p.m. Fields at both parks are in use every Saturday. Jackson Playground is used every Sunday and the playground at the Potrero Hill Recreation Center is used occasionally on Sunday.

[8] San Francisco Recreation and Parks Department. 2013. *Find a Destination* (Recreation and Parks Main Map). Available: http://sfrecpark.org/parks-open-spaces/find-a-destination/>. Accessed: January 24, 2013.

SOURCE: ICF, 2014.

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FIGURE 4.12-1: RECREATION FACILITIES IN THE PROJECT AREA

There is a wide variety of programming offered at the Potrero Hill Recreation Center. Afterschool activities are offered throughout the school year. Tot soccer, tennis, dance and art are offered year round. Junior Giants baseball teams and basketball camps operate during the summer season and Junior Warriors basketball teams operate during the winter season. Adult and senior exercise classes are offered during winter and spring. Many of these programs are highly utilized by city residents, with children's programming as the most highly utilized. In 2013, the afterschool program was at 150 percent of capacity, while much of the tot programming was at 80 percent to 105 percent capacity. Adult programming is less utilized, with most adult programming at zero to 10 percent capacity. All sessions of the Summer Basketball Camp were between 85 percent to 105 percent capacity in 2013.

West of Starr King Elementary School is an approximately 3.5-acre parcel known as Starr King Open Space. This area is accessible to the public.

Park and Recreation Needs

Under Policy 2.1 of the Recreation Element of the General Plan, the City identified the need to increase the per capita supply of public parks and open space. As part of this effort, city residents voted in favor of the 2008 Clean and Safe Neighborhood Parks Bond, which is expected to fund renovations and repairs to 12 existing parks, playgrounds, and athletic fields throughout the city.[9] However, the Potrero Hill Recreation Center was not one of the 12 parks included as part of the 2008 Bond.

Within San Francisco, the "neighborhood service areas" concept is used to distribute SFRPD facilities and services throughout the city's neighborhoods. The service area concept is based on the distance most users are willing to walk to reach an open space or recreation facility, and varies based on the size and type of open space or recreation facility and the nature of the surrounding topography. The commonly accepted distance for pedestrian access to community services or facilities is generally a 0.5 mile (a 10-minute walk) for the general population and a 0.25 mile (a 5-minute walk) for families with children.

The city's open spaces and recreational facilities are categorized as city-serving, district-serving, and neighborhood-serving or sub-neighborhood serving, depending on their size and the facilities offered.[10] City-serving open spaces vary in size from small areas with unique features to large parks and generally have a service area of a 0.5-mile radius around the park. Several large park and open space areas, including Golden Gate Park, the Lake Merced Complex, Glen Canyon Park, and John

[9] City and County of San Francisco. 2007. *2008 Clean & Safe Neighborhood Parks Bond*. October. Available: <http://sf-recpark.org/ftp/uploadedfiles/wcm_recpark/GOBond/BondReport101207.pdf>. Accessed: May 7, 2012.

[10] San Francisco Planning Department. 2010. *San Francisco General Plan, Recreation and Open Space Element*. June. Available: <http://www.sf-planning.org/ftp/General_Plan/I3_Rec_and_Open_Space.htm>. Accessed: February 25, 2014.

McLaren Park, amount to about one-half of the total SFRPD-owned acreage. In addition, smaller areas with unique attributes, such as water features or hilltop vista points, attract residents from the entire city and function as city-serving open spaces even though they are smaller in size. Unlike neighborhood facilities, city-serving parks and open spaces provide programs, activities, or recreation opportunities that serve the city as a whole. District-serving open spaces are generally larger than 10 acres and have a service area of a 0.375-mile radius around the park, while neighborhood-serving parks are generally 1 to 10 acres and have a service area of a 0.25-mile radius around the park. Sub-neighborhood-serving open spaces, often referred to as mini parks, are less than an acre and are too small to accommodate athletic facilities. The service area for sub-neighborhood parks is a 0.125-mile radius around the park.

As a whole, San Francisco is meeting its citizens' parks and recreation needs, but there are many areas that need new, improved, and additional parks and open space. San Francisco's General Plan goal is to increase open space and recreational opportunities citywide, particularly in High Needs Areas, as identified in the General Plan's Recreation and Open Space Element Neighborhood Recreation & Open Space Improvement Priority Plan (Map 9). In an effort to improve existing facilities, as stated above, the City of San Francisco passed the 2008 Clean and Safe Neighborhood Park Bond. This bond was extended by voters in November 2012. This bond focuses on improving playgrounds, pools, playfields, trails, tree planting, American with Disabilities Act (ADA) improvements, nature restoration, environmental remediation, and park development along the waterfront. Potrero Hill Recreation Center is identified in the 2012 Clean and Safe Neighborhood Park Bond as a facility that will receive funding for improvements. Upgrades funded by the bond at this facility include improvements to the natural turf playfields and the dog play area. Planning for these improvements is scheduled to begin in February 2015 and construction is scheduled to begin in April 2017 and conclude in July 2018. No additional funding has been identified for the Potrero Hill Recreation Center beyond the natural turf playfields and dog play area.

McKinley Square received funding for improvements related to native plantings and other landscaping, irrigation, and the construction of a drinking fountain, kiosk, and pathway. The improvements are anticipated to be completed by summer 2014. No improvements are currently proposed for Jackson Playground.

4.13 UTILITIES AND SERVICE SYSTEMS

4.13.1 Introduction

This section provides an overview of existing utilities and service systems for the City of San Francisco and the Project area, including water supply, wastewater service, stormwater drainage, and solid waste removal.

Several comments regarding potential impacts on utilities and service systems were received in response to the Notice of Preparation (NOP) and Notice of Intent (NOI) for the Draft EIS. The comments expressed concern that the proposed Project would result in an increase in demand for utilities that could lead to higher costs, increased greenhouse gas emissions, and reduced water quality. Comments also focused on the proposed Project's demand for energy and whether this demand could be met through the use of renewable energy sources. Issues raised in response to the NOP and NOI are addressed in the environmental analysis contained in Section 5.13, *Utilities and Service Systems*. For further information regarding the proposed Project's effect on greenhouse gas emissions and the use of renewable energy refer to Section 5.10, *Greenhouse Gas Emissions*, of this Draft EIR/EIS.

4.13.2 Existing Conditions

Water Supply and Demand

San Francisco Public Utilities Commission Regional Water System

According to the 2010 San Francisco Urban Water Management Plan (UWMP), which was adopted by the San Francisco Public Utilities Commission (SFPUC) on June 14, 2011, nearly 2.5 million people rely on water supplied by the SFPUC water system to meet their daily water needs, including wholesale customers in the Peninsula, South Bay, and Easy Bay communities. San Francisco customers, or "in-City" customers, include those within the City and County of San Francisco. The Regional Water System (RWS) consists of over 280 miles of pipeline, over 60 miles of tunnels, 11 reservoirs, five pump stations, and two water treatment plants located outside the city (the RWS) and over 1,250 miles of pipeline, 12 reservoirs, nine storage tanks, and 17 pump stations located within the city limits. Water supplies to the in-city distribution system from the RWS are currently limited to an average annual supply of 265 million gallons per day (mgd). The SFPUC provides water to both retail (residents, businesses, and industries within the corporate boundaries of the city) and wholesale customers. The RWS draws approximately 85 percent of its water from the Upper Tuolumne River Watershed. Water is collected in the Hetch Hetchy Reservoir in Yosemite National Park, fed into an aqueduct system, and then conveyed water 167 miles by gravity, and ultimately delivered to Bay Area reservoirs and customers. The remaining water supply (approximately 15 percent) is drawn from local surface waters in the Alameda and Peninsula

watersheds.[1] However, during a drought, the water received from the Hetch Hetchy Water and Power Project can constitute over 93 percent of the total water delivered.[2] Table 4.13-1 summarizes the current and projected retail (in-city) water demand and Table 4.13-2 illustrates the current and projected retail water supply.

Since water records were not available, water demand for the existing development at the Project site was estimated using the demand factors identified in the *Water Demand and Wastewater Generation Technical Memorandum* (see Appendix 4.13).

As stated above, the Project site currently contains 620 public housing units[3] and approximately 1,200 residents. In addition, the on-site day care and preschool contain approximately 50 students and staff. Based on this population data, the existing water demand at the Project site is approximately 0.08 mgd.[4]

Water Treatment Facilities

SFPUC's regional water system includes two treatment plants: the Sunol Valley Water Treatment Plant (SVWTP) and the Harry Tracy Water Treatment Plant (Harry Tracy WTP). The SVWTP is located in the Sunol Valley, an unincorporated part of Alameda County within SFPUC's Alameda watershed. The SVWTP has a peak capacity of 160 mgd and a sustainable capacity of 120 mgd.[5] The treatment process at this facility includes coagulation, flocculation, sedimentation, filtration, and disinfection. The SFPUC is in the process of implementing a number of individual water supply improvement projects as part of the broader Water System Improvement Program (WSIP). The WSIP is intended to repair, replace, and seismically upgrade the RWS's aging infrastructure to ensure reliability in the future.[6] As part of the WSIP, the SVWTP recently underwent an expansion to ensure that the facility can sustainably treat 160 mgd to a potable level and to improve the overall

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1 San Francisco Public Utilities Commission. 2011. *2010 San Francisco Urban Water Management Plan for the City and County of San Francisco*. June. p. 7.

2 San Francisco Public Utilities Commission. 2011. *2010 San Francisco Urban Water Management Plan for the City and County of San Francisco*. June. p. 19.

3 This Draft EIR/EIS states throughout that there are 620 residential units currently at the Project site. Of these 620 units, 14 are used for childcare and service space and 606 are used for residential purposes. The Proposed Project would replace 606 public housing units on a one-for-one basis. The remaining 14 units would effectively be replaced by providing childcare and service space in the proposed Community Center. Thus, the Proposed Project would replace all current uses.

4 Existing water demand was estimated using the following equation (1,250 people × 60.8 mgd)/1,000,000. See Appendix 4.13.

5 San Francisco Public Utilities Commission. 2011. *2010 Urban Water Management Plan for the City and County of San Francisco*. June. p. 11.

6 San Francisco Public Utilities Commission. *About WSIP*. Available: <http://www.sfwater.org/index.aspx?page=115>. Accessed: June 20, 2012.

efficiency of the treatment process while improving the reliability and water quality at the treatment plant. Construction was completed in August 2013.[7]

Table 4.13-1 SFPUC Retail Water Demand (mgd)

Users, Facilities, and Entities	*Projected Water Demand*						
	2005[a]	*2010*[a]	*2015*	*2020*	*2025*	*2030*	*2035*
In-City Customers							
Single-Family Residential[b]	18.4	16.4	17.9	17.1	16.5	16.0	15.8
Multi-Family Residential[b]	27.7	25.1	28.9	28.4	28.2	28.3	28.6
Non-Residential[b]	24.8	23.5	25.6	26.5	27.5	28.7	29.9
Other In-city Demands[b,c]	0.2	0.1	0.2	0.2	0.2	0.2	0.2
Losses[d]	8.2	6.3	5.0	4.9	5.0	5.0	5.1
In-city Subtotal[e]	*79.3*	*71.4*	*77.7*	*77.1*	*77.3*	*78.2*	*79.7*
In-city Subtotal w/Conservation[f]	*79.3*	*71.4*	*73.6*	*71.7*	*71.2*	*72.1*	*73.7*
Suburban Retail Customers[g]							
Other Retail Customers[h]	4.4	3.0	3.8	3.8	3.8	3.8	3.8
Lawrence Livermore Lab	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Groveland CSD	0.4	0.7	0.8	0.8	0.8	0.8	0.8
Suburban Retail Subtotal	*5.2*	*4.1*	*5.0*	*5.0*	*5.0*	*5.0*	*5.0*
Groundwater Customers							
City Irrigation Demand[i]	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Castlewood Community Demand[j]	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Groundwater Subtotal	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*
Total Retail Demand[k]	*86.7*	*77.7*	*80.7*	*78.9*	*78.5*	*79.2*	*80.9*

SOURCE: San Francisco Public Utilities Commission. 2011. *2010 Urban Water Management Plan for the City and County of San Francisco*. Table 12, p. 36.

a. 2005 and 2010 data are based on actual billing data (SFPUC, 2010). 2015–2035 are projections from the SFPUC Retail Demand Model Update and Calibration Technical Memorandum (April 2011).

b. 2005 and 2010 data are based on actual billing data (SFPUC, 2010). 2015–2035 are projections from the SFPUC Retail Demand Model Update and Calibration Technical Memorandum (April 2011).

c. Builders and Contractors, Docks & Shipping

d. Losses reported for 2005 and 2010 include meter under-registration. Losses in 2015–2035 exclude meter under-registration because they are included in the retail demand projections for residential and non-residential sectors. Meter under-registration losses estimated at 2.2% of residential and 2.1% of non-residential sector demands. System losses excluding meter under-registration estimated at 6.86% of sector demand.

e. "In-City subtotal" refers to demand that includes code-driven savings from changes in state and federal plumbing codes and regulations.

f. "In-City Subtotal with Conservation" refers to demand that includes code-driven savings plus savings from SFPUC-initiated conservation programs.

g. Suburban retail customer future demands do not include active conservation savings. The SFPUC plans on working with the suburban Retail Customers on conservation activities, but has not yet quantified the savings. Accordingly, demands are kept constant through 2035, but will be adjusted as more information becomes available.

h. The San Francisco County Jail, San Francisco International Airport, and other suburban or municipal accounts.

i. Irrigation at Golden Gate Park, the Great Highway median, and the San Francisco Zoo.

j. 100% of Castlewood demand (0.4 mgd) is met by groundwater wells in Pleasanton and 75% of Sunol Golf course demand (0.3 mgd) met by subsurface diversions of surface water at the Sunol Filter Galleries. Projected demands are based on average use from 2000-2010 and remain unchanged over the 25 year planning horizon.

k. This refers to the sum of "in-City subtotal with conservation", suburban retail subtotal, and groundwater subtotal.

[7] San Francisco Public Utilities Commission. 2014. *WSIP: Projects, Sunol Valley Water Treatment Plant Expansion and Treated Water Reservoir*. Available: <http://216.119.104.145/bids/projectDetail.aspx?prj_id=244>. Accessed: January 5, 2014.

Table 4.13-2 SFPUC Retail Water Supply

Current and Future Water Supply Sources	*2010*	*2015*	*2020*	*2025*	*2030*	*2035*
RWS Watersheds—Retail Supply[a]	81.0	81.0	81.0[a]	81.0[a]	81.0[a]	81.0[a]
Groundwater Sources:[b]						
■ Groundwater (In-city Irrigation Purposes)	1.5	1.5	0.3	0.3	0.3	0.3
■ Groundwater at Castlewood	0.7	0.7	0.7	0.7	0.7	0.7
■ Groundwater: Treated for Potable – Previously used for In-city Irrigation Purposes	0.0	0.0	1.2	1.2	1.2	1.2
Groundwater Subtotal	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*
Current Water Supply Subtotal	*83.2*	*83.2*	*83.2*	*83.2*	*83.2*	*83.2*
Future Water Supply Sources:						
■ Groundwater: Potable from North Westside Groundwater Basin	0.0	2.8	2.8	2.8	2.8	2.8
■ Recycled Water	0.0	0.3	4.0	4.0	4.0	4.0
Future Supply Subtotal	*0.0*	*3.41*	*6.8*	*6.8*	*6.8*	*6.8*
Total Supply	*83.2*	*86.3*	*90.0*	*90.0*	*90.0*	*90.0*

SOURCE: San Francisco Public Utilities Commission. 2011. *2010 Urban Water Management Plan for the City and County of San Francisco* June. Table 11, p. 30.

a. Assumes 2018 supply limitation extends to 2035.

b. Groundwater currently serves irrigation to Golden Gate Park, the San Francisco Zoo, and the Great Highway median. A groundwater reserve of 0.3 mgd for irrigation purposes will remain as part of the SFPUC's non-potable groundwater supply (SFPUC 2008 Phased WSIP Variant). Castlewood and Sunol projected supplies remain unchanged over the 20-year planning horizon.

The Harry Tracy WTP was built in 1971 and expanded in 1988 and 1990. Located in unincorporated San Mateo County near the San Bruno and Millbrae city limits, this plant provides ozonation, coagulation, flocculation, filtration, disinfection, fluoridation, corrosion control treatment, and chlorination for water collected in all of the Peninsula reservoirs. The Harry Tracy WTP has a peak treatment capacity of 180 mgd and a sustainable capacity of 120 mgd. As part of the WSIP, the Harry Tracy WTP Long Term Improvement Project is underway to improve delivery reliability and provide seismic upgrades to achieve a sustainable capacity of 140 mgd.[8] These long-term improvements are currently 76 percent complete and anticipated to be completed by February 2015.

In May 2009, the SFPUC began construction on a third water treatment plant, the Tesla Treatment Facility, located in unincorporated San Joaquin Valley. The facility passed all testing and reached final completion in November 2012. The next phase of the project, which includes construction and renovation of protective facilities at the site, was completed in 2013. The Tesla Treatment Facility includes an ultraviolet (UV) water disinfection facility and can treat up to 315 mgd per day. Completion of the improvements to these three water treatment facilities would ensure a sustainable water treatment capacity of 615 mgd by 2015.

[8] San Francisco Public Utilities Commission. 2012. *WSIP: Projects, HTWTP Long-Term Improvements*. <http://216.119.104.145/bids/projectDetail.aspx?prj_id=145>. Accessed February 16, 2012.

The City maintains an Auxiliary Water Supply System (AWSS) for fire protection purposes only. One AWSS underground cistern is located at the intersection of Arkansas Street and 20th Street, which is one block north of the Project site. Cisterns in this area of the city are not connected to a distribution system, so water must be pumped from them using engine pumpers.[9]

Wastewater

The SFPUC maintains and operates a combined sewer collection system consisting of about 976 miles of underground pipes that serves most of San Francisco, including the Project site. This system collects stormwater runoff and wastewater flows in the same network of pipes. It conveys flows to facilities where they are treated prior to discharge through outfalls into the Bay or Pacific Ocean. Discharges are regulated under National Pollutant Discharge Elimination System (NPDES) permits from the California Regional Water Quality Control Board, San Francisco Bay Region.

The SFPUC maintains and operates three wastewater treatment facilities for the City and County of San Francisco: the Oceanside Water Pollution Control Plant (OSP), the Southeast Water Pollution Control Plant (SEP), and the North Point Wet-Weather Facility.[10] These wastewater facilities can collect and treat more than 500 mgd of combined wastewater and stormwater runoff.[11]

Currently, there are no stormwater treatment facilities on the Project site. Approximately 92 percent of the City, including the Project site, is served by a combined wastewater and stormwater collection, conveyance, and treatment system.[12] The city is divided into an eastern and western basin. The Project site lies in the eastern basin, where average dry weather flows of 63 mgd are directed to the SEP located on Phelps Street, south of Islais Creek on the eastern waterfront. All stormwater that originates on the east side of San Francisco is conveyed to the SEP via two wet-weather pump stations, the Sunnydale Pump Station and the Bruce Flynn Pump Station. The SEP was designed to treat all dry-weather flows and up to 250 mgd of wet-weather flows in the Bayside Watershed. Treated wet weather discharges of up to 250 mgd flow through the Pier 80 outfall or through the Quint Street outfall to Islais Creek. Only wastewater treated to a secondary level is discharged at the Quint Street outfall. During wet weather, the SEP wet-weather facilities are engaged to provide primary treatment to an additional 100 mgd of combined wastewater and

[9] Metcalf & Eddy, AECOM. 2009. *Final Report: Auxiliary Water Supply System (AWSS) Study*. Prepared for Capital Planning Committee, City and County of San Francisco. January. Available: <http://www.sfgov2.org/ftp/uploadedfiles/cpp/documents/AWSS%20Report%20Final%202009-01-23.pdf>. Accessed: January 5, 2014.

[10] San Francisco Public Utilities Commission. Available: <file:///C:/Users/31146/Downloads/SFPUC-%23612792v.PDF>. Accessed: March 1, 2014.

[11] San Francisco Public Utilities Commission. <http://sfwater.org/index.aspx?page=677>. Accessed: March 1, 2014.

[12] San Francisco Public Utilities Commission. 2010. *Wastewater Enterprise, Sewer System Improvement Program Report.* August. San Francisco, CA.

stormwater flow, beyond the dry-weather capacity. At full capacity, the SEP provides primary treatment to all flows up to 250 mgd and secondary treatment to a maximum flow rate of 150 mgd.[13]

Up to an additional 100 mgd of wet weather flows receive primary treatment plus disinfection at the North Point Wet Weather Facility (NPWWF), located on the north side of the City at 111 Bay Street, which operates only during wet weather. Treated effluent from this facility is discharged through four deep water outfalls, approximately 800 feet from the Bay shore. Two of the deep water outfalls terminate at the end of Pier 33 and two terminate at the end of Pier 35 on the northeastern Bay shore.[14]

The combined sewer system also includes the Bayside Wet Weather Facilities (BWWFs), which consist of interconnected large underground rectangular tanks and tunnels with a series of baffles and weirs that are designed to remove settleable solids and floatables. During dry weather, the BWWFs transport combined stormwater and wastewater to the SEP. During wet weather, the underground transport tunnels provide a total storage capacity of approximately 193 million gallons, while pumps continue to transfer combined wastewater and stormwater to the SEP. When the combined capacity of the SEP and the NPWWF is exceeded, the BWWFs retain stormwater flows for later treatment. The tanks allow floatable and settleable solid materials to be removed, similar to primary treatment processes. The materials retained in the storage and transport boxes are flushed to the treatment plants after storms.

In the event that the capacities of the SEP, the NPWWF, the BWWFs, and storage structures are exceeded, the combined stormwater and sewage, after receiving the equivalent of wet weather primary treatment in the transport structures/boxes, is discharged into San Francisco Bay through any one of the 29 shoreline combined sewer overflow (CSO) structures.[15] During larger storm events, transport storage structures temporarily store wastewater that exceeds the treatment capacity of the SEP. When the SEP treatment capacity and the available storage within these storage facilities are exceeded, combined untreated sewer discharges into the Bay can occur.

The SFPUC is in the process of developing a long-term Sewer System Improvement Program (SSIP) to address the entire wastewater system citywide. One component of this program will improve the SEP, the facility that treats wastewater from the Project site before it gets discharged into the San Francisco Bay, through operational renovations and seismic upgrades to ensure reliability of the sewer system. In a parallel effort to address more immediate wastewater needs, the SFPUC in 2005

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[13] San Francisco Public Utilities Commission. 2010. *Wastewater Enterprise, Sewer System Improvement Program Report* August. San Francisco, CA.

[14] San Francisco Public Utilities Commission 2010. *Sewer System Improvement Program Report: Draft Report for SFPUC Commission Review.* August. Prepared by Wastewater Enterprise Staff. Available: <http://sfwater.org/modules/showdocument.aspx?documentid=984>. Accessed January 5, 2014.

[15] This level of treatment meets the minimum treatment specified by the USEPA *Combined Sewer Overflow Control Policy* (CSO Policy) I50 FR 18688, April 11, 1994. Available: <http://www.epa.gov/npdes/pubs/owm0111.pdf>. Accessed January 5, 2014.

initiated a capital improvement program (CIP) to, among other things, reduce the potential for on-street flooding during heavy rains that can occur. The original CIP had 36 projects and, over time, additional work was identified and funded through supplemental appropriations. As of late 2013, the Wastewater CIP had 72 projects, $400 million in approved budget, and an anticipated completion date of 2016.[16]

In July 2005, the SFPUC began imposing a new Wastewater Capacity Charge pursuant to SFPUC Resolution No. 05-0045. This Wastewater Capacity Charge is applicable to residential, non-residential and mixed-use types of construction that place new or additional demands on the system. All funds raised through the capacity charge will be directly used to offset the cost of future wastewater capital improvement projects and repairs.

Water records for the Potrero Terrace and Potrero Annex are not available. Thus, average wastewater discharge for the Project site has been estimated using the generation factors identified in the *Water Demand and Wastewater Generation Technical Memorandum* (see Appendix 4.13).

Currently, there are 620 public housing units and approximately 1,200 residents at the Project site. There is also a day care and preschool with a total of 50 students and staff contained within one of the residential buildings. Based on this population, existing wastewater discharge at the Project site is approximately 0.07 mgd.[17] Approximately 90 percent of water supplied to a residential property is discharged into the sewer system.[18]

Solid Waste

Recology provides collection, recycling, compost, and disposal services for the Project site. San Francisco operating companies include:

- Recology Sunset Scavenger—Provides collection services in the residential districts of San Francisco;
- Recology Golden Gate—Provides collection services in the Financial District, North Beach, South of Market, and the Marina; and
- Recology San Francisco—Operates the transfer station and recycling complex at 501 Tunnel Avenue, and Recycle Central on Pier 96.[19]

The Project site is currently served by the Recology transfer station in San Francisco and the Altamont landfill in Alameda. San Francisco uses a three-cart collection program: residential and

[16] San Francisco Public Utilities Commission. 2014. *Wastewater Enterprise Capital Improvement Program, Quarterly Report, 2nd Quarter, Fiscal Year 2013-2014*. February 18, 2014. Available: <http://www.sfwater.org/modules/showdocument.aspx?documentid=5351>. Accessed: May 22, 2014.

[17] Wastewater discharge is 90 percent of ([1,250 people * 60.8 gpcd]/1,000,000). See Appendix 4.13.

[18] Betsey Eagon, San Francisco Public Utilities Commission—e-mail to Atkins. April 26, 2011.

[19] Recology. 2011. Homepage. Available: <http://sunsetscavenger.com/index.php>. Accessed: May 4, 2011.

business customers sort solid waste into recyclables, compostable items, such as food scraps and yard trimmings, and garbage.

All materials are taken to the San Francisco Solid Waste Transfer and Recycling Center, located on Tunnel Avenue in the southeast corner of San Francisco. There, the three waste streams are sorted and bundled for transport to the composting and recycling facilities, and to the landfill. The total demand on the recycling facilities and transfer station is approximately 3,500 tons per day.[20]

San Francisco has created the first large-scale urban program for collection of compostable materials in the country. Residents, restaurants and other businesses send food scraps and other compostable material to Recology's Jepson-Prairie composting facility, located in Solano County or the Recology Grover composting facility in Stanislaus County.[21] Food scraps, plant trimmings, soiled paper, and other compostables are turned into a nutrient-rich soil amendment, or compost. Recyclable materials are sent to Recycle Central, located at Pier 96 on San Francisco's Southern waterfront, where they are separated into commodities and sold to manufacturers that turn the materials into new products.

The City of San Francisco estimates that it diverted 80 percent of its waste from landfills in 2011.[22] The City's per resident disposal target rate is 6.6 pounds per person per day (PPD), and its per employee disposal target rate is 10.6 PPD. In 2012, which is the most recent date for which data are available, the measured disposal rate was 2.9 PPD for residents and 4.2 PPD for employees, thereby meeting the City's target rates.[23]

The portion of the City's waste that is not composted or recycled is disposed of in the Altamont Landfill. The Altamont Landfill is a regional landfill that handles residential, commercial, and construction waste. It has a permitted maximum disposal of about 11,500 tons per day and received about 1.06 million tons of waste in 2009.[24] In 2007, the waste contributed by San Francisco (approximately 628,914 tons) represented approximately 49 percent of the total volume of waste

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[20] John Glaub, Recology—e-mail to Atkins, March 22, 2011.

[21] John Glaub, Recology—e-mail to Atkins, May 6, 2011.

[22] San Francisco Office of the Mayor. 2012. *Mayor Lee Announces San Francisco Reaches 80 Percent Landfill Waste Diversion, Leads All Cities in North America*, Press Release: October 5. Available: <http://www.sfenvironment.org/news/press-release/mayor-lee-announces-san-francisco-reaches-80-percent-landfill-waste-diversion-leads-all-cities-in-north-america>. Accessed: January 5, 2014.

[23] California Department of Resources Recycling and Recovery (CalRecycle). *Jurisdiction Diversion / Disposal Rate Summary*. Available: <http://www.calrecycle.ca.gov/LGCentral/Reports/jurisdiction/diversiondisposal.aspx>. Accessed: January 5, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[24] California Integrated Waste Management Board, Active Landfill Profiles, Altamont Landfill. <http://www.calrecycle.ca.gov/Profiles/Facility/Landfill/LFProfile2.asp?COID=3&FACID=01-AA-0009>, Accessed: May 27, 2010. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

received at this facility. The remaining permitted capacity of the landfill is about 45.7 million cubic yards.[25] With this capacity, the landfill can operate until 2025.[26]

In 1988, San Francisco contracted for the disposal of 15 million tons of solid waste at the Altamont Landfill. Through August 1, 2009, the City has used approximately 12.5 million tons of this contract capacity. The City's contract with the Altamont Landfill expires in 2015.

Hazardous waste, including household hazardous waste, is handled separately from other solid waste. Recology operates a facility at the San Francisco Dump (transfer station) at 501 Tunnel Avenue for people to safely dispose of the hazardous waste generated from their homes.[27]

Construction and demolition (C&D) debris in the city must be transported by a registered transporter to a registered facility that can process mixed C&D debris pursuant to the City and County of San Francisco C&D Ordinance. The Ordinance requires that at least 65 percent of C&D debris from a site go to a registered C&D recycling facility.[28]

[25] California Department of Resources Recycling and Recovery (CalRecycle). 2014. *Facility/Site Summary Details: Altamont Landfill & Resources Recovery (01-AA-009)*. Available: <http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail/>. Accessed: February 27, 2014.

[26] California Department of Resources Recycling and Recovery (CalRecycle). 2014. *Facility/Site Summary Details: Altamont Landfill & Resources Recovery (01-AA-009)*. Available: <http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail/>. Accessed: February 27, 2014.

[27] Recology SF. 2011. *The San Francisco Dump (Transfer Station)*. Available: <http://sunsetscavenger.com/sfDump.htm>. Accessed: May 5, 2011.

[28] SF Environment. 2012. *City and County of San Francisco Construction and Demolition Debris Recovery Program Ordinance No. 27-06*. Available: <http://sfenvironment.org/sites/default/files/fliers/files/cd_information_rev_01.03.12.pdf>. Accessed: June 20, 2012.

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4.14 PUBLIC SERVICES

4.14.1 Introduction

This section discusses existing police protection; fire protection and emergency medical services; public school facilities; and public libraries serving the city and Project site park and recreational facilities are discussed in Section 4.12 and Section 5.12, *Recreation*, of this Draft EIR/EIS. Several comments regarding public services were received in response to the Notice of Preparation (NOP) and Notice of Intent (NOI). Comments identified potential impacts to public services such as police, fire, health care, and schools that could result from the increase in resident population at the Project site. The Proposed Project's effect on public services is addressed in Section 5.14, *Public Services*.

4.14.2 Existing Conditions

Police

The San Francisco Police Department (SFPD) provides police protection services in the City and County of San Francisco (CCSF). The SFPD is headquartered at 850 Bryant Street. The SFPD is divided into 4 bureaus: Administration, Airport, Field Operations, and Investigations. The SFPD divides the city into two areas—the Metro Division and the Golden Gate Division—each of which is divided into five separate districts (10 in total) in order to efficiently serve the city's residents.

The Project site is located within the Bayview District, which is a part of the Golden Gate Division. This division covers one of the largest areas and includes the southeastern part of the city, extending along the eastern edge of McClaren Park (Cambridge Street) to the Bay and south from Channel Street to the San Mateo County line. The area includes Candlestick Park (the existing San Francisco 49ers stadium) and is the focus of a major redevelopment effort at the Bayview and Hunters Point areas.[1]

The SFPD and the San Francisco Housing Authority have a Memorandum of Understanding (MOU) agreement to provide supplemental police services within the Bayview District. As part of the MOU, the SFPD has agreed to provide a police commander to oversee all activities associated with each public housing property. All information from the SFPD's precincts is channeled through the commander and passed on to the San Francisco Housing Authority staff.[2]

Four officers are assigned to the Potrero Housing Development, which includes the Project site, with at least two officers present per day. Under the MOU, the Housing Authority provides a substation

[1] San Francisco Police Department. 2011. Bayview Station. Available: <http://sf-police.org/index.aspx?page=798>. Accessed: July 18, 2011.

[2] U.S. Department of Housing and Urban Development, Office of Public Housing. 2012. *San Francisco Housing Authority 2012-2013 Agency Plan*. May. San Francisco, CA.

to the assigned officers at 1090 Connecticut Street. It should be noted that this substation is not always staffed by officers, but is near the Housing Authority offices. The substation serves as a place for local residents to report problems and for officers to meet with residents, help children with homework, take breaks, and complete paperwork. The substation aids in the joint effort of the SFPD and Housing Authority to keep residents safe.[3,4]

As of 2008 (the latest data available), there were 2,277 sworn employees in the SFPD.[5] Of the 2,277 sworn employees, 1,498 employees are in the Field Operations Bureau.[6] The city's population in 2010 consisted of 805,235 residents.[7] Therefore, the ratio of officers to population is 2.83 sworn officers per 1,000 residents. Although the SFPD does not have a sworn officer to resident ratio goal, the existing ratio is used as a baseline to compare against in Section 5.14, *Public Services*.

Calls for services are categorized as Priority A, B, and C, with Priority A calls being the most urgent and Priority C calls taking the lowest priority. The SFPD's response time goals are 4 minutes for Priority A calls, 7 minutes and 30 seconds for Priority B calls, and 10 minutes for Priority C calls. In 2011, the average response time for highest priority calls, such as reports of homicide, robbery, or crimes involving weapons, was 1 minute and 17 seconds. The average response time for Priority A and B calls was 6 minutes and 33 seconds and 10 minutes and 18 seconds, respectively.[8]

Fire and Emergency Medical Services

The San Francisco Fire Department (SFFD) is responsible for protecting life and property throughout San Francisco from fires, natural disasters, and hazardous materials incidents and to save lives by providing emergency medical services. The SFFD also provides unified emergency medical services in the city, including basic life support and advanced life support services. In addition, several privately operated ambulance companies are authorized to provide basic and advanced life support services.[9]

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[3] David Hamilton, Housing Sergeant, San Francisco Police Department—telephone communication with Atkins (September 22, 2011).

[4] Charlie Orkes, Operations Bureau, Golden Gate Division, San Francisco Police Department—email communication with Atkins (December 7, 2012).

[5] San Francisco Police Department. 2008. *District Station Boundaries Analysis*. May. p. 45. Available: <http://sf-police.org/Modules/ShowDocument.aspx?documentid=14683>. Accessed: January 6, 2012.

[6] San Francisco Police Department. 2008. *Organizational Assessment of the San Francisco Police Department: A Technical Report*, Final Report. December. Available: <http://sf-police.org/Modules/ShowDocument.aspx?documentid=14694>. Accessed: November 1, 2012.

[7] U.S. Census Bureau. 2010. *American Fact Finder, Table GCT-PL2: Population and Housing Occupancy Status: 2010-County – Census Tract 2010 Census Redistricting Table (Public Law 94-171) Summary File, County of San Francisco*. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed April 18, 2011.

[8] San Francisco Police Department, Jim Dimodica—electronic communication with Atkins (December 21, 2011).

[9] San Francisco Fire Department. 2012. *Mission Statement*. <http://www.sf-fire.org/>. Accessed November 1, 2012.

Water supply for fire suppression in San Francisco is provided mainly from the potable supply, but is augmented by an auxiliary water supply system (AWSS) more commonly known as the San Francisco Fire Department High-Pressure System. This system consists of mains and 1,889 high-pressure fire hydrants, independent of the domestic water supply, built solely for the purpose of firefighting. The system is supplied with fresh water, by gravity, from a reservoir and two tanks located at high elevations in the city.[10]

Resources include 42 engine companies, 19 truck companies, ambulances, two heavy rescue squads, two fireboats, and multiple special-purpose units. According to the San Francisco Annual Report FY 2005/06 (the most recent report available), the SFFD is made up of 1,675 uniformed and 66 civilian personnel at 44 stations citywide.[11] The city's population in 2010 consisted of 805,235 residents.[12] Therefore, the ratio of uniformed fire personnel to residents is approximately 2.08 to 1,000 persons. Although the SFFD does not have a fire-personnel-to-residents ratio goal, the existing ratio is used as a baseline for comparison in Section 5.14, *Public Services*.

Fire suppression companies are organized into three divisions, including the Airport Division, Division 2, and Division 3, which are further divided into nine battalions. The Airport Division is composed of three firefighting companies located at the San Francisco International Airport. Division 2 is divided into four battalions, and Division 3 is divided into five battalions.[13]

The Project site is located within Division 3, which includes the South of Market area, extending through the southwestern boundaries and up to the southern border of the city. Division 3 also includes San Francisco International Airport, Treasure Island/Yerba Buena Island, the Hunter's Point Naval Shipyard, public transportation maintenance and repair yards, and an extended area of port facilities.[14]

The nearest fire station to the Project site is Station 37, which is a single engine company located at 798 Wisconsin Street (approximately 0.20 miles to the north) under Battalion 10. Currently, there are no plans for expansion of facilities, staff, or equipment inventory around the Project site. At a station that houses a single engine company, on-duty staff at any one time consists of one officer (either a lieutenant or a captain on any given day), two firefighters (who are also emergency medical technicians [EMT]), and a third member who may be either a firefighter-paramedic or a firefighter-

[10] San Francisco Fire Department. 2012. *Water Supply Systems*. < http://www.sf-fire.org/index.aspx?page=1003>. Accessed: November 1, 2012.

[11] San Francisco Fire Department. 2006. *FY 2005–2006 Annual Report*. p. 8. Available: <http://www.sf-fire.org/Modules/ShowDocument.aspx?documentid=1142>. Accessed: June 7, 2012.

[12] U.S. Census Bureau. *American Fact Finder, Table GCT-PL2 (Population and Housing Occupancy Status: 2010—County—Census Tract), 2010 Census Redistricting Table (Public Law 94-171) Summary File, County of San Francisco*. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed: April 18, 2011.

[13] San Francisco Fire Department. 2014. *Fire Station Locations*. <http://www.sf-fire.org/index.aspx?page=176#divisions>. Accessed: March 2, 2014.

[14] San Francisco Fire Department. 2012. *About SFFD Operations*. Available: <http://www.sf-fire.org/index.aspx?page=164>. Accessed: November 1, 2012.

EMT. If the station houses a truck company in addition to the engine, the crew of the truck consists of one officer (either a lieutenant or a captain), and four firefighters, (all of whom are also EMTs). Two stations in the city, one at 19th and Folsom and another at Third and Howard, also house Rescue Squads, comprised of an officer and three firefighters, all of whom are EMTs.[15]

During calendar year 2011, the SFFD received a total of 22,915 non-emergency calls and 78,158 emergency calls. The average citywide response time (dispatch to on-scene) was 8 minutes and 34 seconds for non-emergency calls and 3 minutes and 25 seconds for emergency calls. In addition, the SFFD has a dynamically deployed ambulance system. Ambulances are staffed to meet demand in the city and the total number of ambulances varies throughout the day. The goal for transport units for a code 3 (emergency), which is a potentially life-threatening incident, is to arrive on scene within 5 minutes of dispatch 90 percent of the time. This goal complies with the National Fire Protection Association (NFPA) 1710 Standard. As noted above, the SFFD's average emergency response time was 3 minutes and 25 seconds and the 90th percentile average was 4 minutes and 47 seconds. On average, the citywide transport units slightly exceed the desired performance standard by approximately 13 seconds.[16]

Schools

The San Francisco Unified School District (SFUSD) oversees the public school system in San Francisco (K–12). The SFUSD is comprised of 34 child development centers, 64 elementary schools (K–5), 14 middle schools, 18 high schools, 11 Alternative Grade Spans, and three charter schools.[17] Based on data for the 2013/2014 school year, there are approximately 58,394 students currently attending public schools in San Francisco.[18] Table 4.14-1 shows the existing classroom capacity, enrollment for the SFUSD in 2013/2014, and the remaining capacity by grade level.

[15] Barbara Schultheis, Fire Marshall, San Francisco Fire Department—email to Atkins (March 28, 2011).

[16] Jesus Mora, Information Services Project Director, SFFD—email to Atkins (January 6, 2012).

[17] San Francisco Unified School District. 2008. *San Francisco Unified School District Capital Plan FY 2009–2018, Appendix*. April. San Francisco, CA.

[18] Public school attendance based on: California Department of Education. 2012. *2013–2014 District Enrollment by Grade, San Francisco Unified, Educational Demographics Unit, DataQuest System*. Available: <http://data1.cde.ca.gov/dataquest>. Accessed: June 4, 2014.

Table 4.14-1 Existing Classroom Capacity and Enrollment, SFUSD, 2013/2014

Type of School	*Number of Schools*[a]	*Capacity*	*2013/2014 Enrollment*[b]	*Remaining Capacity*
Elementary School (K–5)	64	29,300	27,573	1,727
Middle School (6–8)	14	11,700	11,766	-66
High School (9–12)	18	17,575	19,055	-1,480
Total	*93*	*58,575*	*58,394*	*181*

SOURCES:

a. San Francisco Unified School District. 2008. *San Francisco Unified School District Capital Plan FY 2009–2018, Appendix*. April. San Francisco, CA.

b. California Department of Education. 2014. *Educational Demographics Unit, DataQuest System: 2013–2014 District Enrollment*. San Francisco, CA.

SFUSD is the primary public school provider in the city, accommodating approximately 98 percent of the total public school enrollment. Additional public school facilities include court-sponsored facilities (correctional institutions, court ward facilities, etc.) and public charter schools.

As shown in Table 4.14-1, there is capacity for approximately 58,575 students in existing SFUSD elementary, middle, and high schools. Although neighborhoods with a high population of school-age children generate a proportionally high level of demand for nearby schools, SFUSD assigns students to schools based on a lottery system. This system ensures that student enrollment is distributed to facilities that have sufficient capacity to adequately serve the educational needs of students.

With enrollment generally declining in the District (except for high schools), SFUSD has been closing schools. The SFUSD's capital facilities program has focused on replacing older schools and modernizing other facilities. The San Francisco Unified School District Capital Plan identifies a range of physical improvements necessary to modernize existing facilities, such as providing access compliant with the Americans with Disabilities Act (ADA), upgrading science and computer labs, expanding arts facilities, and other improvements. In addition, the SFUSD has a backlog of deferred maintenance needs.[19]

The Project site is served by, or within the vicinity of, Starr King Elementary School, located at 1215 Carolina Street (approximately 0.05 mile to the west); Daniel Webster Elementary School, located at 465 Missouri Street (approximately 0.20 mile to the north); and International Studies Academy (serving 6th through 12th graders), located at 655 De Haro Street (approximately 0.35 mile to the north).[20] As shown in Table 4.14-2, all three schools were within capacity during the 2013/14 school year. The SFUSD school that formerly occupied the southeast corner of the Connecticut Street/25th Street intersection is closed, and the site only consists of a basketball court.

[19] San Francisco Unified School District. 2009. *FY 2010–2019 Capital Plan*. Available: < http://sfgov2.org/ftp/uploadedfiles/cpp/capital_plan/Capital%20Plan(1).pdf>. Accessed March 2, 2014.

[20] Nancy Waymack, Executive Director of Policy and Operations, SFUSD—email correspondence with Atkins (May 27, 2011).

Table 4.14-2 Existing Classroom Capacity and Enrollment, Schools within the Vicinity of the Project Site, 2013/14

Type of School	*Capacity*[a]	*2013/14 Enrollment*[b]	*Remaining Capacity*
Starr King Elementary (K–5)	625	352	273
Daniel Webster Elementary (K–5)	575	281	294
International Studies Academy (6–12)	825	263	562

SOURCE: California Department of Education. 2014a. *Educational Demographics Unit, DataQuest System: 2013–2014 Enrollment by Grade 2013-14.* San Francisco, CA.

a. Building occupancy Load is estimated at 25 students per classroom and includes bungalows where applicable.
b. Enrollments do not include preschool classrooms or spaces used for non-instructional purposes.
c. Number of students per teacher.

Libraries

The San Francisco Public Library (SFPL) operates the Main Library at San Francisco's Civic Center and 28 neighborhood branches distributed throughout the city, providing information in books, other print and non-print formats, or electronic form. The SFPL is dedicated to providing free and equal access to information, knowledge, independent learning, and the joys of reading for San Francisco.[21] During the 2013/2014 fiscal year, the SFPL collection size[22] was 3,478,315 items with 434,267 total patrons.[23] Community-based branch libraries, as well as the Main Library, provide reading rooms, book lending, information services, access to technology, and library-sponsored public programs. Most branches offer an event almost every day, often for preschool and elementary schoolchildren, such as story time, crafts, and videos. Programs for youth include reading and computer-oriented clubs.

There are six libraries within an approximately 2-mile radius of the Project site: the Potrero Branch, located at 1616 20th Street (approximately 0.4 mile to the north); Mission Branch, located at 300 Bartlett Street (approximately 1.15 miles to the west); Bernal Heights Branch, located at 500 Cortland Avenue (approximately 1.35 miles to the southwest); the Main Library, located at 100 Larkin Street (approximately 1.80 miles to the northwest); and new branches in Mission Bay located at 960 4th Street (approximately 1.20 miles to the north) and Bayview located at 5075 3rd Street (approximately 1.40 miles to the south). The Potrero Branch Library is the only library located in the immediate vicinity of the Project site. The Potrero Branch was significantly renovated and reopened to the public in 2010.[24] In addition, operating hours were expanded to 6 days per week when it reopened in 2010. This branch offers limited quantities of Children's Spanish and Chinese language

[21] San Francisco Public Library. 2014. *Mission Statement*. Available: <http://sfpl.org/index.php?pg=2000002201>. Accessed: January 3, 2014.
[22] Includes books, CDs, DVDs, sheet music, bound periodical volumes, government documents, and software.
[23] San Francisco Public Library. 2013. *Statistics System-Wide, FY 2013–2014*. Accessed: June 12, 2014. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.
[24] Jill Bourne, Deputy City Librarian—e-mail to Atkins (March 24, 2011).

collections. Through a generous grant from the Eastern Neighborhood Public Benefit Fund, Potrero Branch is partnering with the Potrero Hill Archives Project and the San Francisco History Center to digitize the Potrero Hill Archives Project collection. The collection was started in 1986 to record oral histories of Potrero Hill residents and gather old photographs of the neighborhood.[25] The Potrero Branch has a collection size of approximately 30,171 items and received approximately 40,041 library visits in fiscal year 2013/2014.[26]

Library Improvement Program

The Branch Library Improvement Program (BLIP) was launched as a result of a bond measure passed in November 2000 to provide $106 million in funding to upgrade San Francisco's branch library system, and Proposition D, which passed in November 2007, authorizing additional funding to improve the branches. The BLIP is intended to provide the public with seismically safe, accessible, technologically updated, and code-compliant City-owned branch libraries in every neighborhood.[27] The SFPL has implemented a number of interim programs to serve the public while branches are closed for renovation or replacement. These include increasing hours at nearby branches, holding programs at neighborhood schools and community centers, and offering bookmobile services.

[25] San Francisco Public Library. *Potrero Library Collections*. Available: <http://sfpl.org/index.php?pg=0100002501>. Accessed November 1, 2012.

[26] San Francisco Public Library. 2014a. *Statistics by Location, FY 2031-2014.* Available: <http://sfpl.org/pdf/about/administration/statistics-reports/statisticsbylocation.pdf>. Accessed: June 4, 2014.

[27] Francisco Public Library. 2011. *Branch Library Improvement Program. Frequently Asked Questions.* Available: <http://sfpl.org/pdf/blip/blipfaq.pdf>. Accessed: April 15, 2011.

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4.15 BIOLOGICAL RESOURCES

4.15.1 Introduction

This section of this Draft EIR/EIS discusses the existing conditions with respect to biological resources associated with the approximately 39-acre area being considered for development of the Proposed Project.

Several comments were submitted during the Notice of Preparation (NOP) and Notice of Intent (NOI) scoping periods. Specifically, concerns were raised regarding tree removal, impacts to nesting birds and plant species, interference with wildlife corridors and movement, and the loss of open space. These and other issues are addressed in Section 5.15, *Biological Resources*, which includes a complete analysis of the potential environmental effects of the Proposed Project on biological resources.

Primary information and data consulted in preparation of this section include the following sources:

- Biological Resources Surveys and Reports
  - > General Biological Survey performed by Atkins on March 3, 2011
  - > Tree Inventory Survey performed by GLS Landscape/Architecture on June 23, 2010[1]
- Databases
  - > California Department of Fish and Wildlife[2] (CDFW) California Natural Diversity Database (CNDDB)[3]
  - > California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants[4]
  - > Consortium of California Herbaria[5]

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[1] GLS Landscape/Architecture. 2010. *Tree Disclosure Submittal for Rebuild Potrero.* June 23. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[2] Formerly known as the California Department of Fish and Game.

[3] California Natural Diversity Database. 2013. Results of January 16, 2013, Records Search of Sensitive Natural Communities and Special-Status Plants and Wildlife Reported within the San Francisco North and San Francisco South, California U.S. Geological Survey (USGS) 7.5" Topographic Quadrangles, Rarefind Version 3.1.0, Commercial Version (December 1, 2012), Wildlife & Habitat Data Analysis Branch, Department of Fish and Wildlife, Sacramento, CA.

[4] California Native Plant Society. 2013. Results of January 16, 2013, Records Search of Rare and Endangered Plants Reported within the San Francisco North and San Francisco South, California USGS 7.5" Topographic Quadrangles, Inventory of Rare and Endangered Plants (online edition, v8-01a), California Native Plant Society, Sacramento, CA.

[5] Consortium of California Herbaria. 2013. Results of January 16, 2013, Records Search of *Erysimum franciscanum*, *Fritillaria liliacea*, *Grindelia hirsutula* var. *maritime*, *Hesperolinon congestum*, *Pentachaeta bellidiflora*, *Sanicula maritime*, *Stebbinsoseris decipiens*, and *Triphysaria floribunda*; data provided by the participants of the Consortium of California Herbaria. Available: <http://ucjeps.berkeley.edu>.

- > U.S. Fish and Wildlife Service (USFWS) Species Lists[6]
- > USFWS Critical Habitat Portal[7]
- > USFWS National Wetlands Inventory Wetlands Mapper[8]

■ Literature Review

- > San Francisco Municipal Code[9,10]
- > San Francisco Urban Bird Refuge Poster[11]

4.15.2 Existing Conditions

A general biological survey was conducted by qualified biologist at the Project site on March 3, 2011. The purpose of the field survey was to inventory existing conditions with respect to biological resources. The survey methodology generally included walking through the pedestrian transects throughout each land use and habitat type that occurs on the Project site. The survey included identification of existing vegetation communities; qualification of existing habitats for their potential to support special-status plant and wildlife species, including a thorough assessment of the site to determine the presence or absence of suitable habitat and a search for potential nest structures; confirmation of the presence or absence of jurisdictional waters and wetlands; and documentation of all plant and wildlife species observed or otherwise detected. The March 3, 2011, survey was conducted in the early spring and during an optimal time to inventory the existing biological resources.

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[6] U.S. Fish and Wildlife Service. 2013. List of Federal Endangered and Threatened Species that Occur in or may be Affected by Projects within the San Francisco North and San Francisco South, California USGS 7.5" Topographic Quadrangles, Sacramento Fish & Wildlife Office, Document Number: 130116015431. January 16.

[7] U.S. Fish and Wildlife Service. 2013. *Critical Habitat Portal*. Available: <http://criticalhabitat.fws.gov/>. Accessed: January 16, 2013.

[8] U.S. Fish and Wildlife Service. 2013. *National Wetlands Inventory*. Available: <http://www.fws.gov/wetlands/>. Accessed: January 16, 2013.

[9] City and County of San Francisco Planning Department. 2013. *San Francisco Municipal Code*, Article 1.2 (Dimensions, Areas, and Open Spaces), Section 139 (Standards for Bird Safe Buildings). Available: <http://www.amlegal.com/nxt/gateway.dll/California/planning/article12dimensionsareasandopenspaces?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca$anc=JD_139>. Accessed: January 16, 2013.

[10] City and County of San Francisco Planning Department. 2013. *San Francisco Municipal Code*, Article 16 (Urban Forestry Ordinance). Available: <http://www.amlegal.com/nxt/gateway.dll/California/publicworks/article16urbanforestryordinance?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca>.http://www.amlegal.com/nxt/gateway.dll/California/planning/article12dimensionsareasandopenspaces?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca$anc=JD_139 Accessed: January 17, 2013.

[11] City and County of San Francisco Planning Department. 2012. *Urban Bird Refuge Poster*. Available: <http://www.sf-planning.org/ftp/files/publications_reports/library_of_cartography/Urban_Bird_Refuge_Poster.pdf>. Accessed: December 6, 2012.

The approximately 39-acre Project site is located in the southeast corner of the San Francisco North, California USGS 7.5-minute topographic quadrangle in San Francisco County, California. The Project site is primarily surrounded by urban development (e.g., single- and multi-family residences, schools, and industrial developments), and is located one and one-half blocks west of Interstate 280 (I-280), four blocks east of U.S. Highway 101 (US 101), and two blocks north of Cesar Chavez Street. The site is bordered to the immediate north and northwest by the Potrero Hill Recreation Center, which is situated within property that supports open space greater than two acres in size and is considered part of the Urban Bird Refuge complex delineated by the San Francisco Planning Department.[12] The eastern edge of the Project site sits on a ridge paralleling Pennsylvania Street below. The Project site itself is urban, being comprised almost entirely of existing multi-family residences, associated landscaping, and roads.

The topography that characterizes the Project site is steep, with elevations ranging from 265 feet above mean sea level (msl) to the north at the intersection 23rd Street and Arkansas Street, and 40 feet above msl to the south at the intersection of 26th Street and Connecticut Street. Vegetation that characterizes the Project site is typical of highly disturbed, urban environments, and consists primarily of nonnative ornamental trees and shrubs, and ruderal (weedy) herbaceous vegetation. Very few, common (nonsensitive) native plant species were observed within limited portions of the site. Vegetation communities and associated plant species inventoried during the March 3, 2011, general biological survey are described in further detail below. The Project site is composed entirely of disturbed and developed uplands, and no drainage features or wetlands are present on or adjacent to the site.

Development of the Project site has degraded biological resources. The general area experiences a high volume of vehicular traffic, which creates disturbances associated with noise and light. In addition, the general area is regularly used by pedestrians, which has led to encroachment into any remaining undeveloped areas, accumulation of litter, and use by domestic pets. The Project site contains a high number of nonnative and exotic ornamental plant species and an accumulation of domestic garbage and other debris. The result is degradation of the existing habitat and limited use by most wildlife species.

[12] City and County of San Francisco Planning Department. 2012. *Urban Bird Refuge Poster*. Available: <http://www.sf-planning.org/ftp/files/publications_reports/library_of_cartography/Urban_Bird_Refuge_Poster.pdf>. Accessed: December 6, 2012.

Special-Status Plant and Wildlife Species

For the purposes of this study, special-status species and their critical habitat include:

- Species listed, proposed, or candidate species for listing as Threatened or Endangered by the USFWS and lands designated as Critical Habitat pursuant to the federal Endangered Species Act (FESA) of 1969, as amended;
- Species listed as Rare, Threatened, or Endangered by the CDFW pursuant to the California Endangered Species Act (CESA) of 1970, as amended;
- Species designated as Fully Protected under Sections 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians) of the California Fish and Wildlife Code (CFW Code);
- Species designated by the CDFW as California Species of Special Concern;
- Plant species designated as List 1B and 2 by the CNPS; and
- Species not currently protected by statute or regulation, but considered rare, threatened or endangered under CEQA (Section 15380).

Table 4.15-1 presents a list of selected special-status plant and wildlife species that have been reported within approximately 5 miles of the Project site, along with a description of their habitat requirements, protection status, and a brief discussion of their likelihood to occur within the Project site. No sensitive natural communities have been reported within approximately 5 miles of the Project site; none were determined to occur based on the March 3, 2011 general biological survey.

As shown in Table 4.15-1, a total of 49 special-status plant species and four special-status wildlife species reported at locations within approximately 5 miles of the Project site have been analyzed for their potential to occur. Due to the highly urbanized nature and lack of native or naturalized habitat on and in the immediate vicinity of the Project site, none of the special-status plant and wildlife species included within Table 4.15-1 was determined to have a potential to occur on-site. Many of the special-status wildlife species known to occur in the region would not be expected to use the Project site or immediate vicinity due to the highly urbanized nature of the site; lack of suitable habitat; isolation of the site in relation to suitable or occupied habitat in the region; presence of nonnative wildlife species; and, urban uses as described above.

Many of the special-status plant species recorded in the region reflect historical data and reporting that predates development. As such, these species are believed to have been extirpated (eliminated) from the area as a result of habitat conversion and previous vegetation removal and grading activities for existing developments. Limited portions of the site are mapped as supporting serpentine outcrops which provide marginal soil conditions for several special-status plant species known to occur in the region. However, as described in further detail below, the serpentine outcrops are situated within land that is highly disturbed as a result of existing developments and ongoing disturbances. As such, the areas are generally unsuitable for special-status plants. The serpentine outcrop areas were carefully inspected and inventoried for existing vegetation during the March 3,

2011 general biological survey; no special-status plant species were observed and existing conditions were determined to be very poor. Further discussion regarding potential for special-status plant species to occur is provided within Table 4.15-1 and subsequent narrative describing the vegetation communities and plant species observed on site.

Vegetation Communities

Urban Landscaping with Serpentine Outcrops. Several scattered serpentine outcrops are present throughout the disturbed and developed portions of the Project site, which is largely characterized by nonnative ornamental landscaping and ruderal vegetation. Serpentine soils are derived from serpentinite. Serpentine often becomes exposed in tectonically active regions and its unique chemical composition creates a soil chemistry that is toxic to many plant species. In undisturbed and undeveloped areas, grasslands that are supported by serpentine soils in the region are generally known to be dominated by native, perennial bunchgrasses. Typically, nonnative species are not adapted to grow on toxic, low-nutrient, and low-moisture serpentine soil conditions. Native plant species known to the region that have adapted to serpentine soils are often very localized in occurrence, and many are considered rare.

As included within Table 4.15-1, 14 special-status plant species associated with serpentine soils have been analyzed for their potential to occur within the Project site. None of these species were determined to have a potential to occur within the site primarily due to lack of suitable vegetation associations (i.e., the areas supporting serpentine soils are characterized by disturbed bare earth and nonnative vegetation), incompatible land uses, existing disturbances, and the fact that they were not observed during the March 3, 2011, survey. In addition to being associated with serpentine soils, the 14 special-status plant species included within Table 4.15-1 are known to occur in association with other native plant species. The Project site is characterized by a strong dominance of nonnative plant species and, as discussed below, only several native plant species were observed during the March 3, 2011, survey. Therefore, although marginal serpentine soils exist, suitable vegetation associations and naturalized conditions do not occur on the Project site for any of the 14 special-status plant species included within Table 4.15-1.

While historically the outcrops on the Project site and surrounding area may have supported native serpentine grassland, the site was developed as multifamily housing in 1941 and 1955. As a result, the site currently consists of pavement, buildings or other hardscape, lawns and other landscaping, and disturbance from local residents that have occurred for approximately 70 years. As shown in Figure 4.15-1, most of these areas are distributed among the existing buildings. The majority of undeveloped areas within the Project site are routinely mowed, maintained, and artificially irrigated for landscaping purposes. As a result, the conditions are unsuitable for most native plant species and only nonnative plant species occur.

SOURCE: ENGEO Corporation, 2009.

MAP BASE SOURCE: USGS Terraserver, 2009.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 4.15-1: SERPENTINE OUTCROP LOCATIONS

Table 4.15-1 Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately 5 Miles) of the Project Site

Scientific Name	*Common Name*	*CNPS/CESA/FESA*	*Habitat*	*Elevation Low/High (meters)*[a]	*Likelihood of Occurrence*
PLANTS					
Amsinckia lunaris	Bent-flowered fiddleneck	1B.2/None/None	Occurs in coastal bluff scrub, cismontane woodland, and valley and foothill grassland habitats. Blooms from March to June.	3/500	None: No scrub, woodland, or suitable grassland habitat occurs on the Project site for this species. What little undeveloped area that remains on the site is highly disturbed and dominated by nonnative vegetation.
Arabis blepharophylla	Coast rock cress	4.3/None/None	Occurs in broadleafed upland forest, coastal bluff scrub, coastal prairie, and coastal scrub on rocky soils. Blooms February to May.	3/1,100	None: No forest, scrub, or prairie habitat supported by rocky soils occurs on the Project site. What little undeveloped area that remains on the site is highly disturbed and dominated by nonnative vegetation.
Arctostaphylos franciscana	Franciscan manzanita	1B.1/None/None	Occurs in coastal scrub on serpentinite soils. Blooms February to April.	60/300	None: No scrub occurs on the Project site for this species. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. Further, this manzanita species is a perennial shrub that is readily identifiable throughout the year and no manzanitas were observed on the site during the March 3, 2011, survey.
Arctostaphylos imbricata	San Bruno Mountain manzanita	1B.1/SE/None	Occurs in chaparral, coastal scrub on rocky soils. Blooms February to May.	275/370	None: No chaparral or scrub supported by rocky soils occurs on the Project site. The site is situated well below the known elevation range for this species. Further, this manzanita species is a perennial shrub that is readily identifiable throughout the year and no manzanitas were observed on the site during the March 3, 2011, survey.
Arctostaphylos montana ssp. *ravenii*	Presidio manzanita	1B.1/SE/FE	Occurs in chaparral, coastal prairie, and coastal scrub on serpentinite outcrops. Blooms February to March. Known from only one extant native occurrence at the Presidio in San Francisco; plants there belong to a single clone. Five of six historical occurrences extirpated by urbanization.	45/215	None: No chaparral, prairie or scrub habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, the site is situated below the known elevation range for this species and previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. Further, this manzanita species is a perennial shrub that is readily identifiable throughout the year and no manzanitas were observed on the site during the March 3, 2011, survey.

Table 4.15-1 Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately 5 Miles) of the Project Site

Scientific Name	*Common Name*	*CNPS/CESA/FESA*	*Habitat*	*Elevation Low/High (meters)*[a]	*Likelihood of Occurrence*
Arctostaphylos montaraensis	Montara manzanita	1B.2/None/None	Occurs in maritime chaparral, and coastal scrub. Blooms January to March.	150/500	None: No chaparral or scrub habitat occurs on the Project site. The site is situated below the known elevation range for this species. Further, this manzanita species is a perennial shrub that is readily identifiable throughout the year and no manzanitas were observed on the site during the March 3, 2011, survey.
Arctostaphylos pacifica	Pacific manzanita	1B.2/SE/None	Occurs in chaparral, and coastal scrub. Blooms February to April.	330/330	None: No chaparral or scrub habitat occurs on the Project site. The site is situated well below the known elevation range for this species. Further, this manzanita species is a perennial shrub that is readily identifiable throughout the year and no manzanitas were observed on the site during the March 3, 2011, survey.
Arenaria paludicola	Marsh sandwort	1B.1/CE/FE	Occurs in freshwater and brackish marshes and swamps on openings in sandy soils. Blooms May to August.	3/170	None: No marsh or swamp habitat occurs on the Project site.
Aspidotis carlotta-halliae	Carlotta Hall's lace fern	4.2/None/None	Occurs in chaparral, and cismontane woodland, generally on serpentinite soils. Blooms January to December.	100/1,400	None: No chaparral or woodland habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, the site is situated below the known elevation range for this species and previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. Further, this manzanita species is a perennial shrub that is readily identifiable throughout the year and no manzanitas were observed on the site during the March 3, 2011, survey.
Astragalus nuttallii var. *nuttallii*	Ocean bluff milk-vetch	4.2/None/None	Occurs in coastal bluff scrub and coastal dunes. Blooms January to November.	3/120	None: No coastal scrub or dune habitat occurs on the Project site.
Astragalus tener var. *tener*	Alkali milk-vetch	1B.2/None/None	Occurs in playas, valley and foothill grassland in adobe clay soil substrates, and vernal pools with alkaline soils. Blooms April to May.	1/60	None: No playas or suitable grassland habitat supported by clay soils occur on the Project site. Further, no vernal pools supported by alkaline soils occur.
Carex comosa	Bristly sedge	2.1/None/None	Occurs in coastal prairie, marshes and swamps along lake margins, and in valley and foothill grassland. Blooms from May to September.	0/625	None: The Project site is characterized by uplands and no coastal prairie, marsh, swamp, lake margin, or suitable grassland habitat occurs.

Table 4.15-1 Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately 5 Miles) of the Project Site

Scientific Name	*Common Name*	*CNPS/CESA/FESA*	*Habitat*	*Elevation Low/High (meters)*[a]	*Likelihood of Occurrence*
Centromadia parryi ssp. *parryi*	Pappose tarplant	1B.2/None/None	Occurs in chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), and vernally mesic valley and foothill grassland, often on alkaline soils. Blooms May to November.	2/420	None: No chaparral, coastal prairie, meadow and seep, marsh, swamp, or suitable vernally mesic grassland habitat supported by alkaline soils occurs on the Project site.
Chloropyron maritimum ssp. *palustre*	Point Reyes bird's-beak	1B.2/None/None	Occurs in coastal salt marsh and swamp habitat. Blooms from June to October.	0/10	None: No marsh or swamp habitat occurs on the Project site. Further, the Project site occurs above the known elevation range for this species.
Chorizanthe cuspidata var. *cuspidata*	San Francisco Bay spineflower	1B.2/None/None	Occurs in coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub on sandy soils. Blooms April to July (occasionally into August).	3/215	None: No coastal scrub, dune, or prairie habitat supported by sandy soils occurs on the Project site.
Chorizanthe robusta var. *robusta*	Robust spineflower	1B.1/None/FE	Occurs in chaparral (maritime), cismontane woodland (openings), coastal dunes, and coastal scrub on sandy or gravelly soils. Blooms April to September.	3/300	None: No chaparral, woodland, coastal dune or scrub habitat supported by sandy or gravelly soils occurs on the Project site.
Cirsium andrewsii	Franciscan thistle	1B.2/None/None	Occurs in broadleafed upland forest, coastal bluff scrub, coastal prairie, and coastal scrub on mesic, sometimes serpentinite soils. Blooms March to July.	0/150	None: No forest, coastal scrub or prairie habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. Further, this species was not observed during the March 3, 2011, survey, which occurred during this species' recognized blooming period.
Cirsium occidentale var. *compactum*	Compact cobwebby thistle	1B.2/None/None	Occurs in chaparral, coastal dunes, coastal prairie, and coastal scrub. Blooms April to June.	5/150	None: No chaparral, or coastal dune, prairie, or scrub habitat occurs on the Project site.

Table 4.15-1 Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately 5 Miles) of the Project Site

Scientific Name	*Common Name*	*CNPS/CESA/FESA*	*Habitat*	*Elevation Low/High (meters)*[a]	*Likelihood of Occurrence*
Clarkia franciscana	Presidio clarkia	1B.1/SE/FE	Occurs in coastal scrub, and valley and foothill grassland on serpentinite soils. Blooms May to July. Known from fewer than five occurrences.	25/335	None: No coastal scrub or suitable grassland habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. All known local occurrences for this extremely rare species are restricted to the Presidio area, which is located approximately 4.0 miles northwest of the site. This species is not likely to occur within the Project site.
Collinsia corymbosa	Round-headed Chinese-houses	1B.2/None/None	Occurs in coastal dunes. Blooms April to June.	0/20	None: No coastal dune habitat occurs on the Project site.
Collinsia multicolor	San Francisco collinsia	1B.2/None/None	Occurs in closed-cone coniferous forest, and coastal scrub, sometimes on serpentinite soils. Blooms March to May.	30/250	None: No coniferous forest or coastal scrub habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. Further, this species was not observed during the March 3, 2011, survey, which occurred during this species' recognized blooming period.
Equisetum palustre	Marsh horsetail	3/None/None	Occurs in marshes and swamps. The blooming period for this species is currently unknown, but it would be readily identifiable regardless of its blooming status due to the fact it's life form is a perennial that propagates from rhizomes.	45/1,000	None: The Project site is characterized by uplands and no marsh or swamp habitat occurs.
Eriophorum gracile	Slender cottongrass	4.3/None/None	Occurs in bogs and fens, meadows and seeps, and upper montane coniferous forest on acidic soils. Blooms May to September.	1,280/2,900	None: No bog and fen, meadow and seep, or coniferous forest supported by acidic soils occurs on the Project site. Further, the site occurs well below the known elevation range for this species.

Table 4.15-1 Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately 5 Miles) of the Project Site

Scientific Name	*Common Name*	*CNPS/CESA/FESA*	*Habitat*	*Elevation Low/High (meters)*[a]	*Likelihood of Occurrence*
Erysimum franciscanum	San Francisco wallflower	4.2/None/None	Occurs in chaparral, coastal dunes, coastal scrub, and valley and foothill grassland, often on serpentinite or granitic soils, sometimes along roadsides. Blooms March to June.	0/550	None: No chaparral, coastal dune, scrub, or suitable grassland habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. Further, this species was not observed during the March 3, 2011, survey, which occurred during this species' recognized blooming period.
Fritillaria liliacea	Fragrant fritillary	1B.2/None/None	Occurs in cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland habitats often in association with serpentine soils. Blooms from February to April.	3/410	None: No woodland, coastal prairie, scrub, or suitable grassland habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. Further, this species was not observed during the March 3, 2011, survey, which occurred during this species' recognized blooming period.
Gilia capitata ssp. *chamissonis*	Blue coast gilia	1B.1/None/None	Occurs in coastal dunes, and coastal scrub. Blooms from April to July.	2/200	None: No coastal dune or scrub habitat occurs on the Project site.
Gilia millefoliata	Dark-eyed gilia	1B.2/None/None	Occurs in coastal dunes. Blooms April to July.	2/30	None: No coastal dune habitat occurs on the Project site.
Grindelia hirsutula var. *maritima*	San Francisco gumplant	1B.2/None/None	Occurs in coastal bluff scrub, coastal scrub, and valley and foothill grassland on sandy or serpentinite soils. This perennial grows up to 1.5 meters tall and its branches and leaves are readily identifiable all year long. Blooms June to September.	15/400	None: No coastal scrub or suitable grassland habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. This conspicuous perennial gumplant was not observed during the March 3, 2011, survey.
Helianthella castanea	Diablo helianthella	1B.2/None/None	Occurs in broad-leafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland habitats. Blooms from March to June.	60/1,300	None: No upland forest, chaparral, upland woodland, coastal scrub, riparian woodland, or suitable grassland habitat occurs on the Project site.

Table 4.15-1 Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately 5 Miles) of the Project Site

Scientific Name	*Common Name*	*CNPS/CESA/FESA*	*Habitat*	*Elevation Low/High (meters)*[a]	*Likelihood of Occurrence*
Hemizonia congesta ssp. *congesta*	Pale yellow hayfield tarplant	1B.2/None/None	Occurs in valley and foothill grassland, sometimes along roadsides. Blooms from April to November.	20/560	None: No suitable grassland habitat occurs on the Project site.
Hesperevax sparsiflora var. *brevifolia*	Short-leaved evax	1B.2/None/None	Occurs in coastal bluff scrub on sandy soils, and coastal dunes. Blooms March to June.	0/215	None: No coastal bluff scrub supported by sandy soils or coastal dune habitat occurs on the Project site.
Hesperolinon congestum	Marin western flax	1B.1/ST/FT	Occurs in chaparral and valley and foothill grassland habitats in association with serpentine soils. Blooms from April to July.	5/370	None: No chaparral or suitable grassland habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. The closest reported record for this extremely rare species dates back to 1905 and occurs in an area that has been completely developed approximately 2.0 miles northwest of the site. This species is not likely to occur within the Project site.
Horkelia cuneata ssp. *sericea*	Kellogg's horkelia	1B.1/None/None	Occurs in openings in closed-cone coniferous forest, chaparral (maritime), coastal dunes, and coastal scrub on sandy or gravelly soils. Blooms from April to September.	10/200	None: No forest, chaparral, coastal dune or scrub habitat supported by sandy or gravelly soils occurs on the Project site.
Iris longipetala	Coast iris	4.2/None/None	Occurs on mesic sites in coastal prairie, lower montane coniferous forest, and meadows and seeps. Blooms March to May.	0/600	None: The Project site is characterized by uplands and no coastal prairie, forest, or meadow and seep habitat occurs on the Project site.
Layia carnosa	Beach layia	1B.1/SE/FE	Occurs in coastal dunes, and coastal scrub on sandy soils. Blooms from March to July.	0/60	None: No coastal dune or scrub habitat supported by sandy soils occurs within the Project site.
Leptosiphon rosaceus	Rose leptosiphon	1B.1/None/None	Occurs in coastal bluff scrub. Blooms from April to July.	0/100	None: No coastal bluff scrub occurs within the Project site.

Table 4.15-1 Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately 5 Miles) of the Project Site

Scientific Name	*Common Name*	*CNPS/CESA/FESA*	*Habitat*	*Elevation Low/High (meters)*[a]	*Likelihood of Occurrence*
Lessingia germanorum	San Francisco lessingia	1B.1/SE/FE	Occurs in coastal scrub (on remnant dunes). Blooms July to November, but occasionally starts as early as June.	25/110	None: No coastal scrub or remnant dune habitat occurs on the Project site.
Malacothamnus arcuatus	Arcuate bush-mallow	1B.2/None/None	Occurs in chaparral, and cismontane woodland. Blooms April to September.	15/355	None: No chaparral or cismontane woodland occurs on the Project site.
Micropus amphibolus	Mt. Diablo cottonweed	3.2/None/None	Occurs in broadleafed upland forest, chaparral, cismontane woodland, and valley and foothill grassland on rocky soils. Blooms March to May.	45/825	None: No forest, chaparral, cismontane woodland, or suitable grassland supported by rocky soils occurs on the Project site.
Microseris paludosa	Marsh microseris	1B.2/None/None	Occurs in closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland. Blooms April to June (occasionally into July).	5/300	None: No forest, cismontane woodland, coastal scrub, or suitable grassland habitat occurs on the Project site.
Pentachaeta bellidiflora	White-rayed pentachaeta	1B.1/SE/FE	Occurs in valley and foothill grasslands in association with serpentine soils. Blooms from March to May.	35/620	None: No suitable grassland habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. There are no reported records for this species within the city of San Francisco. Further, this species was not observed during the March 3, 2011, survey, which occurred during this species' recognized blooming period.
Plagiobothrys chorisianus var. *chorisianus*	Choris' popcorn-flower	1B.2/None/None	Occurs in chaparral, coastal prairie, and coastal scrub on mesic soils. Blooms from March to June.	15/160	None: No chaparral, coastal prairie or scrub supported by mesic conditions occurs on the Project site.
Plagiobothrys diffusus	San Francisco popcorn-flower	1B.1/SE/None	Occurs in coastal prairie, and valley and foothill grassland. Blooms from March to June. Known only from approximately ten occurrences.	60/360	None: No coastal prairie or suitable grassland habitat occurs on the Project site.

Table 4.15-1 Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately 5 Miles) of the Project Site

Scientific Name	*Common Name*	*CNPS/CESA/FESA*	*Habitat*	*Elevation Low/High (meters)*[a]	*Likelihood of Occurrence*
Polemonium carneum	Oregon polemonium	2.2/None/None	Occurs in coastal prairie, coastal scrub, and lower montane coniferous forest. Blooms April to September.	0/1,830	None: No coastal prairie, scrub, or forest habitat occurs on the Project site.
Sanicula maritima	Adobe sanicle	1B.1/CR/None	Occurs in chaparral, coastal prairie, meadows and seeps, and valley and foothill grassland on clay and/or serpentinite soils. Blooms from February to May. Known from fewer than twenty occurrences.	30/240	None: No chaparral, coastal prairie, meadow and seep, or suitable grassland habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. This species was not observed during the March 3, 2011, survey, which occurred during this species' recognized blooming period. A historical record dating back to 1895 is reported at an off-site location to the immediate north of the Project site; however, developments currently exist at the reported location and the species has likely been extirpated from the area.
Silene verecunda ssp. *verecunda*	San Francisco campion	1B.2/None/None	Occurs in coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland on sandy soils. Blooms March to June (occasionally into August).	30/645	None: No coastal scrub, chaparral, prairie, or suitable grassland habitat supported by sandy soils occurs on the Project site.
Stebbinsoseris decipiens	Santa Cruz microseris	1B.2/None/None	Occurs in broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland in open areas, sometimes on serpentinite soils. Blooms April to May.	10/500	None: No forest, chaparral, coastal prairie, scrub or suitable grassland habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. There are no reported records for this species in the city of San Francisco. The closest reported occurrence for this species is approximately 15.0 miles northwest of the Project site near Mt. Tamalpais State Park. This species is not likely to occur within the Project site.

Table 4.15-1 Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately 5 Miles) of the Project Site

Scientific Name	*Common Name*	*CNPS/CESA/FESA*	*Habitat*	*Elevation Low/High (meters)*[a]	*Likelihood of Occurrence*
Triphysaria floribunda	San Francisco owl's-clover	1B.2/None/None	Occurs in coastal prairie, coastal scrub, and valley and foothill grassland, usually on serpentinite soils. Blooms April to June.	10/160	None: No forest, chaparral, coastal prairie, scrub or suitable grassland habitat occurs on the Project site. Serpentine outcrops are present within limited portions of the site; however, previous developments and ongoing disturbance at the site make presence of this and other special-status plant species very unlikely. A historical record dating back to 1881 is reported at an off-site location to the immediate north of the Project site; however, developments currently exist at the reported location and the species has likely been extirpated from the area.
Triquetrella californica	Coastal triquetrella	1B.2/None/None	Occurs in coastal bluff scrub, and coastal scrub. This species is a moss that grows directly on soil substrates. Known in California from fewer than ten small coastal occurrences.	10/100	None: No coastal scrub occurs on the Project site. The undeveloped soils that remain on the site do not likely provide suitable conditions for this species.
WILDLIFE					
Invertebrates					
Danaus plexippus	Monarch butterfly	(N/A)/None/S3 Winter roosting sites protected by CDFW	Eucalyptus groves used as winter roost sites. Typically use the same groves year after year.	(N/A)	None: Eucalyptus trees present, but no records in the CNDDB of this species utilizing the Project site for winter roosting.
Mammals					
Corynorhinus townsendii	Townsend's big-eared bat	(N/A)/None/CSC, S2S3	Roosts in the open in large caves, abandoned mines and abandoned buildings. Very sensitive to roost disturbance and human activity.	N/A	None: No suitable caves, mines or abandoned buildings on the Project site. High level of human activity in the area also a likely deterrent.
Lasiurus blossevillii	Western red bat	(N/A)/None/CSC, S3	Typically occurs in association with riparian woodlands. Roosts in the foliage of riparian trees such as cottonwoods and sycamores.	N/A	None: Numerous trees present on site, but no riparian habitat, cottonwoods, or sycamore trees on the Project site.

Table 4.15-1 Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately 5 Miles) of the Project Site

Scientific Name	*Common Name*	*CNPS/CESA/FESA*	*Habitat*	*Elevation Low/High (meters)*[a]	*Likelihood of Occurrence*
Lasiurus cinereus	hoary bat	(N/A)/None/S4	Solitary, foliage roosting species that is infrequently observed. Roosts are typically outside of urban areas. Forages in open areas or forest habitat edges.	N/A	None: Numerous trees present on site, but no riparian or woodland habitat on the Project site. Project site and surrounding region very urbanized.

a. Project area elevation ranges from 12 to 80 meters above msl.

Status:

CNPS
- 1A Presumed extinct
- 1B California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California and elsewhere.
- 2 California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California, but more common elsewhere.
- 3 Plants about which more information is needed
- 4 Plants of limited distribution - a watch list

CNPS Threat Code Extensions:
- .1 Species seriously endangered in California
- .2 Species fairly endangered in California
- .3 Species not very endangered in California

State
- SE State listed as Endangered
- ST State listed as Threatened
- SD Delisted by the State
- CR California rare
- CSC California Department of Fish and Game designated "Species of Special Concern"
- FP Fully Protected
- WL CDFW Watch List
- S1 Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres
- S1.1 Very threatened
- S2 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres
- S2.1 Very threatened
- S3 21-100 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres
- S3.1 Very threatened
- S4 Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat.

Federal
- FE Federally listed as Endangered
- FT Federally listed as Threatened

Likelihood of occurrence evaluations:
- A rating of "Known" indicates that the species has been observed on the site.
- A rating of "High" indicates that the species has not been observed, but sufficient information is available to indicate suitable habitat and conditions are present on-site and the species is expected to occur on site.
- A rating of "Moderate" indicates that it is not known if the species is present, but suitable habitat exists on-site.
- A rating of "Low" indicates that species was not found during biological surveys conducted to date on the site and may not be expected given the species' known regional distribution or the quality of habitats located on the site.
- A rating of "None" indicates that the species would not be expected to occur on the Project site because the site does not include the known range or does not support suitable habitat.

One area, a steep grassy slope south of 23rd Street where it intersects with Arkansas Street, was fallow and did not display signs of intense maintenance at the time of the survey. However, close inspection of this area revealed a very large percent coverage of the nonnative plant species described below. Plant species observed on and around the serpentine outcrops consist primarily of nonnative lawn grasses (e.g., bluegrass [*Poa* sp.], rye grass [*Lolium* sp.], fescue [*Festuca* sp.], and Bermuda grass [*Cynodon dactylon*]). Other nonnative plant species observed in these areas included a variety of nonnative grasses and forbs including wild oat (*Avena fatua*), soft chess (*Bromus hordeaceus*), rip-gut brome (*Bromus diandrus*), and Italian ryegrass (*Lolium multiflorum*), dallis grass (*Paspalum dilatatum*), pineapple weed (*Chamomilla suaveolens*), curly dock (*Rumex crispus*), cheeseweed (*Malva parviflora*), prickly lettuce (*Lactuca serriola*), fennel (*Foeniculum vulgare*), bristly ox-tongue (*Picris echioides*), vetch (*Vicia* sp.), and English plantain (*Plantago lanceolata*). Only two common native species were observed within the areas supported by serpentine soils during March 3, 2011, survey: California poppy (*Eschscholzia californica*) and a single western blue-eyed grass (*Sisyrinchium bellum*). Neither of these native plants is a special-status species listed in Table 4.15-1.

Two off-site areas also support serpentine outcrops. These off-site areas are associated with historically disturbed land that is apparently unmaintained, including a large serpentine outcrop along the east side of Texas Street, and a steep slope south of 26th Street near the southern terminus of Wisconsin Street (Figure 4.15-1). Similar to the serpentine outcrops on the Project site, these off-site areas are also characterized by nonnative vegetation. Due to lack of suitable vegetation associations, historical disturbances, and isolation from known populations, these off-site areas are not likely to support any of the special-status plant species analyzed in Table 4.15-1. The serpentine outcrops in these off-site areas are not expected to be disturbed as a result of the Proposed Project.

Ornamental Trees and Shrubs. A tree survey was conducted of the Project site by GLS Landscape/Architecture, the results of which are presented in a Tree Disclosure Submittal,[13] dated June 23, 2010. A Tree Disclosure Statement[14] form, dated June 28, 2010, has also been prepared for the Proposed Project as part of the project application process with the San Francisco Planning Department.

Significant trees are defined under the San Francisco Urban Forestry Ordinance as "any trees within 10 feet of a lot line abutting a public right-of-way that are above 20 feet in height, or with a canopy greater than 15 feet in diameter, or with a trunk greater than 12 inches in diameter at breast

[13] GLS Landscape/Architecture. 2010. *Tree Disclosure Submittal for Rebuild Potrero.* June 23. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[14] City and County of San Francisco Planning Department. 2010. *Tree Disclosure Statement Form for Rebuild Potrero*. June 28.

height."[15] A total of 254 significant trees were identified as occurring on or adjacent to the Project site.

Of the total 254 significant trees identified, 249 significant trees occur on the Project site and five significant trees occur on an adjacent property overhanging the site.[16] The Project site does not support any street trees or landmark trees, as defined under the San Francisco Urban Forestry Ordinance.[17]

As identified in the Tree Disclosure Submittal and confirmed during the March 3, 2011, field visit, all significant trees inventoried within the Project site are nonnative species with the exception of two native cultivar species that had been previously planted and introduced to the site. The two native significant tree species planted and introduced onto the site include Monterey cypress (*Cupressus macrocarpa*) and Monterey pine (*Pinus radiata*). Nonnative significant trees observed include blue gum (*Eucalyptus globulus*), red flowering gum (*Eucalyptus ficifolia*), narrow leaf peppermint (*Eucalyptus puchella*), silver dollar gum (*Eucalyptus polyanthemos*), red ironbark (*Eucalyptus sideroxylon*), white iron bark (*Eucalyptus leucoxylon*), swamp mahogany (*Eucalyptus robusta*), Italian stone pine (*Pinus pinea*), Chinese elm (*Ulmus parviflora*), blackwood acacia (*Acacia melanoxylon*), silver wattle (*Acacia dealbata*), Sydney golden wattle (*Acacia longifolia*), Peruvian pepper (*Schinus molle*), olive (*Olea europaea*), and Ngaio tree (*Myoporum laetum*).

Of the 254 trees identified in the Tree Disclosure Submittal, 177 are in fair or better condition with the remaining 77 in poor condition. Problems specifically identified in the report include eight trees infested by thrips, four trees with poor structure, five trees with pitch canker, one tree with embedded bark and one tree that had been topped.

General Wildlife

Due to the dense urban development within the Project site and surrounding region, wildlife use in these areas is limited to those species most tolerant of urban environments and human activity.

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[15] City and County of San Francisco Planning Department. 2013. *San Francisco Municipal Code*, Article 16 (Urban Forestry Ordinance), Section 810A (Significant Trees). Available: <http://www.amlegal.com/nxt/gateway.dll/California/publicworks/article16urbanforestryordinance?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca$anc=JD_810A>.http://www.amlegal.com/nxt/gateway.dll/California/planning/article12dimensionsareasandopenspaces?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca$anc=JD_139 Accessed: January 17, 2013.

[16] GLS Landscape/Architecture. 2010. *Tree Disclosure Submittal*. June 23. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[17] City and County of San Francisco Planning Department. 2013. *San Francisco Municipal Code*, Article 16 (Urban Forestry Ordinance), Section 802 (Definitions) and Section 810 (Landmark Trees). Available: <http://www.amlegal.com/nxt/gateway.dll/California/publicworks/article16urbanforestryordinance?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca>.http://www.amlegal.com/nxt/gateway.dll/California/planning/article12dimensionsareasandopenspaces?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca$anc=JD_139 Accessed: January 17, 2013.

Species observed during the March 3, 2011, survey included American crow (*Corvus brachyrhynchos*), western scrub jay (*Aphelocoma coerulescens*), and rock dove (*Columba livia*). Other species expected to occur in this habitat include mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), house mouse (*Mus musculus*), black rat (*Rattus rattus*), Norway rat (*Rattus norvegicus*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*) and feral cat (*Felis silvestris*). Anecdotal records of red-tailed hawk (*Buteo jamaicensis*) have been reported at the Project site, although no nest structures were observed in the area during the May 3, 2011 survey. Suitable nesting habitat occurs on and in the immediate vicinity of the site for common migratory birds and raptors, as discussed below.

Nesting Raptors. Numerous large trees, primarily gum trees (*Eucalyptus* spp.), are distributed throughout the Project site. These trees represent suitable nesting habitat for a variety of common raptors, including red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), and great horned owl (*Bubo virginianus*). Although no nest structures were observed during the March 3, 2011, survey, which included an inspection of trees and shrubs for the presence or absence of nest structures, these species could potentially establish nests in the area, particularly where anecdotal sightings of red-tailed hawk have been reported. These common raptor species are not listed as threatened or endangered; however, they do receive protection pursuant to the Migratory Bird Treaty Act (MBTA) and CFW Code Section 3503.5, described under Regulatory Setting, in Section 5.15, *Biological Resources*, in this Draft EIR/EIS.

In addition, the ornamental trees and shrubs that occur on and in the immediate vicinity of the Project site provide suitable nesting habitat for several common resident and migratory songbirds known to the region that are also protected under the MBTA and CFW Code.

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4.16 GEOLOGY AND SOILS

4.16.1 Introduction

This section describes the geologic, seismic, soils, and topographic conditions on and around the Project site. Information in this section is based on the geotechnical investigations prepared by ENGEO Incorporated[1], as well as other published information cited in the footnotes. The geotechnical investigation is included as Appendix 4.16.

One comment was received during both the Notice of Preparation (NOP) and Notice of Intent (NOI) comment periods regarding the potential for development of the Project site to result in significant impacts on existing homes surrounding the Project area in the event of an earthquake.

4.16.2 Environmental Setting

Regional Geology

The Project site is located on the San Francisco Peninsula, on the western side of the California Coast Ranges geomorphic province. The Coast Ranges are a complex series of linear mountain ranges that lie more or less parallel to the coast and to the San Andreas Fault System. The Coast Ranges are composed primarily of Jurassic- and Cretaceous-age (206 to 65 million years ago) rocks that accumulated on the sea floor. These older rocks include a tectonic mix of sandstone, chert, altered basalt referred to as greenstone, and serpentinite, collectively referred to as the Franciscan Complex. While Franciscan bedrock is exposed in the hills and cliffs of San Francisco, the flanks of the hills are blanketed with thin to thick layers of colluvium and alluvium (weathered material washed downslope from the bedrock exposures). Valleys are filled with water-laid stream deposits.[2]

Regional Seismicity

The San Francisco Bay Area is in a seismically active region near the boundary between two major tectonic plates, the Pacific Plate to the southwest and the North American Plate to the northeast. The region's seismic faults can be classified as historically active, active, sufficiently active and well defined, or inactive,[3] as defined below:

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[1] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[2] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[3] California Geologic Survey, Fault-Rupture Hazard Zones in California, Interim Revision 2007, Special Publication No. 42 (Sacramento, CA, 2007).

- **Historically active** faults are faults that have generated earthquakes accompanied by surface rupture during historic time (approximately the last 200 years) or that exhibit a seismic fault creep (slow incremental movement along a fault that does not entail earthquake activity).
- **Active** faults show geologic evidence of movement within Holocene time (approximately the last 11,000 years).
- **Sufficiently active and well-defined** faults show geologic evidence of movement during the Holocene along one or more of their segments or branches, and their trace may be identified by direct or indirect methods.
- **Inactive** faults show direct geologic evidence of inactivity (that is, no displacement) during all of Quaternary time or longer.

Although it is difficult to quantify the probability that an earthquake will occur on a specific fault, the preceding classification is based on the assumption that if a fault has moved during the last 11,000 years, it is likely to produce earthquakes in the future.

No known active faults cross the Project site, and the site is not located within an Alquist-Priolo Earthquake Fault Zone.[4] The closest known active (surface) faults to the site are the San Andreas Fault, located about 6 miles to the southwest, the San Gregorio fault located about 10 miles to the west, and the Hayward fault located about 11 miles to the east.[5]

An earthquake can be classified quantitatively by the amount of energy released or qualitatively by the intensity of its effects on the surface. The amount of energy released during a seismic event has traditionally been quantified using the Richter scale. Recently, seismologists have begun using a moment magnitude (M) scale, developed in 1979, because it provides a more accurate measurement of the size of major and great earthquakes. For earthquakes of less than M 7.0, the moment magnitude and Richter magnitude scales are nearly identical. For earthquake magnitudes greater than M 7.0, readings on the moment magnitude scale are slightly greater than a corresponding Richter magnitude.

Large earthquakes, M value greater than 7, have historically occurred in the Bay Area and many earthquakes of low magnitude occur every year. Most earthquakes are concentrated along the San Andreas, Hayward, and Calaveras faults, as illustrated in Figure 4.16-1. The San Andreas, San Gregorio, and Hayward faults have estimated maximum M values of 7.9, 7.2, and 7.1, respectively.[6]

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[4] The Alquist-Priolo Earthquake Fault Zoning Act requires the California State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults. The project site is not within an Alquist-Priolo Earthquake Fault Zone.

[5] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[6] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

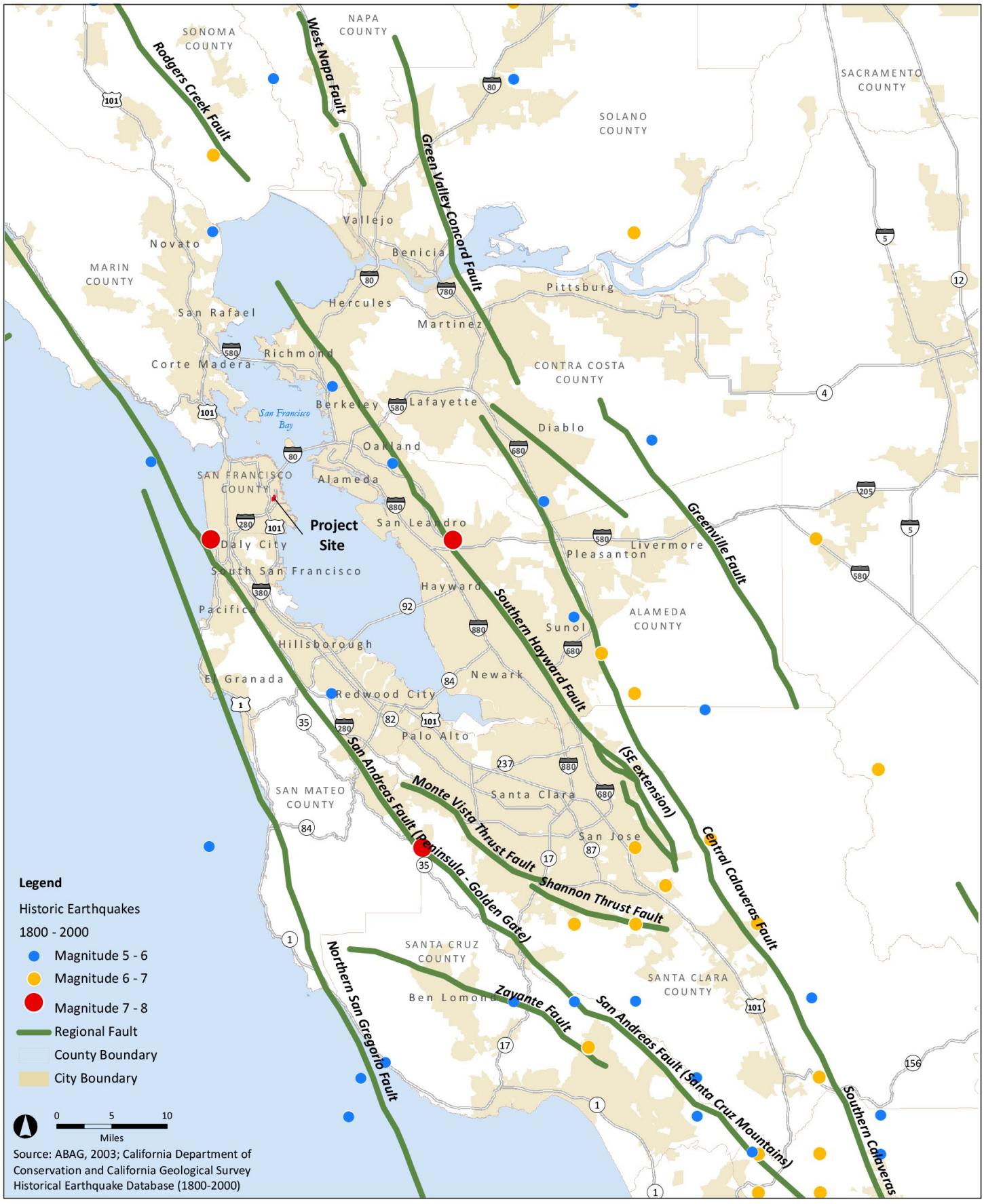

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FIGURE 4.16-1: REGIONAL FAULT MAP

The Working Group on California Earthquake Probabilities estimates there is a 21 percent probability that a moment magnitude M6.7 or greater earthquake will occur on the northern portion of the San Andreas Fault, while it estimates a 31 percent probability of the same magnitude event occurring on the Hayward/Rogers Creek Fault within 30 years of the study (2007–2037).[7]

Seismic Hazards

Ground Shaking

The intensity of the seismic shaking during an earthquake depends on several factors, including the distance and direction to the earthquake's epicenter, the magnitude of the earthquake, and the area's geologic conditions. An earthquake of moderate to high magnitude generated within the San Francisco Bay Region could cause considerable ground shaking at the Project site, similar to that which has occurred in the past. According to the Association of Bay Area Governments' Earthquake Hazards map for San Francisco and the San Francisco General Plan's Ground Shaking Intensity map, the Project site would be subject to "strong" shaking intensity and "objects fall" damage during a characteristic earthquake M 7.9 on the San Andreas fault.[8] During a characteristic earthquake M 7.1 on the Rodgers Creek and Northern segments Hayward fault, the Project site would be subject to "moderate" shaking and "objects fall" damage.[9]

Ground Rupture

Ground rupture occurs when movement on a fault deep in the earth breaks through to the ground surface. There are no known active faults crossing the Project site, and because the Project site is not located within an Alquist-Priolo Earthquake Fault Zone, ground rupture is unlikely.[10]

Ground Lurching

Ground lurching is a result of the rolling motion imparted to the ground surface during energy released by an earthquake. Such rolling motion can cause ground cracks to form in weaker soils. The potential for the formation of these cracks is considered greater at contacts between deep alluvium

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[7] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[8] Association of Bay Area Governments, Earthquake Hazard Map for San Francisco, Scenario: Entire San Andreas Fault System in Earthquake Hazard Maps, http://www.abag.ca.gov/cgi-bin/pickmapx.pl (updated October 20, 2003).

[9] Association of Bay Area Governments, Earthquake Hazard Map for San Francisco, Scenario: Rodgers Creek–North Hayward Earthquake Magnitude 7.1 Hazard Maps, http://www.abag.ca.gov/cgi-bin/pickmapx.pl.

[10] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

and bedrock. Ground lurching is possible at the site, as in other locations in the Bay Area, but based on the site location, the offset is expected to be very minor.[11]

Lateral Spreading

Lateral spreading is a failure within weaker soil material, which causes the soil mass to move toward a free face or down a gentle slope due to liquefaction. In general, the site has a low susceptibility to liquefaction, and lateral spreading is unlikely.[12]

Liquefaction

Soil liquefaction is a phenomenon under which saturated, loose soils experience a temporary loss of shear strength when subjected to the wave-like shear stresses caused by earthquake ground shaking. The site is located outside of the State of California Seismic Hazard Zones for areas that may be susceptible to liquefaction, as shown on Figure 4.16-2. During geotechnical exploration of the site, groundwater was not encountered, and soil types known to be susceptible to liquefaction were not found.[13]

Settlement

Densification of loose sand above the groundwater level during earthquake shaking could cause settlement of the ground surface. In addition, densification of liquefiable soils below the groundwater level can cause detrimental settlement at the ground surface. As discussed above, loose layers of fill and soil susceptible to this type of densification were encountered on the site.[14]

Slope Stability/Landslides

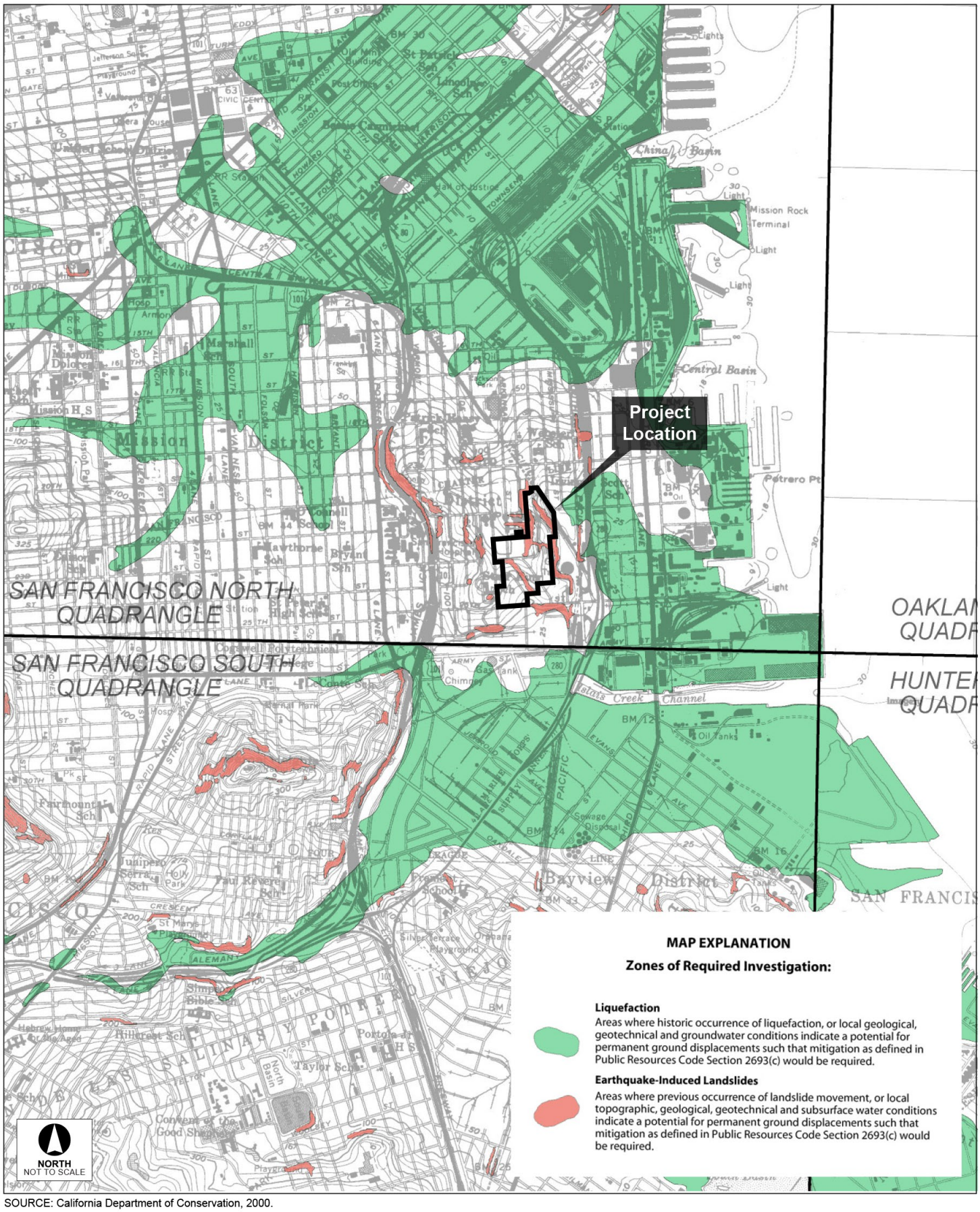
Slope failures include many phenomena that involve the downslope displacement and movement of material, such as landslides, rockfall, debris slides, and soil creep, and can be triggered by static (i.e., gravity) or dynamic (i.e., earthquake) forces. Slope stability depends on several complex variables,

[11] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[12] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[13] Exploratory borings and test pits were excavated to depths ranging from approximately 3 feet to 16.5 feet below grade. ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[14] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.



SOURCE: California Department of Conservation, 2000.

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FIGURE 4.16-2: SEISMIC HAZARD ZONES

such as the geology, structure, and amount of groundwater, as well as external processes such as climate, topography, slope geometry, and human activity. Landslides and other slope failures may occur on slopes of 15 percent or less; however, the probability is greater on steeper slopes that exhibit old landslide features such as scarps, slanted vegetation, and offset surfaces.

As shown in Figure 4.16-2, the northwest/southeast-trending slope between Connecticut Street and Dakota Street is indicated on the State of California Seismic Hazard Zone map as an area that may be susceptible to seismically induced landsliding. The areas mapped as having the potential for seismically induced landsliding appear to consist of steeper existing slopes.[15]

Soil Creep

Soil creep is a slow down-slope movement of soil that occurs with the annual cycle of wetting and drying under the influence of gravity. The rate of soil creep down a slope depends on the steepness (gradient) of the slope, water absorption and content, type of sediment and material, and vegetation. Clayey soils, as found on the Project site, on steeper natural slopes are susceptible to soil creep.[16]

Soils

Overall, the geologic setting is one of high variability, which is common in Franciscan bedrock.[17] This variability contributes to surface geology at the Project site, which is mapped as slope debris and ravine fill,[18] and the underlying soil types and characteristics. Subsurface conditions at the Project site were evaluated by drilling exploratory borings and excavating exploratory test pits at various locations throughout the Project site. The exploratory borings and test pits revealed a layer of colluvium[19] ranging from 6 to 11 feet in thickness. The results also indicate that previous grading activities at the Project site resulted in the placement of fill in areas of the site. Fill was also placed on portions of the slope east of the northern limits of Texas Street and east of the Missouri Street and Texas Street intersection. In general, fill at the Project site consists of silty clay and sand and clayey silt and sand ranging in thickness from 1 to 8 feet. Analysis of the borings and test pits conducted

[15] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009), Figure 4. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[16] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[17] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[18] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[19] Colluvium refers to silty clay materials transported by erosion from slopes and ridges that are typically deposited in swales.

suggest that the fills were compacted during placement, but it is unlikely that they meet current standards for engineered fill design.[20]

Serpentine bedrock is present on existing cut slopes and in sporadic outcrops within and immediately adjacent to the site. The most extensive areas of serpentine outcrops occur as linear features on the south side of 26th Street, on the west side of Wisconsin Street south of Carolina Street, along 23rd Street, and along Texas Street. Serpentine bedrock was also encountered in each of the exploratory borings and test pits at a minimum depth of 2.5 feet below ground surface and at maximum depths of 11 to 15 feet in the area of fill along Connecticut Street. The serpentine bedrock varies in terms of engineering and geologic characteristics.[21]

Expansive Soils

Expansive soils are characterized by their potential "shrink-swell" behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in certain fine-grained clay sediments from the process of wetting and drying. This can cause heaving and cracking of slabs on grade, pavements, and foundations. Structural damage typically occurs over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. The Project site contains highly expansive colluvial soil and slope wash beneath the fill along Connecticut Street.[22]

Topography

The topographic relief of the Project site is very steep in places, with grades exceeding 30 percent in some locations. The highest site elevation is located at the intersection of 23rd Street and Arkansas Street in the northern portion of the site, at 265 feet above mean sea level. The lowest topographic elevation of 40 feet above msl is in the southern portion of the Project site at the intersection of 26th Street and Connecticut Street.[23]

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[20] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[21] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009), Figure 5. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[22] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[23] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

4.17 HYDROLOGY AND WATER QUALITY

4.17.1 Introduction

This section describes the local climate, hydrology, drainage, flooding potential, water quality, and groundwater within the immediate vicinity of the Proposed Project. Data for this section of the Draft EIR/EIS was obtained through review of existing environmental documents for San Francisco, available online data, and the geotechnical investigation[1] prepared for the Proposed Project. The geotechnical investigation is included as Appendix 4.16.

No comments were received during the Notice of Preparation (NOP) or during the Notice of Intent (NOI) comment period regarding the potential for development of the Project site to result in significant impacts related to hydrology and water quality.

4.17.2 Existing Conditions

Climate and Precipitation

San Francisco is considered semiarid with a moderate, Mediterranean climate characterized by cool, dry summers and mild, wet winters. The approximate annualized average high temperature is 64 degrees Fahrenheit (°F); the average low temperature is 51°F. Annual rainfall for areas in San Francisco during the period between 1948 and 2008 averaged approximately 20 inches, 95 percent of which occurred during the winter rainy season (October–April), with the heaviest rainstorms typically occurring in December, January, and February.[2]

The amount of precipitation likely to fall during a two-year, six-hour event (i.e., the most extreme storm expected to occur over six hours in any given two-year period) is estimated to be 1.3 inches, and the 100-year, six-hour precipitation event (the most extreme storm expected to occur over six hours in any given 100-year period) is estimated to be 2.3 inches.[3] During the period of record, annual rainfall has varied from 8.7 inches (1976) to 43.8 inches (1983), with a one-day high of 5.5 inches of precipitation on November 5, 1994.

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[1] ENGEO Incorporated. 2009. *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA.* July 10. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[2] Western Regional Climate Center. 2013. *General Climate Summary: San Francisco Richmond Station* (047767). Available: <www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7767>. Accessed: June 3, 2014.

[3] NOAA. 2013. *Precipitation-Frequency Atlas of the Western United States*, Volume XIV Available: < http://www.nws.noaa.gov/oh/hdsc/PF_documents/Atlas14_Volume8.pdf>. Accessed: June 3, 2014.

Local Topography, Physiography, and Drainage

The Project site is characterized by steep slopes and hilly topography with grades in some locations exceeding 30 percent. The highest topographic elevation is to the north at the intersection of 23rd Street and Arkansas Street at 265 feet above mean sea level (msl) and the lowest elevation is to the south at the intersection of 26th Street and Connecticut Street at 40 feet above msl.[4] There are no natural drainage features on or adjacent to the Project site. The Proposed Project is located within the Islais Basin, one of San Francisco's eight watershed basins.[5]

Stormwater Runoff

Most stormwater runoff in San Francisco is collected via a combined sewer system managed by the San Francisco Public Utilities Commission (SFPUC). Because of development and other land use changes within San Francisco, few creeks or streams flow within the city; most surface water features have been replaced by the city's combined sanitary sewer/storm drain system. This system combines stormwater runoff and wastewater flows in the same network of pipes, conveying flows to facilities where they are treated prior to discharge to the San Francisco Bay or the Pacific Ocean through outfall structures along the shoreline. Discharges from the combined sewer system are regulated under two individual National Pollutant Discharge Elimination System (NPDES) permits (waste discharge requirements [WDRs]) issued by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB). The applicable NPDES permit/WDR is discussed in Section 5.17.

Stormwater runoff from the Project site and other locations within the Islais Basin, along with wastewater, is conveyed through the combined sewer system to the Southeast Water Pollution Control Plant (SWPCP) and, after secondary treatment (removal of settleable materials and partial removal of dissolved materials), into San Francisco Bay.[6] During dry weather, wastewater and any dry weather runoff (e.g., from irrigation runoff, discharge from underground springs, or pipe leaks) from the eastern portions of San Francisco is conveyed to the SWPCP. The SWPCP treats approximately 67 million gallons per day (mgd) during dry weather (approximately 80 percent of San Francisco's total wastewater flow) and has the capacity to treat 150 mgd to secondary-treatment standards. Treated wastewater is then discharged through the SWPCP's deep-water outfall at Pier 80 into San Francisco Bay.[7] If the combined wet-weather flows exceed 150 mgd, the SWPCP can

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[4] ENGEO Incorporated. 2009. *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA.* July 10. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[5] San Francisco Public Utilities Commission. 2011. *Maps and Resources: Islais Creek Basin*, pp. 1–5. Available: <http://sfwater.org/mto_main.cfm/MC_ID/14/MSC_ID/361/MTO_ID/565>. Accessed: March 24, 2011.

[6] City and County of San Francisco Public Utility Commission. 2009. *Stormwater Management Plan: Annual Report*, p. 3. Available: <http://sfwater.org/mto_main.cfm/MC_ID/14/MSC_ID/361/MTO_ID/542>. Accessed: April 18, 2011.

[7] San Francisco Public Utilities Commission. 2011. *Making Dirty Water, Clean Again*. Available: <http://sfwater.org/mto_main.cfm/MC_ID/14/MSC_ID/117/MTO_ID/670#LIQUIDTREATMENT>. Accessed: March 24, 2011.

also treat an additional 100 mgd to a primary-treatment standard (removal of settleable materials) plus subsequent disinfection and dechlorination.[8] Wet-weather flows that are treated to the primary standard (plus disinfection) are only discharged from the Pier 80 outfall, while flows treated to the secondary standard and disinfected are discharged through the Quint Street Outfall to the Islais Creek Channel when the plant's maximum capacity is reached. During larger storm events, excess flows that cannot be treated at the SWPCP are treated and discharged through the Bayside Wet Weather Facilities (BWWFs), which consist of a series of interconnected underground tanks, tunnels, and outfall structures. During dry weather, the BWWFs transport combined wastewater to the SWPCP. During wet weather, underground transport tunnels provide a total storage capacity of approximately 193 million gallons, while pumps continue to transfer combined wastewater and stormwater to the SWPCP. Section 4.13, *Utilities and Service Systems*, contains additional information about the combined storm drainage and wastewater infrastructure.

Stormwater Runoff Quality

As stormwater runoff water flows over various surfaces (streets, sidewalks, rooftops, vegetation, etc.), it picks up dissolved chemicals, particulate material, and gross surface debris before being discharged into the stormwater drainage system, and ultimately into a water body. The effects of this runoff water on surface water quality depend on the amount and type of material being picked up and transported, as well as the amount of water or flow rate in the receiving water. Constituents and concentrations within runoff water vary according to land cover, land use, topography, and the amount of impervious cover, as well as the intensity and frequency of irrigation or rainfall. Runoff from undeveloped areas will reflect the natural chemistry and ecology of the watershed. Runoff in developed areas may typically contain oil, grease, and metals accumulated in streets, driveways, parking lots, and rooftops, as well as pesticides, litter, herbicides, particulate matter, nutrients, animal waste, and other oxygen demanding substances from landscaped areas. Runoff from open space areas and parks may typically contain nutrients, pesticides, organic debris, bacteria, and sediment.

The Project site is in an area that consists of a mix of residential, commercial, industrial, and recreational land uses. There are no data on pollutant loads generated in the surface runoff from the Project site; thus, stormwater runoff quality is assumed to be typical of those associated with common urban uses, as noted above. The typical pollutants generated within urban land use areas consist of oil, grease, metals, litter, sediments, pesticides, and nutrients (e.g., phosphorous, nitrogen) from fertilizers. The nonpoint-source pollutants generated within the Project site are picked up by rainfall as it runs off the impervious surfaces and enters the combined sewer system. Upon reaching the SWPCP, many of these pollutants are removed from storm flows before final discharge into San

[8] San Francisco Redevelopment Agency and San Francisco Planning Department. 2010. *Candlestick Point–Hunters Point Shipyard Phase II Development Plan Final Environmental Impact Report*. June. Redevelopment Agency File No. ER06.05.07, Planning Department File No. 2007.0946E, State Clearinghouse No. 2007082168.

Francisco Bay. However, as discussed above, storm flows are combined with continually present wastewater flows; during rain events, total flows can reach quantities that overwhelm the existing sewer system, potentially resulting in the direct discharge of partially treated wastewater and stormwater into the Bay, the ocean, or both. These combined-sewer overflow (CSO) events not only present a public-health danger caused by bacterial contamination, but they can also disrupt ecosystem function when nutrients are discharged.

Groundwater

The Project site is within the San Francisco Bay Hydrologic Region, which covers approximately 2.88 million acres (4,500 square miles), including all of San Francisco.[9] The region has 28 identified groundwater basins, and the Proposed Project is located within the Islais Valley groundwater basin (Islais Basin). During geotechnical exploration, groundwater was not encountered at the Project site.[10] Groundwater is not used for any purpose at the Project site.

In general, groundwater quality throughout most of the San Francisco Bay Hydrologic Region is suitable for most urban and agricultural uses, with only local impairments. The primary constituents of concern are high total dissolved solids, nitrate, boron, and organic compounds.[11]

Flood Hazards

The Project site is not located in a designated floodplain. The Project site is not within a 100-year special flood hazard zone,[12] nor is it susceptible to tsunami, seiche, or climate change-induced sea level rise due to its inland location and elevation. Dam failure inundation also does not pose a threat to the Project site because San Francisco is not located in a dam failure inundation area.[13]

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[9] California Department of Water Resources. 2003. *California's Groundwater*. Bulletin 118, p. 31. Sacramento, CA.

[10] ENGEO Incorporated. 2009. *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA.* July 10. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[11] California Department of Water Resources. 2003. *California's Groundwater*. Bulletin 118, Chapter 7 (San Francisco Bay Hydrologic Unit), p. 132. Available: <http://www.water.ca.gov/pubs/groundwater/bulletin_118/california's_groundwater__bulletin_118_-_update_2003_/bulletin118_2-sf.pdf>. Accessed March 24, 2011.

[12] Federal Emergency Management Agency. 2008. *San Francisco's Interim Floodplain Maps—Citywide*, Final Draft. July. Available: <http://sfgsa.org/Modules/ShowDocument.aspx?documentid=1761>. Accessed March 28, 2011.

[13] Association of Bay Area Governments. 2011. *Flooding Maps and Information: Dam Failure Inundation Hazard Map for San Francisco.* August. Available: <http://quake.abag.ca.gov/floods/>.

4.18 HAZARDS AND HAZARDOUS MATERIALS

4.18.1 Introduction

This section describes the available information about hazardous materials[1] in the environment and structures at and adjacent to the Project site and other hazards. Historic and current land uses are summarized in this section, based on the two following reports: *Phase I Environmental Site Assessment (ESA) and Limited Asbestos and Lead Paint Sampling Report for the Potrero Annex and Potrero Terrace* (hereinafter referred to as Project Phase 1 ESA)[2] and *Phase I ESA 1101 Connecticut Street Report for Block X* (hereinafter referred to as Block X Phase 1 ESA).[3] The Phase I ESAs and other relevant correspondence are included in Appendix 4.18.

To determine the potential for hazardous materials to occur at the Project site, the ESAs included the following elements: site reconnaissance; topography, geology, soils, hydrology, and water quality survey; off-site source survey; historical site and site vicinity land use review; review of regulatory databases, and a limited asbestos and lead paint sampling analysis. The primary objective of the ESAs was to assess the likelihood of recognized environmental conditions (RECs) at the Project site as a result of current or historical land uses on or around the Project site, and/or from a known and reported off-site source.[4]

Several comments were received during the Notice of Preparation (NOP) comment period regarding the accidental release of hazardous materials from construction-related activities. Comments were received regarding potential disturbance of naturally occurring asbestos (NOA), lead-based paint (LBP), and asbestos-containing materials (ACMs). In addition, commenters raised concerns regarding the proximity of the Project site to nearby schools and implementation of mitigation to

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[1] The term "hazardous material" is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment. It includes hazardous waste.

[2] SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment, San Francisco, CA.* August 7. Sacramento, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[3] LEE Incorporated. 2013. *Phase I Environmental Site Assessment 1101 Connecticut Street, San Francisco, CA.* April 8. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[4] "Recognized environmental conditions," as defined by ASTM, include the presence or likely presence of hazardous substances or petroleum products on a property that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water on the property. However, the term is not intended to include *de minimis* conditions. A condition considered *de minimis* is not a recognized environmental condition. It is an environmental condition that does not generally present a material risk of harm to the public health or the environment and that generally would not be subject to an enforcement action if brought to the attention of appropriate governmental agencies.

reduce potential impacts related to the aforementioned hazards. Comments received during the Notice of Intent (NOI) comment period included concerns over ACMs. These topics are addressed in Section 5.18, *Hazards and Hazardous Materials*.

4.18.2 Environmental Setting

Historic Uses

Built in two phases in 1941 and 1955, the Project site is composed of two of the oldest public housing developments in San Francisco, Potrero Terrace and Potrero Annex. Together, these public housing developments house a population of approximately 1,200 people. Research indicates that prior to the construction of the Potrero Terrace buildings in 1941, the Project site was undeveloped.[5] From 1940 through 1990, Block X, located at the intersection of 25th Street and Connecticut Street, on the south slope of Potrero Hill District, served as a children's nursery and child development center. In 1990, the center closed, and the building was removed following extensive damage when a truck crashed into the building. North of the former building site is a sloped grassy surface with no structures.[6]

Current Uses

The current use of the Potrero Terrace and Potrero Annex sites is a multi-family public housing development including multi-story residential buildings, a roadway/pedestrian network, parking, an administrative office, a Family Resource Center, and a child care center. There are 38 residential buildings on the Potrero Terrace site and 23 residential buildings on the Potrero Annex site. There are currently no retail, commercial, or industrial uses onsite.

As is common for multi-family residential developments, hazardous materials used and/or stored at the Project site are limited to cleaning/janitorial supplies and general maintenance supplies such as paint, paint thinner, liquid laundry bleach, stain cleaner, fabric softener, and gasoline. The Project Phase I ESA states that no obvious indications of the generation of hazardous wastes were observed during the site reconnaissance on June 10, 11, and 12, 2009.

In addition, the Project Phase I ESA determined that the release of hazardous materials at the Project site is limited to negligible quantities of automotive lubricants on asphalt and concrete pavement in the parking areas. A file review indicated that the Potrero Annex and Potrero Terrace properties are

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[5] SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment, San Francisco, CA.* August 7. Sacramento, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[6] LEE Incorporated. 2013. *Phase I Environmental Site Assessment 1101 Connecticut Street, San Francisco, CA*. April 8. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

not listed in the San Francisco Department of Public Works Bureau of Environmental Health and Management, San Francisco Department of Public Works Underground Tanks Division/Hazardous Materials Unified Program, or in the San Francisco Department of Public Health (DPH) as a site with recognized environmental conditions.[7]

Block X is currently in disuse. There is a basketball court and concrete foundation of a former building. The concrete, on the southern portion of the property, represents the foundation of a one-story building that occupied the area until the early 1990s. [8]

Surrounding land uses include a variety of residential, commercial, recreational, institutional, and industrial uses. Also in the vicinity are Potrero Hill Recreation Center and Starr King Elementary School.[9]

Schools within One-quarter Mile of the Project Site

There are two schools located within 0.25 mile of the Project site. Starr King Elementary is located approximately 0.05-mile west of the Project site. The Research In Special Education Institute is approximately 0.14-mile south of the Project site.

Airport Safety Zone

San Francisco International Airport (SFO) is approximately 8.5 miles south and Oakland International Airport is approximately 9.5 miles east of the Project site. The Project site is not located within the SFO or Oakland land use plan or within their maps of height restrictions, in accordance with Federal Aviation Administration Part 77, *Objects Affecting Navigable Airspace*. The Project site is, therefore, outside any airport safety or clear zones. In addition, due to the distance to the nearest airport, no portion of the Project site is within a Federal Aviation Administration (FAA) Part 77-defined Runway Object Free Area or Runway Safety Area.

Potentially Contaminated Site within One Mile of the Project Site

The Block X Phase I and Project Phase I reports identified petroleum hydrocarbon and hazardous materials release sites within a 1-mile radius of the site. The sites associated with soil or groundwater contamination are relatively distant from the Project site, and are either closed or mitigated cases or had releases limited to their property boundaries. The Block X Phase I and Project

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[7] SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment, San Francisco, CA.* August 7. Sacramento, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[8] LEE Incorporated. 2013. *Phase I Environmental Site Assessment 1101 Connecticut Street, San Francisco, CA*. April 8. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[9] Starr King Elementary School is within 0.25 mile of the Project site.

Phase I reports did not identify a site within a 1-mile radius where the plume of contaminated soil or groundwater extends to the vicinity of the Project site.[10,11]

Soil Investigation on the Project Site

The Block X Phase 1 and Project Phase I ESA did not involve soil investigation. The potential to encounter contaminated soils in the Project site is discussed in the *Hazardous Building Materials* section below.

Regulatory Database Review

As part of the Phase I ESAs, local, state, and federal regulatory databases were reviewed to determine whether there are any on- or off-site facilities that would be considered recognized environmental conditions (RECs) that could affect the site. Within the search radius, the Project Phase 1 listed 145 locations and the Block X Phase 1 listed 111 locations in various federal, state, or tribal databases. Table 4.18-1 provides a summary of the databases searched and the facilities in the search radius of Potrero Terrace and Potrero Annex. Table 4.18-2 provides a summary of the database review for Block X.

Table 4.18-1 Summary of Database Review for Potrero Terrace and Potrero Annex

Federal or State Government Database	*Search Radius*	*Number of Reported Facilities*	*On Project Site*	*Adjacent to the Project Site*
No Further Remedial Action Planned (NFRAP)	0.50 mile	7	No	No
Resource Conservation and Recovery Act-Corrective Action (RCRA COR ACT)	1.00 mile	1	No	No
RCRA Generators (RCRA GEN)	0.25 mile	20	No	Yes
Federal Engineering and Institutional Controls (IC/EC)	0.25 mile		No	No
Emergency Response Notification System (ERNS)	0.25 mile	2	No	No
State/Tribal Sites	1.00 mile	14	No	No
State/Tribal solid waste list (SWL)	0.50 mile	4	No	No
State/Tribal leaking underground storage tanks (LUST)	0.50 mile	85	No	Yes
State/Tribal underground/aboveground storage tanks (USTs/ASTs)	0.125 mile	5	No	No
State/Tribal voluntary cleanup program (VCP)	0.50 mile	2	No	No
State Permits	0.125 mile	5	No	Yes

SOURCE: SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling.* August 7. Sacramento, CA.

[10] SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment, San Francisco, CA.* August 7. Sacramento, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[11] LEE Incorporated. 2013. *Phase I Environmental Site Assessment 1101 Connecticut Street, San Francisco, CA*. April 8. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

Table 4.18-2 Summary of Database Review for Block X

Federal or State Government Database	*Search Radius*	*Number of Reported Facilities*	*On Project Site*	*Adjacent to the Project Site*
No Further Remedial Action Planned (NFRAP)	0.50 mile	4	No	No
Resource Conservation and Recovery Act-Corrective Action (RCRA COR ACT)	1.00 mile	0	No	No
RCRA Generators (RCRA GEN)	0.25 mile	7	No	Yes
Federal Engineering and Institutional Controls (IC/EC)	0.25 mile		No	No
Emergency Response Notification System (ERNS)	0.25 mile	0	No	No
State/Tribal Sites	1.00 mile	25	No	No
State/Tribal solid waste list (SWL)	0.50 mile	2	No	No
State/Tribal leaking underground storage tanks (LUST)	0.50 mile	64	No	Yes
State/Tribal underground/aboveground storage tanks (USTs/ASTs)	0.250 mile	4	No	No
State/Tribal voluntary cleanup program (VCP)	0.50 mile	1	No	No
State Permits	0. 250 mile	4	No	Yes

SOURCE: LEE Incorporated. 2013. *Phase I Environmental Site Assessment 1101 Connecticut Street*. April 8. San Francisco, CA.

According to the Project and Block X Phase I ESAs, the Project site is not listed as a hazardous materials/wastes site (Cortese List), and there are no listed facilities on regulatory databases on the Project site. The Phase I ESAs also determined that it is unlikely that any of the surrounding hazardous materials/wastes sites could contribute to a REC on the Project site.[12,13,14]

Hazardous Building Materials

As described above, there are currently 38 residential buildings on the Potrero Terrace site and 23 residential buildings on the Potrero Annex site, constructed in 1941 and 1955, respectively, and concrete foundations of a former children's nursery and child development center on Block X. Like many older buildings, these structures may contain building materials that can be hazardous to people and the environment once disturbed. Typical hazardous materials in buildings and concrete

[12] SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment, San Francisco, CA.* August 7. Sacramento, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[13] Following removal of underground storage tanks (UST) in the 1990s, testing indicated soil and groundwater had been contaminated with petroleum products at Yellow Cab Cooperative, 1200 Mississippi Street, south of the site. The site was remediated, and SFDPH issued a case closure letter in 2009.

[14] LEE Incorporated. 2013. *Phase I Environmental Site Assessment 1101 Connecticut Street, San Francisco, CA*. April 8. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

foundations of this age include lead-based paint (LBP) and asbestos in non-structural building materials, polychlorinated biphenyls (PCBs), and mercury fixtures and equipment.[15]

Lead-Based Paint

Prior to the U.S. Environmental Protection Agency (USEPA) ban in 1978, LBP was commonly used on interior and exterior building surfaces. Through such disturbances as sanding and scraping activities, renovation work, or gradual wear and tear, old peeling paint or paint dust particulates have been found to contaminate surface soils or cause lead dust to migrate and affect long-term indoor air quality. Exposure to lead can cause severe adverse health effects, especially in children. Results of a survey completed during the Project Phase I ESA indicated that existing buildings at the Project site contain U.S. Department of Housing and Urban Development (HUD)-defined LBPs, with lead concentrations greater than 600 mg/kg. According to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) guidelines, coatings, or materials containing lead at concentrations equal to or exceeding 600 mg/kg may constitute a health hazard for employees engaged in lead-related construction work.[16]

The Project Phase I ESA also noted the potential exists for the presence of elevated concentrations of lead in the soil around buildings due to the historic use of LBP, which may have leached from the exterior of the structure as the paint weathered and aged. The scraping and sanding of LBP during maintenance and repainting of the exteriors of existing buildings over time may also have contributed to the lead content of the soil in the immediate vicinity. Soil testing was not performed, and the Project Phase 1 concluded it is possible lead concentrations may exceed published health risk guidelines and other environmental standards.[17] In 2011, the project applicant submitted a work plan to the San Francisco Department of Public Health (SFDPH) outlining a process to test for lead (and other contaminants in soils). In response, the SFDPH identified additional specific steps that must be taken to address potential soil contamination around the buildings before soil-disturbing

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[15] SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment, San Francisco, CA.* August 7. Sacramento, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[16] SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment, San Francisco, CA.* August 7. Sacramento, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[17] SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment, San Francisco, CA.* August 7. Sacramento, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

activities can begin.[18] Those requirements are presented as mitigation in the impact analysis in Impact HZ-2 in Section 5.18, *Hazards and Hazardous Materials*.

The Block X Phase 1 found that lead-based paint could occur in the shallow soil around the perimeter of the concrete foundation and pose little risk. However, earthmoving activities on the site could expose workers to lead-based paint residues in the soil, so the Block X Phase 1 ESA recommended a management plan to minimize the potential risk to workers. These recommendations are discussed further in Section 5.18, *Hazards and Hazardous Materials*.

Asbestos

Asbestos is a naturally occurring fibrous material that was extensively used as a fireproofing and insulating agent in building construction materials before such uses were banned by the USEPA in the 1970s. Asbestos was commonly used for insulation of heating ducts as well as ceiling and floor tiles, among typical types of materials. When contained within building materials, asbestos fibers present no significant health risk, but once those tiny fibers (that cannot be seen with the naked eye) are disturbed, they can become airborne. Once they are inhaled they can become lodged in the lungs, potentially causing increased incidence of lung disease or other pulmonary complications.

There are no buildings on Block X to warrant an environmental concern associated with ACM. Potrero Terrace and Potrero Annex were both developed prior to the USEPA ban on the use ACMs in building construction. The asbestos evaluation conducted as part of the Project Phase I ESA indicates that several of the material samples taken from existing buildings on the Project site contain ACM. Further testing will be necessary prior to demolition of existing buildings to identify the extent of ACM so that it can be removed and disposed of in accordance with applicable regulations. In addition, soils around buildings will also need to be tested.[19]

Polychlorinated Biphenyl (PCB) and Mercury

PCBs are petroleum-based oils that were formerly used primarily as insulators in many types of electrical equipment, including transformers and capacitors. Older light ballasts and fluorescent light bulbs can also contain PCBs. After PCBs were determined to be carcinogenic in the 1970s, USEPA banned PCB use in most new equipment and began a program to phase out certain existing PCB-containing equipment. The Project Phase I ESA noted there are light ballasts and bulbs in at

[18] City and County of San Francisco, Department of Public Health Environmental Health Section. 2012. "Review of Environmental Documents Potrero Annex and Potrero Terrace, Hope Project, San Francisco. DPH SAM 818"—letter from Rajiv Bhatia, Director, Occupational and Environmental Health, to Charmaine Curtis, Curtis Development & Consulting (February 29, 2012) (see Appendix 4.18).

[19] SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment, San Francisco, CA.* August 7. Sacramento, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

least one building, but they were not labeled for PCB content, and recommended those items be tested for PCB content prior to removal and building demolition.

Spent fluorescent light tubes, thermostats, and other electrical equipment contain heavy metals that, if disposed of in landfills, can leach into soil or groundwater. Fluorescent light tubes typically contain concentrations of mercury that may exceed regulatory thresholds for hazardous waste and, therefore, must be managed in accordance with hazardous waste regulations. Elemental mercury can be found in many electrical switches, and when disposed of, such mercury is considered hazardous waste. The Project Phase I ESA suggested building thermostats could contain mercury, and those features should be properly removed and disposed of prior to demolition.[20] PCBs were not noted as a contaminant of concern in the Block X Phase I.

Naturally Occurring Asbestos

As noted in Section 4.16, *Geology and Soils*, serpentine bedrock is present on existing cut slopes and in sporadic outcrops within and immediately adjacent to the site. The most extensive areas of serpentine outcrops occur as linear features on the south side of 26th Street, on the west side of Wisconsin Street south of Carolina Street, along 23rd Street, and along Texas Street. Serpentine bedrock is also in underlying materials at a minimum depth of 2.5 feet below ground surface and at maximum depths of 11 to 15 feet in the area of fill along Connecticut Street.[21] Serpentine rock can contain concentrations of NOA[22] at concentrations less than one percent up to approximately 25 percent. Laboratory analysis indicates that the serpentine bedrock at the Project site contains chrysotile, a mineral found in asbestos, as a result of the weathering of serpentine found within the underlying Franciscan bedrock.[23]

As long as chrysotile and other asbestos minerals are not disturbed and fibers are not released into the air, no health risk exists. However, through construction activities such as excavation and grading, as well as natural weathering processes, NOA can be released into the air. Exposure to airborne asbestos fibers from NOA may result in similar health effects as described above for ACM.

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[20] SCS Engineers. 2009. *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment, San Francisco, CA.* August 7. Sacramento, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[21] ENGEO Incorporated. 2009. *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA, Figure 5.* July 10. (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[22] "Asbestos" is a term used for several types of naturally occurring fibrous minerals found in many parts of California.

[23] ENGEO Inc. 2009. *Geotechnical Exploration, Potrero Annex and Terrace Redevelopment San Francisco, CA*. July 10. San Francisco, CA. (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

Other Physical Hazards

The Project site is located in an urbanized area that lacks the urban-wildland interface that tends to place new developments at risk in undeveloped areas of California, and the Project site is not located in an area subject to the threat of wildland fires.[24] Section 4.14, *Public Services*, contains information regarding fire protection services and response times. The Project site is not situated in a location vulnerable to tsunami or dam failure inundation (see Section 4.17, *Hydrology and Water Quality*).

[24] Association of Bay Area Governments. 2011. *Wildland Urban Interface Fire Threat Map for San Francisco*. Available: <http://www.abag.ca.gov/bayarea/eqmaps/wildfire>. Accessed: March 18, 2011.

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4.19 MINERAL AND ENERGY RESOURCES

4.19.1 Introduction

This section describes the mineral and energy (oil, gas, and geothermal) resources within and surrounding the city and the Project site. This section also describes the applicable federal, state, and local plans, policies, and regulations associated with management and use mineral and energy resources. No comments on the Notice of Preparation (NOP) relating to mineral and energy resources were received. One comment was received on the Notice of Intent (NOI) relating to the Proposed Project's effect on energy demand and the use of renewable energy sources. This comment is addressed Section 5.19, *Mineral and Energy Resources*.

4.19.2 Environmental Setting

Mineral Resources

The city is highly developed with urban uses and is, therefore, not as extensively involved in the conservation of natural resources as are more rural communities. According to the Environmental Protection Element of the City's General Plan, minerals are not found in the city to any appreciable extent and, therefore, are not included in the scope of the Environmental Protection Element.[1] Further, all land in San Francisco, including the Project site, is designated Mineral Resource Zone 4 (MRZ-4) by the California Division of Mines and Geology (CDMG) under the Surface Mining and Reclamation Act of 1975 (CDMG, Open File Report 96-03 and Special Report 146 Parts I and II). This designation indicates that there is inadequate information available for assignment to any other MRZ and, thus, the site is not a designated area of significant mineral deposits. Since the Project site is already developed, future evaluation or designation of the site would not affect, or be affected by, the Proposed Project.

Energy Resources

Electricity Use and Supply

Californians consumed 280,032 gigawatt-hours (GWh) of electricity in 2009.[2] Of this, San Francisco consumed 5,655 GWh, or approximately 2 percent of the total statewide consumption. In 2009, the California electricity mix included natural gas (56.7 percent), coal (1.8 percent), large hydroelectric plants (12.2 percent), and nuclear (15.8 percent). The remaining 13.9 percent was supplied from

[1] San Francisco Planning Department. 2010. *General Plan: Environmental Protection Element*. Available: <http://www.sf-planning.org/ftp/General_Plan/I6_Environmental_Protection.htm>. Accessed: April 16, 2012).

[2] California Energy Commission. 2012. *Energy Consumption Data Management Service, Electricity Consumption by County*. Available: <http://ecdms.energy.ca.gov/elecbycounty.aspx>. Accessed: April 17, 2012.

renewable resources such as wind, solar, geothermal, biomass, and small hydroelectric facilities.[3] In 2002, California established its Renewable Portfolio Standard program[4] with the goal of increasing the annual percentage of renewable energy in the state's electricity mix by the equivalent of at least 1 percent of sales, with an aggregate total of 20 percent by 2017. The California Public Utilities Commission subsequently accelerated that goal to 2010 for retail sellers of electricity (Public Utilities Code Section 399.15(b)(1)). Then-governor Schwarzenegger signed Executive Order S-14-08 in 2008, increasing the target to 33 percent renewable energy by 2020. In September 2009, California's commitment to the Renewable Portfolio Standard continued with Executive Order S-21-09, which directs the Air Resources Board under its Assembly Bill (AB) 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. In September 2010, the California Air Resources Board adopted its Renewable Electricity Standard regulations, which require all of the state's load-serving entities to meet this target. Additional energy-efficiency measures are needed to meet these goals as well as the AB 32 greenhouse gas (GHG) reduction goal of reducing statewide GHG emissions to 1990 levels by 2020.

Electricity Providers

Pacific Gas and Electric. San Francisco receives most of its electricity from Pacific Gas and Electric Company (PG&E). PG&E has an electricity generation portfolio that totals approximately 6,870 megawatts.[5] In total, the 2009 PG&E power mix consisted of natural gas (34.6 percent), coal (1.3 percent), large hydroelectric plants (13.0 percent), nuclear (20.5 percent), eligible renewable resources (14.4 percent), other fossil fuel (1.2 percent), and unspecified sources (15 percent).

Renewable Portfolio Standard-eligible renewable resources[6] used include geothermal (29.7 percent), biomass and waste (30.1 percent), small hydroelectric (17.8 percent), wind (22.3 percent), and solar (less than 1 percent). In 2009, PG&E's retail customers purchased 108,503 GWh of electricity.[7] PG&E provides the San Francisco Public Utilities Commission (SFPUC) Power Enterprise with

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[3] California Energy Commission. 2012. *Energy Almanac, California's Major Sources of Energy*. Available: <http://energyalmanac.ca.gov/overview/energy_sources.html>. Accessed: April 17, 2012.

[4] The Renewable Portfolio Standard is a flexible, market-driven policy to ensure that the public benefits of wind, solar, biomass, and geothermal energy continue to be realized as electricity markets become more competitive. The policy ensures that a minimum amount of renewable energy is included in the portfolio of electricity resources serving a state or country.

[5] Pacific Gas and Electric Company (PG&E), *2009 Corporate Responsibility and Sustainability Report, PG&E's Sustainable Journey, Working Collaboratively to Find the Right Balance for a More Sustainable Future, a Summary*.

[6] In accordance with the Renewable Portfolio Standard, eligible renewable resources include geothermal facilities, hydroelectric facilities with a capacity rating of 30 megawatts (MW) or less, biomass, selected municipal solid waste facilities, solar facilities, and wind facilities. Two percent of the renewable energy resources used by PG&E in 2008 were not eligible under the Renewable Portfolio Standard because they came from open-market purchases.

[7] California Energy Commission. 2012. *Energy Consumption Data Management System, Electricity Consumption by Planning Area*. Available: <http://ecdms.energy.ca.gov/elecbyplan.aspx>. Accessed: April 17, 2012.

transmission and distribution services west of Newark, pursuant to an Interconnection Agreement regulated by the Federal Energy Regulatory Commission.

SFPUC Power Enterprise. The remainder of San Francisco's electricity is provided by the SFPUC's hydroelectric facilities in the Hetch Hetchy system, operated by the SFPUC Power Enterprise. This system provides a long-term annual average of 1.6 billion kilowatt-hours (kWh) of electrical power and includes 150 miles of high-voltage transmission lines that carry this power from the SFPUC power generation facilities on the Tuolumne River to Newark, where the Hetch Hetchy power system is linked to California's electricity grid. The SFPUC Power Enterprise provides electricity to some of the Hetch Hetchy water system components as well as to all City and County of San Francisco (CCSF) municipal facilities, San Francisco International Airport, Norris Industries (a federal facility), and the Modesto and Turlock Irrigation Districts (for municipal and agricultural water supply pumping).

While the quantity of power produced exceeds the CCSF's municipal power needs on an annual basis, the CCSF must supplement its power sources to meet municipal demand and its contractual obligations during the summer and fall months, when power generation is reduced so that water can be stored in the Hetch Hetchy system for water supply purposes.

Natural Gas

Natural gas is the cleanest of the fossil fuels used in the state and will continue to be a substantial energy source for the foreseeable future.[8] Estimates of recoverable shale reserves are as high as 842 trillion cubic feet, which would comprise a 37-year supply at today's consumption rates. PG&E operates one of the largest natural gas distribution networks in the country, including 48,850 miles of natural gas transmission and distribution pipelines.[9] In all, PG&E delivers gas to approximately 4.3 million customer accounts in northern and central California, including San Francisco.

[8] California Energy Commission. 2009. *2009 Integrated Energy Policy Report, Final Commission Report*. December 2009. Sacramento, CA.

[9] Pacific Gas and Electric Company. 2009. *2009 Corporate Responsibility and Sustainability Report, PG&E's Sustainable Journey, Working Collaboratively to Find the Right Balance for a More Sustainable Future, a Summary*. December. San Francisco, CA.

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4.20 AGRICULTURAL AND FOREST RESOURCES

4.20.1 Introduction

This section describes the agricultural and forest resources within and surrounding the city and the Project site. No comments were submitted regarding agricultural and forest resources during the Notice of Preparation (NOP) and Notice of Intent (NOI) scoping periods, since none exist on the Project site.

4.20.2 Environmental Setting

Agricultural Resources

The city is highly developed with urban uses and is therefore not agricultural in nature. The entire city is identified as "Urban and Built-Up Land" by the California Department of Conservation and does not contain any important farmland.[1] Accordingly, the Project site does not include agricultural lands or resources.

Forest Land

There are approximately 700,000 trees in the City, 110,000 of which are street trees.[2] Trees are an important resource to the people of San Francisco and to the varied wildlife species that use the urban forests within the city. The tree species present throughout the city's natural areas, discussed further in Sections 4.15 and 5.15, *Biological Resources*, are almost entirely nonnative. No forest land is identified within the City of San Francisco (as defined by Public Resources Code [PRC] Section 12220[g]).

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[1] California Department of Conservation (DOC). 2009. *Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Important Farmland in California, 2006.* January. Available: <http://www.conservation.ca.gov/dlrp/fmmp/overview/Documents/fmmp2006_08_11.pdf>. Accessed: June 25, 2012.

[2] San Francisco Urban Forestry Council. 2012. *Annual Urban Forest Report, July 1, 2009–June 30, 2010*. Available: <http://sfenvironment.org/article/urban-forestry/annual-urban-forest-reports>. Accessed: June 25, 2012.

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CHAPTER 5 **Environmental Consequences**

Chapter 5 assesses impacts and identifies mitigation measures for significant impacts. It addresses the full range of environmental topics required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), as listed in Chapter 1, *Project Purpose, Need, and Objectives*. The sections in this chapter evaluate effects of the Proposed Project and its alternatives on the on the physical environment described in each section of Chapter 4, *Affected Environment*, and assess significance and whether such effects are adverse or beneficial.

This section of Chapter 5 describes the general approach and methodology used to apply the criteria in evaluating the impacts of the Proposed Project and alternatives. The methodology provides the basis for the impact analysis, which could be either qualitative or quantitative, relative to the significance criteria. The methodology identifies applicable regulatory guidelines, thresholds, or standards, or in some cases, accepted professional practices or protocols used to assess the nature and severity of environmental impacts. This section also describes if and why any of the significance criteria do not apply to the Proposed Project and alternatives; those significance criteria are not discussed further.

5.1 APPROACH TO THE ANALYSIS

The analytical approach for assessing the environmental effects of the Proposed Project and its alternatives is based upon the requirements of CEQA and its implementing regulations and NEPA and the Council on Environmental Quality (CEQ) regulations. CEQA (Section 21000 et seq.) and CEQA Guidelines (Section 15000 et seq.) require state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, when feasible. Public Resources Code (PRC) Section 21100(b)(3) provides that an EIR shall include a statement setting forth the mitigation measures proposed to minimize the significant impacts on the environment.

NEPA requires the consideration of potential environmental impacts in the evaluation of any proposed federal agency action. NEPA also obligates federal agencies to consider the environmental consequences and costs in their projects and programs as part of the planning process. General NEPA procedures are set forth in the CEQ regulations (40 CFR 1500-1508). The U.S. Department of Housing and Urban Development (HUD) implements NEPA through its regulations at 24 Code of Federal Regulations (CFR) Part 58: *Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities*.

The requirements of CEQA and NEPA are not necessarily the same; similar requirements found in both statutes may have different levels of stringency, and some provisions that appear in one statute may not appear in the other. In addition, the Proposed Project is subject to federal and state environmental statutes and regulations that are separate from CEQA and NEPA but which require analyses that must be incorporated into the EIR/EIS. In circumstances where more than one

regulation or statute might apply, this joint EIR/EIS has been prepared in compliance with the more stringent or inclusive set of requirements, whether federal or state.

Each section of this Chapter is organized in the following way:

5.1.1 Regulatory Framework

This subsection describes the relevant laws, regulations and policies that apply to protection of the environmental resources within the Project area and the governmental agencies responsible for enforcing those laws and regulations. As required by HUD, specific statutory requirements of federal laws and authorities and other requirements discussed in 24 CFR Sections 58.5 and 58.6 were considered and are addressed in the various sections of this chapter. (For ease of reference, these applicable laws and regulations are grouped together in Chapter 6, *Other CEQA/NEPA Considerations*, Section 6.7, *Other Federal Laws/Executive Orders*.)

5.1.2 Impacts and Mitigation Measures

Significance Criteria under CEQA. The significance criteria provide thresholds to define the level at which an impact would be considered significant in accordance with CEQA. Thresholds may be quantitative or qualitative. They may be based on examples found in CEQA regulations or the CEQA Guidelines; scientific and factual data relative to the lead agency's jurisdiction; legislative or regulatory performance standards of federal, state, regional, or local agencies relevant to the impact analysis; City goals, objectives, and policies (e.g., the City's General Plan); views of the public in the affected area; the policy/regulatory environment of affected jurisdictions; or other factors.

Context and Intensity Evaluation Guidelines under NEPA. CEQ regulations (40 CFR 1508.27) define significance of effects in terms of context and intensity. Context refers to the affected environment in which a proposed project occurs. The "contextual" review means that the significance of an action must be analyzed in one or more of the various contexts of a proposed action, such as society as a whole (human, national), the affected region, the affected interests, and the locality. Intensity refers to the severity of the effect, which is examined in terms of the type, quality, and sensitivity of the resource involved; location and extent of the effect; duration of the effect (short or long term); and other considerations of context.

Context of an Action. Agencies determine the context of an action by analyzing it in relation to its setting—local, regional, and/or national—and the interests it affects. The context of an action is also influenced by the short- and long-term nature of its effects. In assessing context for a proposed action, the actual context may change depending upon the element under consideration. For example, the context of the review for air quality is not the same as the context of the review for cultural resources.

A project's locale plays a critical role in determining whether an environmental effect is significant. Locale is determined by the geography of an area and the nature of an action. The condition of the site where the activity will take place is also relevant.

Intensity. Intensity refers to the severity of an effect. CEQ regulations require that the following factors be considered in evaluating intensity:

- Whether effects are beneficial or adverse
- Degree of public health or safety effects
- Unique resource characteristics of the geographic area
- Degree of controversy
- Uncertainty and unknown risks of effects
- Degree to which action may set a precedence
- Cumulative effects
- Effects on scientific, cultural, or historic resources
- Effects to endangered or threatened species or habitat(s)
- Violation of federal, state, or local environmental regulations

While some federal agencies publish further guidance on defining when an action is significant, these guidelines are in addition to the Section 1508.27 factors to be considered in assessing intensity of an action. Agency guidelines do not replace the contextual analysis or consideration of other factors specified by Section 1508.27 for intensity, such as degree of controversy.

HUD, the federal agency whose approval of this project is sought, has not established thresholds of significance. It has, however, chosen to set regulatory standards for various aspects of the human environment, such as exposure to noise and toxic contaminants. These standards are incorporated into the analysis of intensity in assessing significance. HUD has also issued guidance on assessing effects of proposed actions for certain environmental factors, such as land development; scale and urban design; socioeconomic conditions; and other factors. This guidance has been incorporated into the discussion of intensity.

Where local or state authorities have chosen to regulate an area that would be considered in the environmental review and such standards do not conflict with the federal standards, those standards have been adopted in assessing intensity. These assessments may mirror the review under CEQA and to the extent that they do, the NEPA analysis may match the CEQA analysis.

Impact Evaluation

The Proposed Project analysis provides an assessment of the potential impacts of the Proposed Project on the affected environment. The Proposed Project considerations used in this analysis are

based on the information presented in Chapter 2, *Project Alternatives and Project Description*. This assessment also specifies why impacts would be significant, less than significant, beneficial, or why no environmental impact would occur. Some of the potential impacts that may result from implementing the Proposed Project may be temporary and short-term effects resulting from construction activities. However, other impacts could be permanent. An impact title precedes the analysis of the impact as applicable to each alternative. The discussions that follow the impact title include substantial evidence to support a significance conclusion, which is stated at the end of each alternative's impact analysis.

After each discussion of a significant impact, one or more mitigation measures are provided where available and feasible, to avoid, minimize, or reduce the significant impacts to a less-than-significant level. In accordance with Section 21081.6(b) of the *California Public Resources Code*, mitigation measures must be fully enforceable through permit conditions, agreements, other legally binding instruments, or by incorporating the measures into the project design. Unless noted otherwise, the mitigation measures presented are recommended in the Draft EIR/EIS for the City's consideration as conditions of approval

Impacts and mitigation measures are numbered sequentially in each section, with mitigation measures corresponding to the impact being addressed. For instance, impacts of the Proposed Project and alternatives in Section 5.9, *Air Quality*, are numbered AQ-1, and the corresponding mitigation measure would be designated M-AQ-1.

The Alternative 1 and Alternative 2 discussions present specific analysis of the impacts related to Alternative 1, the Reduced Development Alternative, and Alternative 2, the Housing Replacement Alternative. The impact numbering format is repeated from the analysis of the Proposed Project section to allow for comparison of impacts among the Proposed Project and its alternatives. To avoid repetition, especially in cases in which impacts would be similar to or less than those of the Proposed Project, these analyses refer back to the analysis of the Proposed Project. Mitigation measures are identified where applicable.

Alternative 3 describes the impacts associated with the No Project Alternative. Mitigation measures are not required for impacts identified under the No Project Alternative because under this alternative, no project would be approved, no activity would be undertaken by the project applicant or the City, and none of these entities would be required to obtain permits, enter into agreements, or expend federal grant funding associated with the Proposed Project.

This subsection concludes with a statement regarding whether the impacts, after implementation of any mitigation measures and/or compliance with existing local, state, and federal laws and regulations, would remain significant or be reduced to a less-than-significant level, as well as a statement as to whether the effect is significant under NEPA, and to what degree.

Significance Determinations

The purpose of this EIR/EIS is to identify the significant effects on the environment of a project or its alternatives, and to indicate the manner in which those significant effects can be mitigated or avoided. The conclusion of each impact analysis provides a significance determination to indicate if mitigation measures are warranted. This Draft EIR/EIS uses the following terminology to denote the significance of environmental impacts of the Proposed Project or its alternatives:

- **No Impact**. An impact is considered not applicable (no impact) if there is no potential for impacts, or if the environmental resource does not occur within the project area or the area of potential effect. For example, there would be no impacts related to grading if there is no grading proposed at a particular project site. "No Impact" also includes instances in which the project may have a beneficial impact under NEPA, but such beneficial impacts are not specifically identified under CEQA.
- **Less than Significant**. This determination applies if there is a potential for some limited adverse impact, but not a substantial adverse effect that qualifies under the significance criteria as significant. No mitigation is required for impacts determined to be less than significant.
- **Less than Significant with Mitigation**. This determination applies if the project would or could potentially result in a significant adverse effect when evaluated with one or more significance criteria, but feasible mitigation is available that would reduce the impact to a less-than-significant level.
- **Significant and Unavoidable with Mitigation**. This determination applies if the project would result in a significant adverse effect when evaluated with one or more significance criteria, but there is no feasible mitigation available to reduce the impact to a less-than-significant level. There might be some feasible mitigation measure(s) that would lessen the impact, but the residual effect after implementing the measure would remain significant, and therefore the impact is considered significant and unavoidable.
- **Significant and Unavoidable**. This determination applies if the project would result in a significant adverse effect when evaluated with one or more significance criteria, but there appears to be no feasible mitigation available to reduce the impact to a less-than-significant level, or implementation of the mitigation measure is not within the control of the project sponsor(s). Therefore the impact is considered significant and unavoidable.
- **Significant and Beneficial**. This determination, which can occur only under NEPA, applies if the project would result in a significant beneficial effect when evaluated with one or more significance criteria. If the effect is not adverse, no mitigation is required.

Cumulative Analysis

CEQA requires that EIRs discuss a project's potential contributions to cumulative impacts, in addition to project-specific impacts. CEQA Guidelines Section 15130(a)(1) states that a "cumulative impact consists of an impact which is created as a result of the combination of the project evaluated

in the EIR together with other projects causing related impacts." Other projects include past, present, and reasonably probable future projects.

CEQA Guidelines Section 15130(b)(1) states that the approach to the cumulative impact analysis may be based on either of the following approaches, or a combination thereof:

- A list of past, present, and probable future projects producing related or cumulative impacts
- A summary of projections contained in an adopted general plan or related planning document designed to evaluate regional or areawide conditions

For the purposes of this Draft EIR/EIS, the analysis of the potential for the Proposed Project's incremental effects to be cumulatively considerable is primarily based upon existing planning documents, and/or the Association of Bay Area Governments Projections 2009 (ABAG Projections 2009[1]), depending upon the specific impact being analyzed. Each technical section of this Draft EIR/EIS designates the cumulative context for each cumulative impact analysis.

The EIR for the Eastern Neighborhoods Area Plan (EN EIR) is the planning document that provides the foundation for much of the cumulative impacts analysis in this Draft EIR/EIS. The EN EIR evaluated rezoning options for approximately 2,200 gross acres on the eastern side of San Francisco, including the East SoMA, the Mission, the Central Waterfront, and Showplace Square/Potrero Hill neighborhoods. The Project site is geographically located within the boundaries of the EN EIR, but the Project itself was not included in the EN EIR. The EN EIR provides the main reference point for assessing potential cumulative impacts of foreseeable land use change and development in the area immediately surrounding the Project site.

CEQA requires that an EIR discuss cumulative impacts to determine whether they are significant. If the cumulative impact is significant, a project's incremental effects must be analyzed to determine if the project's contribution to the cumulative impact is cumulatively considerable. In accordance with CEQA Guidelines Section 15065(a)(3), this determination is based on an assessment of the project's incremental effects viewed in combination with the effects of past, present, and probable future related projects. The existence of a significant cumulative impact does not necessarily mean that the project's contribution to that impact must be significant. Instead, a project's contribution to a significant cumulative impact is significant only if its contribution is cumulatively considerable.

As noted above, NEPA similarly requires an analysis of the cumulative effects of a proposed project. Under NEPA, cumulative impact is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.

[1] Association for Bay Area Governments. 2009. *Projections and Priorities 2009, San Francisco Bay Area Population, Household, and Job Forecasts.* Data from Projections 2009 were included in Part I of the 2009 City of San Francisco Housing Element.

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

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5.2 LAND USE AND LAND USE PLANNING

5.2.1 Regulatory Framework

Please refer to Chapter 3, *Plans and Policies*, for a discussion of relevant plans and their respective applications to the implementation of the Proposed Project and alternatives. Relevant plans and policies are discussed in Chapter 3 and, to the extent any conflicts are identified that could have environmental impacts, such conflicts are discussed in the relevant section of this Draft EIR/EIS.

5.2.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the Proposed Project and alternatives would result in a significant impact on land use, under CEQA. Implementation of the Proposed Project and alternatives would have a significant effect on land use if it 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 plan, 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.

Context and Intensity Evaluation Guidelines under NEPA

A significant adverse land use impact would result if the Proposed Project would be:

- Inconsistent with applicable land use plans and policies; or
- Incompatible with surrounding development.

Approach to Analysis

A conflict between a proposed project and a general plan policy or planning code requirement does not necessarily indicate a significant effect on the environment under CEQA. The staff report for the Planning Commission will analyze the Proposed Project's consistency with General Plan policies and zoning, and will discuss any exceptions requested or modifications required. As a result, the impact analysis below does not evaluate inconsistencies between the Proposed Project and General Plan policies and/or *Planning Code* requirements that do not relate to physical environmental

impacts, although relevant sections of this Draft EIR/EIS analyze physical environmental impacts that could result from such conflicts.

As noted in Chapter 3, *Plans and Policies*, the density of the Proposed Project could be approved through a Height and Map Amendment to change the height and bulk designations for portions of the site that are proposed to include development above 40 feet. In addition, the Proposed Project would require Board of Supervisors approval, with recommendation from the Planning Commission, of a Special Use District (SUD) to allow the transfer of densities across newly created lots and the retail uses, and a rezoning of the San Francisco Unified School District (SFUSD) site from P (Public) to an RM-2 District. Other entitlement paths are possible to enable the project. Sections 4.3 and 5.3, *Aesthetics*, describe the effect of proposed buildings that would be up to 65 feet high with the proposed height district change (under NEPA only). Alternatives 2 and 3, the Housing Replacement Alternative and the No Project Alternative, respectively, would not require any land use amendments, while Alternative 1, the Reduced Development Alternative, would require the rezoning of the SFUSD site from P (Public) to an RM-2 District as well as approval of an SUD.

Table 5.2-1 - Zoning Changes for the Proposed Project and Alternatives

	Special Use District	***Rezoning from P to RM-2***
Proposed Project	●	●
Alternative 1 (Reduced Development Alternative)	●	●
Alternative 2 (Housing Replacement Alternative)	No rezoning required	
Alternative 3 (No Project Alternative	No rezoning required	

As discussed in Chapter 2, *Project Alternatives and Project Description*, the Design Standards and Guidelines (Design Guidelines) provides further description for the Proposed Project and would become an exhibit to the SUD. This document sets forth the requirements and recommendations for site planning, street and open space design, building controls, and design and sustainability controls. In addition, the Proposed Project is subject to a Development Agreement, which would be executed between the project applicant and City agencies, if the Project is approved. The Development Agreement would provide a broad framework for the Proposed Project's overall zoning and would address delivery of community benefits and new infrastructure, public parks, and associated community facilities.

Impact Evaluation

Proposed Project

Impact LU-1	**Effects Related to Physical Division** **CEQA: The Proposed Project would not physically divide an established community. (Less than Significant)** **NEPA: This impact criterion is not applicable under NEPA. Please see Section 5.4, *Socioeconomics and Community*, for an analysis of socioeconomic effects related to physical barriers of a particular group.**

As discussed in Section 4.2, *Land Use and Land Use Planning*, the Project site and the surrounding area are considered an established community. The Project site was constructed in the 1940s and 1950s and has since served as a location for a residential neighborhood. Land uses to the north and west include multi-family residences, single-family residences, Star King Elementary School, and the Potrero Hill Recreation Center. Residential and industrial uses are located to the east and south of the Project site. Together, these uses comprise the southern slope of the Potrero Hill neighborhood. However, as discussed in more detail below, the existing Project site is generally isolated from the rest of the Potrero Hill community due to the street pattern, land development, and topography.

The construction phase for the Proposed Project would likely include some temporary off-site relocation of some existing residents. Prior to the relocation and as required by the Uniform Relocation Act (URA), residents would be given a minimum of 90 days' notice, receive relocation assistance, and would be offered new housing on-site upon its completion. Therefore, although the relocation of some existing residents may disrupt the existing on-site community, this is a temporary effect. The Proposed Project would replace the aging, dilapidated structures on the site, which are currently physically disconnected from surrounding neighborhoods, and would develop up to 1,700 mixed-income units. In addition, the Proposed Project would include ground-floor neighborhood-serving commercial space, open space, and community facilities.[1] These uses would be a general continuation of the land use pattern that currently exists on-site and in the immediate vicinity. Although the proposed buildings would be taller than existing conditions (see Section 5.3, *Aesthetics*), these buildings would not create any new physical barriers within the Project area. As such, the existing residential communities at the Project site and in the surrounding neighborhoods would not be divided by inconsistent land uses or new physical project features.

The Proposed Project would realign roadways within the Project site to create better connectivity and continuity between the Potrero Terrace and Annex and the rest of the existing Potrero Hill neighborhood. The existing on-site street pattern would be reconfigured to connect to the street grid surrounding the Project site. Currently, streets surrounding the Project site travel in east/west and

[1] The Project would replace the existing 606 residential units with public housing. An additional 14 units, which are currently used for daycare uses, would be replaced in the proposed community center.

north/south directions, which is typical of streets in San Francisco. As shown in Figure 1-1 in Chapter 1, *Project Purpose, Needs, and Objectives*, the existing streets within the Project site travel in a curvilinear (northwest/southeast) direction or end in a cul-de-sac, which is not consistent with the street network of the surrounding neighborhood. As a result of the existing street configuration, the Project site is generally isolated from the larger Potrero Hill neighborhood and does not directly connect to the immediate neighbors.

Under the Proposed Project, several streets would be extended and realigned through the Project site, and pedestrian paths would be provided. Reconfiguring the roadways would not physically divide the community. Rather, the pedestrian and vehicular circulation would improve access to and from the site. See Figure 2-1 in Chapter 2, *Project Alternatives and Project Description*, for an illustration of the proposed roadway system. As shown in Figure 2-1, the revised street grid removes existing connectivity barriers, such as cul-de-sacs and steep, curvilinear roads, and connects the Project site to the street configuration and pedestrian paths in the existing neighborhood. Further, the Proposed Project would relocate the existing bus stops, create several new stops, and provide access to additional bus lines. These changes would improve access to public transit for residents at the Project site by creating more stops within the area but also by providing access to additional bus lines.

The proposed street realignment would improve access and enhance traffic, transit, and pedestrian circulation to and from the Project site. It would remove existing physical barriers and would connect the street grid to the existing neighborhood. Thus, reconfiguring the roadways would improve the physical connection between the Project site and the surrounding neighborhood. Therefore, under CEQA, reconfiguring the roadways and adding new buildings would not physically divide a community, and implementation of the Proposed Project would result in a ***less-than-significant*** impact.

Impact LU-2	**Effects Related to Plan Consistency**
	CEQA: The Proposed Project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)
	NEPA: The Proposed Project would not be inconsistent with applicable land use plans and policies. (Less than Significant)

Applicable plans that direct or regulate development on the Project site include the City's General Plan, Showplace Square/Potrero Area Plan of the General Plan, the *Planning Code*, the *Sustainability Plan*, the *Climate Action Plan*, *San Francisco Bicycle Plan*, and other relevant City policies discussed in Chapter 3, *Plans and Polices*. The *San Francisco Bicycle Plan* is discussed in Sections 4.7 and 5.7, *Transportation and Circulation*. The City's Showplace Square/Potrero Area Plan, which is part of the General Plan, would be the guiding policy document for the Proposed Project. Many of this Plan's

objectives and policies relate to the overarching goals of providing a stable future for plan area businesses and providing new affordable housing options.

As discussed in Chapter 3, *Plans and Policies*, the Proposed Project would generally be consistent with the General Plan, the Showplace Square/Potrero Area Plan, *Sustainability Plan*, *Climate Action Plan*, *Better Streets Plan*, *San Francisco Bicycle Plan*, Transit First Policy, and the San Francisco Green Building Ordinance. This Showplace Square/Potrero Area Plan anticipated that the Project site could be rezoned at the conclusion of the community engagement process. Nevertheless, the Proposed Project would not meet some specific requirements and/or restrictions of the Planning Code as the Planning Code would be applied to the site as currently zoned.

As noted in Chapter 2, *Project Alternatives/Project Description*, the Proposed Project includes proposed land use amendments, including (1) Height and Map Amendment to change the height and bulk designations for portions of the site that are proposed above 40 feet; (2) approval of an SUD to allow the transfer of densities across newly created lots and the retail uses; and (3) the rezoning of the SFUSD lot from P to an RM-2 District. The inconsistency with existing zoning does not, by itself, constitute a significant environmental impact. However, the proposed increase in height and bulk could result in impacts related to a variety of physical impacts such as those related to aesthetics, wind, or shadow. With regard to aesthetics, as discussed in Section 5.3, *Visual Quality/Aesthetics*, aesthetics may no longer be considered in determining the significance of this Project's physical environmental effects under CEQA and aesthetic impacts under NEPA were determined to be less than significant. As discussed in Section 5.11, *Wind and Shadow*, impacts related to wind and shadow were also determined to be less than significant. The environmental analysis in this Draft EIR/EIS, as presented throughout Chapter 5, *Environmental Consequences*, does not indicate that increases in height and bulk above existing zoning controls at the Project site would result in significant physical impacts.

Furthermore, as stated previously, the conflict between a project and a general plan policy or planning code regulation is not, in and of itself, a significant impact on the environment within the context of CEQA. The staff report for the Planning Commission will contain the Planning Department's full analysis of the Proposed Project's consistency with the *Planning Code* and will discuss any exceptions requested or modifications required. Upon consideration of this report, decision-makers will consider potential conflicts between the Proposed Project and applicable plans, policies, and regulations as part of their deliberation on whether or not to approve the Proposed Project. Therefore, this impact would be ***less than significant*** under CEQA**.**

Similarly, given that the Proposed Project includes the necessary land use amendments to provide consistency with the *Planning Code*, and with applicable policies and objectives, this impact would be ***less than significant*** under NEPA.

Impact LU-3	**Effects on Existing Character**
	CEQA: The Proposed Project would not have an adverse impact on the existing land use character of the Project site and vicinity. (Less than Significant)
	NEPA: The Proposed Project would not be incompatible with surrounding development. (No Impact)

As discussed in Section 4.2, *Land Use and Land Use Planning*, the existing land use character of the Project site is residential. The vicinity is primarily residential, recreational, and institutional to the north and west, and residential and industrial to the east and south. There is an abrupt topographic change on the eastern and southern boundary of the Project site that disrupts the connectivity to the land uses to the east and south.

The Proposed Project would demolish the existing 620 public housing units, 606 of which are used for residential purposes[2] and develop up to 1,700 mixed-income units, including replacement of existing public housing units on a one-for-one basis subsidized by HUD but under management and ownership of the project applicant or related entities. In addition, the Proposed Project would include off-street parking, ground-floor neighborhood-serving commercial space, open space, and community facilities. The proposed uses are shown in Figure 2-1 and Figure 2-2, in Chapter 2, *Project Alternatives and Project Description*. In addition to the proposed residential and commercial development, the project proposes to reconfigure the existing roadways in the Project area, as discussed under Impact LU-1.

The Proposed Project would introduce a modest amount of new land uses to the site (commercial and community facilities), but the majority of the Proposed Project would be residential uses. Existing land uses in the immediate vicinity that contribute to the neighborhood character are residential uses, Potrero Hill Health Center, and Starr King Elementary School to the west and northwest, residential uses and Potrero Hill Recreation Center to the north, residential and industrial uses to the east, and light industrial uses to the south. Development of the Proposed Project would be a continuation and intensification of existing uses surrounding the site.

While there would be a change in the type of land uses on the site from largely residential to more mixed use, the Proposed Project would be consistent with the character of the surrounding neighborhood and with the character of the southern slope of Potrero Hill. Mixed-use development is common for typical residential neighborhoods in Potrero Hill and throughout San Francisco; therefore, the Proposed Project would not conflict with existing land uses. Thus, the introduction of new mixed-use development on the site would not be considered adverse and development of the

[2] This Draft EIR/EIS states throughout that there are 620 units at the Project site. Due to a change in the use of units (i.e., formerly residential units being used for daycare), there are currently 606 units available for occupancy at the Project site. The analysis in this Draft EIR/EIS assumes that 620 residential units are present.

Proposed Project would result in ***less-than-significant*** impacts on the land use character of the site or vicinity under CEQA.

Because the Proposed Project would not be incompatible with surrounding development, there would be ***no impact*** under NEPA.

Alternative 1 – Reduced Development Alternative

Impact LU-1	**Effects Related to Physical Division** **CEQA: The Reduced Development Alternative would not physically divide an established community. (Less than Significant)** **NEPA: This impact criterion is not applicable under NEPA. Please see Section 5.4, *Socioeconomics and Community*, for an analysis of socioeconomic effects related to physical barriers of a particular group.**

Alternative 1 would develop the site with mixed-income units, including replacement of existing public housing units on a one-for-one basis subsidized by HUD but under management and ownership of the project applicant or related entities. In addition, the Proposed Project would include ground-floor, neighborhood-serving commercial space, open space, and community facilities. These uses would be a continuation of the land use pattern that currently exists on-site and in the immediate vicinity and would not create any new physical barriers within the Project area. Additionally, Alternative 1 would not introduce any physical barriers that would physically divide the existing neighborhood. Instead, the reconfigured roadways, as shown in Figure 2-6 in Chapter 2, *Project Alternatives and Project Description*, would realign the Project site's existing street network to connect with the surrounding neighborhood. The realignment would improve access and enhance traffic, transit, and pedestrian circulation to and from the Project site. Development under Alternative 1 would provide a physical connection between the Project site and the surrounding neighborhood **a**nd would establish uniformity with the existing urban character of the vicinity. In addition, Alternative 1 would reintegrate the community at the Project site with the surrounding neighborhoods, from a socioeconomic standpoint by providing both below market-rate and market rate housing. Therefore, this impact would be ***less than significant*** under CEQA.

Impact LU-2	**Effects Related to Plan Consistency** **CEQA: The Reduced Development Alternative would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)** **NEPA: The Reduced Development Alternative would not be inconsistent with applicable land use plans and policies. (Less than Significant)**

Applicable plans that direct or regulate development on the Project site include the General Plan, the Showplace Square/Potrero Area Plan, the *Planning Code*, the *Sustainability Plan*, the *Climate Action*

Plan, *San Francisco Bicycle Plan*, and other relevant City policies discussed in Chapter 3, *Plans and Polices*. The *San Francisco Bicycle Plan* is discussed in Sections 4.7 and 5.7, *Transportation and Circulation*. As discussed in Chapter 3, *Plans and Policies*, Alternative 1 would generally be consistent with the General Plan, the Showplace Square/Potrero Area Plan, *Sustainability Plan*, *Climate Action Plan*, *Better Streets Plan*, *San Francisco Bicycle Plan*, Transit First Policy and the San Francisco Green Building Ordinance. Similar to the Proposed Project, Alternative 1 includes an amendment to the *Planning Code* to rezone the SFUSD site from P to an RM-2 District. As discussed under Impact LU-2, for the Proposed Project, inconsistency with existing zoning would not result in adverse physical environmental impacts related to aesthetics, wind or shadow. Therefore, impacts would be ***less than significant*** under CEQA**.**

Similarly, given that Alternative 1 would not conflict with applicable policies and objectives, this impact would be ***less than significant*** under NEPA.

Impact LU-3	**Effects on Existing Character** **CEQA: The Reduced Development Alternative would not have an adverse impact on the existing land use character of the Project site and vicinity. (Less than Significant)** **NEPA: The Reduced Development Alternative would not be incompatible with surrounding development. (No Impact)**

Impacts under Alternative 1 would be less than those identified for the Proposed Project, above. Alternative 1 would not introduce new land uses, but would replace the existing public housing units with up to 1,280 units of market rate and below market rate housing and retail uses, which would intensify and change the character of land uses at the Project site. This would be a change in land use character from strictly residential to a mix of residential, commercial, and community facility uses. However, this change would not be a substantial adverse land use effect because the proposed uses would be compatible with surrounding uses on the southern slope of Potrero Hill. In addition, residential neighborhoods throughout San Francisco generally feature mixed use, similar to those proposed under Alternative 1. Thus, the introduction of new mixed-use development on the site would not be considered adverse and the Reduced Development Alternative would result in ***less-than-significant*** impacts on the land use character of the site or vicinity under CEQA.

Because Alternative 1 would not be incompatible with surrounding development, there would be ***no impact*** under NEPA.

Alternative 2 – Housing Replacement Alternative

Impact LU-1	**Effects Related to Physical Division** **CEQA: The Housing Replacement Alternative would not have an impact on the existing character of the Project site and vicinity and would not physically divide an established community. (No Impact)** **NEPA: This impact criterion is not applicable under NEPA. Please see Section 5.4, *Socioeconomics and Community*, for an analysis of socioeconomic effects related to physical barriers of a particular group.**

Alternative 2 would replace all existing residential units one-for-one and would build on the same footprint as the existing development. As a result, the existing character and physical connection between the Project site and the surrounding neighborhood would remain the same, and there would be ***no impact*** under CEQA.

Impact LU-2	**Effects Related to Plan Consistency** **CEQA: The Housing Replacement Alternative would not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. (No Impact)** **NEPA: The Housing Replacement Alternative would not be inconsistent with applicable land use plans and policies. (No Impact)**

Applicable plans that direct or regulate development on the Project site include the Showplace Square/Potrero Area Plan of the General Plan, the *Planning Code*, *San Francisco Bicycle Plan*, the *Sustainability Plan*, the *Climate Action Plan*, and other relevant City policies discussed in Chapter 3, *Plans and Polices*. The *San Francisco Bicycle Plan* is discussed in Sections 4.7 and 5.7, *Transportation and Circulation*. As discussed in Chapter 3, *Plans and Policies*, the alternatives would generally be consistent with the Showplace Square/Potrero Area Plan, *Sustainability Plan*, *Climate Action Plan*, *Better Streets Plan*, *San Francisco Bicycle Plan*, Transit First Policy, and the San Francisco Green Building Ordinance. Alternative 2 would not conflict with any of the above mentioned plans and, therefore, there would be ***no impact*** under CEQA.

Similarly, given that Alternative 2 would not conflict with applicable policies and objectives, there would be ***no impact*** under NEPA.

Impact LU-3	**Effects on Existing Character**
	CEQA: The Housing Replacement Alternative would not have an adverse impact on the existing land use character of the Project site and vicinity. (Less than Significant)
	NEPA: The Housing Replacement Alternative would not be incompatible with surrounding development. (Less than Significant)

Alternative 2 would not introduce new land uses and would replace the existing public housing units with the same number of units in the same building footprints. The existing administrative office at the Terrace and the Family Resource Center/childcare center at the Annex would be demolished and rebuilt at the same size and location. This would not be a change in land use character at the Project site. As such, since land uses would remain the same as existing conditions, Alternative 2 would result in ***less-than-significant*** impacts on the land use character of the site or vicinity under CEQA.

Because Alternative 2 would not be incompatible with surrounding development, there would be ***less-than-significant*** under NEPA.

Alternative 3 – No Project Alternative

Under Alternative 3, construction and operation of the Proposed Project would not occur. The existing buildings and roadway configuration would remain the same. No land use changes would occur under this alternative; accordingly, there would be ***no impact*** on the existing character and vicinity under CEQA, and there would be ***no impact*** under NEPA. Furthermore, this alternative would not physically divide an established community, since no new development would take place and existing connections would remain; therefore, ***no impact*** would occur under CEQA. There would be no beneficial effect with regard to physical division of an established community. Instead, the effect of this alternative would be ***less than significant*** under NEPA.

As explained above, the HOPE SF program proposes to revitalize distressed public housing developments in San Francisco by rebuilding every housing unit, providing homes for current residents, adding new housing at different income levels, and redesigning the community with new buildings, streets, parks, and landscaping. The No Project Alternative would not rebuild distressed public housing units, add additional housing, or redesign the Potrero community. As such, this alternative would not be consistent with Policy 2.2.5 of the Showplace Square/Potrero Area Plan and, therefore, would conflict with the City's General Plan. However, a conflict between a Proposed Project and a General Plan policy does not necessarily indicate a significant effect on the environment. Since the conflict between the No Project Alternative and General Plan policy would not result in a physical environmental impact, this impact would be ***less than significant*** under CEQA, and the impact would be ***less than significant*** under NEPA. The No Project Alternative would not result in land use changes on the Project site. Therefore, there would be ***no impact*** under

CEQA on the existing land use character of the Project site and vicinity. Similarly, this would result in a ***less-than-significant*** impact under NEPA.

Cumulative Impacts

The geographic context for evaluation of cumulative land use impacts associated with land use changes is past, present, and reasonably foreseeable future projects in proximity to the Project Site, including growth under the Eastern Neighborhoods (EN) Plan area as described in Section 5.1, *Introduction to the Analysis*.

For the purpose of NEPA review, the geographic boundary for cumulative land use compatibility impacts includes the Project site and its immediate surroundings. When considering the consistency of the alternatives with applicable land use plans, the geographic boundary is limited to the Project site; consequently, consistency with applicable land use plans is not a cumulative issue under NEPA and will not be discussed further.

Impact C-LU-1	**Cumulative Effects on Land Use** **CEQA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative land use impacts. (Less than Significant)** **NEPA: This impact criterion is not applicable under NEPA.**

The EN Plan encourages new housing while preserving sufficient lands for necessary production distribution and repair (PDR) (generally, light industrial) businesses and activities which involve changes in the Planning Code (zoning) controls, as well as amendments to the General Plan, for an approximately 2,200-acre area on the eastern side of San Francisco. The EN Plan is intended to permit housing development in some areas currently zoned for industrial use while protecting an adequate supply of land and buildings for PDR employment and businesses. A key attribute of the proposed rezoning effort is the introduction of new use (zoning) districts, including districts that would permit at least some PDR uses in combination with commercial uses, districts mixing residential and commercial uses, residential and PDR uses, and new residential-only districts. Ultimately, the EN Program EIR determined that the Plan would not divide an established community or result in a significant impact on plan consistency. However, the EN Plan would result in significant effects on existing neighborhood character related to the cumulative loss of PDR in historically industrial districts. Cumulative impacts related to land use character were, therefore, considered significant in the EN EIR.

Effects Related to Physical Division

The Proposed Project and its alternatives would not physically divide an established community, as discussed above. Instead, the reconfigured roadways under the Proposed Project and Alternative 1, as shown in Figure 2-6, in Chapter 2, Project Alternatives and Project Description, would realign the

Project site's existing street network to connect with the surrounding neighborhood. The realignment would improve access and enhance traffic, transit, and pedestrian circulation to and from the Project site. In addition, the Proposed Project and Alternative 1 would provide a mix of below market rate and market rate housing, integrating the Project site with the surrounding neighborhood. Implementation of the Proposed Project or its alternatives, in combination with past, present, and reasonably foreseeable future projects, including growth under the EN Plan, is not expected to result in the construction of any physical barriers to neighborhood access or the removal of any existing means of access, either of which would physically divide the established community. Thus, the Proposed Project would not result in a cumulatively considerable contribution to impacts related to the physical division of an established community.

Effects Related to Plan Consistency

The Proposed Project and its alternatives would not result in significant physical effects related to plan inconsistency. As discussed, the inconsistency with existing zoning does not, by itself, constitute a significant environmental impact. However, the proposed increase in height and bulk could result in impacts related to a variety of physical impacts such as those related to aesthetics, wind, or shadow, all of which have been found to be less than significant.

The Proposed Project, in combination with past, present, and reasonably foreseeable future projects, including growth under the EN Plan, would be consistent with local and regional growth projections, such as Projections and Priorities 2009, published by the Association of Bay Area Governments, and adopted planning documents, such as the 2009 Update of the Housing Element of the General Plan, and the EN Plan. This cumulative development is not expected to conflict with any land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. While the Proposed Project and its alternatives would conflict with the existing zoning and height and bulk limits, no reasonably foreseeable projects in the vicinity, including those within the EN Plan, would involve development exceeding existing height and bulk limits. Therefore, the proposed project and alternatives would not combine with other cumulative development in the vicinity to cause a significant cumulative impact related to conflicts with plans adopted to avoid an environmental effect.

Effects on Existing Character

While there would be an introduction of new retail and community land use types at the Project site it would remain largely residential. The Proposed Project or its alternatives would be consistent with the character of the surrounding neighborhood and with the character of the southern slope of Potrero Hill. Mixed-use development is common for typical residential neighborhoods in Potrero Hill and throughout San Francisco; therefore, the Proposed Project or its alternatives would not conflict with existing land uses. Implementation of the proposed project, in combination with past, present, and reasonably foreseeable future projects, including growth under the EN Plan would intensify land uses in the project vicinity, but this intensification and growth is not expected to

introduce any land uses that do not already exist in the area. As a result, the character of the vicinity would not undergo any substantial adverse changes related to land use. For these reasons, the proposed project, in combination with past, present, and reasonably foreseeable future projects, would have less-than-significant cumulative land use impacts. As the EN EIR found significant cumulative impacts to land use character in relation to the loss of PDR uses, the Proposed Project would not make a cumulatively considerable contribution to this significant cumulative land use impact, as is would not remove or displace PDR uses. Cumulative land use impacts would be ***less than significant*** under CEQA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative land use impacts.

Cumulative land use impacts would be ***less than significant*** under NEPA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative land use impacts.

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5.3 VISUAL QUALITY/AESTHETICS

5.3.1 Regulatory Framework

Please refer to Chapter 3, *Plans and Policies*, for a complete discussion of relevant plans and their respective applications to the implementation of the Proposed Project and alternatives. Policies most relevant to this analysis are presented below.

Federal

U.S. Department of Housing and Urban Development (HUD) has issued guidance on assessing the impact of a proposed action on scale and urban design. In accordance with the Council on Environmental Quality (CEQ) 40 Code of Federal Regulations (CFR) Section 1508.27, this guidance should be used in assessing the intensity of a proposed action and is discussed further below.

State

Senate Bill 743 and Public Resources Code 21099

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014. Among other provisions, SB 743 added Section 21099 to the Public Resources Code and eliminated the analysis of aesthetics impacts for certain urban infill projects under the California Environmental Quality Act (CEQA). The Proposed Project meets the definition of a mixed-use residential project on an infill site located within a transit priority area as specified by Section 21099. Accordingly, from a CEQA perspective, aesthetics impacts are discussed for informational purposes. Regardless, since the Proposed Project and alternatives are subject to NEPA, aesthetics effects are considered in this analysis.

Local

San Francisco General Plan

The *San Francisco General Plan* (General Plan), adopted by the Planning Commission and the Board of Supervisors, is the embodiment of the City's collective vision for the future of San Francisco. The General Plan is comprised of a series of elements that applies Citywide. The element that applies to visual quality is the Urban Design Element; however, the Environmental Protection, and Recreation and Open Space Elements also contain applicable objectives and policies, as outlined in Chapter 3, *Plans and Policies*.

San Francisco Planning Code

The *Planning Code*, which incorporates by reference the City's zoning maps, implements the General Plan and governs permitted uses, densities, and configuration of buildings within the City. Permits

to construct new buildings (or to alter or demolish existing ones) may not be issued unless (1) the Proposed Project conforms to the *Planning Code*, (2) allowable exceptions are granted pursuant to provisions of the *Planning Code*, or (3) amendments to the *Planning Code* are approved as part of the project. The *Planning Code* provides location-specific development and use regulations that govern density and configuration of buildings.

Per the *Planning Code*, the Project site is currently zoned RM-2. Under Section 206.2 of the *Planning Code*, RM-2 is defined as Residential, Mixed-Use – Moderate Density. RM-2 Districts are generally similar to RM-1 Districts, which contain a mixture of dwelling types including those found in the RH (Residential, House) Districts and apartment buildings in a variety of structures and a range of unit sizes. RM-2 Districts tend to be greater in unit density and the variety of building types and unit sizes are often more pronounced than RM-1 Districts. The Project site is within a 40-X Height and Bulk District which sets building height limits at 40 feet, with no bulk restriction. Properties in the Project vicinity (several blocks to the east, west, and north of the Project site, with some exceptions) are also in the 40-X Height and Bulk District, which follows the pattern of residential uses. Properties to the south are in the 65-J Height and Bulk Districts, which follows the pattern of industrial/commercial uses.

Public Works Code Article 16, Urban Forestry Ordinance

The Urban Forestry Ordinance establishes protections for the City's trees. The two categories receiving the highest protection are the City's Significant and Landmark Trees. The City currently considers Significant Trees to be street trees and private trees that meet certain criteria under Section 810A of the Public Works Code. Removal of any of these trees requires a permit. Landmark Trees have the highest level of protection in the City. These are trees that meet criteria for age, size, shape, species, location, historical association, visual quality, or other contribution to the City's character and have been found worthy of Landmark status after public hearings at both the Urban Forestry Council and the Board of Supervisors. Temporary landmark status is also afforded to nominated trees currently undergoing the public hearing process.

Additional Applicable Provisions

The San Francisco Planning Code contains a number of provisions to reduce or prevent light and glare in the City. This includes Section 311 and the Residential Design Guidelines, Section 312, and the Neighborhood Commercial Design Guidelines, as well as the Industrial Area Design Guidelines. Moreover, Planning Commission Resolution 9212 prohibits the use of mirrored or reflective glass.

5.3.2 Impacts and Mitigation Measures

Significance Thresholds

Significance Criteria under CEQA

The Proposed Project is subject to SB 743 and Section 21099 of the Public Resources Code, which eliminated the analysis of aesthetics impacts for certain urban infill projects under CEQA. Accordingly, this section does not provide CEQA conclusions regarding aesthetics.

Context and Intensity Evaluation Guidelines under NEPA

The following thresholds for determining the significance of visual quality impacts in this analysis are consistent with NEPA. Implementation of the Proposed Project and its alternatives would have a significant effect on visual quality if it would:

- Block or disrupt views of scenic resources or reduce public opportunities to view scenic resources
- Introduce elements that are out of character or scale with the existing physical environment or that detract from the aesthetic appeal of the surrounding area. Specifically:
  - Conform to the surrounding and established built environment, in terms of overall scale, density, size, and mass.
  - Introduce elements out of character or scale with the existing physical environment.
  - Introduce elements that represent a significant change in size, scale, placement, or height in relation to neighboring structures in an inappropriate manner.
  - Introduce changes to building density in the community.
  - Introduce changes resulting from induced development regarded by the community as beneficial or negative.
  - Affect the relationship of Project design to the context of its surroundings
  - Reduce or detrimentally increase levels of activity and enhancement of street-level activity and community interaction.
  - Propose signage and street furniture that is inconsistent with existing architectural styles.
- Alter the land form by demonstrably destroying or altering the natural or man-made environment.
- Conform to locally adopted design guidelines

Approach to Analysis

This analysis focuses on the visual effects of the Proposed Project and its alternatives. Most alternatives (with the exception of the No Project Alternative) include removal of the existing Terrace and Annex buildings and construction of new buildings. The analysis includes the impacts associated with height and density increases, tree removal, and changes in views to and from the Project site. The section assesses the potential visual effects based on field reconnaissance and the review of photographs of existing conditions from key viewpoints.

Pursuant to NEPA regulations (40 CFR 1500–1508), project effects are evaluated based on the criteria of context and intensity. Context means the affected environment in which a proposed project occurs. The severity of the effect is examined in terms of the type, quality, and sensitivity of the resource involved; the location and extent of the effect; the duration of the effect (short- or long-term) and other consideration of context. Intensity means the degree or magnitude of an impact that is thus determined to be no impact, less than significant, or less than significant with mitigation. In identifying visual resources and analyzing project effects on the visual environment, the analysis considers the HUD guidance (as discussed above) in determining context and intensity and analyzes the change in visual conditions as well as the viewer's response to the change.

Visual simulations have been prepared and employed to determine potential effects. The visual simulations are based on a massing study. Building articulation is demonstrative, and the simulations provide existing and representative post-construction views from nine selected vantage points, as shown in Figure 4.3-1. The Planning Department selected the nine vantage points based on those identified during the scoping process and considered to be sensitive viewer locations, which include parks, publicly accessible buildings, and sidewalks that offer a view of the urban and natural landscapes making up a viewshed. As described below, Viewpoints 1 and 2 represent views from a scenic vista, in this case, from the Potrero Recreation Center. Viewpoints 3 through 8 represent public views of the Project site from outside the Project site. Viewpoint 9 represents a view from a state scenic highway, in this case I-280.

The following analysis includes visual simulations for both the Proposed Action and Alternative 1. Visual simulations were not prepared for Alternative 2 because this alternative would result in the same density, height, and bulk as existing conditions. Although the existing housing units would be demolished and replaced with new units, the same site plan and building pattern would result. As such, visual simulations were only prepared for the Proposed Action and Alternative 1.

However, several of the vantage points would result in relatively similar views under both the Proposed Project and the Housing Replacement since the building heights in these areas would be the same. Or, if the building heights differ slightly, due to distance and topography from these vantage points, the difference in a 10-foot reduction is barely perceptible. As such, Table 5.3-1 summarizes the vantage point locations that would result in the same views and are included as one figure for both scenarios, and the vantage points that have different views and, therefore, are presented in different figures.

SOURCE: Van Meter Williams Pollack LLP, 2012.

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FIGURE 5.3-1: PROPOSED PROJECT, 22ND STREET TRAIL, LOOKING EAST (VIEWPOINT 1)

Table 5.3-1 Existing Residential Units			
Viewpoint	***Location***	***Same View for Both Scenarios?***	***Figure #***
1	22nd St Trail, looking east	Yes	Figure 5.3-1
2	Potrero Hill Recreation Center, looking south	No	Figure 5.3-2/Figure 5.3-10
3	23rd St at Wisconsin St, looking east	Yes	Figure 5.3-3
4	Wisconsin St at 23rd St, looking south	Yes	Figure 5.3-4
5	24th St at Wisconsin St, looking east	No	Figure 5.3-5/Figure 5.3-11
6	Wisconsin St at 25th St, looking east	Yes	Figure 5.3-6
7	Wisconsin St at 25th St, looking south	Yes	Figure 5.3-7
8	Connecticut St at Cesar Chavez St, looking north	No	Figure 5.3-8/Figure 5.3-12
9	I-280, looking northwest	No	Figure 5.3-9/Figure 5.3-13

Impact Evaluation

Proposed Project

Impact AE-1 **Effects on Views**

CEQA: This topic is not applicable under CEQA for the Proposed Project.

NEPA: The Proposed Project would not block or disrupt views of scenic resources or reduce public opportunities to view scenic resources. (Less than Significant)

For the purposes of this analysis, a view of scenic resources is defined as a public view that is broad and expansive and of a significant landscape feature (e.g., a mountain range, lake, or coastline) or of a significant historic or architectural feature (e.g., views of a historic tower). A view of scenic resources is a location that offers high visual quality and a harmonious and visually interesting view. In the vicinity of the Project site, the views from portions of the Potrero Hill Recreation Center are considered scenic with high viewer sensitivity due to the nature of the use and the views of the Bay, East Bay Hills, and San Bruno Mountain from certain public areas of the park. Areas where viewer sensitivity would be considered low would be views from the sports field due to the context of the use, where users are involved in playing sports rather than contemplating the view.

Although the Project site is visible from other surrounding locations, the Project site is not part of a scenic view as viewed from outside the site because Potrero Hill blocks scenic views of any panoramic vistas beyond. In addition, the existing view of the site itself is of low quality due to the deteriorated character of the existing development. Viewer response to the changes from the Proposed Project from Viewpoints 3 through 9 would be low because no scenic views are seen from these locations. Thus, the only views of scenic resources that would be affected are the views from

the Potrero Hill Recreation Center. The remainder of this impact analysis is, therefore, focused on Viewpoints 1 and 2.

Private views are not considered scenic under the City's significance criteria, but are discussed here for informational purposes. The Proposed Project would obscure and/or alter some existing private views from neighborhoods to the west of the Project site along 23rd Street and Wisconsin Street, to the extent that such views are now available from residences. Currently, these residences have some background views of the Bay and distant hills and ridgelines facing east and south. Construction of the proposed buildings would block these views. The Proposed Project would replace longer-range private views across the site with shorter-range views of the proposed new buildings. The proposed change in private views could be experienced as an undesirable consequence for affected persons who have grown accustomed to existing visual conditions. The nature and experience of this change for each affected viewer would vary depending on the nature of the existing view across the Project site, the position and proximity of the proposed new buildings within the private view, and the subjective sensitivity of the viewer. The alteration or interruption of private views is a commonly expected and experienced consequence of new construction within a densely populated urban setting. A project would only be considered to have a significant effect on views of scenic resources if it were to substantially degrade or obstruct public scenic views observed from public areas. The changes to private views resulting from the Proposed Project would not be considered an adverse aesthetic effect under NEPA.

22nd Street Trail (Viewpoint 1). As shown in Figure 5.3-1 Photo A, the northern portion of the Recreation Center includes natural features and the 22nd Street Trail. Looking east, a channelized view of the Bay and East Bay Hills is provided through the dense vegetation. Viewer sensitivity would be high from this location but the view would be of only moderate quality given that it is somewhat restricted and narrow. Under the Proposed Project, as depicted in Figure 5.3-1 Photo A, a small portion of the proposed 50- and 40-foot-high buildings would be visible from the trail. From this vantage point, the proposed buildings intrude somewhat into the middleground views, which include visible urban development such as warehouses and industrial uses. However, the Bay and the East Bay Hills would still be visible from this location and would not be substantially obscured by the proposed buildings.

It is important to note that the views of the Proposed Project would change as the viewer adjusts position. As the viewer walks towards the site along the 22nd Street Trail, the development would appear increasingly larger and would likely block views of a portion of the Bay and East Bay Hills. Nonetheless, as the viewer approaches the buildings, the dense vegetation opens up and allows for some middleground and background views. As such, although the proposed buildings' height and massing would increase over existing conditions, this would not represent a substantial change to the overall views from this location. The intensity of the change would not be significant as the viewer descends the trail.

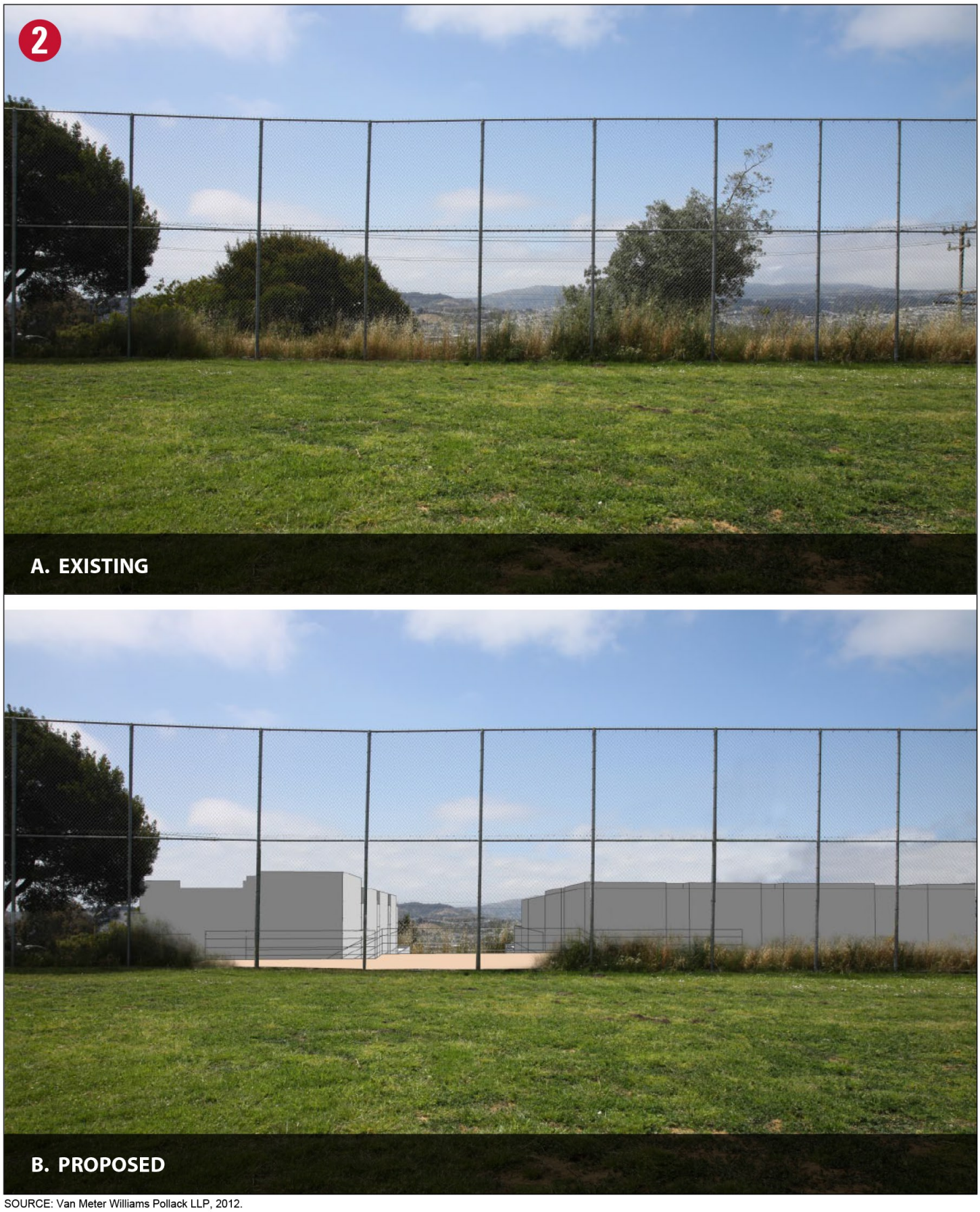
Potrero Hill Recreation Center (Viewpoint 2). Figure 5.3-2 Photo A shows the existing view from the southern portion of the Recreation Center at the baseball field. Distant views of the higher elevations to the south, including McLaren Ridge and San Bruno Mountain, are seen from this location, partially obscured by foreground vegetation.

Background views are also somewhat diminished by the chain-linked fence and vegetation in the foreground and would be considered of low to moderate quality. Viewer sensitivity would be relatively low in this location, as the primary use of the area is field sports rather than scenic viewing. As shown in Figure 5.3-2 Photo B, the proposed buildings, which would be approximately 40 to 50 feet in height, would obscure a portion of the view of the ridgeline and would change the existing view from the southern area of the Recreation Center to one that features a built environment. Project landscaping would screen and soften a portion of the new buildings, but the visual character of the site would represent a change as seen from this vantage point.

In summary, the Proposed Project would add buildings that are up to 15 feet taller than the existing buildings adjacent to the Recreation Center, and these new buildings would impact views of scenic resources. The buildings would block some middleground urban development views and portions of the ridgeline and the Bay. From Viewpoint 1, viewer sensitivity is moderate to high, but because the views would remain somewhat visible and the view corridor is narrow, the intensity of the impact would not be significant. From Viewpoint 2, while viewer sensitivity and awareness are lower than from Viewpoint 2 given the type of use (field sports), the intensity of the effect would be considered moderate because the change would be more substantial, as discussed. The Bay, East Bay Hills, and ridgelines would still be visible from the Recreation Center, between the new buildings.

As such, the Proposed Project would result in ***less-than-significant*** impacts on views of scenic resources and would not generally reduce public opportunities to view scenic resources.

Impact AE-2	**Effects on Visual Character during Construction** **CEQA: This topic is not applicable under CEQA for the Proposed Project.** **NEPA: The Proposed Project would potentially introduce elements that are out of character or scale with the existing physical environment or detract from the aesthetic appeal of the surrounding area during construction. (Less than Significant)**



SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.3-2: PROPOSED PROJECT, POTRERO HILL RECREATION CENTER, LOOKING SOUTH (VIEWPOINT 2)

For the purposes of this analysis, a substantial degradation of the existing visual character or quality of the Project site would occur if the Proposed Project would introduce a new visible element that is inconsistent with the overall quality, scale, and character of the site or surrounding development. The analysis considers the degree of contrast between the proposed features and existing features, the sensitivity of viewers of the site, the quality of the existing view, and how the Proposed Project would contribute to the area's aesthetic value. This analysis examines the changes in visual character and quality of the site itself during construction and operation, and also examines how the Proposed Project would change the existing visual character and quality as seen from surrounding vantage points, as identified in Section 4.3.

During the construction phases of the Proposed Project, construction vehicle and equipment staging areas, exposed building pads, storage trailers, open trenches, debris piles, and roadway bedding and equipment would be visible on or near the Project site. Construction equipment such as backhoes and dump trucks would be visible from certain perimeter roadways around the Project site, particularly Wisconsin Street, 23rd Street, 25th Street, Pennsylvania Avenue, and Connecticut Street.

The Proposed Project would degrade the existing visual character of the Project site during construction phases. Construction is anticipated to occur over an approximately ten-year period. During the construction stage, there would be temporary visual impacts from the demolition of existing buildings, the assembly of new structures, and equipment staging. Construction materials on the Project site during construction phases of the Proposed Project would introduce elements that are out of character with the existing environment, such as materials stockpiles. Construction equipment generally would not be located or extend to a height that would obstruct any scenic views. The exception would be if cranes are utilized, but given the nature of this piece of equipment (tall and very narrow in appearance), it would not substantially obstruct any scenic views. However, the aesthetic effect during construction would be temporary, and thus would be ***less than significant***.

Although construction-related aesthetic impacts would be temporary, given the ten-year duration of the construction period, an improvement measure has been included to further reduce less-than-significant aesthetic impacts under CEQA. Implementation of Improvement Measure I-AE-2a would ensure that all construction staging areas would not be visible from street level; ensure cleanliness of the construction site, surrounding streets, and construction equipment that would be stored or driven beyond the construction area; and that the City would review and approve a plan for construction staging, access, and parking prior to issuance of a building permit. With implementation of Improvement Measure IM-AE-2a, construction-related impacts would continue to be ***less than significan***t.

> **Improvement Measure IM-AE-2a – Construction Period Screening and Cleaning.** Prior to the issuance of any site activity or building permits, construction documents shall be prepared to require all contractors to strictly control the staging and cleanliness of

construction equipment stored or driven beyond the limits of the work area. Construction equipment shall be parked and staged on the Project site, and staging areas shall be screened from view at the street level. Before building permits are issued, the project applicant (through the construction contractors) shall submit a construction staging, access, and parking plan to the San Francisco Department of Building Inspection for review and approval. Construction workers shall be prohibited from parking their vehicles on the street outside of the Project site. Vehicles shall be kept clean and free of mud and dust before leaving the Project site. Each week, the project contractors shall be required to sweep surrounding streets used for construction access to maintain them free of dirt and debris.

Impact AE-3	**Effects on Visual Character during Operation** **CEQA: This topic is not applicable under CEQA for the Proposed Project.** **NEPA: The Proposed Project would not introduce elements that are out of character or scale with the existing physical environment or that detract from the aesthetic appeal of the surrounding area during operation. (Less than Significant)**

Impacts on On-Site Character. The Proposed Project would replace the existing aging structures with new, visually improved buildings. With implementation of the Proposed Project, the Terrace site and the Annex site would be developed with up to 1,700 residential units that would consist of townhomes, townhomes over flats, and stacked flats. The buildings would be between three and six stories and would range in height from 32 to 65 feet. The building heights would vary within the Project site, with the taller buildings generally down-gradient and not adjacent to existing residential development. Commercial uses and community facilities would also be developed.

In addition, open space elements would be incorporated into the Project site. Currently, limited open space is provided between the existing buildings in the form of patchy lawns and walkways. Under the Proposed Project, public open space would include a large park on 24th Street, a pocket park at 25th Street and Connecticut, an overlook area on 25th Street and 26th Street, a community garden on Texas Street, a pocket park at the confluence of Missouri Street and Texas Street, and a Texas Street overlook park. Public and private open spaces across the Project site would total approximately 7 acres. Landscaping would also be included in the public and private open spaces, between buildings, along the streets, and in parking areas. All 254 existing trees on the Project site would be removed. There are no landmark trees or street trees at the site.[1] Any removal of these trees associated with the Proposed Project would require a permit as provided in Article 16, Section 806. Compliance with the *Public Works Code* would require replacement of all removed trees.

The existing curvilinear streets would also be realigned under the Proposed Project to provide a grid pattern, consistent with surrounding streets and the general pattern of streets in the neighborhood. Texas Street and Missouri Street would be extended and would connect at the northern border of

[1] GLS Landscape/Architecture, Tree Disclosure Statement (June 23, 2010).

the Project site. Arkansas Street would be extended from 23rd Street south to 26th Street. Instead of traveling northwest/southeast, Connecticut Street would be realigned to travel north/south and would terminate at 24 and ½ Street. Two new streets are proposed for an east/west alignment: a 24th Street extension and 24 and ½ Street. Dakota Street, Turner Terrace, and Watchman Way would be eliminated. The grid pattern street system would visually enhance the Project site and allow it to blend and connect with its surroundings.

The Proposed Project would enhance street-level activity and community interaction by providing pedestrian connections. Sidewalks would be included along all blocks of the Project site for pedestrian safety, walking comfort, and convenience. In addition, pedestrian bulb-outs and sidewalks would be provided at intersections to improve the pedestrian experience. Other pedestrian connections would link residents to proposed onsite neighborhood amenities such as the proposed Community Center, open spaces, and parks, and offsite uses such as the Potrero Hill Recreation Center and Starr King Elementary. Since the proposed open spaces and parks would be accessible to the public, the Proposed Project would promote interaction with the existing surrounding neighborhoods and the future residents of the Project site. Realignment of the existing streets to a grid pattern would also link the Project site with the rest of the neighborhood. Since the Project site is not currently visually connected and does not contain useful pedestrian links with the rest of the neighborhood, the increase of street-level activity and community interaction would be beneficial.

While the Proposed Project would increase on-site building heights and density of development, the Proposed Project would improve the current visual setting. Currently, the Project site consists of older, unkempt buildings and vegetation that are inconsistent with the existing residential development and open spaces to the north and west. The Proposed Project would replace the existing decrepit buildings with enhanced landscaping, bicycle/pedestrian amenities, and modern structures that would complement the existing surroundings. The proposed development design would relate to the context of its surroundings by creating contiguous landscape areas and buildings that reflect modern, current architectural design. The potential signage and street furniture to be installed as part of the Proposed Project is currently unknown. However, the final Design Standards and Guidelines prepared for the Proposed Project and ultimately approved by the City would ensure that that these features would be in character with existing architectural styles and would not differ in materials, color, or style in an inappropriate manner. Therefore, the impacts on the character of the Project site would be ***less than significant***.

Impacts on Public View Corridors. Existing view corridors include views of the Project site from nearby streets, adjacent residential neighborhoods, and Starr King Elementary School. The streets bordering the Project site that could be impacted by the Proposed Project include 23rd Street, 24th Street, 25th Street, Wisconsin Street, and Connecticut Street. According to the Urban Design Element of the General Plan, views from streets and other public areas should be preserved, created, and

improved where they include water, open spaces, large buildings, and other major features of the City pattern.[2]

In order to determine the impacts on public view corridors, especially where such corridors afford views of the Bay, several massing simulations were prepared from nine vantage points. The vantage point locations were selected as representative of the various views that could be held in the Project area. It should be noted that views from Viewpoints 1 and 2 are analyzed in Impact AE-1 as impacts on scenic views. This analysis focuses on views from public streets in the Project area that have been identified as having views of scenic resources and that could be affected by implementation of the Proposed Project. The moderate-scale development and open space between the existing buildings on the Project site are inconsistent with its surroundings, which include industrial uses to the east and south and gridded streets with dense housing to the north and west. This contrast contributes to an incoherent visual pattern with limited unity between the Project site and its surroundings.

The addition of proposed trees, formal landscaping, and streetscape/sidewalks would improve the aesthetics of the overall area and create a more pedestrian-friendly environment that would visually link the surrounding neighborhood. The taller buildings would be visible to the surrounding uses; however, the existing development is inconsistent with its surroundings and does not offer visual unity between the residential units to the north and west, industrial/warehouse uses to the east and south, and the Project site. Although the long-term visual characteristics of the Project site would be altered with implementation of the Proposed Project, the Proposed Project would provide more design continuity with the adjacent neighborhood by creating buildings that reflect modern architectural design, contiguous landscaping, and grid-pattern streets. Therefore, the relationship of the Proposed Project's design to the context of its surroundings would be improved over existing conditions.

To further reduce the impacts of views of the proposed development from adjacent areas, the project applicant would install landscaping that would serve to soften some of the views of the proposed buildings. Consistent with the Urban Design Element and the *Planning Code*, landscaping should enhance view corridors and should be planted along streets. At maturity, the vegetation planted at the Project site could mask a portion of the buildings and make the structures more subordinate and harmonious with their surroundings.

Intersection of 23rd Street and Wisconsin Street (Viewpoint 3). As shown in Figure 5.3-3 Photo A (Viewpoint 3), the existing foreground view facing east on 23rd Street consists of multi-family residential units to the north of 23rd Street, street pavement, overhead utility wires and poles, and a chain-link fence surrounding the Project site. The middleground views encompass mature trees at the Recreation Center, minimal vegetation at the Project site, and the roofs of the existing buildings at the Project site. Background views of the Bay (Viewpoint 3) and ridgelines (Viewpoint 4) are

[2] City and County of San Francisco, *San Francisco General Plan*, Urban Design Element (adopted December 7, 2010), <http://www.sf-planning.org/ftp/General_Plan/I5_Urban_Design.htm> (accessed May 7, 2012).

limited due to intervening vegetation and structures. The views from Viewpoint 4 of the distant ridgelines open up and become more expansive as a motorist or pedestrian travels south, but because the views would be of short duration, viewer sensitivity would be low to moderate from Viewpoint 3. Currently, there is little visual unity between the Project site and its surroundings, as noted.

However, the Proposed Project, as shown in Figure 5.3-3 Photo B, would construct multi-family residential buildings that would be visually compatible with the existing residences on the other side of 23rd Street. Although these buildings would be approximately 40 feet, which is taller than the existing structures, they would be stepped downhill to follow the slope of the terrain, making them appear to be approximately of equal height. In addition, the existing utility wires and poles on-site would be removed and undergrounded with implementation of the Proposed Project, which would further improve visual conditions. The density associated with the Proposed Project would be consistent with the multi-family residential units to the north of 23rd Street.

Intersection of Wisconsin Street and 23rd Street (Viewpoint 4). Figure 5.3-4 Photo A depicts the existing view facing south on Wisconsin Street. Foreground views include multi-family residential units to the west of Wisconsin Street, street pavement, and overhead utility wires and poles. The middleground view mainly consists of mature vegetation and some industrial/warehouse buildings, while there are channelized background views of distant ridgelines and hills. The views from Viewpoint 4 of the distant ridgelines open up and become more expansive as a motorist or pedestrian travels south, but because the views would be of short duration, viewer sensitivity would be low to moderate from Viewpoint 4.

The Proposed Project, as shown in Figure 5.3-4 Photo B, would add new multi-family residential buildings to the east of Wisconsin Street and would underground the overhead wires and utility poles. Although the Proposed Project would add new height and mass to this area, the uses and the heights of the buildings would be visually compatible and consistent with the context of the existing setting. In addition, the density associated with the Proposed Project would be consistent with the multi-family residential units to the west of Wisconsin Street. The Proposed Project would provide unity between the existing residential uses to the east of Wisconsin Street and the Project site.

Intersection of 24th Street and Wisconsin Street (Viewpoint 5). As depicted in Figure 5.3-5 Photo A, the existing view from the intersection of 24th Street and Wisconsin Street (adjacent to Starr King Elementary School) consists of the buildings and mature vegetation at the Project site and limited channelized views of the Bay. The Proposed Project (Figure 5.3-5 Photo B) would construct two 50-foot-tall buildings to the north of 24th Street, which would step up to 65 feet set back from the street. This would result in visual changes and an increase in density from existing conditions by adding greater mass and bulk at this corner.

SOURCE: Van Meter Williams Pollack LLP, 2012.

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FIGURE 5.3-3: PROPOSED PROJECT, 23RD STREET AT WISCONSIN STREET, LOOKING EAST (VIEWPOINT 3)

SOURCE: Van Meter Williams Pollack LLP, 2012.

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FIGURE 5.3-4: PROPOSED PROJECT, WISCONSIN STREET AT 23RD STREET, LOOKING SOUTH (VIEWPOINT 4)

SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.3-5: PROPOSED PROJECT, 24TH STREET AT WISCONSIN STREET, LOOKING EAST (VIEWPOINT 5)

However, the existing middleground view from this location includes mature vegetation and the current buildings at the Project site, which do not comprise a significant view. In addition, since the Proposed Project would grade the existing site and realign the existing curvilinear streets into grid streets, new view corridors of the Bay would be provided from this location. Although the buildings to the north of 24th Street would increase mass and bulk in this location, the buildings to the south of 24th Street would be stepped downhill, making them appear smaller. The proposed buildings would continue to allow for intermittent views of the Bay all along the street.

Intersection of 25th Street and Wisconsin Street (Viewpoint 6). Figure 5.3-6 Photo A shows the existing view from the intersection of 25th Street and Wisconsin Street facing east. Foreground views include existing single-family and multi-family residences, street pavement, and overhead utility lines and poles. Middleground views include mature vegetation and the cranes of the shipyard with background views of the Bay. The Proposed Project (Figure 5.3-6 Photo B) would add new buildings along 25th Street with heights up to 40 feet. The height and mass of these new buildings would appear consistent with the surrounding development, due to the site topography and the stepped placement of structures downhill. As shown, the utility wires and poles would be removed, reducing visual clutter. While the Proposed Project would reduce the amount of the Bay that is visible from this vantage point, some channelized views of the Bay facing east would be retained.

Intersection of Wisconsin Street and 25th Street (Viewpoint 7). Figure 5.3-7 Photo A depicts the existing view from the intersection of 25th Street and Wisconsin Street facing south. As shown, the view mainly consists of dense vegetation to the west of Wisconsin Street (with intermittent views of the existing single-family residential units in the Parkview Heights development) and sparse landscaping at the Project site. Channelized views of distant hills are seen. With implementation of the Proposed Project (Figure 5.3-7 Photo B), new housing would be added to the west of Wisconsin Street at a height of up to 40 feet. These multi-family buildings would be similar in height and massing as the existing single-family residential development in the area. A substantial portion of the existing channelized background view would be retained and no other major views would be obscured from this location. Although the Proposed Project, as viewed from this location, would represent a significant increase in density in the area, these changes, while noticeable, would not be expected to diminish the visual quality or character of the Project site.

Intersection of Cesar Chavez Street and Connecticut Street (Viewpoint 8). As shown in Figure 5.3-8 Photo A, foreground views from the intersection of Cesar Chavez Street and Connecticut Street include light industrial and warehouse buildings and some of the existing structures at the Project site. Middleground views include the vegetation and buildings at the Project site and the mature trees at the Recreation Center. No long-distance views are provided due to the steep topography.

SOURCE: Van Meter Williams Pollack LLP, 2012.

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FIGURE 5.3-6: PROPOSED PROJECT, 25TH STREET AT WISCONSIN STREET, LOOKING EAST (VIEWPOINT 6)

SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.3-7: PROPOSED PROJECT, WISCONSIN STREET AT 25TH STREET, LOOKING SOUTH (VIEWPOINT 7)

SOURCE: Van Meter Williams Pollack LLP, 2012.

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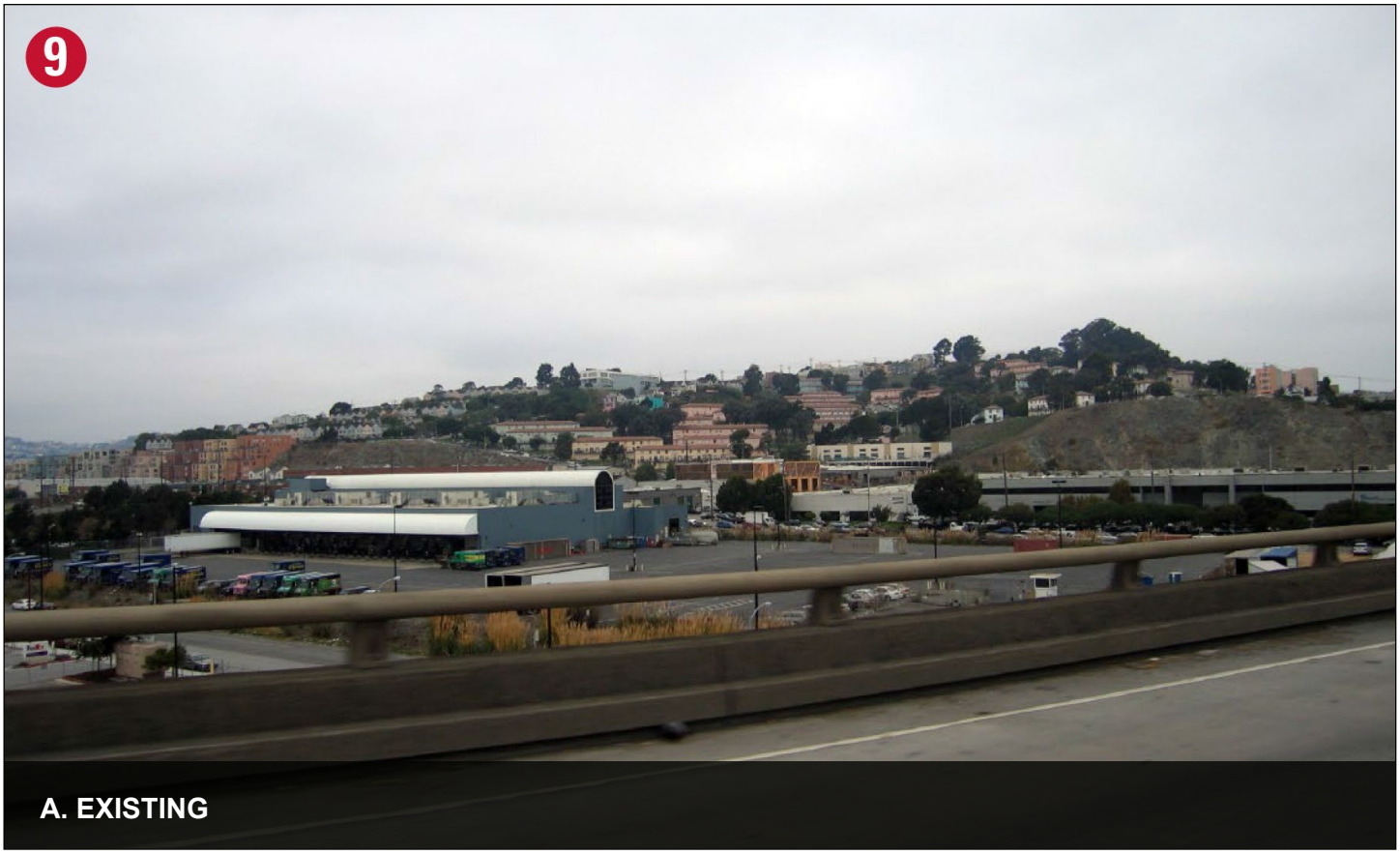
FIGURE 5.3-8: PROPOSED PROJECT, CONNECTICUT STREET AT CESAR CHAVEZ STREET, LOOKING NORTH (VIEWPOINT 8)

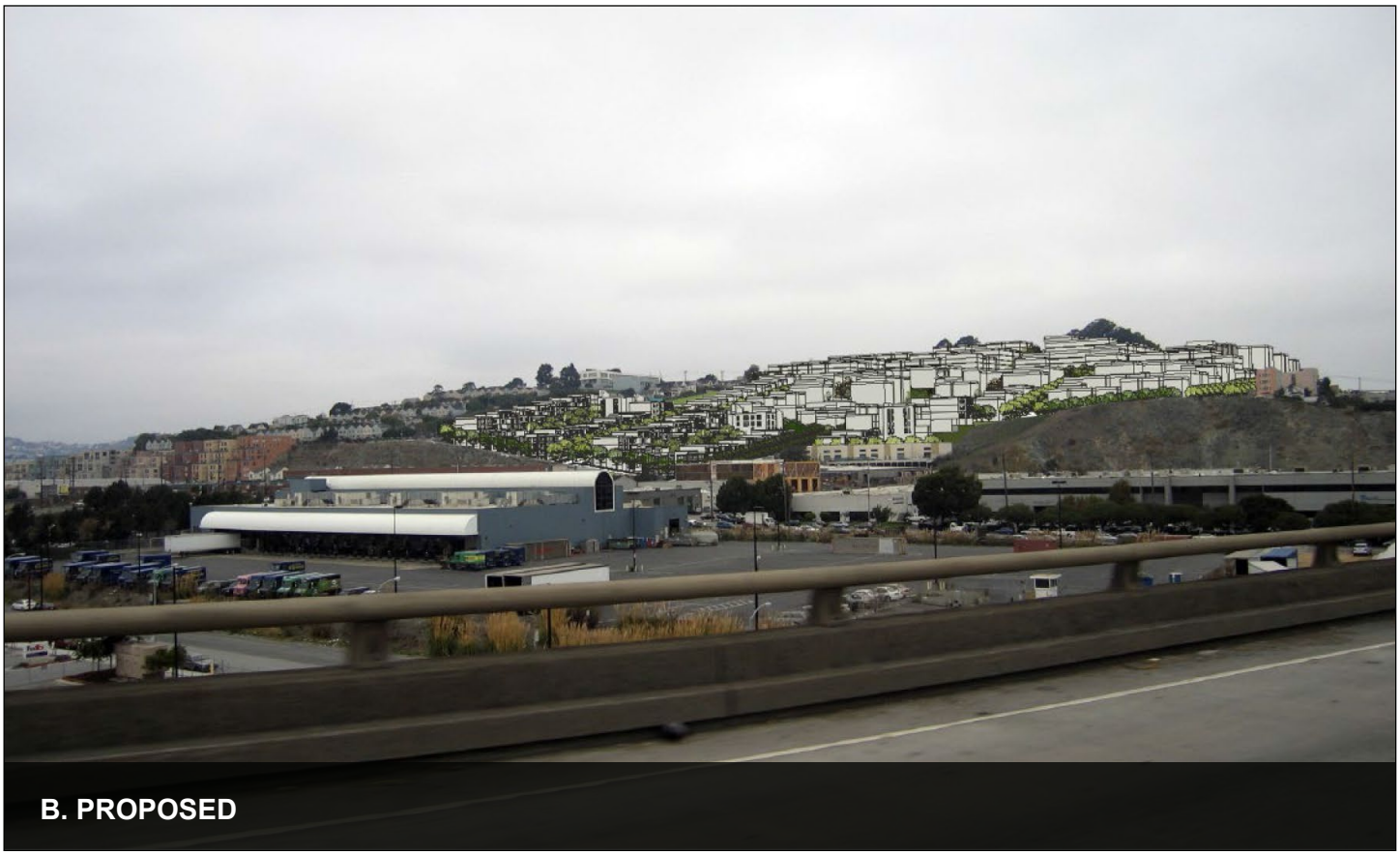
Figure 5.3-8 Photo B represents the view from this location with implementation of the Proposed Project. As shown, the Proposed Project would add substantial height, bulk, and massing to the Project site. Although the new structures would be highly visible from this location, viewer sensitivity would be considered low to moderate given that views of the site would be of short duration for motorists and pedestrians traveling along Cesar Chavez Street, and the existing industrial uses would not be considered sensitive viewers. The Proposed Project, as seen from this location, would result in an increase in building density compared to existing conditions. However, the Proposed Project would improve the visual quality of the site by constructing architecturally cohesive modern structures and landscaping that would provide more visual unity on the site and replace deteriorated buildings.

I-280 (Viewpoint 9). Figure 5.3-9 Photo A shows the existing view of the Project site from I-280. Viewer sensitivity would be low, although viewer awareness of the Proposed Project would be moderate to high given the scale, massing, and density of the proposed structures, which would be increased compared to existing conditions. Figure 5.3-9 Photo B depicts the proposed buildings, which would range between 40 feet and 55 feet in height in this area. Industrial and warehouse buildings and storage units are located at the base of Potrero Hill. The hill rises almost vertically above the industrial parcels and the proposed housing units would be perched atop the hillside, similar to existing conditions. The height, massing, and density under the Proposed Project would increase, but would not block views of or damage any scenic resources as seen from I-280. The Project site is already developed with multi-colored, old housing stock on a site with a design layout that is inconsistent with its surroundings. The Proposed Project would replace these structures with new housing units and a street layout that is compatible with the neighborhoods that border the Project site.

Scenic resources that are visible from I-280 include the Bay, local hills, and distant ridgelines. The Proposed Project would not damage scenic resources of the built or natural environment that contribute to a scenic public setting within I-280. Motorists on I-280 traveling by the Project site do not have a view of any scenic resources, and do not have a high quality view of the Project site under existing conditions. In any event, motorists would be travelling through the area and the views are short-term. The intensity of the change would be less-than-significant given the low viewer sensitivity in the Project area. In addition, the Project site is already developed with similar uses as proposed under the Proposed Project.

Overall Impacts on Neighborhood Character and Public View Corridors. In general, the development of the new buildings and the addition of new landscaping would not be considered a substantial degradation of the existing visual character or quality of the Proposed Project and its surroundings. The Proposed Project would not substantially impact public views from the representative vantage points. New buildings would partially obstruct some public views that currently exist, but these views are of short duration given that motorists and pedestrians would be moving through the area.





SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.3-9: PROPOSED PROJECT, VIEW FROM I-280 (VIEWPOINT 9)

The existing development pattern of the Project site is incoherent and includes outdated buildings in differing states of disrepair. The Proposed Project would add new, visually enhanced buildings that, at some vantage points, would be consistent with the height, bulk, and massing of residential uses to the north and west of the Project site. At other vantage points, as discussed above, the Proposed Project would introduce greater density than the immediately adjacent development. As a whole, the Proposed Project would add height, bulk, massing, and density to the Project site, which currently includes limited development relative to the size of the property.

Although not shown in the visual simulations, the Proposed Project would include street trees and landscaping that would buffer and soften visual impacts from the new structures. The Proposed Project would also underground existing utility wires and poles and would realign the streets into a grid pattern, similar to adjacent streets. Enhanced pedestrian and vehicular connections would increase street-level activity in the area and improve community interaction between the residents on the Project site and the surrounding community. With regard to view corridors, the effect would not be significant because views from the identified view corridors are of low to moderate quality and would be of short duration for motorists and pedestrians traveling along Project area streets. In addition, the Proposed Project would be required to adhere to the final Design Standards and Guidelines prepared for the Proposed Project and ultimately approved by the City would to ensure design consistency with existing development. The Proposed Project would improve onsite landscaping, remove existing utility wires, and provide enhanced linkages that would visually connect the Project site to the surrounding neighborhood.

In general, the Proposed Project would noticeably alter the visual character of the Project site compared to existing conditions; however, this impact would not be significant. While changes to the street grid, building configurations, landscaping, and other related elements would vastly alter its appearance, the visual quality of the Project site would generally be considered an improvement compared to existing conditions. Therefore, although the scale and residential density would increase at the Project site, the Proposed Project would not substantially degrade the existing visual character or quality of the site or the area or impact public view corridors. For the reasons stated above, the Proposed Project would result in ***less-than-significant*** impacts related to the character or scale of the existing physical environment and the aesthetic appeal of the surrounding area.

Impact AE-4	**Alteration of the Land Form or Existing Features** **CEQA: This topic is not applicable under CEQA for the Proposed Project.** **NEPA: The Proposed Project would not substantially alter the land form or demonstrably destroy or alter the natural or man-made features. (Less than Significant)**

The Project site is characterized by steep slopes and several rock outcroppings. When Potrero Terrace and Potrero Annex housing developments were originally developed, a substantial amount

of excavation, fill, and grading was performed to establish building foundations and the road network that serves the Project site. As such, the existing topography of the Project site is significantly modified from its original natural, undeveloped state. The Proposed Project would require the grading of existing slopes at the Project site in order to realign the streets into a grid pattern. Grading of the Project site would alter the existing land form. However, the grid pattern street system and resulting development would visually enhance the Project site and allow it to blend with its surroundings.

Construction of the Proposed Project would remove all 254 existing trees at the Project site. There are no landmark trees or street trees at the site.[3] Any removal of these trees associated with the Proposed Project would require a permit as provided in Article 16, Section 806. Compliance with the *Public Works Code* would require replacement of all removed trees. Landscaping would also be included in the public and private open spaces, between buildings, along the streets, and in parking areas. Therefore, the Proposed Project would result in ***less-than-significant*** impacts on the alteration of existing land forms.

Impact AE-5	**Conformance to Locally Adopted Design Guidelines** **CEQA: This topic is not applicable under CEQA for the Proposed Project.** **NEPA: The Proposed Project would conform to locally adopted design guidelines. (Less than Significant)**

As discussed above, the *San Francisco Planning Code* contains a number of provisions to ensure that Proposed Project design would protect the existing character of surrounding neighborhoods. These include Section 311 and the Residential Design Guidelines as well as Section 312 and the Neighborhood Commercial Design Guidelines. The Proposed Project would be subject to design principles contained in the General Plan, Zoning Ordinance, and applicable Area Plans, which are in effect to ensure that development in the City is of a high architectural standard, is compatible with its surroundings, and does not introduce substantial new sources of light and glare that could significantly impact sensitive receptors. During the design review process, the Proposed Project would be refined so that the development would not be out of character or scale with the surrounding neighborhood and would not significantly detract from the existing natural or man-made surroundings. The Proposed Project would be required to conform to the design guidelines outlined in the *Planning Code*, resulting in ***less-than-significant*** impacts.

[3] GLS Landscape/Architecture, Tree Disclosure Statement (June 23, 2010).

Alternative 1 – Reduced Development Alternative

Impact AE-1	**Effects on Views** **CEQA: This topic is not applicable under CEQA for the Reduced Development Alternative.** **NEPA: The Reduced Development Alternative would not block or disrupt views of scenic resources or reduce public opportunities to view scenic resources. (Less than Significant)**

Visual simulations have been prepared for the Reduced Development Alternative (Alternative 1). In the vicinity of the Project site, the views from portions of the Potrero Hill Recreation Center are considered scenic views with high viewer sensitivity due to the nature of the use and the views of the Bay, East Bay Hills, and San Bruno Mountain from certain public areas of the park. Areas where viewer sensitivity would be considered low would be views from the sports field due to the context of the use. Although the Project site is visible from other surrounding locations, the Project site is not part of a scenic view as viewed from outside the site, because Potrero Hill blocks scenic views of any panoramic vistas beyond, and the existing view of the site itself is of low quality due to the deteriorated character of the existing development. Viewer response to the changes from the Proposed Project from Viewpoints 3 through 9 would be low, because there are no scenic vistas seen from these locations. Thus, the only scenic vistas that would be affected are the views from the Potrero Hill Recreation Center. The remainder of this impact analysis is focused on Viewpoints 1 and 2.

22nd Street Trail (Viewpoint 1). As shown in Figure 5.3-1 Photo A, the northern portion of the Recreation Center includes natural features and the 22nd Street Trail. Looking east, a channelized view of the Bay and East Bay Hills is provided through the dense vegetation. Viewer sensitivity would be high from this location, but the view would be of moderate quality given that it is somewhat restricted and narrow. Under Alternative 1, a small portion of the proposed 40-foot-high buildings would be visible from the trail (a separate visual simulation was not prepared for this vantage point for Alternative 1, because it would not be substantially different from the visual simulation prepared for the Proposed Project). From this vantage point, the proposed buildings intrude somewhat into the middleground views, which include urban development such as warehouses and industrial uses. However, the Bay and the East Bay Hills would still be as visible from this location as under existing conditions and would not be substantially obscured by the proposed buildings.

It is important to note that the views of Alternative 1 would change as the viewer walks towards the site along the 22nd Street Trail. The development would appear larger the further downhill one travels and the view of the Bay and East Bay Hills would become increasingly obscured by intervening existing development. Nonetheless, as the viewer approaches the proposed buildings, the dense vegetation opens up and allows for some middleground and background views. As such,

although the proposed buildings' height and massing would increase over existing conditions, this would not represent a substantial change to the overall vista from this location. The intensity of the change would be less-than-significant as the viewer descends the trail.

Potrero Hill Recreation Center (Viewpoint 2). Figure 5.3-10 Photo A shows the existing view from the southern portion of the Recreation Center at the baseball field. Distant views of the higher elevations to the south, including McLaren Ridge and San Bruno Mountain, are visible from this location, partially obscured by foreground vegetation. Background views are also somewhat diminished by the chain-link fence and vegetation and would be considered of low to moderate quality. Viewer sensitivity would be relatively low in this location, as the primary use of the area is field sports rather than scenic viewing. As shown in Figure 5.3-10 Photo B, the proposed buildings, which would be approximately 40 feet in height, would obscure a portion of the view of the ridgeline and would change the existing view from the southern area of the Recreation Center to one that features a built environment. Project landscaping would screen and soften a portion of the new buildings, but the visual character of the site would represent a substantial change as seen from this vantage point.

Although Alternative 1 would add buildings that are up to 10 feet taller than the existing buildings adjacent to the Recreation Center, these new buildings would not impact the scenic vista. The buildings would block some middleground urban development views and portions of the ridgeline. However, the new buildings would not represent a significant part of the overall view available from this location. As such, Alternative 1 would result in ***less-than-significant*** impacts on views of scenic resources and would not reduce public opportunities.

Impact AE-2	**Effects on Visual Character during Construction** **CEQA: This topic is not applicable under CEQA for the Reduced Development Alternative.** **NEPA: The Reduced Development Alternative would potentially introduce elements that are out of character or scale with the existing physical environment or detract from the aesthetic appeal of the surrounding area during construction. (Less than Significant)**

During the construction phases of Alternative 1, construction vehicle and equipment staging areas, exposed building pads, storage trailers, open trenches, debris piles, and roadway bedding and equipment would be visible on or near the Project site. Construction equipment would be visible from certain perimeter roadways around the Project site, particularly Wisconsin Street, 23rd Street, 25th Street, Pennsylvania Avenue, and Connecticut Street. Construction equipment would not be located or extend to a height that would obstruct any views of nearby natural resources or scenic vistas. The exception would be if cranes are utilized, but given the nature of this piece of equipment (tall and very narrow in appearance), it would not substantially obstruct any scenic views.

SOURCE: Van Meter Williams Pollack LLP, 2012.

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FIGURE 5.3-10: REDUCED DEVELOPMENT ALTERNATIVE, CONNECTICUT STREET, LOOKING SOUTH (VIEWPOINT 2)

Construction of Alternative 1 is anticipated to occur over an approximately ten-year period. During the construction stage for Alternative 1, there would be temporary visual impacts from the demolition of existing buildings, the assembly of new structures, equipment staging, and from the presence of out-of-character elements such as construction materials and materials stockpiles. However, aesthetic effects during construction would be temporary and would be ***less than significant***.

Further, as under the Proposed Project, Implementation of Improvement Measure IM-AE-2a would ensure that all construction staging areas would not be visible from street level; ensure cleanliness of the construction site, surrounding streets, construction equipment that are stored or driven beyond the construction area; and that the City would review and approve a plan for construction staging, access, and parking prior to issuance of a building permit. With implementation of Improvement Measure IM-AE-2a, construction-related impacts would continue to be ***less-than-significant***.

Impact AE-3	**Effects on Visual Character during Operation** **CEQA: This topic is not applicable under CEQA for the Reduced Development Alternative.** **NEPA: The Reduced Development Alternative would not introduce elements that are out of character or scale with the existing physical environment and detract from the aesthetic appeal of the surrounding area during operation. (Less than Significant)**

Impacts on On-Site Character or Quality. For a detailed description of the existing visual character of the Project site, please refer to Impact AE-4 for the Proposed Project. As with the Proposed Project, Alternative 1 would replace the existing aging structures with new, visually improved buildings. With implementation of Alternative 1, the Terrace site and the Annex site would be developed with up to 1,280 residential units that would consist of townhomes, townhomes over flats, and stacked flats. The buildings would not exceed 40 feet in height. Commercial uses and community facilities would also be developed.

In addition, open space elements would be incorporated into the Project site. Under the Alternative 1, public and private open space would be the same as the Proposed Project at approximately 7 acres. All 254 existing trees at the Project site would be removed. There are no landmark trees or street trees at the site.[4] Any removal of these trees associated with the Proposed Project would require a permit as provided in Article 16, Section 806. Compliance with the *Public Works Code* would require replacement of all removed trees. In addition, the existing curvilinear streets would be replaced with a grid pattern street system that would visually enhance the Project site.

[4] GLS Landscape/Architecture, Tree Disclosure Statement (June 23, 2010).

Alternative 1 would increase on-site building height, massing, and bulk compared to existing conditions. However, Alternative 1 would improve the current on-site visual setting. Alternative 1 would replace the existing older structures with enhanced landscaping, bicycle/pedestrian amenities, and modern structures that would complement the existing surroundings. Design of this alternative would relate to the context of its surroundings by creating contiguous landscape areas and buildings that reflect a similar architectural design. The potential signage and street furniture to be installed as part of the Proposed Project is currently unknown. However, applying the City's Design Guidelines would ensure that that these features would be in character with existing architectural styles and would not differ in materials, color, or style in an inappropriate manner.

Impacts on Public View Corridors. Existing view corridors include views of the Project site from nearby streets, adjacent residential neighborhoods, and Starr King Elementary School. The streets bordering the Project site that could be impacted by Alternative 1 include 23rd Street, 24th Street, 25th Street, Wisconsin Street, and Connecticut Street, similar to the Proposed Project. The massing simulations presented in Figure 5.3-1 (Viewpoint 1), Figure 5.3-3 (Viewpoint 3), Figure 5.3-4 (Viewpoint 4), Figure 5.3-6 (Viewpoint 6), and Figure 5.3-7 (Viewpoint 7), above, would be generally the same under Alternative 1 as for the Proposed Project and are not reproduced here for the Alternative 1. The heights of the buildings for Alternative 1 would not exceed 40 feet. Due to distance and topography, the difference in a 10-foot height reduction is barely perceptible. Therefore, the analysis for the Proposed Project for these identified vantage points would also be applicable to Alternative 1 and the impacts would be ***less-than-significant***. The following analysis considers those vantage points where the impacts of Alternative 1 would be different from those of the Proposed Project. These include Viewpoints 5, 8, and 9. Viewpoints 1 and 2 have been analyzed under Impact AE-1 (scenic vistas).

Intersection of 24th Street and Wisconsin Street (Viewpoint 5). As depicted in Figure 5.3-11 Photo A, the existing view from the intersection of 24th Street and Wisconsin Street (adjacent to Starr King Elementary School) consists of the buildings and mature vegetation at the Project site and extremely limited channelized views of the Bay. Implementation of Alternative 1 (Figure 5.3-11 Photo B) would construct several 40-foot-tall buildings to the north of 24th Street. Alternative 1 at this vantage point would consist of buildings with less height and bulk than the Proposed Project, which would include two buildings at 65 feet in this area. Similar to the Proposed Project, Alternative 1 would grade the existing site and realign the existing curvilinear streets into grid streets; new view corridors of the Bay would be provided from this location. Although the buildings to the north of 24th Street would increase mass and bulk in this location, the buildings to the south of 24th Street would be stepped downhill, making them appear smaller. The proposed buildings would continue to allow for intermittent views of the Bay all along the street.

SOURCE: Van Meter Williams Pollack LLP, 2012.

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FIGURE 5.3-11: REDUCED DEVELOPMENT ALTERNATIVE, 24TH STREET AT WISCONSIN STREET, LOOKING EAST (VIEWPOINT 5)

Intersection of Cesar Chavez Street and Connecticut Street (Viewpoint 8). As shown in Figure 5.3-12 Photo A, foreground views from the intersection of Cesar Chavez Street and Connecticut Street include light industrial and warehouse buildings and some of the existing structures at the Project site. Figure 5.3-12 Photo B represents the view from this location with implementation of Alternative 1. Channelized views of distant hills are seen. With implementation of Alternative 1, new housing would be added to the west of Wisconsin Street at a height of up to 40 feet. These multi-family buildings would be similar in height and compatible in massing with the existing single-family residential development in the area. A substantial portion of the existing channelized background view would be retained, and no other major views would be obscured from this location.

Overall, the development of the new buildings and the addition of new landscaping would not be considered a substantial degradation of the existing visual character or quality of Alternative 1 and its surroundings. Alternative 1 would comply with City standards and would ensure that future development is visually compatible with the character of the surrounding area. These guidelines would also ensure that building heights, building/open space relationships, ground floor uses, and circulation patterns are of higher quality and function than existing conditions. During the design review process, Alternative 1 would be refined so as to ensure that the development would not be out of character or scale with the surrounding neighborhood and would not significantly detract from the existing natural or man-made surroundings.

I-280 (Viewpoint 9). The portion of I-280 that runs adjacent to Potrero Hill is eligible for a scenic highway designation. Unobstructed views of the Annex site are visible from southbound and northbound I-280 near Pennsylvania Avenue and 23rd Street. Figure 5.3-13 Photo A shows the existing view of the Project site from Pennsylvania Avenue and 23rd Street. Figure 5.3-13 Photo B depicts the proposed buildings, which would be more no more than 40 feet in height.

As noted for the Proposed Project, viewer sensitivity would be low, although viewer awareness would be moderate to high given the scale and massing of the proposed structures, which would be increased compared to existing conditions. Industrial and warehouse buildings and storage units are located at the base of Potrero Hill. The height, massing, and density under Alternative 1 would increase, but would not block or damage any scenic resources as seen from I-280. Alternative 1 would replace old structures with new housing units, and a street layout that is compatible with neighborhoods that border the site.

Alternative 1 would not damage scenic resources of the built or natural environment that contribute to a scenic public setting within the I-280. Motorists on I-280 do not have a high quality view of the Project site under existing conditions and, in any event, would be travelling through the area and the views are short-term. The intensity of the change would not be significant given the low viewer sensitivity in the Project area. In addition, the Project site is already developed with similar uses as proposed under the Proposed Project.

SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.3-12: REDUCED DEVELOPMENT ALTERNATIVE, CONNECTICUT STREET AT CESAR CHAVEZ STREET, LOOKING NORTH (VIEWPOINT 8)

SOURCE: Van Meter Williams Pollack LLP, 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.3-13: REDUCED DEVELOPMENT ALTERNATIVE, I-280, LOOKING NORTHWEST (VIEWPOINT 9)

Overall Impacts on Neighborhood Character and Public View Corridors. Alternative 1 would not substantially impact public views from the representative vantage points. New buildings would partially obstruct some public views that currently exist, but these views are of short duration given that motorists and pedestrians would be moving through the area. The development pattern of the Project site is incoherent and includes outdated buildings in differing states of disrepair. Alternative 1 would add new, visually enhanced buildings that, as viewed from some vantage points, would be generally consistent with the height, bulk, and massing of residential uses to the north and west of the Project site. At other vantage points, as discussed above, Alternative 1 would introduce greater density than the immediately adjacent development. As a whole, Alternative 1 would add substantial height, bulk, massing, and density to the Project site, which currently includes limited development in comparison to the size of the property.

Although not shown in the visual simulations, Alternative 1 would include street trees and landscaping that would buffer and soften visual impacts from the new structures. Alternative 1 would also underground existing utility wires and poles and would realign the streets into a grid pattern, similar to adjacent streets. As with the Proposed Project, the enhanced pedestrian and vehicular connections proposed under Alternative 1 would increase street-level activity in the area and improve community interaction between the residents on the Project site and the surrounding community. With regard to view corridors, the impact would not be significant because views from the identified view corridors are of low to moderate quality and would be of short duration for motorists and pedestrians traveling along Project area streets. In addition, Alternative 1 would be required to adhere to the Design Guidelines outlined in the *Planning Code* to ensure design consistency with the existing development. Alternative 1 would improve onsite landscaping, remove existing utility wires, and provide enhanced linkages that would visually connect the Project site to the surrounding neighborhood.

In general, the Alternative 1 would noticeably alter the visual character of the Project site compared to existing conditions; however, this impact would not be significant. While changes to the street grid, building configurations, landscaping, and other related elements would alter its appearance, the visual quality of the Project site would generally be considered an improvement compared to existing conditions. Therefore, although the scale and residential density would increase at the, the Alternative 1 would not substantially degrade the existing visual character or quality of the site or the area or impact public view corridors. Alternative 1 would result in ***less-than-significant*** impacts related to the character or scale of the existing physical environment and the aesthetic appeal of the surrounding area.

Impact AE-4	**Alteration of the Land Form or Existing Features** **CEQA: This topic is not applicable under CEQA for the Reduced Development Alternative.** **NEPA: The Reduced Development Alternative would not substantially alter the land form or demonstrably destroy or alter the natural or man-made features. (Less than Significant)**

The Project site is characterized by steep slopes and several rock outcroppings. However, since the existing topography of the Project site has been significantly modified from its original natural state, Alternative 1 would not significantly alter natural features. Alternative 1 would require the grading of existing slopes at the Project site in order to realign the streets into a grid pattern. However, the grid pattern street system would visually enhance the Project site and allow it to blend with its surroundings.

Construction of Alternative 1 would remove all existing trees at the Project site. Any removal of these trees associated with Alternative 1 would require a permit as provided in Article 16, Section 806. Compliance with the *Public Works Code* would require replacement of all removed trees. Landscaping would also be included in the public and private open spaces, between buildings, along the streets, and in parking areas. Therefore, Alternative 1 would result in ***less-than-significant*** impacts on the alteration of existing land forms.

Impact AE-5	**Conformance to Locally Adopted Design Guidelines** **CEQA: This topic is not applicable under CEQA for the Reduced Development Alternative.** **NEPA: The Reduced Development Alternative would conform to locally adopted design guidelines. (Less than Significant)**

Alternative 1 would be subject to design guidelines contained in the General Plan, Zoning Ordinance, and applicable Area Plans, which are in effect to ensure that development in the City is of a high architectural standard, is compatible with its surroundings, and does not introduce substantial new sources of light and glare that could impact sensitive receptors. Alternative 1 would be required to conform to the design guidelines in order to promote design that would protect existing neighborhood character, resulting in ***less-than-significant*** impacts.

Alternative 2 – Housing Replacement Alternative

As part of the Housing Replacement Alternative (Alternative 2), all existing housing units at the Project site would be demolished and rebuilt using the same building pattern that currently exists. The existing site plan and street pattern at the Project site would be retained. As such, this alternative would reconstruct 620 housing units, preschool center, daycare center, and residential parking facilities. Therefore, the overall visual conditions at the site would not change, no

background views would be blocked, and density would not increase. Alternative 2 would be inconsistent with the surrounding neighborhoods to the north and west due to curvilinear streets and limited street-level activity and community interaction. However, the Project site conditions would improve with replacement of the outdated existing buildings and the addition of new landscaping. The modern design of Alternative 2 would help the proposed buildings relate to the context of its surroundings.

Alternative 2 would not add new massing and density to the Project site, but would generally improve visual conditions. As such, this alternative would result in ***less-than-significant*** impacts on views of scenic resources, public opportunities to view scenic resources, and consistency with the surrounding established built environment, alteration of the existing land form, and conformance to locally adopted design guidelines. The overall impacts would not be significant since this alternative would simply replace existing housing and would not result in greater height, bulk, massing, or density compared to existing conditions.

Alternative 2 would still involve construction at the Project site. Construction materials on the Project site during construction phases would introduce elements that are out of character with the existing environment, which includes adjacent residential uses. Therefore, the impact regarding aesthetic appeal during construction would be ***significant***, even though the effect would be temporary. Implementation of Improvement Measure IM-AE-2a would ensure that all construction staging areas would not be visible from street level; ensure cleanliness of the construction site, surrounding streets, construction equipment that are stored or driven beyond the construction area; and that the City would review and approve a plan for construction staging, access, and parking prior to issuance of a building permit. With implementation of Improvement Measure IM-AE-2a, the impact on visual quality during construction would be ***less than significant*** as it would be a temporary condition.

Alternative 3 – No Project Alternative

The No Project Alternative (Alternative 3) would result in the same conditions at the Project site as existing. No buildings would be constructed and no new housing would be provided. No construction or staging would occur that would impact the temporary visual character. Although no existing views would be blocked and the height and massing would not be increased under the No Project Alternative, the conditions at the Project site would not be improved. The current aging buildings and the sparse, unkempt landscaping would remain. The Project site under the No Project Alternative would continue to be inconsistent with its surroundings. Nonetheless, since the conditions would not change, the No Project Alternative would result in ***no impact*** on views of scenic resources, public opportunities to view scenic resources, consistency with the surrounding established built environment, alteration of the existing land form, and conformance to locally adopted design guidelines.

Cumulative Impacts

The geographic context for cumulative aesthetic impacts is generally confined to areas visible to and from the Project site that could combine to cause a cumulative impact. For the Proposed Project, the cumulative context includes potential development under the Eastern Neighborhoods Community Plans, with general focus on the Showplace Square/Potrero Area Plan. In addition, the geographic context includes the neighborhoods between the Project site and the Bay, since these areas are visible from the Project site.

Impact C-AE-1	**Aesthetics Cumulative Impact** **CEQA: This topic is not applicable under CEQA for the Proposed Project.** **NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to aesthetics. (Less than Significant)**

For the purposes of this cumulative analysis, the Proposed Project, rather than its alternatives, will be analyzed. As explained above, due to the proposed building heights and development intensity, the Proposed Project would have a greater visual impact than any of its alternatives. As such, this cumulative analysis focuses on the cumulative impacts of the Proposed Project, since it represents the most conservative scenario.

There are two known or reasonably foreseeable projects expected to be developed in the identified geographic context. These include the Candlestick Point–Hunters Point Shipyard Phase II project, which would result in several high-rise buildings on the waterfront that would be visible from the Project site. The second project proposes to construct 240 to 256 dwelling units at 650 Texas and 790 Pennsylvania Avenue, which is proximate to the Project site. These projects' effects could combine with the effects of the Proposed Project to result in a significant cumulative impact to aesthetics.

The Candlestick Point-Hunters Point Shipyard Project has been approved and the proposed buildings along the waterfront will likely be visible from the Project site. This project has been identified to obstruct some views of the Bay, but these views are held from vantage points closer to the waterfront. The Project site is too far distant for the proposed high-rises to combine with project effects to further obstruct scenic vistas. In addition, the Proposed Project would have a ***less-than-significant*** impact on views of scenic resources, as identified in this section. Therefore, there would be no significant cumulative impact with regard to views of scenic resources.

Changes to the character or scale of the existing physical environment combine only with those projects that are relatively close to the Project site. All development projects in the City are subject to design guidelines contained in the General Plan, Zoning Ordinance, and applicable Area Plans, which are in effect to ensure that development in the City is of a high architectural standard and is

compatible with its surroundings. Therefore, there would not be a substantial cumulative impact in the City from past, present, and reasonably foreseeable development to which the Proposed Project could contribute.

Improvement Measure IM-AE-2a would reduce the significant construction impacts on visual character and quality. Although the Proposed Project would increase the density at the Project site, these impacts would not be significant and the visual impacts associated with increased density would not combine with other reasonably foreseeable projects in the area. The Proposed Project would have less-than-significant impacts on views of scenic resources, public opportunities to view scenic resources, consistency with the character the existing physical environment, and aesthetic appeal of the surrounding area. Therefore, the cumulative impacts would be ***less than significant***.

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5.4 SOCIOECONOMICS AND COMMUNITY/POPULATION AND HOUSING

5.4.1 Regulatory Framework

The following discussion includes a brief explanation of the regulations and plans related to population, housing, and employment that are relevant to the Proposed Project and alternatives.

Federal

Federal Uniform Relocation Act

The Federal Uniform Relocation Act (URA) requires that comparable, decent, safe, and sanitary replacement housing that is within a person's financial means (comparable and affordable) be made available before any person is displaced. The new housing, to the maximum extent practicable, should be housing of the tenant's choice, on a nondiscriminatory basis, without regard to race, color, religion (creed), national origin, handicap, age, or sex, and in compliance with applicable federal and state laws.

Section 205 of the URA requires, "Programs or projects undertaken by a federal agency or with federal financial assistance shall be planned in a manner that (1) recognizes, at an early stage in the planning of such programs or projects and before the commencement of any actions which will cause displacements, the problems associated with the displacement of individuals, families, businesses, and farm operations, and (2) provides for the resolution of such problems in order to minimize adverse impacts on displaced persons and to expedite program or project advancement and completion."[1]

State

San Francisco Bay Area Housing Needs Plan 2007–2014

As discussed in Section 4.4, *Socioeconomics and Community/Population and Housing*, the Regional Housing Needs Allocation (RHNA) is a State-mandated process that occurs on a seven-year cycle, generally coinciding with required updates to the Housing Element of the General Plan. The RHNA is designed to address the need for housing throughout the state. As part of the RHNA cycle the State requires each jurisdiction to plan for its share of the region's housing need, for people of all income categories. The Bay Area's regional housing need is specified by the California Department

[1] United States Code. Title 42--The Public Health And Welfare, Chapter 61: Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs.Available: <http://www.law.cornell.edu/uscode/text>. Accessed: March 2012.

of Housing and Community Development (HCD) and finalized through negotiations with the Association of Bay Area Governments (ABAG). ABAG then allocates a portion of the regional need, for all income groups, to every jurisdiction in the Bay Area. The jurisdictions must then plan for that need in their local housing elements, which must be eventually certified by HCD. The RHNA process does not necessarily encourage or promote growth, but rather requires communities to accommodate projected growth, so that they can grow in ways that enhance quality of life, improve access to jobs, transportation, and housing, and do not adversely impact the environment. It consists of two measurements of housing: *(a)* existing need, and *(b)* future need. San Francisco's RHNA for the 2007 to 2014 planning period is presented in Section 4.4.

Local

General Plan Housing Element

The *San Francisco General Plan* Housing Element is a policy document that consists of goals and policies to guide the City and private developers in providing housing for existing and future residents to meet projected housing demand, as required under Government Code Sections 65580 et seq. ("State housing element law"). State law requires the housing element to be updated periodically, usually every five years. The City updated the housing element in 2004, which updated the 1990 Residence Element. The 2004 Housing Element was adopted, but subsequently the California Court of Appeal determined the environmental document prepared for the 2004 Housing Element was inadequate, and directed the City to prepare an EIR. At that point, the City also needed to comply with the next periodic update of the housing element per the State housing element law.

Accordingly, the City completed a comprehensive planning process and prepared the next update of the housing element, the 2009 Housing Element. An EIR was prepared for both updates to the Housing Element. The San Francisco 2004 and 2009 Housing Element EIR satisfies the City's legal requirements for preparing an EIR on the 2004 Housing Element and also analyzes the environmental effects of the 2009 Housing Element. The Planning Commission adopted the 2009 Housing Element in March 2011 and the Board of Supervisors approved the Plan in May 2011.

5.4.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the Proposed Project and alternatives would result in a significant impact on population and housing, under CEQA. Implementation of the Proposed Project and alternatives would have a significant effect on population and housing if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere; or
- Significantly alter social dimensions including characteristics such as population size, density, age, ethnic and minority composition, household size and composition, and income and employment characteristics.

Context and Intensity Evaluation Guidelines under NEPA

The following applicable thresholds were used to determine whether implementing the Proposed Project and its alternatives would result in an adverse effect related to socioeconomic characteristics.

- Result in displacement of existing residents or businesses;
- Result in physical barriers or reduced access that would isolate a particular neighborhood or population group;
- Induce a substantial amount of unplanned growth; or
- Cause a substantial decrease in local or regional employment.

Approach to Analysis

Both CEQA Guidelines and 40 CFR (for NEPA) recognize that economic or social changes by themselves are not considered a significant effect unless they are linked to a change in the physical environment. To this extent, the analysis examines changes to the physical environment, including effects on the location of people and housing.[2,3]

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

[2] Section 15064(e) "Economic and social changes resulting from a project shall not be treated as significant effects on the environment. … Where a physical change is caused by economic or social effects of a project, the physical change may be regarded as a significant effect in the same manner as any other physical change resulting from the project."

[3] CEQ Section 1508.14 "'Human environment' shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. (See the definition of 'effects' (Sec. 1508.8).) This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment."

having a significant impact on the environment unless this growth is unplanned and results in significant physical impacts on the environment. Project-related growth and the increase in population would primarily result in physical changes in transportation, noise, air emissions, increased demand for public services, increased demand for utility capacity, and increased demand for recreational facilities. These physical impacts are evaluated under other environmental topics in this chapter: Sections 5.7, *Transportation and Circulation*; 5.8, *Noise*; 5.9, *Air Quality*; 5.13, *Utilities and Services Systems*; and 5.14, *Public Services*.

The impact analysis considers whether the Proposed Project or its alternatives would contribute to substantial residential population and employment growth. Direct population growth would result from the residents who would occupy the newly developed housing units and the people who would be employed by the proposed retail uses at the Project site, as well as from temporary construction employment. Indirect or secondary growth from development/expansion of infrastructure is considered due to the proposed changes in housing density and associated needs. The analysis also considers whether substantial numbers of residents or housing units would be displaced.

In the context of socioeconomics and the community, for federal purposes, the affected environment is the community defined in terms of socioeconomic conditions of the Project area. This includes employment conditions; income distribution; the demographic characteristics of the community; the residents' sense of community in terms of demographics; and displacement. Displacement refers to the dislocation of people, businesses, institutions, or community facilities. Context in this regard would be factors relative to: economic conditions; housing conditions; parameters that measure sense of community, etc. The intensity would be the shift in these factors caused by the Proposed Project or the alternatives.

Impact Evaluation

Proposed Project

Impact SC-1	**Displacement Effects** **CEQA: The Proposed Project would temporarily displace existing housing units and residents, but this displacement would not necessitate the construction of replacement housing elsewhere. (Less than Significant)** **NEPA: The Proposed Project would not result in permanent displacement of existing residents or businesses. (Less than Significant)**

Demolition of the existing buildings on the Project site would temporarily relocate approximately 1,280 existing residents and 620 housing units at the Project site, including 14 units that were

converted into a daycare facility.[4] Other than the building management office and the daycare, no existing businesses are located at the Project site. The existing units would be replaced by up to 1,700 new units, including units developed as replacement public housing. The new dwellings would be populated as each phase is completed. Residents residing in a public housing dwelling unit and in good standing (lease compliant) will have the right to return to the Project site. Returning residents will be provided a preference for occupancy of replacement units and, if needed, affordable tax credit units, prior to other eligible households. This preference will be retained even if the resident has received permanent relocation benefits and will remain in place until the initial lease of the newly constructed replacement units expires.

Where possible, the Proposed Project would accommodate on-site relocation of existing residents during construction. The current residents would be moved to available (vacant) residences on the Project site as each phase is constructed, or they would be given housing vouchers by the Housing Authority for relocation elsewhere during the construction period. No new units would need to be constructed as a result of the temporary relocation as relocated residents would be accommodated in the existing housing stock.

To facilitate the temporary relocation process, the Housing Authority would develop and release a Relocation Plan to the existing residents prior to initiating construction. This Relocation Plan would be prepared in collaboration with tenants, the developer, Housing Authority staff, City agencies, and tenant advocates. The Plan would describe the process by which the Housing Authority plans to temporarily relocate residents in order to accommodate construction. The Plan would also describe the alternative housing options, the proposed timing of relocation, and other critical issues related to relocation. The relocation planning process starts about a year before demolition begins. At that time, residents would be notified of opportunities to participate in the relocation planning. Residents are represented on the committee responsible for reviewing the Plan. Additionally, the resident association would review and provide feedback on the Plan. After a draft Plan is completed, a 30-day review period would ensure that residents have an additional opportunity to provide feedback before the Plan is approved by the San Francisco Housing Authority Commission.[5]

If the number of households electing to return to the Project site exceeds the number of public housing replacement dwelling units on the Project site, they will be offered an affordable housing tax credit unit that will have a unit-based rent subsidy. The replacement public housing units developed on the Project site will reflect the number of bedrooms per unit that are needed to adequately serve returning tenants as well as the number of units that are needed based on other

[4] Currently, approximately 85 percent of the 606 residential units are occupied, but this number fluctuates constantly. Therefore, as a conservative scenario, this analysis assumes full occupancy.

[5] HOPE SF, Mayor's Office of Housing. 2012. *For Residents: Right to Revitalized Housing*. Available: <http://hope-sf.org/revitalized-housing.php>. Accessed: June 21, 2012.

market data. In the instances in which residents of the public housing dwelling units need a different number of bedrooms than has been developed in the replacement housing, residents will be offered a tenant-based rental subsidy voucher to use in a neighborhood of their choice.

In addition to replacement housing for existing residents, the Proposed Project would construct approximately 1,080 net new units (for a total of 1,700 units), resulting in a net increase in the total number of residential units. As such, for the purposes of CEQA, the Proposed Project would not create a demand for additional housing that would require the construction of housing elsewhere, and would result in a net increase in housing supply that would help meet the region's unmet demand for housing.

The Project site also includes building management, daycare center providers, and a Family Resource Center. Currently, there are approximately 15 people employed at the Project site for these uses. As long as units continue to be rented at the Project site, there would continue to be a need for on-site management and, therefore, these jobs would remain during construction and operation. Jobs in the childcare center and the Family Resource Center would remain until the buildings in which they are located are demolished. Both the childcare center and the Family Resource Center would be relocated on-site after construction of the Community Center is complete. Accordingly, displacement of the existing 15 employees is not expected at this time.

Although there could be temporary on- and off-site displacement of the 606 residential units and 1,280 residents under the Proposed Project, the impact would be ***less than significant*** under CEQA because the Proposed Project would temporarily displace existing housing units and residents, but this displacement would not necessitate the construction of replacement housing elsewhere.

NEPA is concerned with the significance of the physical environmental effects associated with this displacement, as well as with the social effects of such displacement—specifically, the potential lessening or loss of community cohesion and public well-being. Community cohesion refers to the maintenance of connections in the community. Public well-being refers to access to amenities that allow for the maintenance of a reasonable quality of life, including walkability, aesthetic quality, open space, and social connections.

Residents could be inconvenienced by the relocation and the time and effort required to pack, move, and re-establish living routines—including locating and accessing community and commercial services—both when moving from their original units and when returning to the Project site. It is possible that students could be required to change schools, depending on where in the city families relocate. However, the entire Project site population would not be relocated simultaneously. Because the Proposed Project would be constructed in phases many residents could choose to remain onsite through the length of construction. Residents that may choose to temporarily relocate would be given the option to return, thereby not permanently affecting existing community connections. Ultimately, the residents would have access to improved conditions at the Project site, including new open space areas, better transit accessibility, and expanded community services. Therefore, the

Proposed Project would not permanently disrupt existing social networks that could result in a lessening or loss of community cohesion and a lessening of public well-being.

The impact would be ***less than significant*** under NEPA because the Proposed Project would not permanently disrupt the existing social network through the displacement of residents.

Impact SC-2	**Effects on Growth**
	CEQA: The Proposed Project would not induce substantial population growth, either directly or indirectly. (Less than Significant)
	NEPA: The Proposed Project would not induce a substantial amount of unplanned growth. (No Impact)

The Proposed Project would demolish the existing 620 units at the Potrero Terrace and Potrero Annex and would construct approximately 1,700 units, up to 15,000 sf of retail space, and up to 35,000 square feet (sf) of community uses. This would result in a net increase of 1,080 units and approximately 50,000 sf of retail/community uses.

Direct Population Growth. The existing population at the site is approximately 1,280 residents with a current ratio of 2.5 persons per household.[6] However, it is expected that the demographics under the Proposed Project would be similar to the current citywide average. Using the citywide average of 2.28 persons per household, the population of the Proposed Project would be 3,876 residents, a net increase of 2,596 residents over existing conditions.[7] This could be considered a conservative estimate since the Proposed Project would include up to 100 units dedicated as affordable senior units. According to the 2010 Census, approximately 34,200 elderly householders lived alone, which represented about 10 percent of all households in the city in 2010.[8] Since the Proposed Project would include approximately 100 affordable housing senior units, a percentage of these could have a persons-per-household ratio of 1.0. Regardless, since the number of single-occupancy units is unknown, the citywide average of 2.28 is applied in this analysis.

As shown in Table 4.4-2, *Household Population and Household Growth in Census Tract 614 and the County of San Francisco 2010-2030*, in Section 4.4, *Socioeconomics and Community/Population and Housing*, the household population in the city is expected to increase from 780,971 residents in 2010

[6] Bridge Housing. 2013. Rebuild Potrero Community Assessment–Executive Summary. October. San Francisco, CA.

[7] 1,700 units under the Proposed Project × 2.28 persons per household = 3,876 residents. Therefore, the net increase (3,876 future residents – 1,280 existing residents) in Project site population would be approximately 2,596.

[8] U.S. Census Bureau. 2010. American Fact Finder, Table DP-1, Profile of General Population and Housing Characteristics: 2010 Demographic Profile Data, Geography: San Francisco County, California. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed: April 24, 2012.

to 913,000 residents in 2030,[9] for a net increase of approximately 132,000 household residents. The Proposed Project would result in a net increase of approximately 2,596 residents. The residential component of the Proposed Project would be approximately 2 percent of the projected total household population growth from 2010 to 2030, which is within the ABAG forecasts for the city and would not represent a significant amount of unplanned growth San Francisco.

As stated in Section 4.4, the Project site is located within the Showplace Square/Potrero neighborhood, which has approximately 11,000 residents.[10] Under the Eastern Neighborhoods Rezoning and Area Plan, the household population could increase by between 3,410 residents and 6,859 residents by 2025.[11] Implementation of the Proposed Project would add up to 2,596 residents to the Showplace Square/Potrero neighborhood, which would represent between 37.8 percent and 76.1 percent of the projected growth in the neighborhood. As such, the Proposed Project would be within the population forecasts for this area and would not represent unplanned growth.

The Proposed Project would employ approximately 72 individuals.[12] If all of these employees currently live outside of San Francisco and move to the city with their families, then the retail component of the Proposed Project would increase the population by up to 165 residents.[13] It is likely that the majority of the on-site employees would already live in the city; however, an increase of 72 employees is used in this analysis as a conservative estimate.

According to the 2010 Census, the city had a population of 805,235 residents in 2010 and the ABAG *Projections 2009* estimates that the population will increase to approximately 934,800 people in 2030. This represents a 20-year increase of approximately 129,565 residents. As such, the increase of 165 residents associated with the retail component of the Proposed Project would represent less than 0.13 percent of the anticipated population growth by 2030. These additional residents are accounted for in the ABAG projections and would not result in substantial growth.

Although the Proposed Project could increase the population within the city, it would also increase the city's housing stock and would, therefore, contribute to the City's ability to meet its need for housing options of varying sizes, types, and levels of affordability. As stated above, the Proposed

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[9] Please note that although construction is expected to last until 2025, as discussed in Chapter 2, *Project Alternatives and Project Description*, full occupancy of the Proposed Project is not expected until a few years after. As such, this analysis uses 2030 as the buildout year.

[10] City and County of San Francisco Planning Department. 2008. *San Francisco General Plan, Showplace Square/Potrero Area Plan*. Ordinance No. 297-08. December. Available: <http://www.sf-planning.org/ftp/General_Plan/Showplace_Square_Potrero.htm#SHP_HSG>. Accessed: April 25, 2012.

[11] City and County of San Francisco Planning Department. 2008. *Eastern Neighborhoods Rezoning and Area Plans Final EIR*. State Clearinghouse No. 2005032048. August 7. Table 35, Rezoning Scenario for the Eastern Neighborhoods and the Rest of the City Households and Household Population, 2000–2025. Available: <http://www.sf-planning.org/Modules/ShowDocument.aspx?documentid=4001>. Accessed: October 23, 2012.

[12] Van Meter Williams Pollack. 2011. *Potrero Master Plan Employee Projections*. San Francisco, CA.

[13] 72 new employees × 2.28 persons per household = ~165 new residents.

Project would include up to 100 affordable senior units and up to 970 affordable family units. The existing public housing units at the Project site are considered very-low income housing. As such, 450 additional units over existing conditions would be dedicated to low- and moderate-income households.

The ABAG RHNA states that San Francisco should construct 18,878 very-low, low-, and moderate-income housing units based on the regional housing needs from 2007 to 2014. The Proposed Project would construct up to 450 new affordable units (for a total of 1,070 affordable units), which contributes to approximately 2.4 percent of the City's RHNA. As such, the Proposed Project would support the City's efforts to meet its regional housing needs allocation though 2014 and would increase the City's supply of affordable housing units available for very low- to moderate-income levels.

Indirect Population Growth. Indirect population impacts occur when expanded infrastructure, public service facilities, utilities, and roadways lead to new opportunities to develop housing in an area not previously served by these features. The Project site is already served by infrastructure; however, the Proposed Project would include the realignment of existing roads and upgraded public utilities. As described in Chapter 2, *Project Alternatives and Project Description*, the Proposed Project would incorporate existing and reconfigured roadways on the Project site. Texas Street and Missouri Street would be extended and aligned to connect at the northern border of the Project site. Arkansas Street would be extended from 23rd Street south to 26th Street. Connecticut Street would be realigned in a north/south configuration and would consist primarily of stairs. Two new streets are proposed for an east/west alignment: a 24th Street extension and 24 and ½ Street. Dakota Street, Turner Terrace, and Watchman Way would be eliminated. In addition, the Proposed Project would upgrade and resize water, wastewater, drainage, gas and electric, and other utility infrastructure within the site as necessary.

Although the existing street system and infrastructure would be upgraded under the Proposed Project, this would not induce further population growth. The street realignments and utility improvements would be limited to the Project site and would not affect surrounding areas, which are largely built out. As such, indirect population and housing impacts would not occur as a result of the roadway and infrastructure changes under the Proposed Project.

Since the Proposed Project would be within ABAG projections and would not induce unplanned population growth, impacts associated with direct and indirect population growth are considered ***less than significant*** under CEQA.

For the purposes of NEPA, the Proposed Project would not induce a substantial amount of unplanned growth and thus there would be ***no impact*** associated with direct and indirect population growth.

Impact SC-3	**Physical Barrier Effects**
	CEQA: This topic is not covered under CEQA. Please see Section 5.2, *Land Use and Land Use Planning*, for an analysis of land use effects related to physical division of an established community.
	NEPA: The Proposed Project would not result in physical barriers or reduced access that would isolate a particular neighborhood or population group. (No Impact)

Construction would temporarily prevent access across the Project site. During Phase 1 and 3, there would not be physical barriers on the site because access across the Project site would be available through the middle of the Project site, the Phase 2 area (Refer to Figure 2-5 in Chapter 2, *Project Alternative/Project Description*). Construction of Phase 2 would result in a temporary physical barrier for residents during Phase 1 and 3 by preventing direct access across the Project site. However, access off the Project site would be available via 25th Street, Missouri Street, Arkansas Street (upon completion of Phase 1) and Connecticut Street (upon completion of Phase 3). Other areas of the Project site would be accessible through adjacent streets. Although Phase 2 would result in a temporary physical barrier on the site, existing and new residents would continue to have off-site access via the existing and new streets.

As discussed in more detail in Sections 4.2 and 5.2, *Land Use and Land Use Planning*, the Proposed Project would not divide an existing community or isolate a certain population group. The Proposed Project would replace the older, run-down structures on a site that is currently physically cut-off from surrounding neighborhoods. Several streets would be extended and realigned through the Project site and pedestrian paths and open space would be provided. The pedestrian and vehicular circulation would improve access to and from the site. Reconfiguring the roadways would not physically divide a community. Not only would the Proposed Project not introduce any physical barriers that would divide the existing neighborhood or isolate a specific population group, but it would remove barriers and enhance access for the site residents.

As such, under NEPA, the Proposed Project would result in ***no impact*** on isolating a particular neighborhood or population group. Please refer to Section 5.2, *Land Use and Land Use Planning*, under Impact LU-1 for a further discussion of the division of an established community.

Impact SC-4	**Employment Effects** **CEQA: This topic is not covered under CEQA.** **NEPA: The Proposed Project would not cause a decrease in local or regional employment. (No Impact)**

The Proposed Project would employ approximately 72 individuals.[14] There are approximately 15 existing employees at the Project site. Currently, the Project site includes a daycare facility, a Family Resource Center, and building management offices, all of which include employees. The Proposed Project would continue these services during construction and operation; therefore, these jobs would not be lost as a result of the Proposed Project.

In addition, the Proposed Project would employ workers during the construction phases. A key objective of the HOPE SF program is to create employment opportunities for residents throughout the development process, including contracting opportunities for existing residents, local entrepreneurs, and small and disadvantaged businesses.[15] Therefore, new employment opportunities for existing residents, and for other construction workers within the region, would be created as a result of the Proposed Project.

Since the Proposed Project would result in approximately 72 new jobs during operation, jobs during construction, and would not displace the existing on-site jobs, the Proposed Project would not decrease local or regional employment, resulting in ***no impact*** under NEPA.

Alternative 1 – Reduced Development Alternative

Impact SC-1	**Displacement Effects** **CEQA: The Reduced Development Alternative would temporarily displace existing housing units and residents, but this displacement would not be permanent. (Less than Significant)** **NEPA: The Reduced Development Alternative would not result in permanent displacement of existing residents or businesses. (Less than Significant)**

As part of Alternative 1, the existing 620 units would be demolished and replaced by up to 1,280 new units. Construction of Alternative 1 would occur in three phases and on the same schedule as the Proposed Project to minimize disruption to existing residents. As with the Proposed Project, where possible, the Project would accommodate on-site relocation of existing residents. Qualified residents would be able to move into the new apartments as they become available. Upon

[14] Van Meter Williams Pollack. 2011. *Potrero Master Plan Employee Projections*. San Francisco, CA.

[15] Rebuild Potrero. 2012. *FAQ*, Available: <http://www.rebuildpotrero.com/wordpress/?page_id=111>. Accessed: October 23, 2012)

completion of Alternative 1, all existing public housing units would be replaced and no qualified residents would be permanently displaced. Development of Alternative 1 would likely occur in phases to minimize disruption to existing residents, similar to the Proposed Project. Therefore, temporary displacement of residents during construction would be minimized.

The Project site also currently includes building management and a daycare center for residents. Alternative 1 would continue to provide these services; therefore, no existing businesses would be displaced. Although there could be temporary displacement of the 620 units under Alternative 1, the permanent displacement impacts would be ***less than significant*** under CEQA.

Similar to the Proposed Project, residents could be displaced for longer than 12 months under Alternative 1. However, the Project site population would not be displaced simultaneously. Because Alternative 1 would be constructed in phases many residents could choose to remain onsite through the length of construction. Residents that may choose to temporarily relocate would be given the option to return, thereby not permanently affecting existing community connections. Ultimately, the residents would have access to improved conditions at the Project site, including new open space areas, better transit accessibility, and expanded community services. Therefore, Alternative 1 would not permanently disrupt existing social networks that could result in a lessening or loss of community cohesion and a lessening of public well-being.

The impact would be ***less than significant*** under NEPA because Alternative 1 would not permanently disrupt the existing social network through the displacement of residents.

Impact SC-2	**Effects on Growth** **CEQA: The Reduced Development Alternative would not induce substantial unplanned population growth. (Less than Significant)** **NEPA: The Reduced Development Alternative would not induce a substantial amount of unplanned growth. (No Impact)**

Alternative 1 would demolish the existing 620 units at the Potrero Terrace and Potrero Annex and would construct approximately 1,280 units, up to 15,000 sf of retail space, and up to 25,000 sf of community uses. This would result in to a net increase of 660 units and 40,000 sf of retail/community uses. Of these new units, 80 would be dedicated as affordable senior units, up to 796 would be affordable units (which would include the one-for-one replacement of public housing units), and up to 404 would be mixed-income units.

Direct Population Growth. The existing population at the site is approximately 1,280 residents. Using the citywide average of 2.28 persons per household, the population of Alternative 1 would be

2,918 residents, a net increase of 1,638 residents.[16] The household population in the city is expected to increase by approximately 132,000 household residents from 2010 to 2030. As such, the residential component of Alternative 1 would be approximately 1.2 percent of the projected total household population growth from 2010 to 2030. In addition, Alternative 1 would contribute to approximately 23.9 percent to 48 percent of the forecasted population growth within the Showplace Square/Potrero neighborhood. Similar to the Proposed Project, this increase in the household population is within the ABAG estimates for the city and the Eastern Neighborhood projections for the Showplace Square/Potrero neighborhood. Accordingly, Alternative 1 would not represent a significant amount of unplanned growth in relation to the rest of the City.

As with the Proposed Project, Alternative 1 would include 15,000 sf of commercial uses such as neighborhood-servicing retail or flex space, resulting in approximately 72 jobs, which would also increase the population.[17] Although Alternative 1 could increase the population within the city, it would also increase the city's housing stock and would, therefore, contribute to the City's ability to meet its need for housing options of varying sizes, types, and levels of affordability. Approximately 256 net units over existing conditions would be dedicated to low- and moderate-income households, which would contribute to approximately 1.4 percent of the City's RHNA. Although this alternative would contribute to the RHNA goals, this would be less than the Proposed Project. Nonetheless, Alternative 1 would support the City's efforts to meet its regional housing needs allocation and would increase the City's supply of affordable housing units available for very low- to moderate-income levels.

Indirect Population Growth. Although the Project site is already served by infrastructure, Alternative 1 would include the realignment of existing roads and upgraded public utilities. As described in Chapter 2, *Project Alternatives and Project Description*, Alternative 1 would include the same roadway reconfigurations and utility infrastructure upgrades as the Proposed Project. Although the existing street system and infrastructure would be upgraded under Alternative 1, this would not induce further population growth. As such, indirect population and housing impacts would not occur as a result of the roadway and infrastructure changes under Alternative 1.

As with the Proposed Project, since Alternative 1 would be within ABAG projections and would not induce unplanned population growth, impacts associated with direct and indirect population growth are considered ***less than significant*** under CEQA.

For the purposes of NEPA, the Reduced Development Alternative would have ***no impact*** associated with direct and indirect population growth.

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[16] 1,280 units under the Proposed Project x 2.28 persons per household = 2,918 residents. Therefore, the net increase (2,918 future residents – 1,280 existing residents) in Project site population would be approximately 1,638.

[17] Van Meter Williams Pollack. 2011. *Potrero Master Plan Employee Projections*. San Francisco, CA.

Impact SC-3	**Physical Barrier Effects**
	CEQA: This topic is not covered under CEQA. Please see Section 5.2, *Land Use and Land Use Planning*, for an analysis of land use effects related to physical division of an established community.
	NEPA: The Reduced Development Alternative would not result in physical barriers or reduced access that would isolate a particular neighborhood or population group. (No Impact)

As discussed in more detail in Sections 4.2 and 5.2, *Land Use and Land Use Planning*, Alternative 1 would not divide an existing community. Similarly to the Proposed Project, Alternative 1 would not permanently isolate a neighborhood or population group during construction. As with the Proposed Project, at project completion, Alternative 1 would remove barriers and enhance access for the site residents. Accordingly, Alternative 1 would have ***no impact*** under NEPA on isolating a neighborhood or population group. Please refer to Section 5.2, *Land Use and Land Use Planning*, under Impact LU-1, for a further discussion of the division of an established community.

Impact SC-4	**Employment Effects**
	CEQA: This topic is not covered under CEQA.
	NEPA: The Reduced Development Alternative would not cause a decrease in local or regional employment. (No Impact)

As discussed above under Impact SC-3, Alternative 1 would employ approximately 72 individuals. Currently, the Project site includes a daycare facility and building management offices, both of which include fewer than 10 employees. Alternative 1 would continue these services; therefore, these jobs would not be lost. In addition, Alternative 1 would employ workers during the construction phases. Since Alternative 1 would result in approximately 72 new jobs during operation, jobs during construction, and would not displace the existing on-site jobs, this alternative would not decrease local or regional employment, resulting in ***no impact*** under NEPA regarding local or regional employment.

Alternative 2 – Housing Replacement Alternative

Impact SC-1	**Displacement Effects** **CEQA: The Housing Replacement Alternative would temporarily displace existing housing units and residents, but this displacement would not be permanent. (Less than Significant)** **NEPA: The Housing Replacement Alternative would not result in permanent displacement of existing residents or businesses. (No Impact)**

As part of Alternative 2, the existing 620 units would be demolished and 606 units of replacement public housing would be built.[18] Qualified residents would be able to move into the new apartments as they become available. Upon completion of Alternative 2, all 620 existing public housing units would be replaced and no residents would be displaced. Development of Alternative 2 would likely occur in phases to minimize disruption to existing residents and housing would be available throughout the Project site during all phases. Therefore, temporary displacement of residents during construction would not occur.

As with the Proposed Project, no existing businesses would be displaced. Although there could be temporary displacement of the 606 residential units under Alternative 2, the permanent displacement impacts would be ***less than significant*** under CEQA.

For the purposes of NEPA, the effect on residential or business displacement under the Housing Replacement Alternative would have ***no impact*** on residential or business displacement.

Impact SC-2	**Effects on Growth** **CEQA: The Housing Replacement Alternative would not induce substantial unplanned population growth. (Less than Significant)** **NEPA: The Housing Replacement Alternative would not induce a substantial amount of unplanned growth. (No Impact)**

Alternative 2 would replace the existing housing stock (606 residential units) and would not add new housing units to the site and, therefore, would not support the City's efforts to meet its regional housing needs allocation though 2014. This alternative would not increase the City's supply of affordable housing units available for very low- to moderate-income levels. Since Alternative 2 would not induce unplanned population growth, impacts associated with direct and indirect population growth are considered ***less than significant*** under CEQA.

[18] This Draft EIR/EIS states throughout that there are 620 units at the Project site. Due to a change in the use of units (i.e., formerly residential units being used for daycare), there are currently 606 units available for occupancy at the Project site. The analysis in this Draft EIR/EIS assumes that 620 residential units are present.

For the purposes of NEPA, the Housing Replacement Alternative would have ***no impact*** associated with direct and indirect population growth.

Impact SC-3	**Physical Barrier Effects**
	CEQA: This topic is not covered under CEQA. Please see Section 5.2, *Land Use and Land Use Planning*, for an analysis of land use effects related to physical division of an established community.
	NEPA: The Housing Replacement Alternative would not result in physical barriers or reduced access that would isolate a particular neighborhood or population group. (No Impact)

Alternative 2 would not divide an existing community or isolate a certain population group beyond existing conditions. This alternative would rebuild the Project site using the same building pattern that currently exists. Unlike the Proposed Project, Alternative 2 would not reconfigure the existing roadways or provide new or expanded infrastructure.

Reconfiguration of the streets would improve the physical connection between the Project site and the surrounding neighborhood. The existing development pattern divides the community to a certain extent by not being consistent with its surroundings and not providing accessible linkages. Since the roadway improvements would not be implemented, Alternative 2 would not connect the Project site with the surrounding neighborhood. However, Alternative 2 would not worsen the existing conditions. Since the current roadway alignments are existing conditions, and they would not change under this alternative, this would not further isolate the neighborhood. Therefore under NEPA, implementation of the Housing Replacement Alternative would result in ***no impact*** on isolating a neighborhood or population group.

Impact SC-4	**Employment Effects**
	CEQA: This topic is not covered under CEQA.
	NEPA: Housing Replacement Alternative would not cause a decrease in local or regional employment. (No Impact)

As with the Proposed Project, the Housing Replacement Alternative would continue the services currently provided at the Project site and the existing jobs would be retained. Since Alternative 2 would not displace the existing on-site jobs, this alternative would not decrease local or regional employment. For the purposes of NEPA, the Housing Replacement Alternative would have ***no impact*** regarding local or regional employment.

Alternative 3 – No Project Alternative

Alternative 3 would result in the same conditions at the Project site as currently exist. Buildings would not be constructed and new housing would not be provided. No residents or on-site employees would be temporarily or permanently displaced. However, Alternative 3 would not support the City's efforts to meet its regional housing needs allocation. This alternative would not increase the City's supply of affordable housing units available for very low- to moderate-income levels. Since Alternative 3 would not induce unplanned population growth and would not displace residents or employees, impacts associated with direct and indirect population growth are considered ***less than significant*** under CEQA.

For the purposes of NEPA, the No Project Alternative would have ***no impact*** associated with socioeconomics and community.

Cumulative Impacts

The geographic context for cumulative population and housing impacts is the city.

Impact C-SC-1	**Cumulative Impacts to Socioeconomics, Population, and Housing** **CEQA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative population and housing impacts. (Less than Significant)** **NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, not would result in significant adverse cumulative socioeconomics impacts. (Less than Significant)**

Population

The population increase associated with the Proposed Project and its alternatives is within ABAG's overall population projections. Cumulative Projects (such as the Proposed Project plus other anticipated development) fall within ABAG's population projections for the city. The City and County of San Francisco actively engages in long-range, citywide planning efforts. These planning efforts consider anticipated population growth, as well as demand on infrastructure, public services, and housing. Consequently, there is no anticipated significant cumulative impact associated with population and housing growth.

As noted above, "substantial" growth is defined as increases in population that are unplanned, without consideration of or planning for infrastructure, services, and housing needed to support proposed residents, employees, and visitors. Development of cumulative projects could result in increases in population. Population projections estimate an increase of approximately 132,000 residents in the city between 2005 and 2030, an overall increase of 14.5 percent. Subtracting the net

population increase associated with the Proposed Project, as this number has been included in the overall population projections, cumulative projects could account for up to 129,404 persons and fall within the City's projections. Development in the City would largely serve to accommodate existing demand for residential and retail space, rather than induce new growth nearby, since existing opportunity sites are surrounded by largely built-out communities. Given that development must occur consistent with adopted plans and policies including the applicable General Plan and Zoning Ordinance, and the developments would provide a portion of needed housing and jobs, overall cumulative impacts are less than significant because these projects would not induce substantial population growth.

Direct population growth associated with the Proposed Project and its alternatives would be considered "planned" growth since this Project has been considered in the City's population planning projections. The Proposed Project would result in a net increase of approximately 2,596 residents. As such, the residential component would be approximately 2 percent of the projected total household population growth from 2010 to 2030. Alternative 1 would result in a net increase of approximately 1,638 residents, which would be approximately 1.2 percent of the projected total household population growth from 2010 to 2030. The other two alternatives would not increase on-site residents.

Indirect growth would include residential and employment growth in surrounding neighborhoods resulting from the expansion of infrastructure and services proposed under the Project. As stated above, such growth would only be considered substantial if it were not anticipated in local planning efforts. Because this population growth has been accounted for in City projections, it would not be considered substantial. Therefore, the Proposed Project and its alternatives would not make a cumulatively considerable contribution to any potential cumulative impact related to substantial increases in population. Under CEQA, the Proposed Project and its alternatives would have a less than cumulatively significant contribution to City population growth. Impacts related to population are ***less than significant***.

For the purposes of NEPA, the cumulative population effects would be ***less than significant.***

Housing

Housing need as identified in the 2007–2014 Housing Element Update is 31,193 units; the Proposed Project would provide a net increase of approximately 1,080 dwelling units, or 3.5 percent of the City's portion of the regional housing need. Alternative 1 would develop a net of approximately 660 units, which would be 2.1 percent of the City's housing need. The other alternatives would provide the same amount of housing as existing, and would not contribute to the housing stock. The construction of housing in the region has failed to keep pace with population growth in the Bay Area. Although population growth has slowed and is predicted to continue at a relatively moderate rate through 2030, the region is still attempting to make up for housing shortages from previous growth periods. The Proposed Project would provide a benefit to the region by constructing more

housing than the demand it would generate, helping to achieve a better jobs/housing balance in the Bay Area.

The Proposed Project's contribution to the significant cumulative housing shortage in the Bay Area would not be cumulatively considerable. Under CEQA, the Proposed Project and Alternative 1 would provide new housing and would contribute to the housing need in the City. As such, the Proposed Project's cumulative impact would be ***less than significant***.

For the purposes of NEPA, the cumulative housing effects would be ***less than significant.***

Employment

Development at the Project site under the Proposed Project and Alternative 1 would provide approximately 33 new jobs at buildout (in addition to the temporary construction-related jobs). The other alternatives would provide the same amount of jobs as existing. Regional projections indicate that by 2030 the San Francisco Bay Area would have about 4,738,730 jobs (up from 3,475,840 jobs in 2010). Projections for the City estimate that by 2030 San Francisco will have about 748,100 jobs (up from 568,730 jobs in 2010).[19] The contribution of up to 72 net new jobs under the Proposed Project and Alternative 1 would represent a negligible percentage of both regional and local employment through 2030. As such, the jobs anticipated under the Proposed Project are within the ABAG projections and any other projects within the City would not be impacted by the Proposed Project employment.

Therefore, the population growth associated with increased Project-related employment would not result in housing demand that would exceed planned regional housing development, and would not be substantial. For the purposes of NEPA, the cumulative employment effects would be ***less than significant.***

Division of an Existing Community

Development of the Proposed Project and its alternatives would not divide an existing community or isolate a certain population group. The Proposed Project and its alternatives would replace the older, run-down structures on a site that is currently physically cut-off from surrounding neighborhoods. Under the Proposed Project and Reduced Development Alternative, several streets would be extended and realigned through the Project site and pedestrian paths and open space would be provided. The pedestrian and vehicular circulation would improve access to and from the site. Reconfiguring the roadways would not physically divide a community. Not only would the Proposed Project and Reduced Development Alternative not introduce any physical barriers that would divide the existing neighborhood or isolate a specific population group, but it would remove

[19] Association for Bay Area Governments. 2009. *Projections and Priorities 2009*, San Francisco Bay Area Population, Household, and Job Forecasts.

barriers and enhance access for the site residents. Under Alternative 2 and the No Project Alternative the roadway improvements would not be implemented and would not connect the Project site with the surrounding neighborhood. However, Alternative 2 and the No Project Alternative would not worsen the existing conditions. Since the current roadway alignments are existing conditions, and they would not change under these alternatives, this would not further isolate the neighborhood. As such, the Proposed Project and its alternatives would not contribute to a cumulatively significant impact regarding the division or isolation of an existing community or population group. The impact would be ***less than significant*** under CEQA.

For the purposes of NEPA, the cumulative effect on isolating a particular neighborhood or population group would be ***less than significant.***

Displacement

The City of San Francisco has many policies to avoid the conversation or displacement of existing housing or neighborhood-serving businesses to other uses. Priority Policies 1, 2, and 3 of the General Plan explicitly call for conservation of existing residential housing and neighborhoods and preservation and enhancement of affordable housing and neighborhood-serving businesses. Given the General Plan Priority Policies and the myriad other provisions in the Planning and Administrative Code aimed at preserving existing residential uses and neighborhood-serving businesses, it is unlikely that the City will experience cumulative impacts from displacement of existing uses.

Consistent with these Priority Policies, the Project and Alternative 1 will revitalize an existing neighborhood and enhance affordable housing opportunities in the City. The Proposed Project and Alternative 1 include a one-for-one replacement of public housing units, which means that there would be no loss of public housing. All existing residents who are eligible (residents in good standing) would have the right to move into the new units. The project applicant and the City would give priority to existing residents for affordable rental and homeownership units. As such, since the Proposed Project and its alternatives would result in temporary displacement, but would replace all housing, plus add additional units. The Proposed Project and Alternative 1 would not contribute to a cumulatively significant impact regarding displacement. Cumulative impacts under CEQA are considered ***less than significant***.

The Proposed Project and Alternative 1 would not disrupt the existing social network because many residents would remain on the Project site during construction or would return after construction. As indicated above, however, NEPA is concerned with the potential lessening or loss of community cohesion and public well-being. Because residents would not be permanently displaced, no significant impacts to community cohesion or public well-being would occur. Accordingly, the cumulative displacement impact would be ***less than significant*** under NEPA.

5.5 ENVIRONMENTAL JUSTICE

5.5.1 Regulatory Framework

Federal

Executive Order 12898

Federal Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all federal agencies to address potential impacts regarding environmental justice when considering actions.[1] The order states that neither minority nor low-income populations may be subject to a disproportionate level of adverse impacts as a result of a project or action. The order also requires that representatives from minority and low-income populations that could be impacted by a project be engaged and participate in the impacts assessment and public involvement process. Section 3-30(c) of the order states that, "federal agencies shall provide environmental justice populations the opportunity to comment on the development and design of research strategies pursuant to this order." Section 5-5(c) states that, "federal agencies should work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public." The involvement of existing residents in the Proposed Project scoping process is discussed in Section 4.5, *Environmental Justice*.

Civil Rights Act

The Civil Rights Act ensures that potential for discrimination is identified and addressed without regard to race, color, national origin, sex, age, or disability and includes the following adverse effects:

- Destruction or disruptions of community cohesion (community separation);
- Destruction or disruptions to access of available public and private facilities and services;
- Adverse employment effects;
- Displacement of businesses, housing, and people;
- Tax and property value losses;
- Actions injurious to the public's health (e.g., air, noise, and water pollution); and
- Actions harmful to the public's well-being (e.g., aesthetic impacts and loss of recreational property).

[1] *Federal Register*, Vol. 59, No. 32 (February 11, 1994), Executive Order Section 1-101.

5.5.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

Environmental Justice is not analyzed under CEQA.

Context and Intensity Evaluation Guidelines under NEPA

This analysis considers criteria encompassing the factors taken into account under NEPA to determine the significance of an action in terms of context and intensity of its effects. Given that EO 12898 applies only to federal actions, the analysis in this section is presented for purposes of analysis under NEPA only, and this analysis is not applicable under CEQA. For environmental justice issues, the analysis considers whether the Proposed Project or alternatives would:

- Result in substantial environmental impacts that disproportionately affect low-income and/or minority populations.

Approach to Analysis

According to EO 12898, an environmental justice impact analysis should identify whether a proposed federal action would result in disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. "Disproportionately high and adverse effect on minority and low-income populations" for this impact analysis means that an adverse effect is predominately borne by a minority or low-income population and that the effect that will be suffered by the minority or low-income population is appreciably more severe or greater in magnitude than the adverse effect on the rest of the population. As discussed in Section 4.5, *Environmental Justice*, the Project site and immediate vicinity contain minority and low-income populations. The impacts of the Proposed Project and alternatives are evaluated with respect to construction- and operation-phase impacts on these populations.

Impact Evaluation

Proposed Project

Impact EJ-1	**Socioeconomic Effects** **CEQA: This topic is not covered under CEQA.** **NEPA: The Proposed Project would not result in a substantial socioeconomic impact that disproportionately affects low-income and minority populations. (Construction: Less than Significant; Operations: Beneficial)**

Construction

Redevelopment would occur in three non-overlapping phases from approximately 2015 to 2025 over approximately 10 years or longer to minimize disruption to existing residents. Each phase would include demolition of existing facilities, followed by grading and construction of replacement housing in the same area. Construction activities result in impacts on air quality and noise and in increased risks of exposure to hazardous materials. As such, these activities could affect low-income and minority populations. These issues are discussed in Sections 5.9, *Air Quality*; 5.8, *Noise*; and 5.18, *Hazards and Hazardous Materials.*

Phase 1 would consist of the vicinity south of 25th Street in the Terrace portion of the Project site. Phase 2 consists of the area between 23rd Street and 25th Street, which is the remaining portion of the Terrace site not included in Phase 1. Phase 3 consists of development of the entire Annex site. Figure 2-5 shows the Project construction phasing. Phase 1 would last approximately 26 months, with streets closed for approximately 8 months, and Phases 2 and 3 would each last 48 months, with streets closed for approximately 12 months during each phase.

During construction, current residents would be moved to available (vacant) residences on the Project site as each phase is constructed, or, at their option, they would be given housing vouchers by the Housing Authority for relocation elsewhere during the construction period. The duration of temporary relocation will typically exceed 12-months but the exact duration is unknown. The new dwellings would be occupied as each phase is completed. Existing residents in good standing who had moved off-site during construction would be given the first opportunity to return.

Every resident residing in a public housing dwelling unit and in good standing (lease compliant) at the start of their relocation phase and during their relocation phase would have the right to return to the Project site. Returning residents would be provided a preference for occupancy prior to other eligible households. This preference would be retained even if the resident has received permanent relocation benefits.

Based on the construction scenario implemented and the original location of the existing residents, there are many variations of on-site relocation that could occur. For this analysis, it was assumed that while Phase 1 is being constructed, the on-site residents would be relocated to the Phase 2 or Phase 3 sites; while Phase 2 is being constructed, residents would be relocated to the Phase 1 or Phase 3 sites; and while Phase 3 is constructed, residents would be relocated to the Phase 1 or Phase 2 sites. On-site relocations would be staged to minimize the extent of on-site moving that is necessary during construction.

During construction, the following types of activities would be expected: abatement and demolition, site preparation and earthwork/grading, new infrastructure construction, and building construction. Some activities could occur simultaneously. Construction activities emit fugitive dust, criteria air pollutants, and toxic air contaminants (TACs), most notably diesel particulate matter (PM2.5). The

air quality analysis evaluates construction and operational emissions to determine the health effect from emissions of criteria pollutant to sensitive receptors. However, as discussed in Section 5.9, *Air Quality*, the implementation of Mitigation Measure M-AQ-4 would reduce cumulative cancer risk and cumulative PM2.5 concentrations to below 100 per million and 10 $\mu g/m^{3,}$ respectively. Thus, the Proposed Project would not create a new air pollutant exposure zone with implementation of the mitigation measures.

Construction activities would require on-road and off-road construction vehicles that would generate criteria pollutant emissions that could worsen air quality. However, the implementation of Mitigation Measures M-AQ-2a and M-AQ-2b would reduce the construction emissions and total Project emissions. Even with the implementation of the mitigation measures designed to reduce exhaust emissions from construction vehicles, Project NO_x emissions would exceed the daily and annual thresholds. Therefore, the construction of the Proposed Project would have a ***significant*** impact on air quality.

As discussed in Section 5.8, *Noise*, the noise generated during the construction phase would exceed the *San Francisco Police Code* Section 2907 and 2908 noise thresholds. However, implementation of the proposed mitigation measures would reduce noise levels, in this case, to below the 80 dBA threshold. Mitigation Measures M-NO-1a and M-NO-1b would likely reduce noise levels by more than 3 dBA, which is the amount that the threshold is exceeded by for the most conservative scenario. In addition, implementation of Mitigation Measures M-NO-1a and M-NO-1b, and compliance with the Noise Ordinance would limit construction activities to daytime hours and reduce construction noise at on-site and off-site receptors. The effects of the construction of the Proposed Project related to noise are ***less than significant*** with mitigation.

As discussed in Section 5.18, *Hazards and Hazardous Materials*, construction of the Proposed Project would involve substantial use of heavy equipment containing fuels and other hazardous products, along with extensive amounts of concrete products, construction materials, and architectural finish substances. Accidental release of hazardous materials during construction activities could result in release of hazardous materials into the air and/or could potentially affect soil and/or groundwater quality. This could result in adverse health effects on construction workers, the public, and the environment. However, the project applicant's contractors would be required to comply with mandatory workplace hazardous materials regulations (Cal/OSHA) and to implement a Stormwater Pollution Prevention Plan (SWPPP), as described in Impact HY-1 in Sections 4.17 and 5.17, *Hydrology and Water Quality*. Compliance with mandatory hazardous materials regulations and SWPPP requirements would ensure that potential releases related to hazardous materials are ***less than significant***.

Section 5.18 also discusses the potential significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials such as lead-based paint (LBP) in buildings and structures, lead in soil, asbestos-containing

materials (ACM), asbestos in soil, naturally occurring asbestos (NOA), and sitting of HUD-funded projects near hazardous operations. The analysis in that section demonstrates how adherence to the *San Francisco Building Code* (Building Code) and the implementation of Mitigation Measures M-HZ-2.1 through M-HZ-2.4, would reduce the potential effects due to the disturbance of asbestos, if any, in soil to a ***less-than-significant*** level.

As discussed above, the Project would result in a significant and unavoidable impact related to NO_x emissions during construction. Refer to Section 5.9, *Air Quality*. The exceedance of the established NO_x threshold is often identified as a significant impact for projects with prolonged construction projects throughout the city. NO_x emissions affect both on-site receptors and off-site residents within a certain proximity of the construction site regardless of income levels. For these reasons, the construction impacts from air quality, noise and hazards, and hazardous materials, described above, would not disproportionately affect low-income and minority populations. Environmental justice impacts would be ***less than significant***.

Operation

The existing affordable housing units are substantially deteriorated. As discussed in Chapter 2, *Project Alternatives and Project Description*, the Project site infrastructure is also deficient. Redevelopment of the Project site would include replacing these units, which would result in improving housing conditions for a minority and low-income population. The Proposed Project would provide replacement of the existing public housing units and the addition of 15,000 square feet (sf) of retail/flex space, 35,000 sf of community uses, and 3.62 acres of public open space which do not currently exist. The Proposed Project would improve access to the surrounding community through physical integration resulting from the realignment of the roadway network, socioeconomic integration through provision of integrated house at all income levels, and potential job opportunities through the development of additional multi-family housing, and new retail and community center spaces. Overall, development of the Proposed Project would have a beneficial effect on minority and low-income populations.

At buildout, the low-income and minority populations would reside in housing units built to up-to-date standards; have improved access to public transportation and bicycle networks; and have potential job opportunities at the proposed retail or flex space. In addition, through the expanded community facilities such as a computer lab, the residents have additional opportunities to improve technical skills. Therefore under NEPA, operation of the Proposed Project would have a ***beneficial*** impact on minority and low-income populations.

Alternative 1 – Reduced Development Alternative

Impact EJ-1	**Socioeconomic Effects** **CEQA: This topic is not covered under CEQA.** **NEPA: The Proposed Project would result in a beneficial socioeconomic impact that affects low-income and minority populations. (Construction: Less than Significant; Operation: Beneficial)**

Alternative 1 would have similar impact on low-income community and minority populations as the Proposed Project. Refer to the Proposed Project Impact EJ-1 in the impact analysis discussion of how effects of the Reduced Development Alternative could affect low-income and minority populations. Similar to the Proposed Action, effects are considered ***less than significant***.

During operation, benefits such as increased open space, improved street connections, transit amenities, and community facilities would be provided under this alternative. Alternative 1 would accommodate on-site relocation of existing residents where possible. As discussed above, because the construction and operation phases overlap, impacts from noise, air quality and hazardous materials are similar to the operation impacts of the Proposed Project. Refer to Impact EJ-1 under the Proposed Project. Similar to the Proposed Project, Alternative 1 would have a ***beneficial*** effect on environmental justice populations under NEPA.

Alternative 2 – Housing Replacement Alternative

Impact EJ-1	**Socioeconomic Effects** **CEQA: This topic is not covered under CEQA.** **NEPA: The Housing Replacement Alternative would result in a beneficial socioeconomic impact that affects low-income and minority populations. (Construction: Less than Significant; Operation: Beneficial)**

During construction, Alternative 2 would have similar impacts on low-income community and minority populations to those under the Proposed Project, although somewhat reduced due to the shortened construction timeline. However, as discussed in Impact EJ-1, impacts from noise and vibration, air quality, and potential hazard from hazardous materials on low income and minority populations would be ***less than significant*** with mitigation.

During operation, Alternative 2 would not provide the same open space, community center, retail space and/or level of amenities, since it would simply replace the existing housing one for one on the same building footprint and would not improve the street grid, transit connections, or include additional open space and recreational opportunities. As discussed in Section 5.8, *Noise*, Alternative 2 would not result in an increase in noise and vibration. Because Alternative 2 would involve the reconstruction of the existing conditions, it would not result in new air quality operational emissions

and it would not involve new uses involving use of hazardous materials. However, since housing conditions would be improved, Alternative 2 would have an overall ***beneficial*** effect on environmental justice populations under NEPA.

Alternative 3 – No Project Alternative

Impact EJ-1	**Socioeconomic Effects** **CEQA: This topic is not covered under CEQA.** **NEPA: The No Project Alternative would result in an adverse socioeconomic impact that affects low-income and minority populations. (Significant and Unavoidable)**

Under Alternative 3, existing conditions at the Project site would remain unchanged. The 620 affordable housing units would not be replaced, and no other improvements would be implemented. As such, there would be no construction-related impacts on residents at the Project site and surrounding neighborhood. However, it is anticipated that the existing housing on the Project site would continue to deteriorate, presenting potential safety and health issues. As the Project site contains low-income and minority populations, this is considered a ***significant and unavoidable*** effect with respect to environmental justice issues under NEPA.

Cumulative Impacts

The context for considering cumulative environmental justice impacts includes the projects identified in Section 5.1, *Introduction*. These cumulative projects are considered because they are within the Project vicinity and have been approved, proposed, or are reasonably foreseeable.

Impact C-EJ-1	**Cumulative Impacts to Socioeconomics** **CEQA: This topic is not covered under CEQA.** **NEPA: The Proposed Project would result in a beneficial cumulative socioeconomic impact that affects low-income and minority populations. (Beneficial)**

As described in the Project-specific impact analysis above, significant environmental justice impacts occur when a project results in disproportionate effects on low-income or minority communities. With the exception of Alternative 3, it was determined that the Proposed Project (and Alternatives 1 and 2) would result in a beneficial effect on the environmental justice community identified within the Project area. Therefore, implementation of the Proposed Project would not contribute to significant or adverse cumulative environmental justice effects. Cumulative effects are beneficial under NEPA.

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5.6 CULTURAL AND PALEONTOLOGICAL RESOURCES

5.6.1 Regulatory Framework

Please refer to Chapter 3, *Plans and Policies*, for a discussion of relevant plans and their respective applications to the implementation of the Proposed Project and alternatives.

Federal

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA), as amended (PL 89-515), and its implementing regulations require federal agencies to consider the effects of their actions on properties listed on, or eligible for listing on, the National Register of Historic Places (NRHP). To be eligible for the NRHP, a cultural resource must meet any one of the specific criteria identified in 36 CFR Part 60, and explained in guidelines published by the Keeper of the National Register. These criteria are as follows:

a. Association with events that have made a significant contribution to the broad patterns of our history
b. Association with the lives of persons significant to our past
c. Resources that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
d. Resources that have yielded or may be likely to yield information important in prehistory or history

In addition to historic significance, a property must have integrity to be eligible for the NRHP. This is the property's ability to convey its demonstrated historic significance through location, design, setting, materials, workmanship, feeling, and association. The significance of effects on cultural resources depends upon the alteration of elements that make the resource NRHP-eligible.

Executive Order 11593

Executive Order 11593, Protection and Enhancement of the Cultural Environment, required Federal agencies to initiate measures so that actions would preserve sites, structures and objects of historical, architectural and archaeological significance. Portions of the Executive Order were codified as part of the 1980 amendments to the NHPA. The City's responsibilities to evaluate cultural resources and to consult with applicable resource agencies under the 2007 Programmatic Agreement (PA) are consistent with Executive Order 11593.

Programmatic Agreement

The 2007 PA by and among the City and County of San Francisco, the California State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation Regarding Historic Properties Affected by Use of Revenue from the Department of Housing and Urban Development Part 58 Programs is included in Appendix 4.6. The 2007 PA guides all Section 106 activities for applicable City projects funded partially or in whole by HUD. It stipulates activities that are exempt from Section 106 consultation with SHPO when conducted in accordance with the Secretary of the Interior's Standards for Treatment of Historic Properties and when approved by the San Francisco Planning Department. The PA also includes procedures for unanticipated discovery of archaeological resources during project implementation.

The City's responsibilities under the PA include review of existing information on any property within an undertaking's APE as required by 36 CFR 800.4, to determine if such properties may be historic properties. At a minimum, the PA stipulates that the City shall:

- Review the current listing of the NRHP.
- Review lists of Historic Properties maintained by the City and SHPO, and the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), Sonoma State University, California, or its successors and any other information available in the City's Planning Department records pertaining to any property within an undertaking's APE.
- Visit the site and evaluate in accordance with the Section 106 process.
- If the property is one to which Indian Tribes attach religious and cultural significance, those Indian Tribes will be consulted by the City regarding the undertaking.
- The City shall consult with the San Francisco Landmarks Preservation Advisory Board (now Historic Preservation Commission) when necessary to determine the significance of a resource.

State

CEQA considers archaeological resources as an intrinsic part of the physical environment and, thus, requires for any project subject to CEQA-review that its potential to adversely affect an archaeological resource be analyzed (CEQA Section 21083.2). For a project that may have an adverse effect on a significant archaeological resource, CEQA requires preparation of an environmental impact report (CEQA and Guidelines Section 21083.2, Section 15065). CEQA recognizes two different categories of significant archaeological resources: a "unique" archaeological resource (CEQA Section 21083.2) and an archaeological resource that qualifies as a "historical resource" under CEQA (CEQA and Guidelines Sections 21084.1, 15064.5).

Significance of Archaeological Resources

An archaeological resource can be significant as both or either a "unique" archaeological resource and a "historical resource" but the process by which the resource is identified, under CEQA, as either one or the other is distinct (CEQA and Guidelines Sections 21083.2(g) and 15064.5(a)(2)).

An archaeological resource is a "historical resource" under CEQA if the resource is:

1) Listed on or determined eligible for listing on the California Register of Historic Resources (CRHR) (CEQA Guidelines Section 15064.5). This includes National Register-listed or -eligible archaeological properties
2) Listed in a "local register of historical resources"[1]
3) Listed in a "historical resource survey" (CEQA Guidelines Section 15064.5(a)(2))

Generally, an archaeological resource is determined to be a "historical resource" due to its eligibility for listing to the CRHR/NRHP because of the potential scientific value of the resource, that is, "has yielded, or may be likely to yield, information important in prehistory or history" (CEQA and Guidelines Section 15064.5(a)(3)). An archaeological resource may be CRHR-eligible under other Evaluation Criteria, such as Criterion 1, association with events that have made a significant contribution to the broad patterns of history; Criterion 2, association with the lives of historically important persons; or Criterion 3, association with the distinctive characteristics of a type, period, region, or method of construction. Appropriate treatment for archaeological properties that are CRHR-eligible under Criteria other than Criterion 4 may be different than that for a resource that is significant exclusively for its scientific value.

Failure of an archaeological resource to be listed in any of these historical inventories is not sufficient to conclude that the archaeological resource is not a "historical resource". When the lead agency believes there may be grounds for a determination that an archaeological resource is a "historical resource", then the lead agency should evaluate the resource for eligibility for listing to the CRHR (CEQA Guidelines Section 15064.5(a)(4)).

A "unique" archaeological resource is a category of archaeological resources created by the CEQA statutes (CEQA Guidelines Section 21083.2(g)). An archaeological resource is a unique archaeological resource if it meets any of one of three criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2) Has a special and particular quality such as being the oldest of its type or the best available example of its type;
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

[1] A "local register of historical resources" is a list of historical or archaeological properties officially adopted by ordinance or resolution by a local government (Public Resources Code 5020.1(k).

Under CEQA, evaluation of an archaeological resource as a "historical resource" is privileged over the evaluation of the resource as a "unique archaeological resource", in that, CEQA requires that "when a project will impact an archaeological site, a lead agency shall first determine whether the site is a historical resource" (CEQA Section 15064.5(c)(1).

Evaluation of an Archaeological Resource as Scientifically Significant

The California Office of Historic Preservation (OHP) published two guidelines for CEQA preparers to evaluate archeological site's sufficient scientific value to be CHR-eligible. The two guidelines are: *Archaeological Resource Management Reports* (1989) and the *Guidelines for Archaeological Research Designs* (1991). The guidelines serve as the methodological standard by which the archeological resources should be evaluated to determine the CRHR-eligibility of the archeological resource.

Integrity of Archaeological Resource

Integrity is an essential criterion in determining that a resource, including an archaeological resource, is a historical resource. In terms of CEQA "integrity" can, in part, be expressed in the requirement that a historical resource must retain "the physical characteristics that convey its historical significance" (CEQA § 15064.5 (b)).

The integrity of an archeological resource evaluated for CRHR-eligibility is conceptually different than how it is applied to the built environment. For an archaeological resource that is evaluated for CRHR-eligibility under Evaluation Criterion 4, integrity is defined as "has yielded or may be likely to yield information important to prehistory or history". For a historic building, possessing integrity means that the building retains the defining physical characteristics from the period of significance of the building. In archaeology, an archaeological deposit or feature may have undergone substantial physical change from the time of its deposition but it may yet have sufficient integrity to qualify as a historical resource. The integrity test for an archaeological resource is whether the resource can yield sufficient data (in type, quantity, quality, diagnosticity) to address significant research questions. Thus, in archaeology "integrity" is often closely associated with the development of a research design that identifies the types of physical characteristics ("data needs") that must be present in the archaeological resource and its physical context to adequately address research questions appropriate to the archaeological resource.

Significant Adverse Effect on an Archaeological Resource

The determination of whether an effect on an archaeological resource is significant depends on the effect of the project on those characteristics of the archaeological resource that make the archaeological resource significant. For an archaeological resource that is a historical resource because of its prehistoric or historical information value, that is, its scientific data, a significant effect is impairment of the potential information value of the resource.

The depositional context of an archaeological resource, especially soils stratigraphy can be informationally important to the resource in terms of datation and reconstructing the characteristics of the resource present at the time of deposition and interpreting the impacts of later deposition events on the resource. Thus, for an archaeological resource eligible to the CRHR under Criterion 4, a significant adverse effect to its significance may not be limited to impacts on the artifactual material but may include effects on the soils matrix in which the artifactual matrix is situated.

Mitigation of Adverse Effect on an Archaeological Resource

Preservation in place is the preferred treatment of an archaeological resource (CEQA and Guidelines Sections 21083.2(b), 15126.4 (b)(3)(a)). When preservation in place of an archaeological resource is not feasible, data recovery, in accord with a data recovery plan prepared and adopted by the lead agency prior to any soils disturbance, is the appropriate mitigation (CEQA Section 15126.4(b)(3)(C)). In addition to data recovery, under CEQA, the mitigation of effects to an archaeological resource that is significant for its scientific value, requires curation of the recovered scientifically significant data in an appropriate curation facility (CEQA Section 15126.4(b)(3)(C), that is a curation facility compliant with the *Guidelines for the Curation of Archaeological Collections* (California Office of Historic Preservation. 1993). Final studies reporting the interpretation, results, and analysis of data recovered from the archaeological site are to be deposited in the California Historical Resources Regional Information Center (CEQA Guidelines Section 15126.4(b)(3)(C).

Effects on Human Remains

Under state law, human remains and associated burial items may be significant resources in two ways: they may be significant to descendant communities for patrimonial, cultural, lineage, and religious reasons and human remains may also be important to the scientific community, such as prehistorians, epidemiologists, and physical anthropologists. The specific stake of some descendant groups in ancestral burials is a matter of law for some groups, such as Native Americans (CEQA Guidelines Section 15064.5(d), Public Resources Code (PRC) Section 5097.98). In other cases, the concerns of the associated descendent group regarding appropriate treatment and disposition of discovered human burials may become known only through outreach. Beliefs concerning appropriate treatment, study, and disposition of human remains and associated burial items may be inconsistent and even conflicting between descendent and scientific communities. CEQA and other state regulations concerning Native American human remains provide the following procedural requirements to assist in avoiding potential adverse effects to human remains within the contexts of their value to both descendants' communities and the scientific community:

- When an initial study identifies the existence or probable likelihood that a project would impact Native American human remains, the lead agency is to contact and work with the appropriate Native American representatives identified through the Native American Heritage Commission (NAHC) to develop an agreement for the treatment and disposal of

the human remains and any associated burial items (CEQA Guidelines Section 15064.5(d), PRC Section 5097.98)

- If human remains are accidentally discovered, the county coroner must be contacted. If the county coroner determines that the human remains are Native American, the coroner must contact the NAHC within 24 hours. The NAHC must identify the most likely descendant (MLD) to provide for the opportunity to make recommendations for the treatment and disposal of the human remains and associated burial items. If the MLD fails to make recommendations within 24 hours of notification or the project applicant rejects the recommendations of the MLD, the Native American human remains and associated burial items must be reburied in a location not subject to future disturbance within the project site (PRC Section 5097.98).
- If potentially affected human remains/burial may have scientific significance, whether or not having significance to Native Americans or other descendent communities, then under CEQA, the appropriate mitigation of effect may require the recovery of the scientific information of the remains/burial through identification, evaluation, data recovery, analysis, and interpretation (CEQA Guidelines Section 15064.5(c)(2)).

Consultation with Descendant Communities

Although not a requirement derived from CEQA, the cosmopolitan nature and history of San Francisco necessitates cultural management sensitivity to archaeological remains associated with local indigenous, ethnic, overseas, and religious communities. On discovery of an archaeological site[2] associated with descendant Native Americans, the Overseas Chinese or, as appropriate any other community, the ERO should seek consultation with an appropriate representative[3] of the descendant group with respect to appropriate archaeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archaeological site. Documentary products resulting from archaeological research of the descendant community associated with the site should be made available to the community.

Local

City and County of San Francisco Planning Department CEQA Review Procedures for Historical Resource

San Francisco Preservation Bulletin No. 16 provides guidance for the CEQA review process regarding historical resources.

As a certified local government and the lead agency in CEQA determinations, the City and County of San Francisco has instituted guidelines and a system for initiating CEQA review of historical resources. The Planning Department's "CEQA Review Procedures for Historical Resources"

[2] The term "archaeological site" is intended here to minimally include any archaeological deposit, feature, burial, or evidence of burial.

[3] The term "archaeological site" is intended here to minimally include any archaeological deposit, feature, burial, or evidence of burial.

incorporates the CEQA Guidelines into the City's existing regulatory framework. To facilitate the review process, the Planning Department has established the categories to determine the baseline significance of historic properties based on their inclusion within cultural resource surveys and/or historic districts. These categories include Category A.1 (Resources listed on or formally determined to be eligible for the CRHR), Category A.2 (Adopted local registers, and properties that have been determined to appear or may become eligible, for the CRHR), Category B (Properties requiring further consultation and review), Category C (Properties determined not to be historical resources or properties for which the City has no information indicating that the property is a Historical Resource).

5.6.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

For this analysis, significance criteria are based on the checklist presented in Appendix G of the CEQA Guidelines and regulatory standards of federal, state, and local agencies. The Proposed Project and alternatives would result in a significant impact related to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 [of the State CEQA Guidelines], including those resources listed in Article 10 or Article 11 of the *San Francisco Planning Code;*
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries

Context and Intensity Evaluation Guidelines under NEPA

Section 106 of the NHPA requires that a federal agency with direct or indirect jurisdiction over a proposed federal or federally assisted undertaking, or issuing licenses or permits, must consider the effect of the proposed undertaking on historic properties. A historic property may include a prehistoric or historic-era district, site, building, structure, or object listed in, or eligible for listing in, the NRHP maintained by the U.S. Secretary of the Interior.

A significant impact would occur if a proposed project results in an adverse change to a historic property that is listed in or eligible for inclusion in the NRHP. The specific Criteria of Effect and Adverse Effect, as defined in 36 CFR 800.9, used to evaluate an undertaking's effect on a historic property, are as follows:

- An undertaking has an effect on a historic property when it may alter the characteristics of the property that qualify the property for inclusion in the NRHP. For the purpose of determining effect, alteration to features of the property's location, setting, or use may be relevant depending on a property's significant characteristics and should be considered.

- An undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:
  (1) Physical destruction, damage, or alteration of all or part of the property;
  (2) Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the NRHP;
  (3) Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
  (4) Neglect of a property resulting in its deterioration or destruction; and
  (5) Transfer, lease, or sale of the property.

The analysis below also considers whether the undertaking would conflict with the 2007 PA.

Approach to Analysis

Architectural/Structural Resources

The analysis of architectural resources provided in the *Impact Evaluation* below is in part based on the Historical Resources Evaluation Report (HRE) prepared by CIRCA: Historic Property Development on March 31, 2009.[4] In addition, the analysis of historic resources is based on information provided in the Planning Department's Historic Resource Evaluation Response (HRER).[5] Because the Potrero Terrace and Potrero Annex properties have been previously evaluated, the existing evaluation reports, original drawings, and related documentation were reviewed. A site visit was then conducted in September 2008, during which CIRCA staff photographed buildings, assessed existing exterior building conditions, and surveyed the architectural integrity of each property. In addition, CIRCA conducted primary and secondary source research at the San Francisco History Room, San Francisco Public Library, the San Francisco Planning Department, and other repositories to further develop the historic context of the APE and determine levels of significance and integrity for each property. Finally, an assessment of the historic significance of the landscape design originally developed by Thomas Church was conducted by Carey and Company, Inc., in 2011.

For purposes of compliance with Section 106 and in accordance with the PA, all properties within the APE are evaluated to determine eligibility for listing on the NRHP or the CRHR. As a result of this evaluation, 15 properties were identified as potentially eligible based on age (greater than 50 years old). The Planning Department determined that two properties within the APE are eligible

[4] CIRCA: Historic Property Development, *Historical Resources Evaluation Report* (March 31, 2009). This report is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[5] San Francisco Planning Department. 2011. Historic Resource Evaluation Response. 1095 Connecticut Street (Potrero Terrace/Annex). Case No. 2010.0515E. This report is available for review in Appendix 4.6.

for listing on the NRHP. These properties include the single-family residence at 1033 Texas Street (on the basis of distinctive characteristics of a type, period, or method of construction) and Starr King Elementary School at 1106–1120 Wisconsin Street (on the basis of association with events that have made a significant contribution to the broad patterns of history and distinctive characteristics of a type, period, or method of construction). These findings were forwarded to the SHPO, who concurred with the findings by letter dated October 11, 2012.

Archaeological Resources

In order to evaluate the potential for occurrence of sensitive archaeological resources within the APE, the San Francisco Planning Department archaeologist conducted a Preliminary Archaeological Review (PAR) on August 16, 2010[6]. The results of the PAR indicated that the Proposed Project could potentially adversely affect archaeological resources, and recommended a Phase 2 Archaeological Review. For these reasons, the following research and field methods were employed: a records search of the NWIC of the CHRIS, the City of San Francisco Planning Department GIS database, Native American consultation, archival and background research, and a site visit to the Proposed Project. On October 24, 2011, the CHRIS responded to the City's request and recommended that a qualified archaeologist conduct further archival and field study to identify cultural resources. On February 11, 2014, the City requested the SHPO's comments on the recommendation from CHRIS. To date, no response has been received from SHPO. As such, it is assumed that SHPO concurs with the CHRIS recommendations. The City will pursue a Memorandum of Understanding with the State Historic Preservation Officer in accordance with the 2007 PA.

The significance of most prehistoric and historic-period archaeological sites is usually assessed under NRHP and CRHR Criterion D/4, respectively. This criterion stresses the importance of the information potential contained within the site, rather than its significance as a surviving example of a type or its association with an important person or event.

Paleontological Resources

The paleontological analysis identifies the potential to encounter paleontological resources (i.e., plant, animal, or invertebrate fossils or microfossils) during excavations associated with the project. The paleontological potential of the units to be disturbed was determined, and the potential to encounter paleontological resources at each site was evaluated. A potentially significant impact on paleontological resources would occur if: (1) construction of the project component would move or excavate previously undisturbed geologic bedrock (native rock); and (2) the bedrock to be disturbed has a high paleontological potential.

[6] San Francisco Planning Department. 2010. Preliminary Archeological Review (August 16, 2010). This report is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

Human Remains

Human remains, including those buried outside of formal cemeteries, are protected under several state laws, including PRC Section 5097.98 and Health and Safety Code Section 7050.5. These laws are identified above under *State Regulations*. This analysis considers impacts including intentional disturbance, mutilation, or removal of interred human remains.

Impact Evaluation

Proposed Project

Impact CP-1	**Effects on Historical Resources** **CEQA: The Proposed Project would not cause a substantial adverse change in the significance of a historical resource as defined in §15064.5, including those resources listed in Article 10 or Article 11 of the *San Francisco Planning Code*. (No Impact)** **NEPA: The Proposed Project would not have an adverse effect on an historic-era district, site, building, structure, or object listed in, or eligible for listing in, the NRHP maintained by the U.S. Secretary of the Interior. (No Impact)**

As described in the HRER, the Potrero housing complex is not a historic resource for the purposes of CEQA because it does not appear to be eligible for inclusion in the CRHR as an individual historic resource or as a contributor to a historic district.[7]

Potrero Terrace

Although the HRER found Potrero Terrace to be individually significant under Criterion 1 (Events) and Criterion 3 (Architecture) and possibly significant under Criterion 2 (Persons), Potrero Terrace does not appear to retain integrity due to cumulative physical changes to the property that have adversely affected design, materials, workmanship, feeling, and association. As described in Section 4.6, *Cultural Resources*, Potrero Terrace is not eligible for listing on the CRHR based on lack of integrity. In addition, a review of Article 10 and Article 11 of the San Francisco Municipal Code indicated that the Potrero Terrace development is not included in the City's list of designated landmarks, historic districts, or important C-3 districts.[8,9]

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[7] San Francisco Planning Department, Historic Resource Evaluation Response, 1095 Connecticut Street (Potrero Terrace/Annex) Case No. 2010.0515E (July 15, 2011). (See Appendix 4.6)

[8] San Francisco Preservation Bulletin No. 9, San Francisco Landmarks, http://sfplanning.org/Modules/ShowDocument.aspx?documentid=5081 (accessed June 16, 2012).

[9] San Francisco Preservation Bulletin No. 10, Historic and Conservation Districts in San Francisco, http://sfplanning.org/Modules/ShowDocument.aspx?documentid=5083 (accessed June 16, 2012).

Potrero Annex

As described in the HRER, Potrero Annex appeared to be potentially significant under CRHR Criterion 2 (Persons), but it does not appear to retain integrity due to cumulative physical changes to the property that have adversely affected design, materials, workmanship, feeling, and association. Thus, it is not eligible for listing in the CRHR. In addition, a review of Article 10 and Article 11 of the San Francisco Municipal Code indicated that the Potrero Annex development is not included in the City's list of designated landmarks, historic districts, or important C-3 districts.[10,11]

Therefore, under CEQA, the Proposed Project would have ***no impact*** on historic architectural resources because it would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

Under NEPA, the Proposed Project would have ***no impact*** because it would not cause a substantial adverse effect on an historic-era item listed or eligible for listing in the NRHP.

Impact CP-2	**Effects on Archaeological Resources** **CEQA: The Proposed Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064. (Less than Significant with Mitigation)** **NEPA: The Proposed Project could have an adverse effect on a prehistoric-era district, site, building, structure, or object listed in, or eligible for listing in, the NRHP maintained by the U.S. Secretary of the Interior (Less than Significant with Mitigation)**

The PAR completed by the San Francisco Planning Department archaeologist identified one area of sensitivity for prehistoric archaeological resources. There are prehistoric sites documented within San Francisco; however, they are situated in low-lying areas along the coast or adjacent to tidal marshlands and estuaries. Several documented prehistoric midden sites lie within or along the southern part of the former Islais Creek estuary (CA-SFR-15, CA-SFR-171, the Alemany-Bayshore Site, and P-38-004765). The SFR-171 deposit has been dated to approximately 370 years B.P. An 1858 survey indicates that a sizable Native American shellmound was located near the head of the marsh extending across much of the Islais Creek estuary near where Precita Creek entered. The topography of the APE, located on the steeply sloping hillside of Potrero Hill, differs from the low-lying area where prehistoric sites have previously been documented. However, a poorly documented prehistoric site has been reported on the hillside of Bernal Heights in an environment similar to the southern portion of APE. For this reason, there is the possibility of a prehistoric deposit in this area of the APE.

[10] San Francisco Preservation Bulletin No. 9, San Francisco Landmarks, http://sfplanning.org/Modules/ShowDocument.aspx?documentid=5081 (accessed June 16, 2012).

[11] San Francisco Preservation Bulletin No. 10, Historic and Conservation Districts in San Francisco, http://sfplanning.org/Modules/ShowDocument.aspx?documentid=5083 (accessed June 16, 2012).

The PAR identified one potential historical archaeological resource, a nineteenth century farm improvement within the APE. The NWIC results indicated at least 15 structures were present on the 1915 United Stated Geological San Francisco topographic quadrangle map. In the 1940s and 1950s, earth cutting and fill activities required for the construction of Potrero Terrace and Annex within the APE boundaries mostly likely removed historical archaeological deposits in the area. The geotechnical report indicated 1 to 8 feet of artificial fill had been placed on the site during the previous construction activities. Serpentine bedrock underlies the fill.[12] Based upon the findings of the geotechnical studies, and the disturbed nature of the APE soils due to previous development, the APE is considered to have a low sensitivity for historical archaeological resources.

As identified in Chapter 2, *Project Alternatives and Project Description*, construction of the Proposed Project would require substantial ground-disturbing activities that could have a significant impact on undocumented archaeological resources and expected archaeologically sensitive areas. Per the PA Stipulation XI, the City requested that the NWIC of the CHRIS at Sonoma State University, Rohnert Park, conduct a records search of the APE. On October 24, 2011, the CHRIS responded to the City's request and recommended that a qualified archaeologist conduct further archival and field study to identify cultural resources. On February 11, 2014, the City requested the SHPO's comments on recommendations from CHRIS. To date, no response has been received from SHPO. As such, it is assumed that SHPO concurs with the CHRIS recommendations. The City will pursue a Memorandum of Understanding with the Advisory Council on Historic Preservation in accordance with the 2007 PA. The following mitigation measures are consistent with the CHRIS recommendations.

Mitigation Measure M-CP-2a is required to avoid any potential adverse effect from the Proposed Project on accidentally discovered buried or submerged historical resources as defined in CEQA Guidelines Section 15064.5(a)(c). Mitigation Measure M-CP-2b only applies to the undisclosed area documented by the Planning Department as sensitive with regard to archaeological resources. Implementation of Mitigation Measures M-CP-2a and M-CP-2b would reduce potential impacts to undocumented archaeological resources and sensitive areas.

Under CEQA, the impact of the Proposed Project on archaeological resources pursuant to Section 15064 would be ***less than significant with mitigation***.

Under NEPA, the impact of the Proposed Project on archaeological resources would be ***less than significant with mitigation*** because it would not cause a substantial adverse effect on a prehistoric-era district, site, building, structure or object listed or eligible for listing in the NRHP.

> **Mitigation Measure M-CP-2a – Archaeological Resource Discovery.** The project applicant shall retain the services of an archaeological consultant from the pool of qualified

[12] MEA Preliminary Archaeological Review Checklist, Potrero Terrace & Annex, Case No: 2010.0515E (March 30, 2011).

archaeological consultants maintained by the Planning Department archaeologist. The archaeological consultant shall undertake an archaeological testing program as specified herein. In addition, the consultant shall be available to conduct an archaeological monitoring and/or data recovery program if required pursuant to this measure. The archaeological consultant's work shall be conducted in accordance with this measure at the direction of the Environmental Review Officer (ERO). All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archaeological monitoring and/or data recovery programs required by this measure could suspend construction of the Proposed Project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less-than-significant level potential effects on a significant archaeological resource as defined in CEQA Guidelines Section 15064.5(a)(c).

Consultation with Descendant Communities. On discovery of an archaeological site[13] associated with descendant Native Americans or the Overseas Chinese an appropriate representative[14] of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archaeological field investigations of the site and to consult with ERO regarding appropriate archaeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archaeological site. A copy of the Final Archaeological Resources Report shall be provided to the representative of the descendant group.

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

At the completion of the archaeological testing program, the archaeological consultant shall submit a written report of the findings to the ERO. If based on the archaeological testing program the archaeological consultant finds that significant archaeological resources may be present, the ERO in consultation with the archaeological consultant shall determine if

[13] The term "archaeological site" is intended here to minimally include any archaeological deposit, feature, burial, or evidence of burial.

[14] An "appropriate representative" of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America.

additional measures are warranted. Additional measures that may be undertaken include additional archaeological testing, archaeological monitoring, and/or an archaeological data recovery program. If the ERO determines that a significant archaeological resource is present and that the resource could be adversely affected by the Proposed Project, at the discretion of the project applicant either:

- The Proposed Project shall be redesigned so as to avoid any adverse effect on the significant archaeological resource; or
- A data recovery program shall be implemented, unless the ERO determines that the archaeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archaeological Data Recovery Program. The archaeological data recovery program shall be conducted in accord with an archaeological data recovery plan (ADRP). The archaeological consultant, project applicant, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archaeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archaeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the Proposed Project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practical.

The scope of the ADRP shall include the following elements:

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

Human Remains and Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the 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 NAHC who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archaeological consultant, project applicant, 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 should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Final Archaeological Resources Report. The archaeological consultant shall submit a Draft Final Archaeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archaeological resource and describes the archaeological and historical research methods employed in the archaeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archaeological resource shall be provided in a separate removable insert within the final report.

Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey NWIC shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound, one unbound, and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the NRHP/CRHR. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

Mitigation Measure M-CP-2b – Archaeological Monitoring Program. If the ERO in consultation with the archaeological consultant determines that an archaeological monitoring program (AMP) shall be implemented, the AMP shall minimally include the following provisions:

- The archaeological consultant, project applicant, and ERO shall meet and consult on the scope of the AMP reasonably prior to any Project-related soils disturbing activities commencing. The ERO in consultation with the archaeological consultant shall determine what Project activities shall be archaeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archaeological monitoring because of the risk these activities pose to potential archaeological resources and to their depositional context;
- The archaeological consultant shall advise all Project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence

of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archaeological resource;

- The archaeological monitor(s) shall be present on the Project site according to a schedule agreed upon by the archaeological consultant and the ERO until the ERO has, in consultation with Project archaeological consultant, determined that Project construction activities could have no effects on significant archaeological deposits;
- The archaeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archaeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archaeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archaeological monitor has cause to believe that the pile driving activity may affect an archaeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archaeological consultant shall immediately notify the ERO of the encountered archaeological deposit. The archaeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archaeological deposit, and present the findings of this assessment to the ERO.

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

Impact CP-3	**Effects on Paleontological Resources** **CEQA: The Proposed Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant with Mitigation)** **NEPA: This topic is not covered under NEPA.**

As described in Sections 4.16 and 5.16, *Geology and Soils*, the rock unit underlying the Project site is serpentine. This rock is the metamorphosed remains (altered by heat and pressure) of magnesium-rich igneous rocks (crystallized from molten rock) in the Earth's mantle (a thick layer of nearly molten rock just below Earth's crust). Such rock is not paleontologically sensitive because the heat and pressure within Earth's mantle is more than sufficient to destroy any fossil remains that might have been in the original rock. The soils that overlie the serpentine bedrock are thin and were formed by the weathering of the bedrock. Some alluvium is present in the lower areas of the site; however, the material in the alluvium is formed from the weathering and decomposition products of the underlying bedrock. Fossils would not, therefore, be found in the rock or the soils on the Project site. In the unlikely event that paleontological resources are discovered in the area during

construction activities, potential significant impact on paleontological resources could occur. Implementation of Mitigation Measure M-CP-3a would reduce impacts of the Proposed Project to paleontological resources to ***less than significant with mitigation*** under CEQA because it would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

> **Mitigation Measure M-CP-3a – Discovery of Paleontological Resources.** The project applicant shall retain the services of a qualified paleontological consultant having expertise in California paleontology to design and implement a monitoring and mitigation program. The program shall include a description of when and where construction monitoring would be required; emergency discovery procedures; sampling and data recovery procedures; procedures 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. If potential paleontological resources (fossilized invertebrate, vertebrate, plant, or micro-fossil) are encountered during excavation, work shall cease within 25 feet of the feature, the ERO shall be notified, and the paleontologist shall identify and evaluate the significance of the potential resource, documenting the findings in an advisory memorandum to the ERO. If it is determined that avoidance of effect to a significant paleontological resource is not feasible, the paleontologist shall prepare an excavation plan that may include curation of the paleontological resource in a permanent retrieval paleontological research collections facility such as the University of California Museum of Paleontology or California Academy of Sciences. The San Francisco Environmental Planning division of the Planning Department shall receive two copies of a final paleontological excavation and recovery report.
>
> The paleontologist's work shall be conducted in accordance with this measure and at the direction of the ERO. Plans and reports prepared by the paleontologist shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Paleontological monitoring and/or data recovery programs required by this measure could suspend construction for a maximum of four weeks. At the direction of the ERO, the suspension of construction could be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less-than-significant level potential effects on a significant paleontological resource as previously defined.

Serpentine bedrock forms the core of most of the hills in San Francisco and therefore is not considered a unique geologic feature of the Project site. Further, the APE for the Proposed Project is highly developed and, therefore, any other unique geologic features would have been previously disturbed. As such, impacts from the Proposed Project would be ***less than significant with mitigation*** under CEQA**.**

Impact CP-4	**Effects on Human Remains** **CEQA: The Proposed Project could disturb human remains, including those interred outside of formal cemeteries. (Less than Significant with Mitigation)** **NEPA: The Proposed Project could have an adverse effect on historic-era or prehistoric-era human remains eligible for listing in the NRHP maintained by the U.S. Secretary of the Interior. (Less than Significant with Mitigation)**

The Project site has historically been used for residential housing and was previously disturbed as a result of grading, earth contouring, and infrastructure construction undertaken in the 1940s and 1950s during construction of the original housing projects. Although unlikely, it is possible that the Project area contains undocumented human remains the disturbance of which would constitute a significant impact.

Implementation of Mitigation Measure M-CP-2a, described above, would reduce this significant impact to ***less than significant with mitigation*** under CEQA because it would prevent the accidental disturbance of human remains, including those interred outside formal cemeteries.

Under NEPA, the implementation of Mitigation Measure M-CP-2a would reduce this significant impact to ***less than significant with mitigation*** because it would prevent the accidental disturbance of human remains, and, as a result, the Proposed Project would not have an adverse effect on human remains eligible for listing in the NRHP.

Impact CP-5	**Effects on Consistency with Cultural Resources Management Plans** **CEQA: This topic is not covered under CEQA.** **NEPA: The Proposed Project would not be inconsistent with established management plans and agreements for cultural resources, including the 2007 PA. (Less than Significant with Mitigation)**

Archaeological Resources

As described in Section 4.6, *Cultural and Paleontological Resources*, in accordance with the PA, the APE for archaeological resources was delineated to encompass all areas that would be subject to ground disturbing construction activities. To assess the presence of archaeological resources within the APE an NWIC records search was conducted. According to the NWIC records search the APE contains no recorded archaeological resources. Further, according to the NWIC record search there is a low potential for the presence of unidentified Native American resources in the APE. However, review of historical literature and maps indicated a low possibility of identifying Native American archaeological resources and a moderate to high possibility of identifying historic-period archaeological resources in the APE. Implementation of Mitigation Measure M-CP-2a would ensure that construction of the Proposed Project would not adversely affect undocumented archaeological resources that may exist at the Proposed Project site. Therefore, the Proposed Project would not

conflict with the requirements for evaluating potential archaeological impacts established in the PA and impacts would be ***less than significant with mitigation*** under NEPA**.**

Historic Architectural Resources

As described under *Methodology*, above, the HRE for the Project site consolidated the findings of previous reports to evaluate its eligibility for listing on the NRHP. According to the HRE, neither the Potrero Terrace nor Potrero Annex is eligible for listing in the NRHP. Although the Potrero Terrace development is over 50 years old, the property is not architecturally remarkable or associated with significant people or events. Similarly, the Potrero Annex development is over 50 years old, but due to physical alterations of the original development (buildings and landscaping), the HRE indicates that the Potrero Annex does not retain the integrity necessary for listing in the NRHP. These determinations of ineligibility were officially supported through concurrence letters issued by the SHPO.[15] The PA requires that in addition to the Project site, all buildings within the designated APE be reviewed for NRHP-listing eligibility. As shown in Figure 4.6-2, the APE for the historic architectural resources evaluation extends beyond the Project site boundaries. Review of properties within the APE identified 12 properties over 50 years old and, therefore, potentially eligible for the NRHP. As described above, the Planning Department determined that two properties in the APE are eligible for listing on the NRHP. The Planning Department also determined that the Project itself would not adversely affect these properties, regardless of their status. As noted, the SHPO concurred with the findings of two properties eligible for inclusion in the NRHP as identified above. Therefore, under NEPA there would ***no impact*** on architectural resources in accordance with the City's 2007 PA.

Alternative 1 – Reduced Development Alternative

Impact CP-1	**Effects on Historical Resources** **CEQA: The Reduced Development Alternative would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5, including those resources listed in Article 10 or Article 11 of the *San Francisco Planning Code*. (No Impact)** **NEPA: The Reduced Development Alternative would not have an adverse effect on an historic-era district, site, building, structure, or object listed in, or eligible for listing in, the NRHP maintained by the U.S. Secretary of the Interior. (No Impact)**

The Reduced Development Alternative (Alternative 1) would result in demolition of the Potrero Terrace and Annex buildings, similar to the Proposed Project. As described in the HRER, the Potrero housing complex is not a resource for the purposes of CEQA because it does not appear to be

[15] CIRCA: Historic Property Development, *Historical Resources Evaluation Report* (March 31, 2009). (See Appendix 4.6)

eligible for inclusion in the CRHR as an individual historic resource or as a contributor to a historic district.[16]

Similar to the Proposed Project, Alternative 1 would have ***no impact*** under CEQA because it would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

Under NEPA, Alternative 1 would have ***no impact*** because it would not have an adverse effect on a historic-era district, site, building, or object listed or eligible for listing in the NRHP.

Impact CP-2	**Effects on Archaeological Resources** **CEQA: The Reduced Development Alternative could cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064. (Less than Significant with Mitigation)** **NEPA: The Reduced Development Alternative could have an adverse effect on a prehistoric-era district, site, building, structure, or object listed in, or eligible for listing in, the NRHP maintained by the U.S. Secretary of the Interior (Less than Significant with Mitigation)**

Alternative 1 would result in the same extent of ground disturbance as the Proposed Project. According to the PAR Checklist completed by the San Francisco Planning Department, the Project site has low sensitivity for historical archaeological resources. However, according to the Planning Department archaeologist, there is one area within the Project site that may be sensitive for prehistoric archaeological deposits. Earth cutting activities required for the construction of the existing development on the Project site including roadways, public utilities, and creation of building pads could have resulted in damage or removal to archaeological deposits/features either associated with prehistoric or latter 19th century occupation of the area. In addition, per the PA, Stipulation XI, the City requested that IC at Sonoma State University, Rohnert Park conduct a records search of the APE. On October 24, 2011, the IC responded to the City's request, and recommended that a qualified archaeologist conduct further archival and field study to identify cultural resources. On February 11, 2014, the City requested the SHPO's comments on IC's recommendation.

Mitigation Measure M-CP-2a is required to avoid any potential adverse effect from the Proposed Project on accidentally discovered buried historical resources as defined in CEQA Guidelines Section 15064.5(a)(c). In addition, based on the reasonable potential that archaeological resources may be present within the Project site, Mitigation Measure M-CP-2b shall be undertaken to avoid any significant adverse effect from Alternative 1 on buried or submerged historical resources.

[16] San Francisco Planning Department, Historic Resource Evaluation Response, 1095 Connecticut Street (Potrero Terrace/Annex) Case No. 2010.0515E (July 15, 2011). (See Appendix 4.6)

Mitigation Measure M-CP-2b only applies to the undisclosed area documented by the Planning Department as sensitive with regard to archaeological resources.

Under CEQA, the impact of Alternative 1 on archaeological resources pursuant to Section 15064 would be ***less than significant with mitigation***.

Under NEPA, the impact of Alternative 1 on archaeological resources would be ***less than significant with mitigation*** because it would not cause a substantial adverse effect on a prehistoric-era district, site, building, structure or object listed or eligible for listing in the NRHP.

Impact CP-3	**Effects on Paleontological Resources** **CEQA: The Reduced Development Alternative could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant with Mitigation)** **NEPA: This topic is not covered under NEPA.**

Alternative 1 would result in the same extent of ground disturbance as the Proposed Project. As described in Section 4.16, *Geology and Soils*, the rock unit underlying the Project site is serpentine. Fossils are not expected to be found in the rock or the soils on the Project site. In the unlikely event that paleontological resources are discovered in the area during construction activities, potential significant impact on paleontological resources could occur. Implementation of Mitigation Measure M-CP-3a would reduce impacts of Alternative 1 on paleontological resources to ***less than significant with mitigation*** under CEQA.

Serpentine bedrock forms the core of most of the hills in San Francisco and therefore is not considered a unique geologic feature of the Project site. Further, the APE for the Proposed Project is highly developed and, therefore, any other unique geologic features would have been previously disturbed. As such, impacts from Alternative 1 would be ***less than significant with mitigation*** under CEQA.

Impact CP-4	**Effects on Human Remains** **CEQA: The Reduced Development Alternative could disturb human remains, including those interred outside of formal cemeteries. (Less than Significant with Mitigation)** **NEPA: The Reduced Development Alternative could have an adverse effect on historic-era or prehistoric-era human remains eligible for listing in the NRHP maintained by the U.S. Secretary of the Interior. (Less than Significant with Mitigation)**

Similar to the Proposed Project, although unlikely, it is possible that the Project area contains undocumented human remains the disturbance of which would constitute a significant impact.

However, with the implementation of Mitigation Measure M-CP-2a, the impact of Alternative 1 would be ***less than significant with mitigation*** under CEQA because it would prevent the accidental disturbance of human remains, including those outside formal cemeteries.

Under NEPA, with the implementation of Mitigation Measure M-CP-2a, the impact of Alternative 1 would be ***less than significant with mitigation*** because it would prevent the accidental disturbance of human remains, and, as a result, the Proposed Project would not have an adverse effect on human remains eligible for listing in the NRHP.

Impact CP-5	**Effects on Consistency with Cultural Resources Management Plans** **CEQA: This topic is not covered under CEQA.** **NEPA: The Reduced Development Alternative would not result in substantial adverse change in the significance of historic architectural resources or archaeological resources in accordance with the City's Programmatic Agreement. (Less than Significant with Mitigation)**

Alternative 1 would affect the same footprint as the Proposed Project. According to the NWIC records search, the APE contains no recorded archaeological resources. Further, according to the NWIC record search results there is a low potential for the presence of unidentified Native American resources in the APE. Review of historical literature and maps indicated a moderate to high potential for the presence of unrecorded historic-period archaeological resources in the APE. As noted, the SHPO concurred with the findings of two properties eligible for inclusion in the NRHP as identified above. Implementation of Mitigation Measure M-CP-2a would ensure that construction of Alternative 1 would not adversely affect undocumented archaeological resources that may exist at the Project site. Therefore, under NEPA, the impact of Alternative 1 would be ***less than significant with mitigation*** because it would not conflict with the requirements for evaluating potential impacts on archaeological resources as established in the 2007 PA.

The PA requires that in addition to the Project site, all buildings within the designated APE be reviewed for NRHP-listing eligibility. As shown in Figure 4.6-2, the APE for the historic architectural resources evaluation extends beyond the Project site boundaries. Review of properties within the APE identified 12 properties over 50 years old and, therefore, potentially eligible for the NRHP. As described above, the Planning Department determined that two properties in the APE are eligible for listing on the NRHP. The Planning Department also determined that the Project itself (which also applies to development of Alternative 1) would not adversely affect these properties, regardless of their status. Therefore, under NEPA, Alternative 1 would result in ***no impact*** because it would not conflict with the requirements for evaluating architectural resources as established under the 2007 PA.

Alternative 2 – Housing Replacement Alternative

Impact CP-1	**Effects on Historical Resources** **CEQA: The Housing Replacement Alternative would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5, including those resources listed in Article 10 or Article 11 of the *San Francisco Planning Code*. (No Impact)** **NEPA: The Housing Replacement Alternative would not have an adverse effect on an historic-era district, site, building, structure, or object listed in, or eligible for listing in, the NRHP maintained by the U.S. Secretary of the Interior. (No Impact)**

The Housing Replacement Alternative (Alternative 2) would result in demolition of the Potrero Terrace and Annex buildings, similar to the Proposed Project. As described in the HRER, the Potrero housing complex is not a resource for the purposes of CEQA because it does not appear to be eligible for inclusion in the CRHR as an individual historic resource or as a contributor to a historic district.[17]

Similar to the Proposed Project, under CEQA, Alternative 2 would have ***no impact*** on historic architectural resources because it would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

Under NEPA, Alternative 2 would have ***no impact*** because it would not cause a substantial adverse effect on an historic-era item listed or eligible for listing in the NRHP.

Impact CP-2	**Effects on Archaeological Resources** **CEQA: The Housing Replacement Alternative could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064. (Less than Significant with Mitigation)** **NEPA: The Housing Replacement Alternative could have an adverse effect on a prehistoric-era district, site, building, structure, or object listed in, or eligible for listing in, the NRHP maintained by the U.S. Secretary of the Interior (Less than Significant with Mitigation)**

Alternative 2 would result in less ground disturbance than the Proposed Project, but the archaeological APE would remain the same. According to the PAR Checklist completed by the San Francisco Planning Department, the Project site has low sensitivity for historical archaeological resources. However, according to the Planning Department, there is one known sensitive area on the Project site. Earthcutting activities required for the construction of the existing development on the Project site including roadways, public utilities, and creation of building pads could have resulted in

[17] San Francisco Planning Department, Historic Resource Evaluation Response, 1095 Connecticut Street (Potrero Terrace/Annex) Case No. 2010.0515E (July 15, 2011). (See Appendix 3.7)

damage to or removal of archaeological deposits/features associated with either prehistoric or later nineteenth-century occupation of the area. In addition, per the PA Stipulation XI, the City requested that the CHRIS at Sonoma State University, Rohnert Park conduct a records search of the APE. On October 24, 2011, the CHRIS responded to the City's request and recommended that a qualified archaeologist conduct further archival and field study to identify cultural resources. On February 11, 2014, the City requested the SHPO's comments on CHRIS's recommendation.

Mitigation Measure M-CP-2a is required to avoid any potential adverse effect from the Proposed Project on accidentally discovered buried historical resources as defined in CEQA Guidelines Section 15064.5(a)(c). In addition, based on the potential that archaeological resources may be present within the Project site, Mitigation Measure M-CP-2b shall be undertaken to avoid any significant adverse effect from Alternative 2 on buried or submerged historical resources. Mitigation Measure M-CP-2b only applies to the undisclosed area documented by the Planning Department as sensitive with regard to archaeological resources.

Under CEQA, the impact of Alternative 2 on archaeological resources pursuant to Section 15064 would be ***less than significant with mitigation***.

Under NEPA, the impact of Alternative 2 on archaeological resources would be ***less than significant with mitigation*** because it would not cause a substantial adverse effect on a prehistoric era district, site, building, structure or object listed or eligible for listing in the NRHP.

Impact CP-3	**Effects on Paleontological Resources** **CEQA: The Housing Replacement Alternative could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant with Mitigation)** **NEPA: This topic is not covered under NEPA.**

Alternative 2 would result in less ground disturbance than the Proposed Project, but the majority of the site would still be affected. As described in Section 4.16, *Geology and Soils*, the rock unit underlying the Project site is serpentine. Fossils are not expected to be found in the rock or the soils on the Project site. In the unlikely event that paleontological resources are discovered in the area during construction activities, potential significant impact on paleontological resources could occur. Implementation of Mitigation Measure M-CP-3a would reduce impacts of Alternative 2 to paleontological resources to ***less than significant with mitigation*** under CEQA because it would not directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature.

Serpentine bedrock forms the core of most of the hills in San Francisco and therefore is not considered a unique geologic feature of the Project site. Further, the APE for Alternative 2 is highly developed and, therefore, any other unique geologic features would have been previously

disturbed. As such, impacts from Alternative 2 would be ***less-than-significant with mitigation*** under CEQA.

Impact CP-4	**Effects on Human Remains** **CEQA: The Housing Replacement Alternative could disturb human remains, including those interred outside of formal cemeteries. (Less than Significant with Mitigation)** **NEPA: The Housing Replacement Alternative could have an adverse effect on historic-era or prehistoric-era human remains eligible for listing in the NRHP maintained by the U.S. Secretary of the Interior. (Less than Significant with Mitigation)**

Similar to the Proposed Project, although unlikely, it is possible that the Project area contains undocumented human remains the disturbance of which would constitute a significant impact.

However, with the implementation of Mitigation Measure M-CP-2a, the impact of Alternative 2 would be ***less than significant with mitigation*** because it would prevent the accidental disturbance of human remains, including those interred outside formal cemeteries.

Implementation of Mitigation Measure M-CP-2a, described above, would reduce this significant impact to ***less than significant with mitigation*** under CEQA because it would prevent the accidental disturbance of human remains, including those interred outside formal cemeteries.

Under NEPA, with the implementation of Mitigation Measure M-CP-2a, the impact of Alternative 2 would be ***less than significant with mitigation*** because it would prevent the accidental disturbance of human remains, and, as a result, the Proposed Project would not have an adverse effect on human remains eligible for listing in the NRHP.

Impact CP-5	**Effects on Consistency with Cultural Resources Management Plans** **CEQA: This topic is not covered under CEQA.** **NEPA: The Housing Replacement Alternative would not result in substantial adverse change in the significance of historic architectural resources or archaeological resources in accordance with the City's Programmatic Agreement. (Less than Significant with Mitigation)**

Alternative 2 would affect the same footprint as existing conditions. Nevertheless, construction of this alternative could potentially affect previously undiscovered archaeological resources. According to the NWIC records search, the APE contains no recorded archaeological resources, and there is a low potential for the presence of unidentified Native American resources in the APE. However, review of historical literature and maps indicated a moderate to high potential for the presence of unrecorded historic-period archaeological resources in the APE. As noted above, the SHPO concurred with the findings of two properties eligible for inclusion in the NRHP.

Implementation of Mitigation Measure M-CP-2a would ensure that construction of Alternative 2 would not adversely affect undocumented archaeological resources that may exist at the Project site. Therefore, under NEPA, the impact of Alternative 2 would be ***less than significant with mitigation*** because it would not conflict with the requirements for evaluating potential impacts on archaeological resources as established in the City's 2007 PA.

The PA requires that in addition to the Project site, all buildings within the designated APE be reviewed for NRHP-listing eligibility. As shown in Figure 4.6-2, the APE for the historic architectural resources evaluation extends beyond the Project site boundaries. Review of properties within the APE identified 12 properties over 50 years old and, therefore, potentially eligible for the NRHP. As described above, the Planning Department determined that two properties in the APE are eligible for listing on the NRHP. The Planning Department also determined that the Proposed Project and Alternative 2 would not adversely affect these properties, regardless of their status. Therefore, under NEPA, Alternative 2 would result in ***no impact*** because it would not conflict with the requirements for evaluating architectural resources as established under the PA.

Alternative 3 – No Project Alternative

Under the No Project Alternative, no construction or change in use at the Project site would take place. Therefore, the No Project Alternative would not affect historic architectural resources and would not have the potential to disturb sensitive archaeological resources, paleontological resources, unique geologic features, or human remains.

For the purposes of NEPA and CEQA, the No Project Alternative would result in ***no impact*** on cultural resources.

Cumulative Impacts

The context for considering cumulative impacts of cultural resource impacts is the Eastern Neighborhoods project area as discussed in Section 5.1, *Introduction to the Analysis*.

Impact C-CP-1	**Cumulative Effects on Historic Architectural Resources** **CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse cumulative impact related to historic architectural resources. (Less than Significant)** **NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse cumulative impact on historic architectural resources. (No Impact)**

The EN EIR identified a significant and unavoidable cumulative impact to historic resources that could result from development under the EN Plan. This impact would primarily result from the demolition of historic resources in the EN Plan area.

With the exception of the No Project Alternative, implementation of the Proposed Project or alternatives would result in demolition of the existing residential buildings and associated facilities on the Project site. However, as described above in Impact CP-1 and Impact CP-5, the Potrero housing complex (Potrero Annex and Potrero Terrace) is not a historic resource for the purposes of CEQA because it is not eligible for inclusion in the CRHR.

Furthermore, the Potrero housing complex is not a historic resource for the purposes of NEPA because it was determined to be ineligible for listing in the NRHP. Therefore, when considered individually, implementation of the Proposed Project and its alternatives would not adversely affect a historic architectural resource.

Under CEQA, the Proposed Project and its alternatives would not contribute to the cumulative historic architectural resource impacts associated with the projects listed in Section 5.1; accordingly, the Proposed Project would result in ***less-than-significant*** cumulative impacts.

In the context of NEPA, the Proposed Project and its alternatives would result in ***no impact*** because it would not contribute to cumulative impacts on historical architectural resources.

Under both CEQA and NEPA, the incremental contribution of Proposed Project and its alternatives to these cumulative effects would not be cumulatively considerable.

Impact C-CP-2	**Cumulative Effects on Archaeological Resources** **CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to archaeological resources. (Less than Significant with Mitigation)** **NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to archaeological resources. (Less than Significant with Mitigation)**

The EN EIR determined that buildout could result in significant impacts on undiscovered archeological resources and identified three mitigation measures that would reduce these potential impacts to a less-than-significant level. The San Francisco Planning Department also has designed standard procedures for the mitigation of both known archaeological resources and accidental discoveries. Consequently, implementation of the cumulative projects would not contribute to a significant adverse cumulative impact on archaeological resources.

Similarly, under both CEQA and NEPA, with implementation of Mitigation Measures M-CP-2a and M-CP-2b, the cumulative impact of the Proposed Project and its alternatives on archaeological resources that are unique and nonrenewable members of finite classes would be ***less than significant with mitigation***, and the Proposed Project and its alternatives' incremental contribution to these cumulative effects would not be cumulatively considerable, as they would not contribute to a loss of valuable resources.

Impact C-CP-3	**Cumulative Effects on Paleontological Resources** **CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to paleontological resources. (Less than Significant with Mitigation)** **NEPA: This is not a topic covered under NEPA.**

Several sections of the California State PRC protect paleontological resources. Section 5097.5 of the PRC prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted permission. Through compliance with the PRC, overall cumulative impacts are considered less than significant. As described in Impact CP-3, above, the Proposed Project would not result in an adverse impact on paleontological resources. Further, adherence to Mitigation Measure M-CP-3a would ensure that in the event that paleontological resources are discovered during construction of the Proposed Project, all necessary steps would be taken to limit impacts on such resources. Therefore, the Proposed Project would not make a significant cumulative

contribution to potential impacts on paleontological resources. The Proposed Project and its alternatives and all of the cumulative projects listed in Section 5.1 have been or would be required to adhere to State laws concerning the protection and appropriate treatment of paleontological resources. As such, under CEQA, the contribution of the Proposed Project and its alternatives to cumulative effects on paleontological resources would be ***less than significant with mitigation.*** The Proposed Project and its alternatives' incremental contribution to these cumulative effects would not be cumulatively considerable.

Impact C-CP-4	**Cumulative Effects on Human Remains** **CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to human remains. (Less than Significant with Mitigation)** **NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to human remains. (Less than Significant with Mitigation)**

Similar to archaeological resources, CEQA Guidelines Section 15064.5 requires that development projects with the potential to affect human remains implement procedures to ensure the appropriate treatment of such remains. By implementing such procedures, the above listed cumulative projects would not contribute to a significant adverse cumulative impact on human remains.

Under CEQA, with implementation of M-CP-2a, the cumulative impact of the Proposed Project and its alternatives on human remains would be ***less than significant with mitigation.*** The incremental contribution of the Proposed Project and its alternatives to impacts on human remains would not be cumulatively considerable, as it would not contribute to a loss of significant resources.

In the context of NEPA, with the implementation of M-CP-2a, the Proposed Project and its alternatives' cumulative impact on human remains would be ***less than significant with mitigation.***

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5.7 TRANSPORTATION AND CIRCULATION

5.7.1 Regulatory Framework

State

California Department of Transportation

The California Department of Transportation (Caltrans) is the responsible agency for management of transportation infrastructure and transportation improvements in California. Caltrans manages the state highway system, and works with federal and local transportation agencies to coordinate funding highway and transit improvements.

Senate Bill 743 and Public Resources Code 21099

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014. Among other provisions, SB 743 added Section 21099 to the Public Resources Code and eliminated the analysis of parking impacts for certain urban infill projects under CEQA. The Proposed Project meets the definition of a mixed-use residential project on an infill site located within a transit priority area as specified by Section 21099. Accordingly, from a CEQA perspective, parking is discussed for informational purposes. Regardless, since the Proposed Project and the Project alternatives are subject to NEPA, parking impacts are considered in this analysis.

Local

San Francisco Municipal Transportation Agency (SFMTA)

The San Francisco Municipal Transportation Agency (SFMTA) is the transportation agency of the City and County of San Francisco. The SFMTA is responsible for management and operation of transit systems, including the Municipal Railway (Muni) rail system and all bus and related transit lines. The SFMTA also establishes service standards for these systems and is responsible for the operations and maintenance budgets for all transit and related roadway operations. In addition, the SFMTA assists other City and County agencies, as well as Caltrans, with transit forecasting and planning needs.

San Francisco Planning Department

The San Francisco Planning Department has established criteria for intersection and freeway segment and ramps operational LOS in its document *Transportation Impact Analysis Guidelines for*

Environmental Review[1] (referred to herein as "SF Guidelines"). Those criteria are identified in "Significance Criteria" below.

San Francisco Planning Code Requirements and Standards

Parking. For most zoning districts that were established prior to 2005, including the RM-2 District, the San Francisco Planning Code (Section 151) (*Planning Code*) requires one parking space for each dwelling unit, excluding affordable housing or senior housing units, and one parking space for every 500 square feet (sf) of occupied floor area for retail spaces ranging between 5,000 and 20,000 sf in area. A community/day care center must provide one space of off-street parking for every 25 accommodated children, and music/dance/arts/gymnasium facilities must provide one space for every 2,000 sf of occupied floor area in excess of 7,500 sf. *Planning Code* Section 155(i) and requires one handicap-accessible parking space for every 25 off-street parking spaces and Section 166(d) requires two car-share parking spaces for the first 200 dwelling units of a residential development and an additional car-share parking space for every subsequent 200 dwelling units. It should be noted that for most zoning districts established in 2005 and after, including zoning districts that were part of the Eastern Neighborhoods, parking requirements were eliminated and replaced with parking caps.

Driveway Standards. All driveways leading to parking garages must be designed in accordance with *Planning Code* Sections 145.1 and 155, standards applicable to Residential Mixed (RM) zoning districts, and the Planning Department's Guidelines for Adding Garages and Curb Cuts.

Bicycle Facilities. *Planning Code* (Section 155.2) requires one Class 1 bicycle parking space for every dwelling unit. For buildings containing more than 100 dwelling units, 100 Class 1 spaces plus one Class 1 space for every four dwelling units over 100, excluding senior citizen dwelling units (see Table 155.2.11). For dwelling units dedicated to senior citizens or persons with physical disabilities, and/or residential care facilities, one Class I space is required for every 10 units or beds, whichever is applicable (see Table 155.2.13).

Planning Code Section 155.2 requires retail uses including; grocery stores, personal services, restaurants, limited restaurants, and bars to provide one Class 1 space for every 7,500 square feet of occupied floor area (see Table 155.2.15 and 155.2.16). For retail sales facilities, including; grocery stores, personal services, restaurants, limited restaurants, and bars where the occupied floor area is between 25,000 and 50,000 sf in size, one shower and six clothes lockers are required (*Planning Code* Section 155.4(c)).Where such uses exceed 50,000 sf, two showers and twelve lockers are required (*Planning Code* Section 155.4(c)).

[1] City and County of San Francisco, *Transportation Impact Analysis Guidelines for Environmental Review* (October 2002).

For other uses such as offices, medical clinics, and community centers, *Planning Code* Section 155.4(c) requires one shower and six lockers for areas between 10,000 and 20,000 sf; two showers and 12 lockers for areas between 20,000 and 50,000 sf; and four showers and 24 lockers for areas greater than 50,000 sf.

The residential development portion of the project would be exempt from the shower and locker facilities requirement.

Freight and Loading Facilities. *Planning Code* Section 152 requires one off-street freight loading space for retail stores ranging from 10,001 to 60,000 sf in size.

Residential buildings and other facilities (under which the proposed Community Center would be categorized) are expected to provide loading spaces if they exceed 100,000 sf in gross floor area (i.e., one space from 100,001 to 200,000 sf, two spaces from 200,001 sf to 500,000 sf, etc.).

5.7.2 Travel Demand Analysis

Travel demand refers to the new vehicle, transit, pedestrian and other trips that would be generated by the Proposed Project and the project alternatives. This analysis details an estimate of the trips that would be generated by the Proposed Project and the Reduced Development Alternative (referred to, interchangeably, as Alternative 1), while accounting for trip credits due to the removal of the existing housing units from the Project site. In addition, the Proposed Project's parking demand, number of delivery/service vehicle trips, and loading space demand are also evaluated. As mentioned above, the Proposed Project consists of 1,600 affordable and market rate housing units, 100 senior housing units, 15,000 sf of neighborhood retail shops, and a 35,000-square foot Community Center. The Reduced Development Alternative would consist of approximately 1,200 affordable and market rate housing units, 80 senior housing units, 15,000 sf of neighborhood retail shops, and a 25,000 square foot Community Center. The Housing Replacement Alternative (Alternative 2) would only reconstruct the existing land uses available at the Project site and would not result in any net new trips; therefore, travel demand estimation for this alternative is not discussed.

The travel demand, parking demand, and loading demand estimates are based on information contained in the 2002 SF Guidelines; Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 8th Edition; ITE *Parking Generation Manual*, 4th Edition; and square footage and housing unit information provided by the project applicant. Appendix 4.7A includes the travel demand calculations and the parking and loading demand calculations for the Proposed Project and the Reduced Development Alternative.

Trip Generation. The person-trip generation for the Proposed Project and the Reduced Development Alternative includes trips made by residents, visitors, and employees, and is based upon daily and PM peak hour trip generation rates obtained from SF Guidelines and the ITE Trip

Generation Manual. Based on SF Guidelines, residential trip generation rates were determined to be 7.5 daily person trips per unit for one-bedroom or studio residences, 10 daily person trips per unit for two-bedroom or more housing units, 5 daily person trips per unit for senior housing residences, and 150 daily person trips per 1,000 sf of retail development. Pursuant to the SF Guidelines, residential trip generation rates were assumed to be the same for both market rate and affordable housing units. For the proposed Community Center, because a similar land use is not available in the SF Guidelines, trip generation rates of 1.45 PM peak hour person trips per 1,000 sf and 22.8 daily person trips per 1,000 sf were obtained from the ITE Trip Generation Manual, 8th Edition, Land Use #495. Parks proposed within the Project site would not generate new trips because they would mainly serve as open space for surrounding land uses. The Proposed Project is primarily a residential development, with small portions of retail and community center developments, which would result in negligible internal trips. Therefore, to be conservative, no internal trip capture was assumed as part of this analysis.

The existing Project site does not have specific driveways for vehicles to access each block; therefore, traffic counts to estimate the trip credits for the existing housing units were not collected. Instead, trip credits for the existing housing units were estimated using the trip generation rates provided in SF Guidelines. To estimate trip credits of existing housing units, all housing units are assumed to be at full occupancy.[2]

The weekday daily and PM peak hour trip generation rates used for the Proposed Project and Reduced Development Alternative are shown in Table 5.7-1. The weekday person-trip generation of the Proposed Project and The Reduced Development Alternative are shown in Table 5.7-2. The Proposed Project would generate approximately 12,243 net person-trips (inbound and outbound) on a weekday daily basis and 1,787 net person-trips during the PM peak hour (from 4:00 p.m. to 6:00 p.m.). The Reduced Development Alternative would generate approximately 8,290 net person-trips (inbound and outbound) on a weekday daily basis and 1,139 net person-trips during the PM peak hour (from 4:00 p.m. to 6:00 p.m.).

[2] According to the Project Sponsor, about five (5) percent of the existing housing units (about 30 units) might be vacant, which would result in additional trips of about 53 person trips and 28 vehicle trips during the PM peak hour. Of these additional trips, a maximum of 14 vehicle trips are anticipated to be distributed to major study intersections (Cesar Chavez Street/Connecticut Street, 25th Street/Connecticut Street, 25th Street/Dakota Street/Texas Street, and Cesar Chavez Street/US 101 Off-Ramp) and a maximum of 5 trips to other study intersections. These additional trips not included in the LOS analysis are not expected to impact LOS values of the study intersections. Note: subsequent to the publication of the Transportation Impact Analysis, estimates of vacancy rates are closer to 15 percent.

Table 5.7-1 Weekday Daily and PM Peak Hour Trip Generation Rates—Proposed Project and Reduced Development Alternative

Land Use	*PM Peak Hour Trip Rate*	*PM Peak Hour Percent of Daily Rate*	*Daily Trip Rate*
Residential – 1 Bedroom/Studio[a]	1.30 person-trips per unit	17.3	7.5 person-trips per unit
Residential – 2 Bedrooms or more[a]	1.73 person-trips per unit	17.3	10.0 person-trips per unit
Residential – Senior Housing[a]	0.30 person-trips per unit	6.0	5.0 person-trips per unit
General Retail[a]	13.5 person-trips per 1,000 sf	9.0	150 person-trips per 1,000 sf
Community Center[b]	1.45 person-trips per 1,000 sf[c]	—	22.8 person-trips per 1,000 sf[c]

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

a. Source: SF Guidelines (October 2002).

b. Source: ITE, *Trip Generation Manual*, 8th Edition.

c. Since the Community Center would primarily serve the Potrero HOPE, development, these values are assumed to be person-trip rates to develop a reasonable number of vehicle trips accessing the Community Center. This approach is consistent with the Sunnydale-Velasco Housing Development Traffic Study.

Table 5.7-2 Weekday Person-Trip Generation—Proposed Project and Reduced Development Alternative

Land Use	*Proposed Project*			*Reduced Development Alternative*		
	Size	*Person-Trips*		*Size*	*Person-Trips*	
		Daily	*PM Peak Hour*		*Daily*	*PM Peak Hour*
Proposed Development						
Residential						
1 Bedroom/Studio	496 units	3,720	644	346 units	2,595	449
2+ Bedroom	1,104 units	11,060	1,913	854 units	8,540	1,477
Senior Housing	100 units	500	30	80 units	400	24
Retail	15,000 sf	2,250	203	15,000 sf	2,250	203
Community Center	35,000 sf	801	51	25,000 sf	572	36
Total	—	*18,311*	*2,837*	—	*14,357*	*2,189*
Trip Credits for Existing Development						
Residential						
1 Bedroom/Studio	-53 units	-398	-69	-53 units	-398	-69
2+ Bedroom	-567 units	-5,670	-981	-567 units	-5,670	-981
Net New Trips	—	*12,243*	*1,787*	—	*8,290*	*1,139*

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

Mode Split. The project-generated net person-trips were assigned to travel modes in order to determine the number of auto, transit, walk, and other trips; other trips include trips made by bicycle, motorcycle, and additional modes. Mode split information for the Proposed Project and Reduced Development Alternative was obtained from the SF Guidelines for work and non-work related trips to and from Superdistrict 3 and 2000 U.S. Census data for residential land uses (Census Tract 227.03). For the proposed Community Center, mode split of non-work related trips was

developed using the updated trip distribution, which in-turn was developed assuming that all visitor trips would be from within San Francisco. According to the SF Guidelines, 19 percent of the visitor trips to a community center would be from outside of San Francisco. The Community Center proposed as part of this redevelopment project is anticipated to primarily serve the neighborhood and is not expected to generate any visitor trips to/from outside of San Francisco. Therefore, instead of using the SF Guidelines to identify distribution of visitor trips to/from the Community Center, visitor trips were distributed based on the assumption that all trips would originate/terminate within San Francisco, with the majority originating/terminating within Superdistrict 3, where the Project site is located. As such, it is assumed that 85 percent of visitor trips to the Community Center would be from/to Superdistrict 3 and five percent of trips from/to each of the remaining superdistricts. The mode split percentages used for the analysis are shown in Table 5.7-3.

Table 5.7-3 Mode Split of Project-Related Trips

Mode	*Residential*		*General Retail*		*Community Center*	
	Work	*Non-Work*	*Work*	*Non-Work*	*Work*	*Non-Work*[b]
Auto	59.7%	59.7%	71.1%	64.1%	71.1%	45.7%
Transit	20.2%	20.2%	20.2%	11.7%	20.2%	20.8%
Walk	4.9%	4.9%	5.8%	22.4%	5.8%	23.7%
Other[a]	15.3%	15.3%	2.9%	1.8%	2.9%	9.8%
Total	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

a. Other mode includes bicycles, motorcycles, taxis, and additional modes.

b. Mode split was not obtained from SF Guidelines, but developed based on the updated trip distribution assumed for community center's visitor trips.

These mode split percentages were applied to the trips generated by the Proposed Project and the Reduced Development Alternative to identify trips by mode, while the average vehicle occupancy rate calculated from the 2000 U.S. Census Data for residential land use and that was provided in the SF Guidelines for other land uses was applied to determine the number of vehicle-trips generated by the Proposed Project and the Reduced Development Alternative.

The trips by mode for the net project-related trips during the weekday PM peak hour for the Proposed Project are presented in Table 5.7-4. Approximately 60 percent (1,069 trips) of the person-trips generated by the Proposed Project are assumed to be auto-based, 19 percent (344 trips) transit-based, and 21 percent (373 trips) would occur by walk/other modes. In total, the Proposed Project would result in 891 new vehicle trips during the weekday PM peak hour, of which 575 would be inbound and 316 would be outbound.

For the Reduced Development Alternative, approximately 60 percent (685 trips) of the person-trips are assumed to be auto-based, 19 percent (214 trips) would be transit-based, and the remaining 21 percent (241 trips) would occur by walk/other modes. In total, the Reduced Development

Alternative would result in 553 new vehicle trips during the weekday PM peak hour, of which 351 would be inbound and 202 would be outbound.

For the AM peak hour analysis, it was assumed that the number of trips generated by the project during the AM peak hour would remain the same as under the PM peak hour, but opposite in direction. Therefore, during the AM peak hour, the Proposed Project is estimated to generate 891 trips (316 inbound and 575 outbound), the Reduced Development Alternative is estimated to generate 553 (202 inbound and 351 outbound) new vehicle trips.

Table 5.7-4 Trip Generation by Mode—Weekday PM Peak Hour—Proposed Project

Land Use	*Person-Trips*					*Vehicle Trips*
	Auto	*Transit*	*Walk*	*Other*[a]	*Total*	
Proposed Project						
Residential	1,524	515	124	390	2,553	1,348
Retail	130	24	44	4	203	70
Community Center	24	11	12	5	51	11
Trip Credits	-626	-212	-51	-160	-1,050	-554
Total	*1,069*	*344*	*130*	*243*	*1,787*	*891*
Reduced Development Alternative						
Residential	1,149	389	94	294	1,926	1,017
Retail	130	24	44	4	203	70
Community Center	17	8	8	3	36	8
Trip Credits	-626	-212	-51	-160	-1,050	-554
Total	*685*	*214*	*96*	*145*	*1,139*	*553*

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).
a. Other mode includes bicycles, motorcycles, taxis, and additional modes.

Trip Distribution/Assignment. Similar to mode split estimation, trip distribution for the Proposed Project and Alternative 1 was based on the information obtained from the SF Guidelines for work and visitor trips to retail land uses located in Superdistrict 3, in addition to 1990 U.S. Census data for residential land uses (Census Tract 227). Trip 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 outside the region. As mentioned earlier, trip distribution of community center's visitor trips was not obtained from the SF Guidelines, but was developed assuming that those trips would be to/from within San Francisco, i.e., 85 percent of visitor trips to the Community Center would be from/to Superdistrict 3 and five percent of trips from each of the remaining superdistricts. Trip distribution patterns for the project-generated traffic are shown in Table 5.7-5.

As indicated in Table 5.7-5, the highest percentage of the trips generated by the Proposed Project and the Reduced Development Alternative would come to and from areas within San Francisco. These distribution patterns were used as the basis for assigning project-related vehicle-trips to nearby local streets in the study area, and transit-trips to local and regional transit operators. The trip distribution for project-related inbound and outbound trips during the PM peak hour is shown in Figure 5.7-1 and Figure 5.7-2. Project trip distribution would be the same for the Proposed Project and the Reduced Development Alternative.

Table 5.7-5 Trip Distribution Patterns

Place of Trip Origin	*Residential*		*General Retail*		*Community Center*	
	Work	*Visitor*	*Work*	*Visitor*	*Work*	*Visitor*[a]
San Francisco						
Superdistrict 1	47.4%	47.4%	8.3%	6%	8.3%	5%
Superdistrict 2	10.5%	10.5%	10.6%	9%	10.6%	5%
Superdistrict 3	10.5%	10.5%	23.9%	61%	23.9%	85%
Superdistrict 4	10.5%	10.5%	7.9%	5%	7.9%	5%
East Bay	7.8%	7.8%	14.3%	3%	14.3%	0%
North Bay	1.7%	1.7%	5.6%	2%	5.6%	0%
South Bay	10.9%	10.9%	26.9%	9%	26.9%	0%
Out of Region	0.7%	0.7%	2.5%	5%	2.5%	0%
Total	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).
a. Distribution pattern was not obtained from SF Guidelines.

For the AM peak hour analysis, it was assumed that the project trip distribution during the AM peak hour would remain the same as under the PM peak hour, but opposite in direction, i.e., the AM peak hour's inbound trip distribution would be the same as the PM peak hour's outbound trip distribution and the AM peak hour's outbound trip distribution would be the same as the PM peak hour's inbound trip distribution.

The distribution of project-related PM peak hour trips to study intersections is summarized in Table 5.7-6.

Loading

The Proposed Project would generate approximately 67 delivery/service vehicle-trips per day, which would result in a demand of three loading spaces during the average hour and four spaces during the peak hour of loading demand. By comparison, the Reduced Development Alternative would generate a total of approximately 41 loading trips, and have a demand for two loading spaces during both the average and peak hours. The majority of anticipated loading trips would be associated with residential land uses spread throughout the Project site.

SOURCE: Potrero HOPE Transportation Study, June 2012.

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FIGURE 5.7-1: PROJECT TRIP DISTRIBUTION—INBOUND (PM PEAK HOUR)

SOURCE: Potrero HOPE Transportation Study, June 2012.

FIGURE 5.7-2: PROJECT TRIP DISTRIBUTION—OUTBOUND (PM PEAK HOUR)

Table 5.7-6 Project Trip Distribution to Study Intersections—PM Peak Hour

#	*Study Intersection*	*Traffic Control*	*Distribution of Project-Related Trips*	
			Inbound Trips	*Outbound Trips*
Signalized				
1	Cesar Chavez St/Connecticut St	Signal	47%	25%
2	Cesar Chavez St/Pennsylvania Ave/NB I-280 Off-Ramp	Signal	13%	3%
11	Potrero Ave/23rd St	Signal	11%	11%
Unsignalized				
3	Pennsylvania Ave/SB I-280 Off-Ramp	AWSC	27%	0%
4	25th St/Indiana St/NB I-280 On-Ramp	AWSC	2%	28%
5	25th St/Connecticut St	AWSC	38%	43%
6	25th St/Dakota St/Texas St	TWSC	43%	57%
7	23rd St/Dakota St	OWSC	8%	27%
8	23rd St/Wisconsin St	AWSC	6%	6%
9	20th St/Arkansas St	AWSC	3%	4%
10	22nd St/Missouri St	OWSC	5%	5%
12	Cesar Chavez St/Vermont St	TWSC	18%	14%
13	Cesar Chavez St/US 101 Off-Ramp	OWYC	42%	24%

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).
Signal = traffic signal; OWSC = one-way stop-controlled; TWSC = two-way stop-controlled; AWSC = all-way stop-controlled; OWYC = one-way yield-controlled

Loading demand consists of the number of delivery and service vehicle-trips generated by the project, plus the number of loading spaces that would be required to accommodate the demand. The number of daily delivery/service vehicle trips is estimated based on the size of each land use and a truck trip generation rate (specific to each land use). The number of loading spaces necessary to accommodate this demand is based on the anticipated hours of operation, turnover of loading spaces, and an hourly distribution of trips. The loading demand information and rates used in the analysis were obtained from the SF Guidelines for the proposed retail land use. For the proposed Community Center, the loading rate for an institutional use from SF Guidelines was used. The daily delivery/service vehicle trips and loading space demand for the Proposed Project and Reduced Development Alternative are shown in Table 5.7-7. Because land uses would not change under the Housing Replacement Alternative, no new loading demand would occur. Table 5.7-7 Delivery/Service Vehicle Trips and Loading Space Demand presents the vehicle trips for the Proposed Project and Reduced Development Alternative.

Table 5.7-7 Delivery/Service Vehicle Trips and Loading Space Demand—Proposed Project and Reduced Development Alternative

Project/Land Use	*Delivery/Service Vehicle Trips*	*Loading Space Demand*	
		Average Hour	*Peak Hour*
Proposed Project			
Residential	60.0	2.8	3.5
Retail	3.3	0.2	0.2
Community Center	3.5	0.2	0.2
Total	*66.8*	*3.2*	*3.9*
Reduced Development Alternative			
Residential	34.9	1.6	2.0
Retail	3.3	0.2	0.2
Community Center	2.5	0.1	0.1
Total	*40.7*	*1.9*	*2.3*

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

The Proposed Project would generate approximately 67 delivery/service vehicle-trips per day, which would result in a demand of three loading spaces during the average hour and four spaces during the peak hour of loading demand. Comparatively, Reduced Development Alternative would generate a total of approximately 41 loading trips and have a demand for two loading spaces during both the average and peak hours. The majority of anticipated loading trips would occur due to the location of residential land uses spread throughout the Project site.

Parking Demand

As noted above, the Proposed Project and alternatives are subject to SB 743 and Public Resources Code Section 21099, which amended CEQA regarding the analysis of parking impacts for certain urban infill projects in transit priority areas. However, since the Proposed Project is also subject to NEPA, parking impacts are considered in this analysis.

Parking demand consists of both long-term demand (residents, and retail and Community Center employees), and short-term demand (typically retail and Community Center visitors and services). The short- and long-term parking demands were calculated following the methodology recommended by the SF Guidelines. Demand was calculated for the weekday evening period.

For residential land uses, the parking demand was derived by determining both the mix of one bedroom/studio and two + bedroom housing units, along with the corresponding number of expected affordable housing and market rate housing units within the project. The unit mixes are discussed in Chapter 2, *Project Alternatives and Project Description.*

Long-term parking demand for retail facilities was determined by estimating the number of anticipated employees and applying the percentage of people who drive as well as average vehicle

occupancy from the trip generation calculations. Long-term parking demand for the Community Center was estimated using the total daily work-related vehicle trips. The short-term parking for both the retail and community center land uses was estimated based on the total daily visitor trips and an average turnover rate from the SF Guidelines of 5.5 vehicles per space.

Although the retail uses and Community Center may not have their peak parking demand during the weekday PM peak period, the overall project would have its peak parking demand during the weekday PM peak period. This is because residential land uses, which are the major contributor of this project's parking demand, have their peak parking demand during the weekday PM peak period. Therefore, the project-generated parking demand was determined for the weekday PM peak period. Parking demand assumptions for the Proposed Project and Reduced Development Alternative are shown in Table 5.7-8. The Housing Replacement Alternative would not result in any new parking demand.

Table 5.7-8 Parking Demand—Weekday Evening Peak Period—Proposed Project and Reduced Development Alternative

Land Use	*Parking Demand*		
	Short Term	*Long Term*	*Total*
Proposed Project			
Residential			
Affordable	0	823	823
Market rate	0	806	806
Senior Housing	0	20	20
Retail	67	25	92
Community Center	14	91	23
Total	*81*	*1,683*	*1,764*
Reduced Development Alternative			
Residential			
Affordable	0	675	675
Market rate	0	516	516
Senior Housing	0	16	16
Retail	67	25	92
Community Center	10	61	16
Total	*77*	*1,238*	*1,315*

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).
a. Estimated from daily work-related vehicle trips.

As shown in Table 5.7-8, the Proposed Project would have a total parking demand for 1,764 spaces during the evening peak period, with 81 spaces for short-term demand and 1,683 spaces for long-term demand. The Reduced Development Alternative would have a total parking demand for 1,315

spaces during the evening peak period, 77 spaces for short-term demand, and 1,238 spaces for long-term demand.

Supplemental Analysis. The Transportation Impact Analysis (TIA, included as Appendix 4.7A) was completed in October 2012. After the TIA was finalized several changes were made to the Project, including:

- One of the planned residential blocks, Block Q, would be eliminated, resulting in 16 blocks rather than 17;
- The distribution of residential units by block;
- Connecticut Street would terminate at 25th Street rather than 24 and ½ Street;
- Connecticut Street right-of–way between 25th and 24 and ½ Street would be designated as a pedestrian connection and replaced by a series of open spaces, stairs, and park spaces;
- Intersection of Connecticut Street and 25th Street would be a three-legged all-way stop-controlled intersection, rather than a four-legged all-way stop-controlled intersection;
- The 25th Street/Dakota Street/Texas Street intersection would be reconfigured and renamed 25th Street/Texas Street;
- The 23rd Street/Dakota Street intersection would be renamed 23rd Street/Missouri Street;
- Building heights would be reduced on Blocks A, B, K, and L;
- Building heights would be increased on Block O;
- 'Accessible zones' or zones with roadway grades less than 8.33 percent would be included within the Project site along Texas, 24th, and 23rd Streets; and
- Up to 816 bicycle parking spaces would be provided, 366 more than originally included (of these 709 would be Class I spaces, and 107 would be Class II spaces).

All other Project details; including, the type and location of land uses, the overall unit count and mix, the location of the proposed internal blocks, new vehicle pedestrian connections, and other planned circulation network modifications within the Project site would remain the same. Although there is a slight change to the distribution of units across blocks, this change did not result in changes to trip distribution through Project intersections. Further, conversion of the Connecticut Street/25th Street intersection from four-legged to three-legged would redistribute traffic through the intersection, but would not add any trips.

Reconfiguration of the 25th/Dakota/Texas Street intersection and the 23rd/Dakota Street intersection would result in the following changes to local traffic circulation patterns:

- Approximately 25 percent of traffic traveling along Pennsylvania Avenue is anticipated to shift to Texas Street; and
- Approximately 25 percent of traffic traveling along Dakota Street is anticipated to shift to Arkansas Street.

Given these proposed changes, a supplemental transportation analysis (included as Appendix 4.7C) was conducted to verify that Project impacts would not significantly deviate from impacts identified in the 2012 TIA for the Proposed Project. The supplemental transportation analysis reviewed all of the potential changes to background conditions along with the changes to the Proposed Project. No changes were made to the assumptions for transit improvements, and/or bicycle network modifications. However, the cumulative analysis was based on a horizon year of 2040, as opposed to 2030 in the 2012 TIA. The 2040 SF-CHAMP model run reflected in the supplemental analysis was based on ABAG Projections 2012, as opposed to the 2030 model run which was based on ABAG Projections 2009. Due to the economic downturn (which is captured in the 2012 ABAG Projections but not in the 2009 Projections) the future cumulative traffic volumes are lower in the 2040 model runs than in the 2030 model runs.

However, even given the changes to Proposed Project and the use of the 2040 horizon year, the impacts of the Proposed Project would still be substantially similar to the projected 2030 horizon year impacts. More specifically, as discussed further below, the TIA identified significant unavoidable impacts to Study Intersections 2, 3, 4, 12, and 13 in the 2030 Cumulative Plus Project Condition. The supplemental analysis identified significant unavoidable impacts to Study Intersections 2, 3, 12 and 13, but Study Intersection 4 would operate at an acceptable level of service (LOS) D in the 2040 Cumulative Plus Project Condition. In the line-by-line Muni analysis, the 2040 cumulative impacts were comparable to the 2030 cumulative impacts, except that the 10 Townsend would continue to operate below Muni's 85 percent threshold in the 2040 cumulative analysis.

As with the cumulative 2030 analysis, the Proposed Project would also result in a significant impact to the 'All Other Lines Corridor' of Muni's Southeast Screenline under the 2040 cumulative analysis. The Proposed Project would not result in any significant impacts to any of the regional transit operators under the 2030 or 2040 cumulative conditions. Therefore, since the 2030 cumulative analysis identified more and greater transportation impacts, the 2030 cumulative analysis is more conservative, and the transportation impact findings were made on the 2030 cumulative condition.

5.7.3 Impacts and Mitigation Measures

Significance Criteria under CEQA

For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the Proposed Project and its alternatives would result in significant impacts to transportation and circulation. The following are the significance criteria used by the San Francisco Planning Department for the determination of impacts associated with a Proposed Project and alternatives:

- The operational impact on signalized intersections is considered significant when project-related traffic causes the intersection level of service to deteriorate from LOS D or better to LOS E or 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 F and Caltrans signal warrants would be met, or would cause Caltrans signal warrants to be met when the worst approach is already operating at LOS E or F. The project may result in significant adverse impacts at intersections that operate at LOS E or F under existing conditions depending upon the magnitude of the project's contribution to the worsening of the average delay per vehicle. In addition, the project would have a significant adverse impact if it would cause major traffic hazards or contribute considerably to cumulative traffic increases that would cause deterioration in levels of service to unacceptable levels.
- The operational impacts on freeway mainline segments and freeway on-ramp merge and off-ramp diverge operations are considered significant when project-related traffic causes the level of service to deteriorate from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. In addition, a project would have a significant effect on the environment if it would contribute substantially to freeway segment or ramp congestion operating at unacceptable levels (LOS E or LOS F).
- 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 delays or operating costs 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 PM 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.

- A 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 proposed on-site loading facilities or within convenient on-street loading zones, and created potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, or pedestrians.
- The project would have a significant effect on the environment if it would result in inadequate emergency access.
- Construction-related impacts generally would not be considered significant due to their temporary and limited duration.

Context and Intensity Evaluation Guidelines under NEPA

For traffic and transportation, the analysis considers whether the Proposed Project or its alternatives would:

- Result in the deterioration in LOS at signalized and unsignalized intersections to a significant extent:
    - For signalized intersections, result in the deterioration in the LOS from LOS D or better to LOS E or F, or from LOS E to F
    - For unsignalized intersections, cause the worst approach to deteriorate from LOS D or better to LOS E or F and meet Caltrans signal warrants, or meet Caltrans signal warrants when the worst approach is already at LOS E or F. For an unsignalized intersection that operates at LOS E or F under existing conditions, substantially worsen delays.
    - For freeway mainline segments and freeway on-ramp merge and off-ramp diverge operations, result in the deterioration in the LOS from LOS D or better to LOS E or F or from LOS E to F. For a freeway facility operating at LOS F under existing conditions, contribute substantially (greater than five percent) to a freeway facility.
- Substantially increase transit demand that could not be accommodated by transit capacity; or
- Create potentially hazardous conditions for pedestrians or bicyclists, or otherwise substantially interfere with pedestrian or bicyclist access.

Approach to Analysis

A transportation impact study (TIS) for the Proposed Project, the Reduced Development Alternative, and the Housing Replacement Alternative was prepared in accordance with a scope of work approved by the City and County of San Francisco Planning Department.[3] Unless otherwise noted, all data and conclusions presented herein are from the TIS. Detailed LOS calculation sheets,

[3] CDM Smith, *Potrero HOPE Transportation Study*, prepared for City and County of San Francisco Planning Department, Case No. 2010.0515E, Final Report (October 11, 2012).

including Traffix outputs sheets for the proposed mitigation measures are provided in the TIS (Appendix 4.7 in this Draft EIR/EIS).

This section describes assumptions and methodology for identifying traffic and transit operations under Existing Plus Project Conditions. The term "Existing Plus Project" Conditions collectively refers to the project impacts that would occur under the Proposed Project, Reduced Development Alternative, or Housing Replacement Alternative. However, the results of the Existing Plus Project analysis for each of these alternatives are described separately.

The following four scenarios are examined in detail in Appendix 4.7 for the Proposed Project and Reduced Development Alternative:

- Existing Conditions
- Existing Plus Project Conditions
- 2030 Cumulative No Project Conditions
- 2030 Cumulative Plus Project Conditions

The following 13 intersections in the vicinity of or within the Project site were analyzed during the weekday PM peak hour (the highest hour between 4:00 p.m. and 6:00 p.m.):

1. Cesar Chavez Street/Connecticut Street (signalized)
2. Cesar Chavez Street/Pennsylvania Avenue/Northbound Interstate 280 (I-280) Off-Ramp (signalized)
3. Pennsylvania Avenue/Southbound I-280 Off-Ramp
4. 25th Street/Indiana Street/Northbound I-280 On-Ramp
5. 25th Street/Connecticut Street
6. 25th Street/Dakota Street/Texas Street
7. 23rd Street/Dakota Street
8. 23rd Street/Wisconsin Street
9. 20th Street/Arkansas Street
10. 22nd Street/Missouri Street
11. Potrero Avenue/23rd Street (signalized)
12. Cesar Chavez Street/Vermont Street/U.S. Highway 101 (US 101) Northbound On-Ramp
13. Cesar Chavez Street/US 101 Off-Ramp

In addition, the following six freeway segments were evaluated during the weekday PM peak period:

1. Northbound I-280 (south of Cesar Chavez Street Off-Ramp)

2. Southbound I-280 (south of Pennsylvania Avenue On-Ramp)
3. Northbound I-280 (north of Indiana Street On-Ramp)
4. Southbound I-280 (north of Pennsylvania Avenue Off-Ramp)
5. Northbound US 101 (north of Cesar Chavez Street On-Ramp)
6. Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

The following four ramp junctions located in the vicinity of the Project site were examined during the weekday PM peak period:

1. Northbound I-280/Cesar Chavez Street Off-Ramp
2. Southbound I-280/Pennsylvania Avenue Off-Ramp
3. Northbound I-280/Indiana Street On-Ramp
4. Southbound I-280/Pennsylvania Avenue On-Ramp

All circulation elements were evaluated during the weekday PM peak period. However, four of the study freeway segments were also analyzed during the weekday AM peak period (the highest hour between 7:00 a.m. and 9:00 a.m.):

1. Northbound I-280 (south of Cesar Chavez Street Off-Ramp)
3. Northbound I-280 (north of Indiana Street On-Ramp)
5. Northbound US 101 (north of Cesar Chavez Street On-Ramp)
6. Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

Because the Housing Replacement Alternative would only reconstruct the existing land uses available at the Project site and would neither add net new trips nor modify the neighboring circulation network, the TIS in Appendix 4.7 evaluated this alternative qualitatively.

Development Assumptions

Proposed Project. The Proposed Project would demolish the existing 620 affordable housing units and construct up to 1,700 mixed-income housing units (up to 970 affordable, 630 market rate, and 100 senior units) along with two retail facilities (5,500 sf and 9,500 sf in size), a 35,000 sf Community Center (including daycare and preschool facilities), several small parks and open spaces, and associated residential parking facilities. A detailed breakdown of existing land uses and those proposed as part of the Proposed Project is provided in Chapter 1, *Project Purpose, Need, and Objectives*, and Chapter 2, *Project Alternatives and Project Description*, respectively.

The Proposed Project would substantially alter the existing street layout within the Project site by significantly regrading and reconstructing the existing street configuration to be more consistent with the surrounding neighborhood grid pattern and to provide additional access to and circulation within the Project site.

Reduced Development Alternative and Housing Replacement Alternative. In addition to the Proposed Project, the City is considering two development options: the Reduced Development Alternative (Alternative 1) and the Housing Replacement Alternative (Alternative 2).

Reduced Development Alternative (Alternative 1). The Reduced Development Alternative would involve a reduced-scale of development, reducing the maximum height of the proposed buildings at the Project site from 65 feet (as proposed under the Proposed Project) to 40 feet.

The only difference between the Proposed Project and the Reduced Development Alternative is the height, number of units, and associated parking and loading spaces. All other elements, including the type and location of land uses, number and location of proposed internal blocks, new vehicle and pedestrian connections, and other planned circulation network modifications within the Project site would be the same as under the Proposed Project.

Compared to the Proposed Project, the Reduced Development Alternative would have fewer housing units; this alternative would construct up to 1,280 mixed-income housing units (up to 796 affordable units, 404 market rate units, and 80 senior units). It would have the same amount of retail facilities (5,500 sf and 9,500 sf in size), a smaller Community Center (25,000 sf in size), several small parks and open spaces, and associated residential parking facilities. A detailed breakdown of existing land uses and those proposed as part of the Reduced Development Alternative is provided in Chapter 1, *Project Purpose, Need, and Objectives*, and Chapter 2, *Project Alternatives and Project Description*, respectively.

Housing Replacement Alternative (Alternative 2). Under the Housing Replacement Alternative, all existing housing units at the Project site would be demolished and rebuilt using the same building pattern currently in place. The existing Project site plan and street pattern would remain the same as under existing conditions. This alternative would reconstruct 606 affordable housing units, a 1,300 sf preschool center, a 2,200 sf child day care center, and associated residential parking facilities. No additional housing units would be developed. Other amenities such as additional parks, retail facilities, and Community Center would also not be provided.

Transportation Network Design Standards

All transportation improvements would be designed to SFMTA standards and specifications, including the installation of new roads, transit facilities, and bicycle/pedestrian improvements. Improvement plans for these facilities would be reviewed and approved by the SFMTA, San Francisco Department of Public Works, and San Francisco Department of Building Inspection, prior to construction. The approval process for project-related transportation facilities would ensure that improvements are designed to adopted standards.

Traffic

Background Growth. To be consistent with the traffic study being prepared for a similar HOPE SF development project (Sunnydale-Velasco Housing Development), intersection volumes under 2030 Cumulative No Project Conditions were developed using the same methodology that was adopted in that traffic study. According to this methodology, intersection volumes under 2030 Cumulative No Project Conditions were developed based on the combination of future traffic volumes reported in Candlestick Point-Hunters Point Shipyard Phase II Development Plan Environmental Impact Report, November 2009 (herein referred to as the "CP-HPS Phase II EIR") and traffic growth projected by the San Francisco County Transportation Authority's Chain Activity Modeling Process (SF-CHAMP) model. The SF-CHAMP model is the City and County of San Francisco's unique activity-based forecasting tool for future travel demand within the city, taking into account future land use, socioeconomics, and transportation patterns to develop future traffic and transit volumes along all San Francisco roadways and transit lines. The SF-CHAMP model predicts future person trips by mode (auto, transit, walk and bicycle trips). It also forecasts vehicular traffic on regional freeways, major arterials, and on the local roadway network within the study area considering the available roadway capacity, origin-destination demand and travel speeds when assigning the future travel demand to the roadway network. This model can be used to assess transportation-related impacts due to changes in land use, socioeconomic, and circulation network.

The SF-CHAMP model divides San Francisco into approximately 981 geographic areas, known as Traffic Analysis Zones (TAZs). For each TAZ, travel demand is estimated based on the population and employment growth assumptions developed by the Association of Bay Area Governments (ABAG). The SF-CHAMP Model travel demand estimates incorporate the ABAG land use and socio-economic database and growth forecasts for year 2030.

2030 Cumulative No Project (Baseline)

2030 Cumulative No Project Intersection Operations (Baseline). The technical memorandum detailing the development of intersection volumes under 2030 Cumulative No Project Conditions is included in Appendix L of the TIS (Appendix 4.7 in this Draft EIR/EIS). This memorandum was submitted to and approved by the Planning Department.

The vehicle-trips generated by the Proposed Project (576 inbound and 316 outbound) and the Reduced Development Alternative (352 inbound and 202 outbound) during the weekday PM peak hour were distributed within the study area using the trip distribution described above. These distributed project trips were added to year 2030 intersection volumes. Additionally, relevant traffic circulation adjustments (shifting approximately 25 percent of traffic traveling along Pennsylvania Avenue to Texas Street and approximately 25 percent of traffic traveling along Dakota Street to Arkansas Street) were applied to reflect changes in the circulation pattern due to the roadway layout reconfiguration planned as part of the Proposed Project and the Reduced Development Alternative.

2030 Cumulative No Project Freeway Segment and Ramp Junction Operations (Baseline). Traffic volumes at the study freeway segments and ramp junctions under 2030 Cumulative No Project Conditions were obtained from the CP-HPS Phase II EIR. To account for traffic volumes that would be generated by the Candlestick Point–Hunters Point Shipyard development, freeway and ramp volumes reported under 2030 Plus Project Conditions of the CP-HPS Phase II EIR were used as 2030 baseline volumes for this study. The vehicle-trips generated by the Proposed Project (576 inbound and 316 outbound) and the Reduced Development Alternative (352 inbound and 202 outbound) during the weekday PM peak hour were distributed within the study area using the trip distribution described above. These distributed project trips were added to year 2030 freeway and ramp volumes.

Detailed LOS calculation sheets for the study ramp junctions under 2030 Cumulative No Project Conditions are included in Appendix 4.7.

Transit

The Proposed Project and Reduced Development Alternative would result in transit route changes. In addition, the Proposed Project and Reduced Development Alternative would relocate/consolidate existing bus stops and create new ones as follows:

- Bus stops serving the 19 Polk and located along northbound Connecticut Street (the corner of 25th and Wisconsin Streets), southbound Connecticut Street (north of 26th Street), and southbound Wisconsin Street (south of Coral Street) would be eliminated, since the 19 Polk would not travel through the Project site in the near future.
- Bus stop serving the outbound 10 Townsend and located along westbound 25th Street (east of Connecticut Street) would be relocated to southbound Arkansas Street (north of 24th Street).
- Bus stops serving the inbound 10 Townsend and located along northbound Dakota Street (between 25th and 23rd Streets, and south of 23rd Street) and westbound 23rd Street (east of Wisconsin Street) would be relocated and consolidated at northbound Wisconsin Street (south of 24th Street).
- Bus stop serving the 48 Quintara-24th Street and located along eastbound 25th Street (west of Dakota Street) would be relocated to eastbound 25th Street (west of Connecticut Street)
- Bus stops serving the 10 Polk and 48 Quintara-24th Street located at northbound Wisconsin Street (north of 26th Street and south of 25th Street) would be consolidated at northbound Wisconsin Street (south of 25th Street).
- New bus stops would be created along westbound 25th Street (east of Wisconsin Street), westbound 25th Street (west of Connecticut Street), and various locations along Missouri Street in both the directions, including north of 24th Street, the corner of 23rd and Texas Streets, and north of Texas Street. These new bus stops are planned to serve the new 58 24th Street line and other Muni routes.

As summarized above, three existing bus stops would be eliminated, four would be relocated, two would be consolidated, and five new bus stops would be created. In total, 12 bus stops would be created or affected as part of the Proposed Project and Reduced Development Alternative.

The Proposed Project and Reduced Development Alternative would generate transit trips to and from the Project site, and riders would use nearby Muni lines and regional transit lines, and may include transfers to other Muni bus lines and light rail lines, or other regional transit providers. The following describes the approach to analyzing transit impacts on each of these providers.

Muni Line-by-Line Analysis. The 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni routes provide direct service to the Project site. Therefore, line-by-line analysis was conducted only for these three routes under Existing Plus Project Conditions.

Existing Plus Project Muni Screenline Analysis. The most recent Muni screenline data obtained from the Transit Center District Plan – Transportation Study (AECOM, 2010) for Muni screenlines that serve the Project site, particularly the corridors within the Southeast screenline, were used to estimate transit trips for Existing Plus Project conditions during the weekday PM peak hour.

Pedestrian and Bicycle Facilities Analysis

Field observations were conducted to identify pedestrian facilities including sidewalks, crosswalks, the overall physical condition of the pedestrian network, and bicycle facilities. The analysis of pedestrian and bicycle facilities impacts is qualitative.

Construction

The analysis of construction impacts is based on preliminary construction information provided by the project applicant and professional knowledge of similar construction projects throughout city. Project construction is expected to occur in three non-overlapping phases, spanning from 2015 to 2025, or longer. Construction phasing is discussed in Chapter 2, *Project Alternatives and Project Description*.

Cumulative Analysis

This section describes assumptions and methodology for identifying traffic and transit operations under 2030 Cumulative No Project Conditions that were used to assess impacts resulting from 2030 Cumulative Plus Project Conditions. The term "2030 Cumulative Plus Project" Conditions collectively refers to the cumulative impacts that would occur under the Proposed Project or the Reduced Development Alternative. However, the results of the cumulative analysis for the Proposed Project and Reduced Development Alternative are described separately. Because the Housing Replacement Alternative would not result in any new trips, no cumulative traffic or transit operations analysis is necessary. Detailed calculation sheets for 2030 Cumulative No Project Conditions and 2030 Cumulative Plus Project Conditions are included in Appendix 4.7.

Transit

Foreseeable Transportation Network Changes. The following improvements to the transportation network located in the vicinity of the Project site are expected in the nearby future and are assumed in the analysis under 2030 Cumulative No Project Conditions. These improvements would be completed by City and County of San Francisco agencies such as SFDPW and SFMTA.

Transit Network Modifications. Under the Muni Transit Effectiveness Project (TEP) Recommendations, the SFMTA would implement the TEP by 2016. The following changes planned as part of the TEP recommendations would affect the Muni routes serving the study area:

- The one-car K Ingleside would continue to be through-routed with the T Third Street.
- The 10 Townsend would be renamed to become the 10 Sansome. Short-line service would operate between Van Ness Avenue and Market Street to provide additional capacity, replacing the to-be-discontinued 12 Pacific service. Existing service during peak periods within the project study area would be reduced from 10-minute headways to 15-minute headways.
- The 19 Polk would be rerouted to operate between Van Ness Avenue/North Point and San Francisco General Hospital, modifying existing routing in the Civic Center area. Segments south of 24th Street would be replaced by a revised 48 Quintara-24th Street.
- The 22 Fillmore would be rerouted to continue along 16th Street to Third Street, creating new connections to Mission Bay. The segment on 17th Street, Connecticut Street, and 18th Street would be replaced by a revised 33 Stanyan and more frequent peak service would be provided to reduce crowding (service every six minutes during the weekday PM peak period).
- Service on the 48 Quintara-24th Street would run all day from 48th Avenue to the Navy Yard, connecting to Hunters Point, currently served by the 19 Polk, complemented by a new 58 24th Street service connecting Diamond Street with the 22nd Street Caltrain station. Segments along Douglass Street and Hoffman Street would be served by a revised 35 Eureka. Existing segments in Potrero Hill would be supplemented by the new 58 24th Street line, and service along Arkansas Street, 20th Street, and Texas Street would be eliminated.

2030 Cumulative No Project Conditions Muni Line-by-Line (Baseline)

The transit analysis for the 2030 Cumulative No Project Conditions was performed based on the assumptions that all of the TEP recommendations proposed by the SFMTA would be implemented by 2030. The following changes planned as part of the TEP recommendations would affect the Muni routes serving the study area and are expected to be in place by year 2030:

- The 10 Townsend would be renamed to become the 10 Sansome.
- A new 58 24th Street line would serve the Potrero Hill area and replace the to-be-rerouted 19 Polk, while supplementing 48 Quintara-24th Street routes.

- The 19 Polk would be rerouted and direct service to the project study area would be discontinued.
- The 48 Quintara-24th Street line would have all-day service and connect to Hunters Point, where the 19 Polk currently terminates. It would be rerouted in the Potrero Hill area with the inclusion of the new 58 24th Street line.

To determine future ridership, Muni transit projections documented in the Transit Center District Plan Transportation Analysis (AECOM, 2010) were used. This memorandum included an updated screenline summary for specific Muni routes and regional transit operators. Additionally, the memorandum used updated TEP data and documented changes to transit service since the last update to the transit screenlines conducted and published in the SF Guidelines. The memorandum included screenline data; therefore, each Muni route that would service the Project site was assigned to appropriate Screenline (Southeast Screenline). Ridership estimates for each Muni study route (10 Townsend/Sansome, 19 Polk, and 48 Quintara-24th Street) was determined by calculating the difference in projected 2030 Muni screenline ridership from existing (2008) screenline ridership and determining annual growth rates in transit ridership based on this difference, for both light rail and bus vehicles. These growth rates were subsequently applied to each individual transit line being studied in the line-by-line analysis. Additionally, since 19 Polk would not provide direct service to the Project site under 2030 Cumulative Conditions, it was assumed that the anticipated ridership demand for 19 Polk in the Potrero Hill area would be served by other Muni routes operating in that area, approximately 40 percent by the 10 Townsend, 20 percent each by the 22 Fillmore and the new 58 24th Street, and 10 percent each by the 48 Quintara-24th Street and the T Third Street.

Future year transit capacity for each study route was determined using the proposed service headways developed by the SFMTA as part of the TEP and documented in the Summary of Recommendations – Comparison of Proposed and Existing Service Frequencies and Hours of Service (September 2008). Using the proposed headway of each transit route during the PM peak hour and the seated capacity of vehicle serving each route, the capacity of Muni routes under 2030 Cumulative Conditions were developed. As part of the TEP, headways were developed for transit service in the peak direction only. Future headways for service in the non-peak direction were estimated assuming that the rate of change of headways in the peak and non-peak directions would remain the same.

2030 Cumulative Plus Project Muni Line-By-Line Analysis. Using the same methodology as for Existing Plus Project Conditions, project-related Muni-bound transit trips were distributed to the three Muni lines (10 Townsend/Sansome, 19 Polk, and 48 Quintara-24th Street). Because the 19 Polk would not provide direct service to the Project site under 2030 Cumulative Plus Project Conditions, no project-related transit trips were assigned to this line.

2030 Cumulative No Project Muni Southeast Screenline (Baseline). Muni ridership and capacity under 2030 Cumulative No Project Conditions were obtained from the transit projections

documented in the Transit Center District Plan – Transit Network Analysis Memorandum (AECOM, 2009). Weekday PM peak hour capacity utilization for Muni's Southeast screenline under 2030 Cumulative No Project Conditions takes into account the planned changes to Muni service, including projected capacity and anticipated service changes.

Under 2030 Cumulative No Project conditions, the overall capacity utilization of the Southeast Muni Screenline (79 percent) is expected to increase by approximately 13 percent from Existing Conditions (66 percent); however, it would still operate with capacity utilization below Muni's standard of 85 percent. Compared to Existing Conditions, under 2030 Cumulative No Project Conditions, the capacity utilization of the Third Street corridor would increase from 78 percent to 91 percent (13 percent increase) and exceed Muni's 85 percent threshold, while all other lines (excluding Third Street, Mission Street, and San Bruno/Bayshore corridors) would increase from 70 percent to 85 percent (15 percent increase) and operate at Muni's 85 percent threshold. The other two corridors, Mission Street and San Bruno/Bayshore would operate with capacity utilization below the 85 percent threshold.

2030 Cumulative Plus Project Southeast Screenline Analysis. Using the same methodology and project-generated transit ridership as for Existing Plus Project Conditions, the analysis assumes approximately 130 and 80 transit trips associated with the Proposed Project and Reduced Development Alternative, respectively, would cross the Southeast screenline in the peak direction from downtown San Francisco (along the 10 Townsend, 19 Polk, and T Third Street lines). The remaining inbound Muni trips (46 for the Proposed Project and 23 for the Reduced Development Alternative) would use the 22 Fillmore and 48 Quintara-24th Street lines, which are not included in the Muni screenlines.

2030 Cumulative No Project Regional Transit Screenline (Baseline). Ridership and capacity projections of regional transit operators under 2030 Cumulative No Project Conditions were obtained from the transit projections documented in the Transit Center District Plan – Transit Network Analysis Memorandum, (AECOM, 2010).

Under 2030 Cumulative No Project Conditions, the capacity utilization of most regional transit operators serving the project study area would worsen from Existing Conditions, with the exception of BART and SamTrans service to the South Bay, where the expected provision of additional transit service would offset the anticipated increase in transit ridership. The overall capacity utilization of all the regional transit operators would increase from 70 percent to 86 percent. The capacity utilization of BART to the East Bay, AC Transit to the East Bay, and GGT buses to the North Bay are anticipated to increase from 83 percent to 110 percent for BART, from 60 percent to 113 percent for AC Transit, and from 63 percent to 114 percent for GGT buses. All regional transit providers have a 100 percent capacity utilization standard. Therefore, capacity utilizations of BART, AC Transit buses, and GGT buses would increase above their threshold values under 2030 Cumulative No Project Conditions. All other regional transit operators would operate with capacity utilizations

below their respective threshold values. Additionally, the East Bay and North Bay regional transit screenlines are anticipated to operate with capacity utilizations of more than 100 percent.

2030 Cumulative Plus Project Regional Transit Screenline Analysis. The same methodology and project-generated transit ridership developed for Existing Plus Project Conditions, described above, was applied to the cumulative analysis of impacts on regional transit operators. Project-related regional transit trips were added to East Bay, North Bay, and South Bay screenlines.

Impact Evaluation

Existing Plus Project Conditions

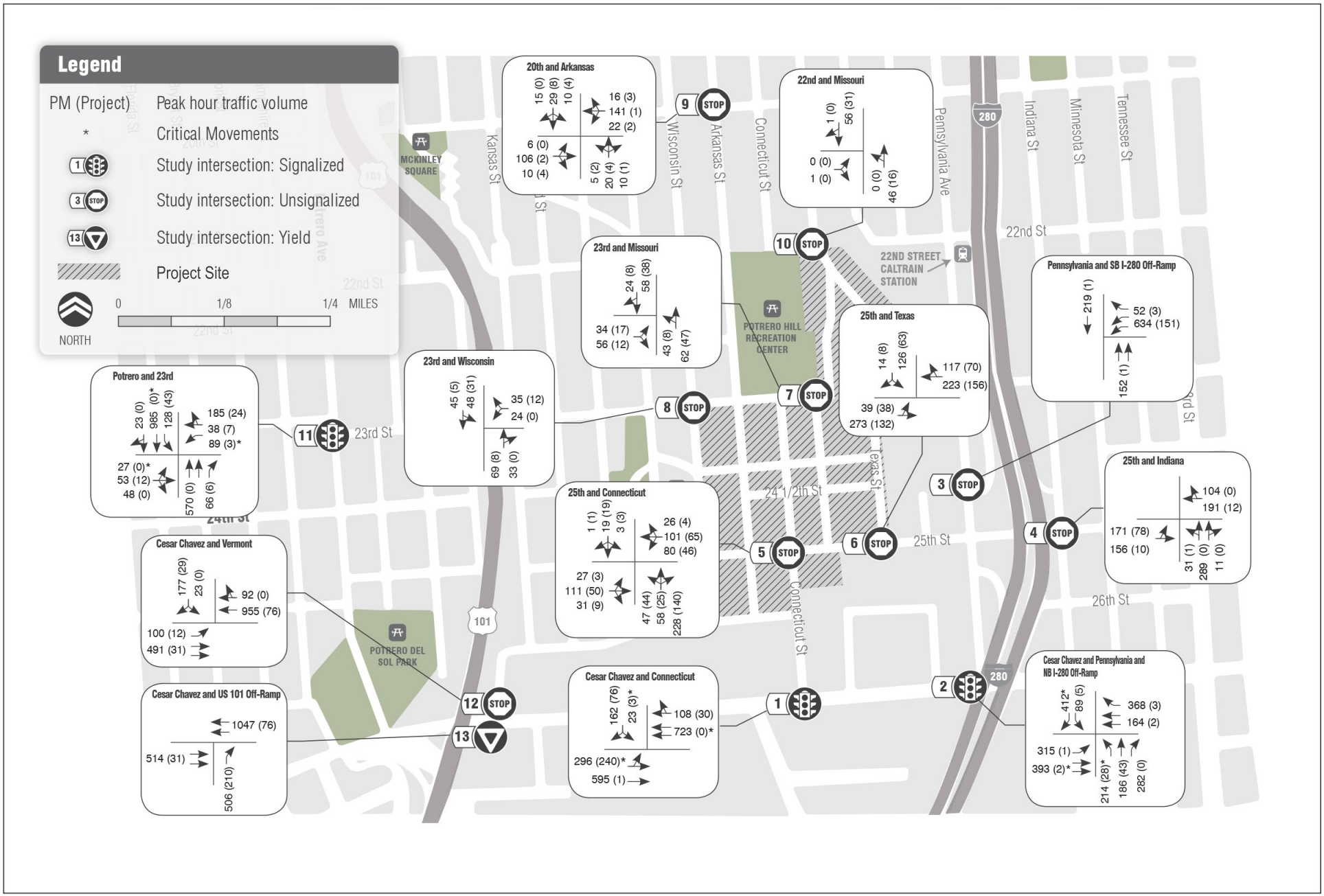
Traffic Impacts

Impact TR-1(a)	**Effects on Levels of Service** **CEQA: The Proposed Project and the Reduced Development Alternative would not cause levels of service at local intersections to deteriorate, and would therefore not conflict with any applicable congestion management programs, plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system at those locations. (Less than Significant)** **NEPA: The Proposed Project and the Reduced Development Alternative would not result in the deterioration in LOS to a significant extent. (Less than Significant)**

Table 5.7-9 summarizes the analysis of study intersection operations during the weekday PM peak hour under Existing Conditions and Existing Plus Project Conditions. The resulting traffic volumes and proposed geometric configurations at the study intersections under Existing Plus Project Conditions for the Proposed Project and Reduced Development Alternative during the weekday PM peak hour are illustrated in Figure 5.7-3 and Figure 5.7-4.

Proposed Project

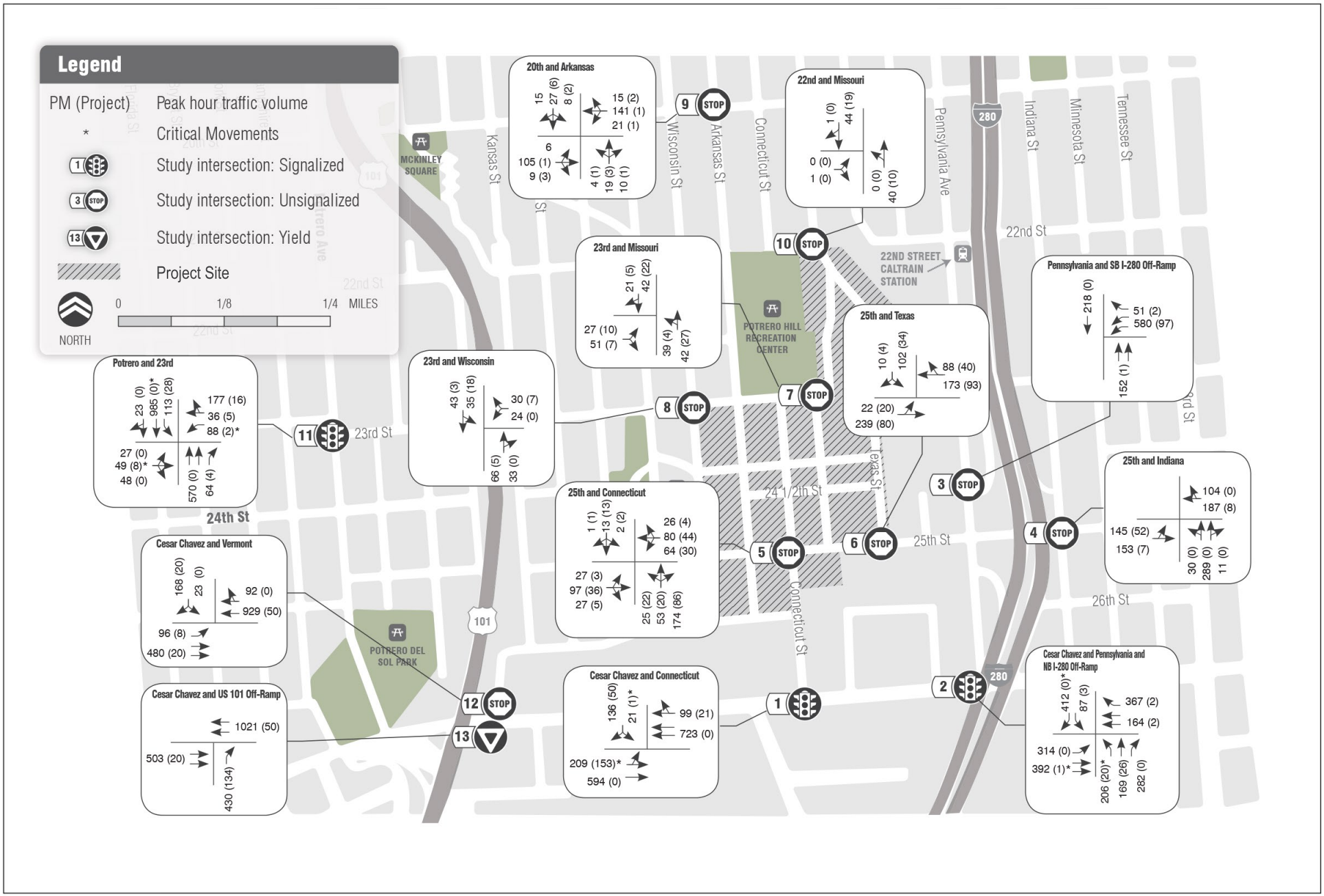
Under Existing Plus Project Conditions, vehicle delays at intersections would increase such that nine of the 13 study intersections would continue to operate at the same operating conditions (LOS) as under Existing Conditions during the weekday PM peak hour, while the Proposed Project traffic would alter the remaining four intersections LOS weekday PM peak hour conditions (25th Street/Connecticut Street would worsen from LOS A to LOS B, 25th Street/Dakota Street/Texas Street would worsen from LOS A to LOS C, 23rd Street/Dakota Street would worsen from LOS A to LOS B, and Cesar Chavez Street/US 101 Off-Ramp would worsen from LOS B to LOS C). All the study intersections would continue to operate at an acceptable LOS (LOS D or better) as under Existing Conditions.



SOURCE: Potrero HOPE Transportation Study, June 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.7-3: INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS—EXISTING PLUS PROJECT PM PEAK HOUR (PROPOSED PROJECT)



SOURCE: Potrero HOPE Transportation Study, June 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.7-4: INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS—EXISTING PLUS PROJECT PM PEAK HOUR (ALTERNATIVE 1)

Table 5.7-9 PM Peak Hour Intersection Operations—Existing vs. Existing Plus Project Conditions

#	Intersection	Existing		Existing Plus Project			
				Proposed Project		Reduced Development Alternative	
		Delay	LOS	Delay	LOS	Delay	LOS
Signalized							
1	Cesar Chavez St/Connecticut St	11.4	B	13.5	B	12.5	B
2	Cesar Chavez St/Pennsylvania Ave/NB I-280 Off-Ramp	38.4	D	38.5	D	38.4	D
11	Potrero Ave/23rd St	22.2	C	24.3	C	23.4	C
Unsignalized							
3	Pennsylvania Ave/SB I-280 Off-Ramp	15.2 (SB)	C	17.0 (WB)	C	15.5 (WB)	C
4	25th St/Indiana St/NB I-280 On-Ramp	11.4 (EB)	B	14.2 (EB)	B	13.1 (EB)	B
5	25th St/Connecticut St	8.0 (EB)	A	12.5 (NB)	B	10.0 (NB)	A
6	25th St/Dakota St/Texas St[a]	9.6 (SB)	A	17.0 (SB)	C	13.6 (SB)	B
7	23rd St/Dakota St[b]	9.2 (NB)	A	10.6 (NB)	B	10.1 (NB)	B
8	23rd St/Wisconsin St	7.5 (SB)	A	7.8 (SB)	A	7.7 (SB)	A
9	20th St/Arkansas St	8.5 (WB)	A	8.6 (WB)	A	8.6 (WB)	A
10	22nd St/Missouri St	8.5 (EB)	A	8.5 (EB)	A	8.5 (EB)	A
12	Cesar Chavez St/Vermont St	25.8 (SB)	D	34.5 (SB)	D	31.0 (SB)	D
13	Cesar Chavez St/US 101 Off-Ramp	13.3 (NB)	B	22.4 (NB)	C	17.6 (NB)	C

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

EB = eastbound; NB = northbound; SB = southbound; WB = westbound

Delay presented in seconds per vehicle; for unsignalized intersections delay and LOS is presented for the worst approach, annotated in parentheses ( ).

Bold indicates intersection operates at an unacceptable LOS.

Alternative 2, where no net new project trips would be added would operate similar to Existing Conditions.

a. This intersection is 25th/Dakota/Texas under No Project Conditions and 25th/Texas under With Project Conditions.

b. This intersection is 23rd/Dakota under No Project Conditions and 23rd/Missouri under With Project Conditions.

Alternative 1 – Reduced Development Alternative

Under Existing Plus Project Conditions, 10 of the 13 study intersections would continue to operate at the same weekday PM peak hour LOS operating conditions as under Existing Conditions, while the Reduced Development Alternative traffic would alter the remaining three intersections LOS weekday PM peak hour conditions (25th Street/Dakota Street/Texas Street would worsen from LOS A to LOS B, 23rd Street/Dakota Street would worsen from LOS A to LOS B, and Cesar Chavez Street/US 101 Off-Ramp would worsen from LOS B to LOS C). However, similar to the Proposed Project, all the study intersections would continue to operate at an acceptable LOS (LOS D or better) operating condition during the weekday PM peak hour, as under Existing Conditions.

As such, impacts under CEQA would be ***less than significant*** because the Proposed Project and the Reduced Development Alternative would not cause levels of service at local intersections to

deteriorate, and would therefore not conflict with any applicable congestion management programs, plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system at those locations.

The impacts under NEPA on existing intersection operating conditions would be ***less than significant*** because the Proposed Project and the Reduced Development Alternative would not result in the deterioration in LOS at signalized and unsignalized intersections to a significant extent.

Impact TR-1(b)	**Effects on Level of Service** **CEQA: The Housing Replacement Alternative and the No Project Alternative would not cause levels of service at local intersections to deteriorate, and would therefore not conflict with any applicable congestion management programs, plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system at those locations. (No Impact)** **NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in the deterioration in LOS to a significant extent. (No Impact)**

Alternative 2 – Housing Replacement Alternative

Because the Housing Replacement Alternative (Alternative 2) would reconstruct the existing land uses, it would not result in any additional project-related trips. Therefore, all transportation operations under this scenario would remain identical to Existing Conditions. All study intersections would continue to operate at the same LOS operating condition as under Existing Conditions (LOS D or better) during the weekday PM peak hour.

Alternative 3 – No Project Alternative

The No Project Alternative (Alternative 3) would not result in any new project-related trips. Therefore, all transportation operations would remain identical to Existing Conditions. All study intersections would continue to operate at the same LOS as under Existing Conditions (LOS D or better).

Accordingly, ***no impact*** would occur under CEQA because the Housing Replacement Alternative and the No Project Alternative would not cause levels of service at local intersections to deteriorate, and would therefore not conflict with any applicable congestion management programs, plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system at those locations.

No impact would occur under NEPA because the Housing Replacement Alternative and the No Project Alternative would not result in the deterioration in LOS at signalized and unsignalized intersections to a significant extent.

Freeway Segments

Impact TR-2(a) Effects on Freeway Segments

CEQA: The Proposed Project and Reduced Development Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway segment. (Less than Significant)

NEPA: The Proposed Project and Reduced Development Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway segment. (Less than Significant)

Table 5.7-10 summarizes the analysis of freeway segment operations during the weekday AM and PM peak hours under Existing Conditions and Existing Plus Project Conditions for the Proposed Project and the Reduced Development Alternative.

Table 5.7-10 Existing vs. Existing Plus Project Freeway Segment Operations—Weekday AM and PM Peak Hours

#	Study Freeway Segment	Existing		Existing Plus Project			
				Proposed Project		Reduced Development Alternative	
		Density	LOS	Density	LOS	Density	LOS
AM Peak Hour							
1	NB I-280 (south of Cesar Chavez St Off-Ramp)	34.4	D	34.9	D	34.7	D
3	NB I-280 (north of Indiana St On-Ramp)	22.9	C	23.6	C	23.3	C
5	NB US 101 (north of Cesar Chavez St On-Ramp)	30.4	D	31.1	D	30.8	D
6	SB US 101 (north of Cesar Chavez St Off-Ramp)	>45	F	>45	F	>45	F
PM Peak Hour							
1	NB I-280 (south of Cesar Chavez St Off-Ramp)	16.0	B	16.5	B	16.3	B
2	SB I-280 (south of Pennsylvania Ave On-Ramp)	29.3	D	29.7	D	29.6	D
3	NB I-280 (north of Indiana St On-Ramp)	13.1	B	13.5	B	13.4	B
4	SB I-280 (north of Pennsylvania Ave Off-Ramp)	32.6	D	33.6	D	33.2	D
5	NB US 101 (north of Cesar Chavez St On-Ramp)	>45	F	>45	F	>45	F
6	SB US 101 (north of Cesar Chavez St Off-Ramp)	33.4	D	34.2	D	33.9	D

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).
Density is reported in passenger cars per mile per lane (pc/mi/ln).
Bold indicates unacceptable conditions (LOS E or F).

Proposed Project

Under Existing Plus Project weekday AM peak period conditions, three of the four study freeway segments would continue to operate at acceptable operating conditions (LOS D or better). Southbound US 101 (north of the Cesar Chavez Street off-ramp) would continue to operate at LOS F operating conditions under Existing and Existing Plus Project Conditions. The Proposed Project would increase traffic on this freeway segment by approximately 77 vehicles (from 8,274 vehicles

per hour (vph) to 8,351 vph), resulting in less than one percent traffic increase) during the AM peak hour. Because the Proposed Project would not contribute cumulatively considerable amounts of traffic to this freeway segment, the Proposed Project's contribution to the existing LOS F operating conditions on this freeway segment would not be considered a significant impact during the AM peak hour.

Under Existing Plus Project weekday PM peak hour conditions, five of the six study freeway segments would continue to operate at acceptable operating conditions (LOS D or better). The remaining freeway segment, Northbound US 101 (north of the Cesar Chavez Street off-ramp) would continue to operate at LOS F under Existing and Existing Plus Project Conditions. The Proposed Project would increase traffic on this freeway segment by approximately 77 vehicles (from 8,426 vph to 8,503 vph, resulting in less than one percent traffic increase) during the PM peak hour. Because the Proposed Project would not contribute substantial amounts of traffic to this freeway segment, the Proposed Project's contribution to the existing LOS F operating conditions on this freeway segment would not be considered a significant impact during the PM peak hour.

Alternative 1 – Reduced Development Alternative

The Reduced Development Alternative (Alternative 1) would result in three of the four study freeway segments continuing to operate at acceptable operating conditions (LOS D or better) under Existing Plus Project AM peak hour conditions. Although Southbound US 101 (north of the Cesar Chavez Street off-ramp) would continue to operate at LOS F under Existing Plus Project Conditions, the Reduced Development Alternative would increase traffic on this freeway segment by 48 vehicles (from 8,274 vph to 8,322 vph), less than the Proposed Project, resulting in a less than one percent traffic increase during the PM peak hour.

During the PM peak hour, the Reduced Development Alternative would result in five of the study freeway segments continuing to operate at LOS D or better under Existing Plus Project Conditions. The remaining freeway segment, Northbound US 101 (north of the Cesar Chavez Street off-ramp) would continue to operate at LOS F under Existing and Existing Plus Project Conditions. The Reduced Development Alternative would increase traffic on this freeway segment by 48 vehicles (from 8,426 vph to 8,474 vph), resulting in less than one percent traffic increase) during the PM peak hour. Because the Reduced Development Alternative would not contribute cumulatively considerable amounts of traffic to this freeway segment, the contribution of this alternative to the LOS F operating conditions for this segment during the AM peak hour would not be considered a significant impact.

This impact is considered ***less than significant*** under CEQA because the Proposed Project and the Reduced Development Alternative would not deteriorate LOS from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. In addition, the Proposed Project and the Reduced Development Alternative would not contribute substantially to freeway segment operating at unacceptable levels (LOS E or LOS F).

This impact is considered ***less than significant*** under NEPA because the Proposed Project and the Reduced Development Alternative would not deteriorate LOS from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. For a freeway facility operating at LOS F under existing conditions, the Proposed Project and the Reduced Development Alternative would not contribute substantially (greater than five percent) to a freeway segment.

Impact TR-2(b)	**Effects on Freeway Segments** **CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway segment. (No Impact)** **NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway segment. (No Impact)**

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new trips; as such, all study freeway segments would continue to operate with the same LOS and density values as under Existing Conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not result in any new project-related trips; all study freeway segments would continue to operate with the same LOS and density values as under Existing Conditions.

No impact would occur under CEQA because the Housing Replacement Alternative and the No Project Alternative would not deteriorate LOS from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. In addition, the Housing Replacement Alternative and the No Project Alternative would not contribute substantially to freeway segment operating at unacceptable levels (LOS E or LOS F).

No impact would occur under NEPA because the Housing Replacement Alternative and the No Project Alternative would not deteriorate LOS from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. For a freeway segment operating at LOS F under existing conditions, the Housing Replacement Alternative and the No Project Alternative would not contribute substantially (greater than five percent) to traffic on a freeway segment.

Freeway Ramps

Table 5.7-11 summarizes the analysis of study freeway ramp junctions operations during the weekday PM peak hour under Existing Conditions and Existing Plus Project Conditions.

Table 5.7-11 Existing vs. Existing Plus Project Ramp Junction Operations—Weekday PM Peak Hour

#	Study Ramp Junction	Existing		Existing Plus Project			
				Proposed Project		Reduced Development Alternative	
		Density	LOS	Density	LOS	Density	LOS
1	NB I-280/Cesar Chavez St Off-Ramp	4.8	A	5.5	A	5.2	A
2	SB I-280/Pennsylvania Ave Off-Ramp	29.4	D	30.3	D	29.9	D
3	NB I-280/Indiana St On-Ramp	17.0	B	17.6	B	17.4	B
4	SB I-280/Pennsylvania Ave On-Ramp	26.9	C	27.5	C	27.3	C

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).
Density is reported in passenger cars per mile per lane (pc/mi/ln)

Impact TR-3(a) Effects on Freeway Ramps

CEQA: The Proposed Project and the Reduced Development Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway ramp. (Less than Significant)

NEPA: The Proposed Project and Reduced Development Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway ramp. (Less than Significant)

Proposed Project

Under Existing Plus Project conditions, all of the study ramp junctions would continue to operate at the same LOS (LOS D or better) as under Existing Conditions.

Alternative 1 – Reduced Development Alternative

Under the Reduced Development Alternative, all of the study ramp junctions would continue to operate at the same LOS (LOS D or better) as under Existing Conditions.

Under CEQA, the Proposed Project and the Reduced Development Alternative would result in ***less-than-significant*** impacts because the level of service would not deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F, or contribute substantially to ramp volumes already operating at LOS E or F.

Under NEPA, the Proposed Project and the Reduced Development Alternative would result in ***less-than-significant*** impacts because LOS would not deteriorate from LOS D or better to LOS E or F or from LOS E to F, or, for a freeway ramp operating at LOS F under existing conditions, contribute substantially (greater than five percent) to a freeway facility.

Impact TR-3(b)	**Effects on Freeway Ramps**
	CEQA: The Housing Replacement Alternative and No Project Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway ramp. (No Impact)
	NEPA: The Housing Replacement Alternative and No Project Alternative would not result in the deterioration of LOS or contribute substantial traffic volumes to a freeway ramp. (No Impact)

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new trips; as such, all study ramp junctions would continue to operate with the same acceptable LOS operating conditions and density values as under Existing Conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not result in any new project-related trips; as such, all study ramp junctions would continue to operate with the same LOS and density values as under Existing Conditions.

Under CEQA, ***no impact*** would result because the Housing Replacement Alternative and the No Project Alternative would not cause the level of service to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F, or contribute substantially to ramp volumes already operating at LOS E or F.

Under NEPA, ***no impact*** would result because the Housing Replacement Alternative and the No Project Alternative would not cause the level of service to deteriorate from LOS D or better to LOS E or F or from LOS E to F, or, for a freeway ramp operating at LOS F under existing conditions, contribute substantially (greater than five percent) to a freeway facility.

Transit Impacts: Line-By-Line Analysis

Table 5.7-12 summarizes the analysis of ridership and capacity utilization for Muni line-by-line operations under Existing Conditions and Existing Plus Project Conditions.

Table 5.7-12 Existing vs. Existing Plus Project Muni Line-by-Line Analysis—Weekday PM Peak Hour

Route	*Direction of Travel*	*Existing*		*Project Trips*	*Existing Plus Project*	
		Ridership1	*Capacity Utilization*		*Ridership*	*Capacity Utilization*
Proposed Project						
10 Townsend	Inbound	186	98%	27	213	113%
	Outbound	171	90%	52	223	118%
19 Polk	Inbound	172	68%	22	194	77%
	Outbound	124	49%	39	163	65%
48 Quintara-24th St	Inbound	175	46%	28	203	54%
	Outbound	180	48%	17	197	52%
Reduced Development Alternative						
10 Townsend	Inbound	186	98%	18	204	108%
	Outbound	171	90%	32	203	107%
19 Polk	Inbound	172	68%	13	185	73%
	Outbound	124	49%	24	148	59%
48 Quintara-24th St	Inbound	175	46%	16	191	51%
	Outbound	180	48%	11	191	51%

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

The discontinued 53 Southern Heights' ridership was not included in this analysis.

Bold indicates load exceeding Muni's 85 percent capacity utilization standard.

a. Ridership for peak hour of PM peak period; obtained from Muni APC data. Ridership includes total riders at Maximum Load Point (MLP) of route during the weekday PM peak hour.

Impact TR-4(a) Effects on Transit Capacity – Muni 10 Townsend Line

CEQA: The Proposed Project and the Reduced Development Alternative would increase ridership on the Muni 10 Townsend line, which would result in an exceedance of Muni's 85 percent capacity utilization threshold. (Significant and Unavoidable with Mitigation)

NEPA: The Proposed Project and the Reduced Development Alternative would substantially increase transit demand that could not be accommodated by transit capacity. (Less than Significant)

Proposed Project

The Proposed Project would add 52 additional riders to the outbound 10 Townsend line (about 17 riders per bus during the peak hour) and 27 additional riders to the inbound 10 Townsend line (about 9 riders per bus during the peak hour). This would constitute nearly an additional standard busload of transit trips in the outbound direction and half a busload of transit trips in the inbound direction, substantially more than the threshold of a five percent contribution that is typically considered significant. As such, the Proposed Project would cause a substantial increase in the transit ridership of 10 Townsend.

The Proposed Project related-transit trips would worsen the capacity utilization of the 10 Townsend at its Major Load Point (MLP) from 98 percent to 113 percent in the inbound direction and from 90 percent to 118 percent in the outbound direction, which would be a deterioration of capacity utilization. Because the Proposed Project would substantially increase ridership of this line and would cause the 10 Townsend to operate with capacity utilization exceeding Muni's 85 percent threshold, this would be a ***significant*** impact under CEQA.

The operations of the 10 Townsend Muni line can only be improved by increasing its capacity, which requires providing more buses serving this route. A fair-share funding agreement with SFMTA could help offset the Proposed Project's contribution (Mitigation Measure M-TR-4). However, because the ability of SFMTA to provide the additional service on this line to accommodate the Proposed Project is uncertain, the effectiveness of fair-share mitigation is unknown.

Because the Proposed Project would increase ridership on the Muni 10 Townsend line, which would result in an exceedance of Muni's 85 percent capacity utilization threshold, this would remain a ***significant and unavoidable*** impact under CEQA.

The Proposed Project would substantially increase transit demand that could not be accommodated by transit capacity. However, because the effect would be occurring in a limited geographic area that is part of a much larger geographic context,[4] the Proposed Project would result in a ***less-than-significant*** impact under NEPA.

> **Mitigation Measure M-TR-4 – Fair-Share Contribution to Improve 10 Townsend Line Capacity (Proposed Project and Reduced Development Alternative Only).** The project applicant shall work with the SFMTA to determine the feasible mitigation measures and contribute its fair share to improvements to the 10 Townsend Muni line by financially compensating SFMTA for the cost of providing the service needed to accommodate the project at proposed levels of service. The financial contribution shall be calculated and applied in a manner that is consistent with the SFMTA cost/scheduling model. The amount and schedule of payment and commitment to application of service needs shall be set forth in a Transit Mitigation Agreement between the project applicant and SFMTA.

Alternative 1 – Reduced Development Alternative

The Reduced Development Alternative would add 30 additional riders to the outbound 10 Townsend line. As such, the Reduced Development Alternative would cause a substantial increase in the transit ridership of 10 Townsend, particularly in the outbound direction during the PM peak

[4] The effect is considered to occur in a limited geographical area because it would only affect one transit line rather than at a larger geographical context i.e., affecting multiple transit lines or the entire system. The context for the analysis of this impact under NEPA is the larger Muni transit network rather than the single line as is the case under CEQA.

hour. The transit trips related to the Reduced Development Alternative would worsen the capacity utilization of the 10 Townsend from 98 percent to 108 percent in the inbound direction and from 90 percent to 107 percent in the outbound direction, which would be a deterioration of capacity utilization. Because the Reduced Development Alternative would cause the 10 Townsend to operate with capacity utilization exceeding Muni's 85 percent threshold, this would be a ***significant and unavoidable*** impact under CEQA.

The operations of the 10 Townsend Muni lines can only be improved by increasing its capacity, which requires providing more buses serving this route. A fair-share funding agreement with SFMTA could help offset the Reduced Development Alternative's contribution (Mitigation Measure M-TR-4). However, because the ability of SFMTA to provide the additional service on this line to accommodate the Reduced Development Alternative is uncertain, the effectiveness of fair-share mitigation is unknown.

Because the Reduced Development Alternative would increase ridership on the Muni 10 Townsend line, which would result in an exceedance of Muni's 85 percent capacity utilization threshold, this would remain a ***significant and unavoidable*** impact under CEQA.

The Reduced Development Alternative would substantially increase transit demand that could not be accommodated by transit capacity. However, because the effect would be occurring in a limited geographic area that is part of a much larger geographic context,[5] the Reduced Development Alternative would result in a ***less-than-significant*** impact under NEPA.

Impact TR-4(b)	**Effects on Transit Capacity – Muni 10 Polk and 48 Quintara-24th Street Lines** **CEQA: The Proposed Project and the Reduced Development Alternative would not increase ridership on the Muni 19 Polk and 48 Quintara-24th Street lines, which would not result in an exceedance of Muni's 85 percent capacity utilization threshold. (Less than Significant)** **NEPA: The Proposed Project and the Reduced Development Alternative would not substantially increase transit demand that could not be accommodated by transit capacity. (Less than Significant)**

Proposed Project

The Proposed Project would add 39 additional riders to the outbound 19 Polk line and 22 additional riders to the inbound 19 Polk line. It would add 17 additional outbound trips to the 24 Quintara-24th Street line and 28 inbound trips to the 48 Quintara-24th Street line. This would increase the capacity

[5] The effect is considered to occur in a limited geographical area because it would only affect one transit line rather than at a larger geographical context i.e., affecting multiple transit lines or the entire system. The context for the analysis of this impact under NEPA is the larger Muni transit network rather than the single line as is the case under CEQA.

utilization of the 19 Polk line to 77 percent and the 48 Quintara-24th Street line to 54 percent. However, the 19 Polk and 48 Quintara-24th Street lines would continue to operate under Muni's 85 percent utilization threshold.

Alternative 1 – Reduced Development Alternative

The Reduced Development Alternative would add 24 additional riders to the outbound and 13 additional riders to the inbound on the 19 Polk line under Existing Plus Project Conditions. It would result in an additional 11 riders on the outbound and 16 additional riders on the inbound on the 48 Quintara-24th Street line.

Because the 19 Polk and 48 Quintara-24th Street lines would continue to operate under Muni's 85 percent utilization threshold (73 percent for 19 Polk and 51 percent for 48 Quintara-24th Street), the Proposed Project and Reduced Development Alternative would result in a ***less-than-significant*** impact for the 19 Polk and 48 Quintara-24th Street lines under CEQA.

Similarly, given that the 19 Polk and 48 Quintara-24th Street lines would continue to operate within Muni's 85 percent utilization threshold with implementation of the Proposed Project and the Reduced Development Alternative, the 19 Polk and 48 Quintara-24th Street lines would experience a ***less than significant*** impact under NEPA.

Impact TR-4(c)	**Effects on Transit Capacity – Muni 19 Polk, 10 Townsend, and 48 Quintara-24th Street Lines** **CEQA: The Housing Replacement Alternative and the No Project Alternative would not increase ridership on Muni 19 Polk, 10 Townsend, and 48 Quintara-24th Street lines, which would not result in an exceedance of Muni's 85 percent capacity utilization threshold. (No Impact)** **NEPA: The Housing Replacement Alternative and the No Project Alternative would not substantially increase transit demand that could not be accommodated by transit capacity. (No Impact)**

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new transit-related trips; therefore, the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines would continue to operate with the same capacity utilization as under Existing Conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not result in any new transit-related trips; therefore, the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines would continue to operate with the same capacity utilization as under Existing Conditions.

The Housing Replacement Alternative and the No Project Alternative would not increase ridership on Muni 19 Polk, 10 Townsend, and 48 Quintara-24th Street lines and would not result in an

exceedance of Muni's 85 percent capacity utilization threshold; therefore, ***no impact*** would occur under CEQA.

Similarly, given that the 19 Polk and 48 Quintara-24th Street lines would continue to operate with the same capacity utilization with implementation of the Housing Replacement Alternative and the No Project Alternative, there would be ***no impact*** on the 19 Polk and 48 Quintara-24th Street lines under NEPA.

Transit Impacts: Muni Screenline Analysis

Impact TR-5(a)	**Effects on Screenline Ridership** **CEQA: The Proposed Project and the Reduced Development Alternative would result in a minimal increase in Muni Southeast screenline ridership and would not result in an exceedance of capacity utilizations. (Less than Significant)** **NEPA: The Proposed Project ant the Reduced Development Alternative would result in a minimal increase in Muni Southeast screenline ridership and would not result in an exceedance of capacity utilizations. (Less than Significant)**

The project-generated transit trips for the Proposed Project and the Reduced Development Alternative were distributed to these screenlines based on the distribution shown in Table 5.7-13. This would result in 275 transit trips (176 inbound and 99 outbound) for the Proposed Project and 170 transit trips (107 inbound and 63 outbound) for the Reduced Development Alternative using Muni to access the Project site. Only the Southeast screenline was considered for analysis purposes. This screenline includes ridership traveling in the peak direction during the PM peak hour, i.e., away from downtown San Francisco. Because the 99 Muni-based trips for the Proposed Project and 63 Muni-based trips for the Reduced Development Alternative would be traveling in the non-peak screenline direction, these trips were not included in the screenline analysis. Of the 176 and 103 Muni-based trips in the peak direction for the Proposed Project and the Reduced Development Alternative, approximately 130 and 80 trips would cross the Southeast screenline using the 10 Townsend, 19 Polk, and T Third Street Muni lines. As such, these were included in the screenline analysis. The remaining Muni-based trips in the peak direction would use the 22 Fillmore and 48 Quintara-24th Street lines to access the Project site; these two Muni routes do not cross any of the four screenlines identified for Muni.

Table 5.7-13 summarizes the analysis of ridership and capacity utilization for Muni Southeast Screenline operations under Existing Conditions and Existing Plus Project Conditions.

Table 5.7-13 Existing vs. Existing Plus Project Muni Screenline Analysis—Weekday PM Peak Hour

Southeast Screenline	*Existing*			*Existing Plus Project*					
				Proposed Project			*Reduced Development Alternative*		
	Ridership	*Peak Hour Capacity*	*Capacity Utilization*	*Project Trips*	*Ridership*	*Capacity Utilization*	*Project Trips*	*Ridership*	*Capacity Utilization*
Third St	554	714	78%	39	593	83%	24	578	81%
Mission St	1,254	2,350	53%	0	1,254	53%	0	1,254	53%
San Bruno/Bayshore	1,671	2,256	74%	0	1,671	74%	0	1,671	74%
All Other Lines	1,189	1,708	70%	91	1,280	75%	56	1,245	73%
Total	*4,668*	*7,028*	*66%*	*130*	*4,798*	*68%*	*80*	*4,748*	*68%*

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

Proposed Project

The addition of 130 riders to the Muni Southeast screenline routes that serve the study area would not substantially increase the peak hour capacity utilization. As shown in Table 5.7-13, with the Proposed Project, overall utilization would increase from 66 to 68 percent, which would not exceed Muni's standard of 85 percent capacity utilization. The Third Street corridor's capacity utilization would increase to 83 percent, which approaches the 85 percent threshold. However, because the 99 outbound Muni trips would occur in the non-peak direction of travel (i.e., inbound to downtown or not across any transit screenline), these trips would not be expected to cause a significant impact to Muni's operations.

Alternative 1 – Reduced Development Alternative

The addition of 80 riders to the Muni Southeast screenline routes that serve the study area would not substantially increase the peak hour capacity utilization of the Southeast screenline. As shown in Table 5.7-14, with the Reduced Development Alternative, overall utilization would increase from 66 to 68 percent, which would not exceed Muni's standard of 85 percent capacity utilization. Because the 63 outbound Muni trips would occur in the non-peak direction of travel (i.e., inbound to downtown or not across any transit screenline), these trips would not be expected to cause significant impact on Muni's operations.

Therefore, the Proposed Project and Reduced Development Alternative would result in a ***less-than-significant*** transit demand impact on the Muni's Southeast screenline under CEQA.

Similarly, given that implementation of the Proposed Project and Reduced Development Alternative would result in a ***less-than-significant*** impact on Muni's Southeast screenline under NEPA.

Impact TR-5(b)	**Effects of Screenline Ridership** **CEQA: The Housing Replacement Alternative and the No Project Alternative would result in a minimal increase in Muni Southeast screenline ridership and would not result in an exceedance of capacity utilizations. (No Impact)** **NEPA: The Housing Replacement Alternative and the No Project Alternative would result in a minimal increase in Muni Southeast screenline ridership and would not result in an exceedance of capacity utilizations. (No Impact)**

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new transit-related trips; as such, the Southeast screenline would continue to operate with the same capacity utilization as under Existing Conditions. Therefore, this alternative would result in ***no impact*** on the Southeast screenline under CEQA.

Alternative 3 – No Project Alternative

The No Project Alternative would not result in any new transit-related trips; as such, the Southeast screenline would continue to operate with the same capacity utilization as under Existing Conditions.

Therefore, the Housing Replacement Alternative and No Project Alternative would result in ***no impact*** on the Southeast screenline under CEQA.

Similarly, given that the Southeast screenline would continue to operate with the same capacity utilization with implementation of the Housing Replacement Alternative and the No Project Alternative, there would be ***no impact*** on the Southeast screenline under NEPA.

Transit Impacts: Regional Screenline Analysis

During the PM peak hour, the Proposed Project would result in 71 transit trips (46 inbound and 25 outbound) and the Reduced Development Alternative would result in 44 transit trips (28 inbound and 16 outbound) that would use regional transit providers. Project-related regional transit trips were added to East Bay, North Bay, and South Bay screenlines.

Because the peak direction of travel during the PM peak hour for regional screenlines would be from San Francisco County to the East Bay, North Bay, and South Bay, only the outbound regional transit trips (25 for the Proposed Project and 16 for the Reduced Development Alternative) were included in the screenline analysis. The inbound regional transit trips (46 for the Proposed Project and 28 for the Reduced Development Alternative) would occur in the non-peak direction of travel; as such, they would not be expected to cause significant impact to regional transit operations.

Impact TR-6(a)	**Effects on Screenline Ridership**
	CEQA: The Proposed Project and Reduced Development Alternative would result in a minimal increase in regional screenline ridership and would not result in an exceedance of capacity utilizations. (Less than Significant)
	NEPA: The Proposed Project and Reduced Development Alternative would result in a minimal increase in regional screenline ridership and would not result in an exceedance of capacity utilizations. (Less than Significant)

Table 5.7-14 summarizes the analysis of ridership and capacity utilization for regional transit screenline operations under Existing Conditions and Existing Plus Project Conditions.

Table 5.7-14 Existing vs. Existing Plus Project Regional Screenline Analysis—Weekday PM Peak Hour

Region	*Regional Transit Operator*	*Existing*			*Existing Plus Project*					
					Proposed Project			*Reduced Development Alternative*		
		Ridership	*Peak Hour Capacity*	*Capacity Utilization*	*Project Trips*	*Ridership*	*Capacity Utilization*	*Project Trips*	*Ridership*	*Capacity Utilization*
East Bay	BART	20,067	24,150	83%	7	20,074	83%	5	20,072	83%
	AC Transit	2,517	4,193	60%	2	2,519	60%	2	2,519	60%
	Ferries	702	1,519	46%	0	702	46%	0	702	46%
	Subtotal	*23,286*	*29,862*	*78%*	*9*	*23,295*	*78%*	*7*	*23,293*	*78%*
North Bay	GGT Buses	1,397	2,205	63%	1	1,398	63%	1	1,398	63%
	GGT Ferries	906	1,700	53%	1	907	53%	1	907	53%
	Subtotal	*2,303*	*3,905*	*59%*	*2*	*2,305*	*59%*	*2*	*2,305*	*59%*
South Bay	BART	10,202	16,800	61%	9	10,211	61%	5	10,207	61%
	Caltrain	1,986	3,250	61%	4	1,990	61%	2	1,988	61%
	SamTrans	575	940	61%	1	576	61%	0	575	61%
	Subtotal	*12,763*	*20,990*	*61%*	*14*	*12,777*	*61%*	*7*	*12,770*	*61%*
Total		*38,352*	*54,757*	*70%*	*25*	*38,377*	*70%*	*16*	*38,368*	*70%*

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

Proposed Project

The Proposed Project would result in a negligible net increase in ridership (25 outbound riders), as shown in Table 5.7-14, and capacity utilizations of all regional transit providers serving the Project site would remain the same as Existing Conditions (70 percent). Because the Proposed Project would not result in an exceedance of their designated capacity utilization standards, the Proposed Project would result in ***less-than-significant*** impacts on regional transit operations under CEQA.

Alternative 1 – Reduced Development Alternative

The Reduced Development Alternative would result in a negligible net increase in ridership (16 riders), as shown in Table 5.7-14, and capacity utilizations of all regional transit providers serving the Project site would remain the same as Existing Conditions (70 percent).

The Proposed Project and Reduced Development Alternative would not result in an exceedance of their designated capacity utilization standards. Similar to the Proposed Project, this would result in ***less-than-significant*** impacts on regional transit operations under CEQA.

Similarly, given that implementation of the Proposed Project and Reduced Development Alternative would result in an incrementally small net increase in ridership, the impact on regional transit operations would be ***less than significant*** under NEPA.

Impact TR-6(b)	**Effects on Screenline Ridership**
	CEQA: The Housing Replacement Alternative and the No Project Alternative would result in a minimal increase in regional screenline ridership and would not result in an exceedance of capacity utilizations. (No Impact)
	NEPA: The Housing Replacement Alternative and the No Project Alternative would result in a minimal increase in regional screenline ridership and would not result in an exceedance of capacity utilizations. (No Impact)

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new transit-related trips; as such, all study regional transit services would continue to operate with the same capacity utilization as under Existing Conditions. Similarly, given that regional transit services would continue to operate with the same capacity utilization with implementation of the Housing Replacement Alternative, there would be ***no impact*** on regional transit services under CEQA or NEPA.

Alternative 3 – No Project Alternative

The No Project Alternative would not result in any new transit-related trips; as such, all study regional transit services would continue to operate with the same capacity utilization as under Existing Conditions.

Therefore, the Housing Replacement Alternative and No Project Alternative would result in ***no impact*** on regional transit operators under CEQA.

Similarly, given that regional transit services would continue to operate with the same capacity utilization with implementation of the Housing Replacement Alternative and No Project Alternative, there would be ***no impact*** on regional transit operators under NEPA.

Transit Impacts: Operations Analysis

Impact TR-7(a)	**Effects on Transit Operations** **CEQA: The Proposed Project and the Reduced Development Alternative would not affect Muni operations due to underground parking driveway placement in the Project site. (Less than Significant)** **NEPA: The Proposed Project and the Reduced Development Alternative would not affect Muni operations due to underground parking driveway placement in the Project site. (Less than Significant)**

Proposed Project

The provision of underground parking beneath residential buildings would create multiple driveways along streets located within the Project site to access those garages. All garage entrances that would be located along streets with transit service (Missouri, Arkansas, and Wisconsin Streets) would be required to have additional review by SFMTA Transit Operations to ensure the driveway would not encumber any bus stop or bus operations, as documented in the *Design Guidelines*. Additionally, minimum clearance distance would be provided between any garage driveway and neighboring intersections as well as Muni stops. These clearance distances would be identified coordinating with SFMTA. Similarly, any bulb-outs along streets located within the Project site, including transit streets, would require the review of the Transportation Advisory Staff Committee (TASC), which includes SFMTA, DPW, and other City agencies, and would be required to meet the following standards contained in the Better Streets Plan:

- Streets and bulb-outs shall be designed to accommodate emergency vehicle (WB-40) turns.
- Streets and bulb-outs along Muni routes shall be designed to accommodate a 40-foot (B-40) bus.

Alternative 1 – Reduced Development Alternative

The provision of underground parking beneath residential buildings would create multiple driveways along streets located within the Project site to access those garages. All garage entrances that would be located along streets with transit service (Missouri, Arkansas, and Wisconsin Streets) would not encumber any bus stop. Additionally, minimum clearance distance would be provided between any garage driveway and neighboring intersections as well as Muni stops. These clearance distances would be identified coordinating with SFMTA. Similarly, any bulb-outs along streets located within the Project site, including transit streets, would require the review of the TASC, which includes SFMTA, DPW and other City agencies, and would be required to meet the following standards contained in the Better Streets Plan:

- Streets and bulb-outs shall be designed to accommodate emergency vehicle (WB-40) turns.
- Streets and bulb-outs along Muni routes shall be designed to accommodate a 40-foot (B-40) bus.

Therefore, driveways provided as part of Proposed Project and the Reduced Development Alternative are not expected to result in any significant impacts on Muni operations. Impacts are considered ***less than significant*** under CEQA.

Similarly, given that implementation of Proposed Project and the Reduced Development Alternative would not encumber any bus stop or bus operations, the impact on Muni operations would be ***less than significant*** under NEPA.

Impact TR-7(b)	**Effects on Transit Operations**
	CEQA: The Housing Replacement Alternative and the No Project Alternative would not affect Muni operations due to underground parking driveway placement in the Project site. (No Impact)
	NEPA: The Housing Replacement Alternative and the No Project Alternative would not affect Muni operations due to underground parking driveway placement in the Project site. (No Impact)

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not involve any changes to the roadway layout within the Project site or construct new buildings with driveway placement that would differ from existing conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not involve any changes to the roadway layout within the Project site or construct new buildings with driveway placement that would differ from existing conditions.

Therefore, the Housing Replacement Alternative and No Project Alternative would result in ***no impact*** under CEQA on Muni operations due to driveway placement.

Similarly, given that implementation of the Housing Replacement Alternative and No Project Alternative would not result in any changes to the roadway layout, there would be ***no impact*** on Muni operations under NEPA.

Impact TR-8(a)	**Effects on Street Network**
	CEQA: The Proposed Project and the Reduced Development Alternative would modify the existing street network within the Project site, resulting in rerouting of the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines. (Less than Significant)
	NEPA: The Proposed Project and the Reduced Development Alternative would modify the existing street network within the Project site, resulting in rerouting of the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines. (Less than Significant)

Proposed Project

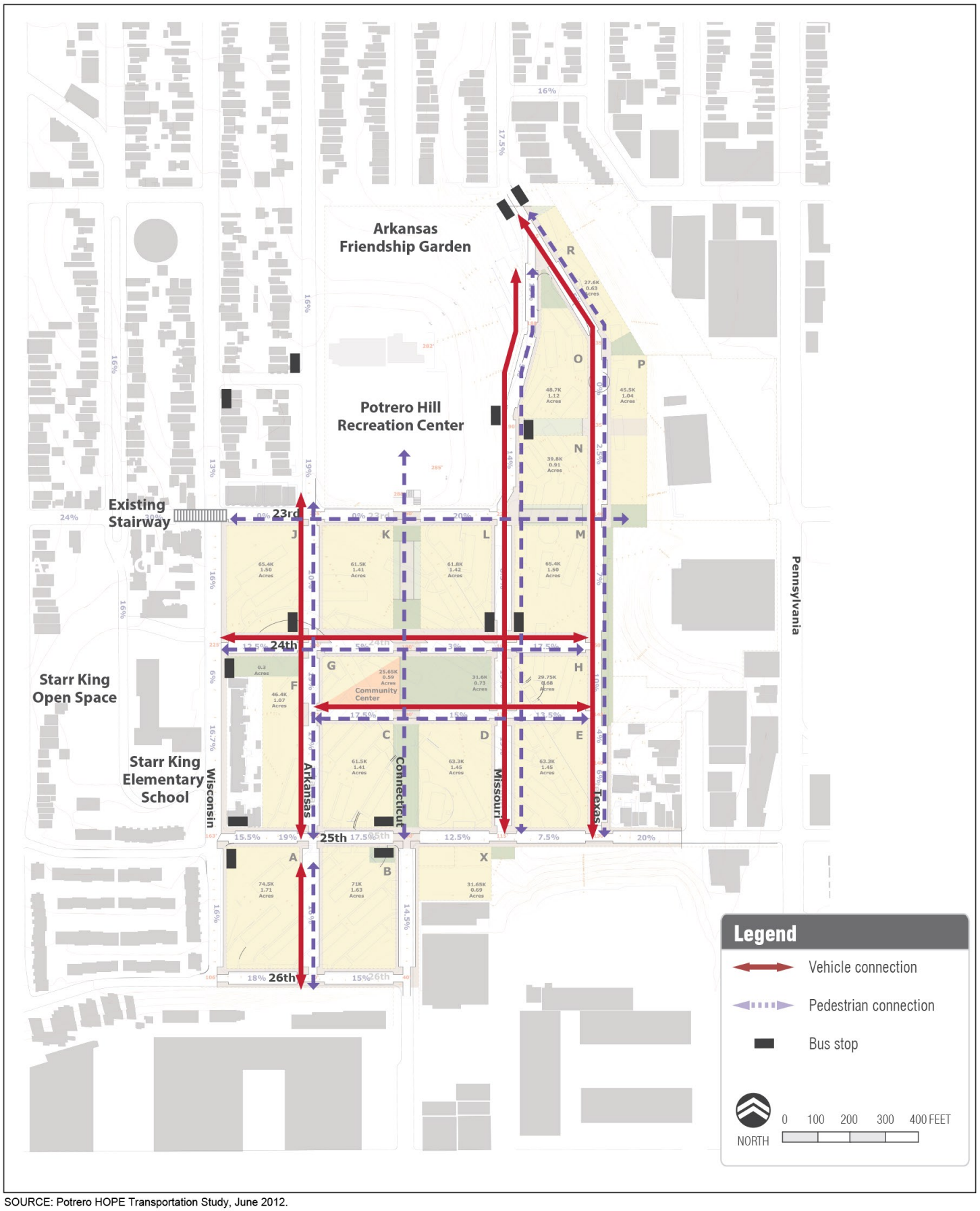
Current Muni lines directly serving the Project site (10 Townsend, 19 Polk, and 48 Quintara-24th Street) would continue to serve the Project site under Existing Plus Project Conditions as well. However, the existing street network within the Project site would be modified to a grid system to better match the neighboring street layout as part of the Proposed Project, as shown in Figure 5.7-5. This modification in roadway layout would realign all diagonally aligned streets into streets running in the north/south and east/west directions, thereby rerouting the Muni lines, as illustrated in Figure 5.7-6. Project design plans, Muni and bus reroutes, as well as potential stop locations, were reviewed and approved. The planned modification to the roadway layout might increase walking distance for some bus riders by one to two blocks, but it would reduce travel distance for the Muni lines and generally improve their operations.

Alternative 1 – Reduced Development Alternative

Current Muni lines directly serving the Project site (10 Townsend, 19 Polk, and 48 Quintara-24th Street) would continue to serve the site under Existing Plus Project Conditions as well. However, the existing street network within the Project site would be modified to a grid system to closely match the neighboring street layout as part of the Reduced Development Alternative, as shown in Figure 5.7-5. This modification in roadway layout would realign all diagonally aligned streets into streets running in the north/south and east/west directions, thereby rerouting the Muni lines, as illustrated in Figure 5.7-6. These rerouted Muni lines within the Project site were reviewed and approved by SFMTA. The planned modification to the roadway layout might increase walking distance for a few bus riders by one to two blocks, but it would reduce travel distance for the Muni lines and improve their operations.

Therefore, the Proposed Project and Reduced Development Alternative would not result in any significant impacts on on-site Muni operations under Existing Plus Project Conditions. Impacts are ***less than significant*** under CEQA.

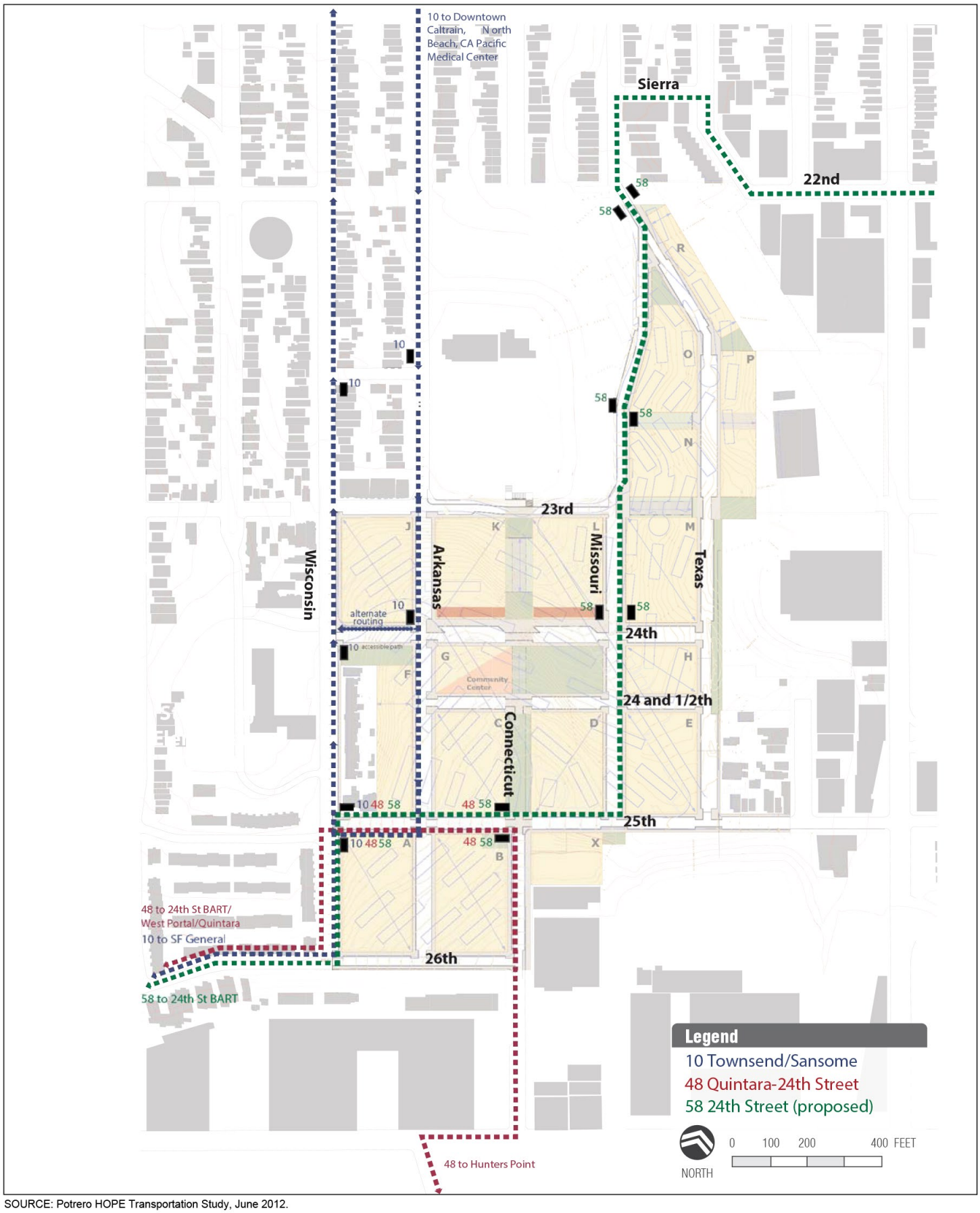
Similarly, given that implementation of the Proposed Project and Reduced Development Alternative would not reduce travel distances for Muni bus lines, the impact on Muni operations would be ***less than significant*** under NEPA.



SOURCE: Potrero HOPE Transportation Study, June 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.7-5: NEW VEHICLE AND PEDESTRIAN CONNECTIONS



SOURCE: Potrero HOPE Transportation Study, June 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.7-6: PLANNED MUNI ROUTES

Impact TR-8(b)	**Effects on Street Network** **CEQA: The Housing Replacement Alternative and the No Project Alternative would not modify the existing street network within the Project site and, therefore, would not result in the rerouting of the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines. (No Impact)** **NEPA: The Housing Replacement Alternative and the No Project Alternative would not modify the existing street network within the Project site and, therefore, would not result in the rerouting of the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines. (No Impact)**

Alternative 2 – Housing Replacement Alternative

The roadway layout within the Project site would not be modified. As such, there would not be any modifications to Muni bus routing within the Project site. Alternative 3 – No Project Alternative

The roadway layout within the Project site would not be modified. As such, there would not be any modifications to Muni bus routing within the Project site.

Therefore, the Housing Replacement Alternative and No Project Alternative would result in ***no impact*** under CEQA on on-site Muni operations due to re-routing.

Similarly, given that implementation of the Housing Replacement Alternative and No Project Alternative would not result in any changes to Muni bus routing, there would be ***no impact*** on Muni operations under NEPA.

Impact TR-9(a)	**Effects on Bus Stops** **CEQA: The Proposed Project and the Reduced Development Alternative would modify the existing street network, resulting in relocation of bus stops for 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines within the Project site. (Less than Significant)** **NEPA: The Proposed Project and the Reduced Development Alternative would modify the existing street network, resulting in relocation of bus stops for 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines within the Project site. (Less than Significant)**

Proposed Project

The proposed street realignment and grid reconnections to the surrounding neighborhood would result in the relocation of existing bus stops within the Project site, as shown in Figure 5.7-5. In addition, the following changes to the Muni lines directly serving the Project site are planned as part of the TEP by 2016:

- The 10 Townsend would be renamed to become the 10 Sansome.

- The 19 Polk would be rerouted to operate between Van Ness Avenue/North Point and San Francisco General Hospital, and would not serve the Project site directly.
- The 48 Quintara-24th Street would be rerouted so that segments south of 24th Street would be served by the 48 Quintara-24th Street, instead of the 19 Polk. Service on the 48 Quintara-24th Street would run all day from 48th Avenue to the Navy Yard, connecting to Hunters Point, currently served by the 19 Polk.
- A new 58 24th Street service connecting Diamond Street with the 22nd Street Caltrain station would serve the Project site directly.
- The bus stop serving the outbound 10 Townsend/Sansome and located along westbound 25th Street (east of Connecticut Street) would be relocated to southbound Arkansas Street (north of 24th Street).
- Bus stops serving the inbound 10 Townsend and located along northbound Dakota Street (between 25th and 23rd Streets, and south of 23rd Street) and westbound 23rd Street (east of Wisconsin Street) would be relocated and consolidated at northbound Wisconsin Street (south of 24th Street).
- The bus stop serving the 48 Quintara-24th Street and located along eastbound 25th Street (west of Dakota Street) would be relocated to eastbound 25th Street (west of Connecticut Street).
- Bus stops serving the 10 Polk and 48 Quintara-24th Street and located at northbound Wisconsin Street (north of 26th Street and south of 25th Street) would be consolidated at northbound Wisconsin Street (south of 25th Street).
- New bus stops would be created along westbound 25th Street (east of Wisconsin Street), westbound 25th Street (west of Connecticut Street), and various locations along Missouri Street in both the directions, including north of 24th Street, between 23rd and Texas Streets, and north of Texas Street. These new bus stops are planned to serve the new 58 24th Street line and other Muni routes.

The following discussion identifies the impact of bus stop relocations on Muni's operations under two scenarios: with and without implementation of TEP recommendations before the project development is completed (anticipated by 2025).

With TEP Implementation

In coordination with SFMTA, the project applicant has developed bus routing and stops through the Project site to best align with the expected TEP transit route alignments and connect properly with the remainder of the transit lines external to the project study area. The Proposed Project would relocate/consolidate existing bus stops and create new ones accounting for the planned changes to Muni lines serving the Project site as part of the TEP. Final bus stop location and design would be subject to SFMTA review and approval. Proposed changes to the bus stops include the following:

- Bus stops serving the 19 Polk and located along northbound Connecticut Street (between 25th and Wisconsin Streets), southbound Connecticut Street (north of 26th Street), and southbound

Wisconsin Street (south of Coral Street) would be eliminated because the 19 Polk would not travel through the Project site in the near future.

- The bus stop serving the outbound 10 Townsend/Sansome and located along westbound 25th Street (east of Connecticut Street) would be relocated to southbound Arkansas Street (north of 24th Street).
- Bus stops serving the inbound 10 Townsend and located along northbound Dakota Street (between 25th and 23rd Streets, and south of 23rd Street) and westbound 23rd Street (east of Wisconsin Street) would be relocated and consolidated at northbound Wisconsin Street (south of 24th Street).
- The bus stop serving the 48 Quintara-24th Street and located along eastbound 25th Street (west of Dakota Street) would be relocated to eastbound 25th Street (west of Connecticut Street).
- Bus stops serving the 10 Polk and 48 Quintara-24th Street and located at northbound Wisconsin Street (north of 26th Street and south of 25th Street) would be consolidated at northbound Wisconsin Street (south of 25th Street).
- New bus stops would be created along westbound 25th Street (east of Wisconsin Street), westbound 25th Street (west of Connecticut Street), and various locations along Missouri Street in both the directions, including north of 24th Street, between 23rd and Texas Streets, and north of Texas Street. These new bus stops are planned to serve the new 58 24th Street line and other Muni routes.

In total, 12 bus stops would be created or affected within the Project site, compared to 10 bus stops under Existing Conditions. The elimination of bus stops serving the 19 Polk on Connecticut Street and Wisconsin Street would not affect Muni's operations because the 19 Polk would not access the Project site in the near future. Even though three bus stops serving the inbound 10 Townsend/ Sansome would be consolidated to one bus stop along northbound Wisconsin Street, it would not worsen Muni's operations. The consolidation is planned to enhance Muni operations by reducing bus travel distance and travel time. However, consolidation of bus stops would increase walking distance for some of the transit riders by one to two blocks. The Proposed Project would not modify the number of bus stops within the Project site that would serve the outbound 10 Townsend/ Sansome and 48 Quintara-24th Street lines. Therefore, the planned relocation and consolidation of bus stops as part of the Proposed Project would have a ***less-than-significant impact*** on Muni's operations with the implementation of TEP recommendations.

Without TEP Implementation

In the event TEP recommendations are not implemented before the project development is completed, it is anticipated that the locations of bus stops within the Project site would remain the same, except the following:

- Bus stop serving the 19 Polk and located along northbound Connecticut Street (between 25th and Wisconsin Streets) would be relocated to westbound 25th Street (west of Connecticut Street).

- Bus stop serving the 19 Polk and located along southbound Wisconsin Street (south of Coral Street) would be relocated to westbound 25th Street (east of Wisconsin Street).
- Bus stops serving the inbound 10 Townsend and located along northbound Dakota Street (between 25th and 23rd Streets, and south of 23rd Street) and westbound 23rd Street (east of Wisconsin Street) would be relocated and consolidated at northbound Wisconsin Street (south of 24th Street).

In total, eight bus stops would be provided within the Project site, compared to 10 bus stops under Existing Conditions. The relocation of bus stops serving the 19 Polk and the consolidation of bus stops serving the inbound 10 Townsend would not be anticipated to worsen Muni's operations. The consolidation is planned to enhance Muni's operations by reducing bus travel distance and travel time. Consolidation and relocations of bus stops would however increase walking distance for some transit riders by one to two blocks.

Alternative 1 – Reduced Development Alternative

With the proposed street realignment and grid reconnections to the surrounding neighborhood under Existing Plus Project Conditions, the Reduced Development Alternative would result in the relocation of existing bus stops within the Project site. In addition, the changes to the Muni lines directly serving the Project site are planned as part of the TEP by 2016 and are outlined above.

The following discussion identifies the impact of bus stop relocations on Muni's operations under two scenarios: with and without implementation of TEP recommendations before the project development is completed (anticipated by 2025).

With TEP Implementation

In coordination with SFMTA, the project applicant has developed bus routing and stops through the Project site to best align with the expected TEP transit route alignments and connect properly with the remainder of the transit lines external to the project study area. The Reduced Development Alternative would relocate/consolidate existing bus stops and create new ones accounting for the planned changes to Muni lines serving the Project site as part of the TEP.

In total, 12 bus stops would be provided within the Project site, compared to 10 bus stops under Existing Conditions. The elimination of bus stops serving the 19 Polk would not affect Muni's operations, since the 19 Polk would not access the Project site in the near future. Even though three bus stops serving the inbound 10 Townsend/Sansome would be consolidated to one bus stop along northbound Wisconsin Street, it would not worsen Muni's operations. In turn, it could enhance its operations by reducing bus travel distance and travel time. However, consolidation of bus stops would increase walking distance for some of the transit riders by one to two blocks. The Reduced Development Alternative would not modify the number of bus stops within the Project site that would serve the outbound 10 Townsend/ Sansome and 48 Quintara-24th Street lines. Therefore, the planned relocation and consolidation of bus stops as part of the Reduced Development Alternative

would have a ***less-than-significant impact*** for both CEQA and NEPA on Muni's operations with the implementation of TEP recommendations.

Without TEP Implementation

In the event the TEP recommendations are not implemented before the project development is completed, it is anticipated that the locations of bus stops within the Project site would remain the same, except the following:

- Bus stop serving the 19 Polk and located along northbound Connecticut Street (between 25th and Wisconsin Streets) would be relocated to westbound 25th Street (west of Connecticut Street).
- Bus stop serving the 19 Polk and located along southbound Wisconsin Street (south of Coral Street) would be relocated to westbound 25th Street (east of Wisconsin Street).
- Bus stops serving the inbound 10 Townsend and located along northbound Dakota Street (between 25th and 23rd Streets, and south of 23rd Street) and westbound 23rd Street (east of Wisconsin Street) would be relocated and consolidated at northbound Wisconsin Street (south of 24th Street)

In total, eight (8) bus stops would be provided within the Project site, compared to 10 bus stops under Existing Conditions. The relocation of bus stops serving the 19 Polk and the consolidation of bus stops serving the inbound 10 Townsend would not worsen Muni's operations. It could in turn enhance Muni's operations by reducing bus travel distance and travel time. Consolidation and relocation of bus stops would however increase walking distance for some of the transit riders by one to two blocks.

Therefore, the planned relocation and consolidation of bus stops as part of the Proposed Project and Reduced Development Alternative would not have a significant impact on Muni's operations with and without the implementation of TEP recommendations. Impacts would be ***less than significant*** under CEQA**.**

Similarly, while implementation of the Proposed Project and Reduced Development Alternative would result in the reduction and consolidation of bus stops, the consolidation would enhance Muni operations by reducing travel distances for Muni bus lines. Therefore, the impact on Muni operations with and without the TEP would be ***less than significant*** under NEPA.

Impact TR-9(b)	**Effects on Bus Stops**
	CEQA: The Housing Replacement Alternative and the No Project Alternative would not modify the existing street network and, therefore, would not result in the relocation of bus stops for 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines within the Project site. (No Impact)
	NEPA: The Housing Replacement Alternative and the No Project Alternative would not modify the existing street network and, therefore, would not result in the relocation of bus stops for 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni lines within the Project site. (No Impact)

Alternative 2 – Housing Replacement Alternative

The roadway layout within the Project site would not be modified. Therefore, it would not relocate any of the bus stops located within the Project site under with or without TEP implementation.

Alternative 3 – No Project Alternative

The roadway layout within the Project site would not be modified. Therefore, it would not relocate any of the bus stops located within the Project site under with or without TEP implementation.

Accordingly, the Housing Replacement Alternative and No Project Alternative would result in ***no impact*** under CEQA on Muni operations due to bus stop relocation.

The Housing Replacement Alternative and No Project Alternative would also result in ***no impact*** under NEPA.

Pedestrian Impacts: Operations Analysis

Impact TR-10(a)	**Effects on Pedestrian Facilities**
	CEQA: The Proposed Project and the Reduced Development Alternative would increase the demand for additional pedestrian facilities. (Less than Significant)
	NEPA: The Proposed Project and the Reduced Development Alternative would increase the demand for additional pedestrian facilities. (Less than Significant)

Proposed Project

During the weekday PM peak hour, the Proposed Project would generate an estimated 476 pedestrian trips, including 130 walk-only trips and 346 trips to/from transit stops.

The Proposed Project would provide pedestrian bulb-outs, wherever feasible, and crosswalks at all intersections located within the Project site. This would increase the number of these elements as compared to existing conditions. Bulb-outs provide widened sidewalks for pedestrians, shortened crossing distances, and also traffic calming. Bulb-out designs at each intersection have not been

developed; as such, their dimensions and curb radii cannot be provided in this report. However, they would be required to be designed such that large vehicles, particularly buses, would be able to make right turns where needed. The project applicant would be required to work with the SFMTA, DPW, and the San Francisco Fire Department (SFFD) to make sure intersections are designed to meet their specifications. In addition, sidewalks that are 5 to 14 feet wide would be provided along all streets within the Project site. Wider sidewalks, about 9.5 to 14 feet wide would be provided along blocks with retail facilities and Community Center (Blocks K and L). All sidewalks and corner bulb-outs would be compliant with the American Disability Act (ADA), and the Better Streets Plan (*Planning Code* Section 138.1), as specified in the *Design Guidelines*. The planned pedestrian amenities provided as part of the Proposed Project would be an improvement over existing conditions, as many portions of the Project site currently do not have any sidewalk facilities, such as continuous pedestrian sidewalks or crosswalks, and pedestrian bulb-outs at intersections.

New pedestrian connections would be provided as part of the Proposed Project within and along the periphery of the Project site. These new pedestrian connections are shown in Figure 5.7-5. Additionally, the Proposed Project would provide new pedestrian paths to link new and existing neighborhood amenities, including the following:

- Connecticut Street would be transformed into a grand series of stairways between the new 24 and ½ Street and 23rd Street linking residents to the Potrero Hill Recreation Center.
- A new stairway connecting 23rd Street from Missouri Street to Texas Street would be provided.
- A new stairway along 22nd Street would be provided between Missouri Street and Texas Street. It is anticipated that this new facility could begin the pedestrian connection to the 22nd Street Caltrain Station, the 23rd Street T Third Street Station, and the 22nd Street mixed-use district.
- A pedestrian-accessible path would be provided to important neighborhood amenities, including Starr King Elementary School and the health clinic located at the Coral Street/Wisconsin Street intersection.

These new pedestrian connections would improve pedestrian circulation within and in the vicinity of the Project site. The Proposed Project would attempt to maximize accessibility by locating the neighborhood core (consisting of retail facilities, Community Center, and the 24th Street Central Park) at the center of the development on streets with less than 5 percent slope. The project would also provide pedestrian amenities on the street network such as street lights and plantings on every block. All of these improvements are consistent with the City's Better Streets Plan.

Additionally, the project applicant is working with the Mayor's Office of Disability (MOD) and SFDPW to prepare an accessibility circulation plan to ensure a circulation strategy for disabled citizens. This plan would be developed to create more pedestrian paths which would be accessible in the future, concentrate accessible units along Texas and 24th Streets, which are relatively less steep

than other streets within the Project site, concentrate accessible units that would have accessible parking in buildings with the most community amenities, and keep Texas Street relatively flat throughout. This plan would create a circulation strategy for disabled citizens within the Project site and reduce the need to access streets with steep grades.

The provision of below-grade residential parking would increase the potential for vehicle-pedestrian conflicts at driveway access locations. Therefore, to minimize these conflicts and to enhance pedestrian safety, the following guidelines would be adopted for the design of driveways and curb cuts:

- Driveways would generally be provided along major north/south streets to restrict the majority of the vehicular traffic to these roads and minimize vehicle traffic along minor east/west streets.
- Garage entrances shall be no wider than 20 feet if combined for ingress and egress, and no wider than 12 feet if ingress and egress are separated.
- Garages with more than 20 parking spaces would be subject to the Planning Department's Queue Abatement Condition of Approval, requiring the project applicant to design for and prevent through monitoring the potential for vehicle queues in the public right-of-way, including sidewalks.
- Curb-cuts would be kept to a minimum.
- At driveways for larger garages, warning signals or vehicle alert system shall be deployed to improve vehicle, pedestrian, and bicycle circulation near the garage entrance.

Pedestrian activity within the study area under Existing Conditions was observed to be low, despite having an elementary school, a health clinic, and a recreation center in the neighborhood. Even with the construction of the project, pedestrian trips accessing Starr King Elementary School, the health clinic, and the Potrero Hill Recreation Center are expected to be low to moderate. Because the Proposed Project would provide pedestrian accessible paths to these facilities along with improve pedestrian features, including wide sidewalks, crosswalks, and pedestrian bulb-outs, potential pedestrian and vehicular conflicts are expected to be low.

Although the Proposed Project would increase pedestrian activity with project vehicles within and in the vicinity of the Project site, the pedestrian improvements planned as part of the Proposed Project would generally improve conditions and be able to accommodate the increased pedestrian activity.

Alternative 1 – Reduced Development Alternative

During the weekday PM peak hour, the Reduced Development Alternative would generate 310 pedestrian trips, consisting of 96 walk-only trips and 214 trips to/from transit stops.

The Reduced Development Alternative would provide pedestrian bulb-outs, wherever feasible, and crosswalks at all intersections located within the Project site. This would increase the number of these elements as compared to existing conditions. Bulb-outs provide widened sidewalks for pedestrians, shortened crossing distances, and also traffic calming. Bulb-out designs at each intersection have not been developed; as such, their dimensions and curb radii cannot be provided in this report. However, they would be required to be designed such that large vehicles, particularly buses, would be able to make right turns where needed. The project applicant would be required to work with the SFMTA, DPW, and the SFFD to make sure intersections are designed to meet their specifications. In addition, sidewalks that are 5 to 14 feet wide would be provided along all streets within the Project site. Wider sidewalks, about 9.5 to 14 feet wide would be provided along blocks with retail facilities and Community Center (Blocks K and L). All sidewalks and corner bulb-outs would be compliant with the ADA. The planned pedestrian amenities provided as part of the Reduced Development Alternative would be an improvement over existing conditions, as many portions of the Project site currently do not have any sidewalk facilities, such as continuous pedestrian sidewalks or crosswalks, and pedestrian bulb-outs at intersections.

New and extensive pedestrian connections would be provided as part of the Reduced Development Alternative within and along the periphery of the Project site. These new pedestrian connections are shown in Figure 5.7-5. Additionally, the Reduced Development Alternative would provide new pedestrian paths to link new and existing neighborhood amenities, including the following:

- Connecticut Street would be transformed into a grand series of stairways between the new 24 and ½ Street and 23rd Street linking residents to the Potrero Hill Recreation Center.
- A new stairway connecting 23rd Street from Missouri Street to Texas Street would be provided.
- A new stairway along 22nd Street would be provided between Missouri Street and Texas Street. It is anticipated that this new facility could begin the pedestrian connection to the 22nd Street Caltrain Station, the 23rd Street T Third Street Station, and the 22nd Street mixed-use district.
- A pedestrian-accessible path would be provided to important neighborhood amenities, including Starr King Elementary School and the health clinic located at the Coral Street/Wisconsin Street intersection.

These new pedestrian connections would improve pedestrian circulation within and in the vicinity of the Project site. The Reduced Development Alternative would attempt to maximize accessibility by locating the neighborhood core (consisting of retail facilities, Community Center, and the 24th Street Central Park) at the center of the development on streets with less than 5 percent slope. The project would also provide pedestrian amenities on the street network such as street lights and plantings on every block. These improvements are consistent with the City's Better Streets Plan.

Additionally, the project applicant is working with the MOD and SFDPW to prepare an accessibility circulation plan to provide a circulation strategy for disabled citizens. This plan would be developed to create more pedestrian paths which would be accessible in the future, concentrate accessible units along Texas and 24th Streets, which are relatively less steep than other streets within the Project site, concentrate accessible units that would have accessible parking in buildings with the most community amenities, and keep Texas Street relatively flat throughout. This plan would provide a circulation strategy for disabled citizens within the Project site and reduce the need to access streets with steep grades.

The provision of below-grade residential parking would increase the potential for vehicle-pedestrian conflicts at driveway access locations. Therefore, to minimize these conflicts and to enhance pedestrian safety, the following guidelines would be adopted for the design of driveways and curb cuts:

- Driveways would generally be provided along major north/south streets to restrict the majority of the vehicular traffic to these roads and minimize vehicle traffic along minor east/west streets.
- Garage entrances shall be no wider than 20 feet if combined for ingress and egress, and no wider than 12 feet if ingress and egress are separated.
- Garages with more than 20 parking spaces would be subject to the Planning Department's Queue Abatement Condition of Approval, requiring the project applicant to design for and prevent through monitoring the potential for vehicle queues in the public right-of-way, including sidewalks.
- Curb-cuts would be kept to a minimum.
- At driveways for larger garages, warning signals or vehicle alert system shall be deployed to improve vehicle, pedestrian, and bicycle circulation near the garage entrance.

Pedestrian activity within the study area under Existing Conditions was observed to be low, despite having an elementary school, a health clinic, and a recreation center in the neighborhood. Even with the construction of the project, pedestrian trips accessing Starr King Elementary School, the health clinic, and the Potrero Hill Recreation Center are expected to be low to moderate. Because the Reduced Development Alternative would provide pedestrian accessible paths to these facilities along with improved pedestrian features, including wide sidewalks, crosswalks, and pedestrian bulb-outs, potential pedestrian and vehicular conflicts are expected to be low.

Although the Reduced Development Alternative would increase pedestrian activity with project vehicles within and in the vicinity of the Project site, the pedestrian improvements planned as part of the Reduced Development Alternative would generally improve conditions and be able to accommodate the increased pedestrian activity.

Therefore, the Proposed Project and Reduced Development Alternative would result in a ***less-than-significant*** impact under CEQA on pedestrian operations within and adjacent to the Project site.

Similarly, given that implementation of the Proposed Project and Reduced Development Alternative would improve pedestrian connectivity, the effect on pedestrian operations would be ***less than significant*** under NEPA.

Impact TR-10(b)	**Effects on Pedestrian Facilities**
	CEQA: The Housing Replacement Alternative and the No Project Alternative would not increase the demand for additional pedestrian facilities. (No Impact)
	NEPA: The Housing Replacement Alternative and the No Project Alternative would not increase the demand for additional pedestrian facilities. (No Impact)

Alternative 2 – Housing Replacement Alternative

The pedestrian facilities would remain the same as under existing conditions, and no improvements would be provided. This alternative would not add any new pedestrian trips to the study area and pedestrian activity within the study area, and pedestrian trips would continue to be similar to Existing Conditions. Therefore, pedestrian facilities currently available at the Project site would continue to be adequate to handle the existing pedestrian traffic.

Alternative 3 – No Project Alternative

The pedestrian facilities would remain the same as under existing conditions, and no improvements would be provided to pedestrian facilities. This alternative would not add any new pedestrian trips to the study area and pedestrian activity within the study area, and pedestrian trips would continue to remain low. Therefore, pedestrian facilities currently available at the Project site would continue to be adequate to handle the low pedestrian traffic.

Therefore, the Housing Replacement Alternative and No Project Alternative would have ***no impact*** under CEQA.

As implementation of the Housing Replacement Alternative and No Project Alternative would not add any pedestrian trips, there would be ***no impact*** under NEPA.

Bicycle Impacts: Operations Analysis

Impact TR-11(a)	**Effects on Bicycle Facilities** **CEQA: The Proposed Project and the Reduced Development Alternative would result in the demand for new bicycle parking spaces and additional bicycle routes. (Less than Significant)** **NEPA: The Proposed Project and the Reduced Development Alternative would result in the demand for new bicycle parking spaces and additional bicycle routes. (Less than Significant)**

Proposed Project

Bicycle Parking

There are currently no bicycle parking spaces at the Project site. The Proposed Project would include 1,700 dwelling units (with 1,600 non-senior-housing units), and, thus, would require 1,550 bicycle parking spaces for residential use.

Based on *Planning Code* Section 155.2, retail spaces over 7,500 sf are required to provide bicycle parking spaces. Therefore, the Proposed Project would require two Class 1 and six Class 2 bicycle parking spaces for the planned retail.

For the proposed Community Center, *Planning Code* Section 155.2 states that buildings with public uses including a community center must provide bike parking if they are over 5,000 sf. Therefore, the Proposed Project would require seven Class 1 and 21 Class 2 bicycle parking spaces for the planned Community Center.

In addition to bicycle parking, the Community Center within the Proposed Project would be required to provide shower and clothes locker facilities. According to *Planning Code* Section 155.3, for facilities between 20,000 and 50,000 sf in size, two showers and 12 lockers are required. The residential development portion of the project would be exempt from the shower and locker facilities requirement.

Based on current designs, the Proposed Project would provide 839 bicycle spaces within the Project site, of which 810 spaces would be secured spaces distributed within the residential buildings, and the remaining 29 spaces, subject to SFMTA review and approval, would be provided on-street as bicycle racks. The proposed distribution of on-street bicycle spaces within the Project site for the Proposed Project is shown in the Transit and Bike Parking layout, included in Appendix B of the TIS (Appendix 4.7 in this Draft EIR/EIS). Exact locations of secured bicycle parking spaces would be determined following the building design phase and review and approval by SFMTA. In addition, the Proposed Project, based on current designs, would provide at least two showers and 12 locker facilities in the Community Center.

Bicycle parking spaces would be distributed around the Project site, with secured bicycle parking within each residential building and on-street bicycle racks provided near the commercial, recreational and Community Center facilities, subject to SFMTA review and approval. The design of residential bicycle parking would vary for each building, but in all cases would be easily accessible and designed to minimize conflicts between bicycles, pedestrians and drivers. As shown in Appendix B of the TIS (Appendix 4.7 in this Draft EIR/EIS), concentrations of bicycle racks would be provided around Community Center and open space areas. Within buildings, bicycle facilities would be located in well-lit, safely accessible areas. Because the Proposed Project is anticipated to be built in several phases over time, adequate bicycle facilities would be provided in accordance with the number of residential units being constructed during each phase, and coordination with SFMTA for the on-street bicycle parking would occur as streets were completed. Therefore, the Proposed Project would meet the *Planning Code* requirements for bicycle parking, showers, and lockers.

Bicycle Circulation

There are no bicycle routes within the Project site, and access to the site is minimal. Bicycle activity at the site and vicinity is low.

The Proposed Project would not provide any dedicated bicycle facilities within the Project site. However, the redesign of the street layout as part of the Proposed Project would provide streets with grades less than 8.33 percent within the Project site along Texas, 24th, and 23rd Streets. While no bicycle routes currently traverse the Project site, opportunities for bicycle connections are envisioned along these less steep streets provided as part of the Proposed Project. Opportunities for key bicycle connections are created along the following streets:

- Texas Street in the north/south direction between 25th and 22nd Streets
- 24th Street in the east/west direction between Wisconsin and Texas Streets
- 25th Street in the east/west direction between Connecticut and Indiana Streets
- Connecticut Street in the north/south direction between 25th and Cesar Chavez Streets

These planned opportunities for key bicycle connections are shown in the Mobility and Circulation Concept Plan, included in Appendix B of the TIS (Appendix 4.7 in this Draft EIR/EIS). Also, street and landscape design with wider sidewalks, 11- to 12-foot travel ways, better internal connections, and more public pathways is expected to encourage bicycling opportunities as part of roadway accommodations. Back-in vehicle parking would be provided on 24th Street between Arkansas and Missouri Streets to increase safety for bicyclists. Head-in parking would be limited to Texas Street. Bicycle racks are planned, subject to SFMTA review and approval, for all public open spaces, the Community Center, and along retail facilities as designated in the Transit and Bike Parking layout, included in Appendix B of the TIS (Appendix 4.7 in this Draft EIR/EIS). All these roadway and parking features are expected to promote multimodal use of the street network. These amenities would offer a more inviting environment for bicycle riders to utilize these roadways.

With an increased residential density, an increase in bicycle activity within the study area is anticipated due to the Proposed Project. During the PM peak hour, 243 net project-related trips would occur using modes other than automobile, transit, and walking. It is anticipated that a majority of these "other" trips would be by bicycle. Even though there are no bicycle facilities (bicycle routes) at or near the Project site under existing conditions, as mentioned above, the redesign of the street layout and design as part of the Proposed Project would likely encourage bicycle travel and connections along relatively flat streets within the Project site, including Texas Street, 24th Street, 25th Street, and Connecticut Street. With an increase in residential density, parking and parking garage driveways, conflicts between new vehicles and bicyclists would also increase. Vehicles and bicyclists would share project roadways, and bicyclists would conflict with parking and parking garage driveways. However, street design would generally improve bicycle conditions, and bicycle travel was observed to be relatively low in the Project area.

Alternative 1 – Reduced Development Alternative

Bicycle Parking

There are currently no bicycle parking spaces at the Project site.

The Reduced Development Alternative would include 1,280 dwelling units (1,200 of which would be non-senior-housing units). This would require 616 bicycle parking spaces for residential use.

Based on *Planning Code* Section 155.2, retail spaces in excess of 7,500 sf in gross floor area would be required to provide bicycle parking spaces. Therefore, the Proposed Project would require two Class 1 and six Class 2 bicycle parking spaces for the planned retail.

For the proposed Community Center, *Planning Code* Section 155.2 states that buildings with public uses including a community center must provide bike parking if they are over 5,000 sf. Therefore, the Reduced Development Alternative would require five Class 1 and ten Class 2 bicycle parking spaces for the planned Community Center.

In addition to bicycle parking, the Community Center within the Reduced Development Alternative would be required to provide shower and clothes locker facilities. According to *Planning Code* Section 155.3, for facilities between 20,000 and 50,000 sf in size, two showers and 12 lockers are required. The residential development portion of the project would be exempt from the shower and locker facilities requirement.

Based on current designs, the Reduced Development Alternative would provide 639 secured bicycle spaces and subject to SFMTA review and approval, 23 spaces would be provided on-street as bicycle racks. The proposed distribution of on-street bicycle spaces within the Project site for the Reduced Development Alternative is shown in the Transit and Bike Parking layout, included in Appendix B of the TIS (Appendix 4.7 in this Draft EIR/EIS). Exact locations of secured bicycle parking spaces would be determined following the building design phase and review and approval by SFMTA. In

addition, the Reduced Development Alternative would provide at least two showers and four locker facilities in the Community Center.

Bicycle parking spaces would be distributed throughout the Project site, with secured bicycle parking within each residential building and on-street bicycle racks provided near the commercial, recreational and Community Center facilities, subject to SFMTA review and approval. The design of residential bicycle parking would vary for each building, but in all cases would be easily accessible and designed to minimize conflicts between bicycles, pedestrians and drivers. As shown in Appendix B of the TIS (Appendix 4.7 in this Draft EIR/EIS), concentrations of bicycle racks would be provided around Community Center and open space areas. Within buildings, bicycle facilities would be located in well-lit, safely accessible areas. Because the Reduced Development Alternative is anticipated to be built in several phases over time, adequate bicycle facilities would be provided in accordance with the number of residential units being constructed during each phase, and coordination with SFMTA for the on-street bicycle parking would occur as streets were completed. Therefore, the Reduced Development Alternative would meet the *Planning Code* requirements for bicycle parking, showers, and lockers.

Bicycle Circulation

There are no bicycle routes within the Project site, and there is no dedicated bicycle access to the site. Bicycle activity at the site and in the vicinity is low.

The Reduced Development Alternative would not provide any dedicated bicycle facilities within the Project site. However, the redesign of the street layout as part of the Reduced Development Alternative would provide streets with grades less than 8.33 percent within the Project site along Texas, 24th, and 23rd Streets. While no bicycle routes currently traverse the Project site, opportunities for bicycle connections are envisioned along these less steep streets provided as part of the Reduced Development Alternative. Opportunities for key bicycle connections are created along the following streets:

- Texas Street in the north/south direction between 25th and 22nd Streets
- 24th Street in the east/west direction between Wisconsin and Texas Streets
- 25th Street in the east/west direction between Connecticut and Indiana Streets
- Connecticut Street in the north/south direction between 25th and Cesar Chavez Streets

These planned opportunities for key bicycle connections are shown in the Mobility and Circulation Concept Plan, included in Appendix B of the TIS (Appendix 4.7 in this Draft EIR/EIS). Also, street and landscape design with wider sidewalks, 11- to 12-foot travel ways, better internal connections, and more public pathways is expected to encourage bicycling opportunities as part of roadway accommodations. Back-in vehicle parking would be provided on 24th Street between Arkansas and Missouri Streets to increase safety for bicyclists. Head-in parking would be limited to Texas Street. Bicycle racks are planned, subject to SFMTA review and approval, for all public open spaces,

the Community Center, and along retail facilities as designated in the Transit and Bike Parking layout, included in Appendix B of the TIS (Appendix 4.7 in this Draft EIR/EIS). All these roadway and parking features are expected to promote multimodal use of the street network. These amenities would offer a more inviting environment for bicycle riders to utilize these roadways.

With an increased residential density, an increase in bicycle activity within the study area is anticipated due to the Reduced Development Alternative. During the PM peak hour, 145 net project-related trips would occur using modes other than automobile, transit, and walking. It is anticipated that a majority of these "other" trips would be by bicycle. Even though there are no bicycle facilities (bicycle routes) at or near the Project site under existing conditions, as mentioned above, the redesign of the street layout and design as part of the Reduced Development Alternative would likely encourage bicycle travel and connections along relatively flat streets within the Project site, including Texas Street, 24th Street, 25th Street, and Connecticut Street. With an increase in residential density, parking and parking garage driveways, conflicts between new vehicles and bicyclists could also increase. However, street design would generally improve bicycle conditions, and bicycle travel was observed to be relatively low in the Project area.

Therefore, under CEQA, the Proposed Project and the Reduced Development Alternative would result in ***less-than-significant*** impacts to the study area bicycle operations under Existing Plus Project Conditions.

Given that implementation of the Proposed Project and Reduced Development Alternative would improve bicycle conditions, even though it could result in increased conflicts with motor vehicles, the overall effect on bicycle operations would be ***less than significant*** under NEPA.

Impact TR-11(b)	**Effects on Bicycle Facilities**
	CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in the demand for new bicycle parking spaces and additional bicycle routes. (No Impact)
	NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in the demand for new bicycle parking spaces and additional bicycle routes. (No Impact)

Alternative 2 – Housing Replacement Alternative

There are no bicycle facilities within the Project site, and no improvements would be provided under the Housing Replacement Alternative. The roadway network would not be modified, and there would be no changes to bus routes. Therefore, there would be no potential for increased conflicts with other modes of transportation compared to existing conditions.

Alternative 3 – No Project Alternative

There are no bicycle facilities within the Project site, and no improvements would be provided under the No Project Alternative. The roadway network would not be modified, and there would be no changes to bus routes. Therefore, there would be no potential for increased conflicts with other modes of transportation compared to existing conditions.

Therefore, under CEQA there would be ***no impact*** from the implementation of the Housing Replacement Alternative and No Project Alternative.

Similarly, the Housing Replacement Alternative and No Project Alternative would have ***no impact*** under NEPA.

Loading Impacts: Operations Analysis

Impact TR-12(a)	**Effects on Loading** **CEQA: The Proposed Project and the Reduced Development Alternative would include activities that would increase loading space demand. (Less than Significant)** **NEPA: The Proposed Project and the Reduced Development Alternative would include activities that would increase loading space demand. (Less than Significant)**

Proposed Project

Freight Loading

The Proposed Project would include two retail facilities in Blocks K and L, which would be less than 10,000 sf in size. According to *Planning Code* Section 152, one off-street freight loading space would be required for retail stores ranging from 10,001 to 60,000 sf in size. Therefore, the Proposed Project would not be required to provide any loading space for retail. Residential buildings and other facilities (under which the Community Center would be categorized) are expected to provide loading spaces if they exceed 100,000 sf in gross floor area (i.e., one space from 100,001 to 200,000 sf, two spaces from 200,001 sf to 500,000 sf, etc.). Residential buildings around the Project site would total 2,000,000 sf in size across 16 blocks, with some blocks having multiple residential buildings. It is not anticipated that any of the residential buildings would individually exceed 100,000 sf. Also, the Community Center would be less than 100,000 sf in gross floor area. Therefore, no freight loading spaces are required for residential or Community Center land uses.

The Proposed Project would generate approximately 67 delivery/service vehicle-trips per day, which would be a loading demand of approximately three spaces and four spaces during the average and peak loading hours. Although the Proposed Project is not required to provide off-street loading space, the project applicant would seek to provide at least 18 on-street loading spaces throughout the Project site by generally providing at least one on-street loading space per block that

would accommodate this loading demand. These yellow-marked loading spaces are subject to review and approval by SFMTA at a public hearing. The on-street loading spaces would be provided close to retail and Community Center facilities, and where appropriate, such as at the senior housing facility and near residential lobbies. Their exact location would be determined when the buildings are designed.

Passenger Drop-Off/Pick-Up Activities

The same on-street loading spaces that could be provided for the Proposed Project would also be used for passenger pick-up/drop-off activities within the Project site. The project applicant may also seek a white passenger zone for the senior housing use. The on-street loading spaces would be provided close to Community Center, senior housing facility, and residential lobbies. Their exact location would be determined when the buildings are designed. However, streets located in the vicinity of the buildings have sufficient street frontages to accommodate these on-street passenger loading spaces.

Solid Waste Storage and Access

Solid waste collection would be a combination of centralized and decentralized garbage, recycling, and compost collection areas to maximize efficiency depending on the type of building. For all project-related land uses, including residential, retail, and Community Center, garbage bins and dumpsters would be located internally within each building including in the parking garage where present. The exact locations of each collection area would be determined following the building design phase, but generally internal to each building, near maintenance, loading, or parking facilities. Garbage bins and dumpsters would be taken to the street and returned to the garages by maintenance personnel on pick-up days. The project applicant would coordinate with the San Francisco Department of the Environment (SF Environment) and the SFMTA's Sustainable Streets Division to ensure that the garbage containers remain on the street for the shortest time and would not result in any safety hazards on pedestrian, bicycle, or traffic circulation.

Alternative 1 – Reduced Development Alternative

Freight Loading

The Reduced Development Alternative would include two retail facilities in Blocks K and L, which would be less than 10,000 sf in size. According to *Planning Code* Section 152, one off-street freight loading space would be required for retail stores ranging from 10,001 to 60,000 sf in size. Therefore, the Reduced Development Alternative would not be required to provide any loading space for retail. Residential buildings and other facilities (under which the Community Center would be categorized) are expected to provide loading spaces if they exceed 100,000 sf in gross floor area (i.e., one space from 100,001 to 200,000 sf, two spaces from 200,001 sf to 500,000 sf, etc.). Residential buildings around the Project site would total 2,000,000 sf in size across 16 blocks, with some blocks having multiple residential buildings. It is not anticipated that any of the residential buildings

would individually exceed 100,000 sf. Also, the Community Center would be less than 100,000 sf in gross floor area. Hence, no freight loading spaces are required for residential or community center land uses.

The Reduced Development Alternative would generate approximately 41 delivery/service vehicle-trips per day, which would be a loading demand of approximately two spaces during both the average and peak loading hours. Although the Reduced Development Alternative is not required to provide off-street loading space, the project applicant would seek to provide at least 18 on-street loading spaces throughout the Project site by generally by providing at least one on-street loading space per block that would accommodate this loading demand. These yellow-marked loading spaces are subject to review and approval by SFMTA at a public hearing. The on-street loading spaces would be provided close to retail and community center facilities, and where appropriate, such as at the senior housing facility and near residential lobbies. Their exact location would be determined when the buildings are designed.

Passenger Drop-Off/Pick-up Activities

The same on-street loading spaces that could be provided for the Reduced Development Alternative would also be used for passenger pick-up/drop-off activities within the Project site. The project applicant may also seek a white passenger zone for the senior housing use. The on-street loading spaces would be provided close to Community Center, senior housing facility, and residential lobbies. Their exact location would be determined when the buildings are designed. However, streets located in the vicinity of the buildings have sufficient street frontages to accommodate these on-street passenger loading spaces.

Solid Waste Storage and Access

Solid waste collection would be a combination of centralized and decentralized garbage, recycling, and compost collection areas to maximize efficiency depending on the type of building. For all project-related land uses, including residential, retail, and Community Center, garbage bins and dumpsters would be located internally within each building including in the parking garage where present. The exact locations of each collection area would be determined following the building design phase, but generally internal to each building, near maintenance, loading, or parking facilities. Solid waste bins and dumpsters would be taken to the street and returned to the garages by maintenance personnel on pick up days. The project applicant would coordinate with SF Environment and the SFMTA's Sustainable Streets Division to ensure that the garbage facilities would remain on the street for the shortest time and would not result in any safety hazards on pedestrian, bicycle, or traffic circulation.

Because the Proposed Project and Reduced Development Alternative would include off-street loading space that would accommodate demand, on-street passenger loading spaces for passenger

loading/unloading, and neither solid storage nor solid waste access is expected to interfere with pedestrian bicycle or traffic circulation, there would be ***less-than-significant*** impacts under CEQA.

Similarly, the Proposed Project and Reduced Development Alternative would include off-street loading space that would accommodate demand, on-street passenger loading spaces for passenger loading/unloading, and neither solid storage nor solid waste access is expected to interfere with pedestrian bicycle or traffic circulation, there would be ***less-than-significant*** impacts under NEPA.

Impact TR-12(b)	**Effects on Loading**
	CEQA: The Housing Replacement Alternative and the No Project Alternative would not include activities that would increase loading space demand. (No Impact)
	NEPA: The Housing Replacement Alternative and the No Project Alternative would not include activities that would increase loading space demand. (No Impact)

Alternative 2 – Housing Replacement Alternative

The Project site does not have any retail land uses. Therefore, under Existing Conditions, freight loading operations do not occur within the Project site, nor does the Project site have any on- or off-street loading spaces. The Housing Replacement Alternative would not result in any changes in land use or increase space that would require new loading space. However, five off-street loading spaces would be provided as part of this alternative. These off-street loading spaces would be distributed across the Project site.

Alternative 3 – No Project Alternative

The Project site does not have any retail land uses. Therefore, under Existing Conditions, freight loading operations do not occur within the Project site, nor does the Project site have any on- or off-street loading spaces. The No Project Alternative would not result in any changes in land use or increase space that would require new loading space.

Therefore, under CEQA, the Housing Replacement Alternative and No Project Alternative would have ***no impact***.

Similarly, there would be ***no impact*** under NEPA from the implementation of the Housing Replacement Alternative and No Project Alternative because there would not be any changes in land use or increase space that would require new loading space.

Emergency Access Impacts: Operation Analysis

Impact TR-13(a)	**Effects on Circulation** **CEQA: The Proposed Project and the Reduced Development Alternative would modify the Project site circulation network and connections to the existing off-site roadway network, but this would not adversely affect emergency access. (Less than Significant)** **NEPA: The Proposed Project and the Reduced Development Alternative would modify the Project site circulation network and connections to the existing off-site roadway network, but this would not adversely affect emergency access. (Less than Significant)**

The closest fire station in the vicinity of the Project site is SFFD Station #37, located at 798 Wisconsin Street, near the intersection of 22nd Street and Wisconsin Street. It is located approximately 0.25 mile northwest of the Project site. The closest police station is Mission Police Station, located at 630 Valencia Street, near the intersection of 17th and Valencia Streets. It is located approximately 2 miles northwest of the Project site.

Proposed Project

The street configuration planned as part of the Proposed Project would create an on-site grid of streets with easier cross-site access. All new streets would provide emergency vehicle access and would meet the SFFD's access requirements. New connections would include extending Arkansas Street from 23rd Street to 26th Street, extending Missouri Street directly south from 23rd Street directly to 25th Street, formalizing Texas Street and connecting it to Missouri Street on the northern edge of the site, and new east/west streets connecting Wisconsin Street and Coral Street to Texas Street. All buildings would be required to meet all applicable building and life safety regulations.

Please refer to Impact TR-14(a), below, for an analysis of emergency access during construction.

Alternative 1 – Reduced Development Alternative

The street configuration planned as part of the Reduced Development Alternative would create an on-site grid of streets with easier cross-site access. All new streets would provide emergency vehicle access and would meet the SFFD's access requirements. New connections would include extending Arkansas Street from 23rd Street to 26th Street, extending Missouri Street directly south from 23rd Street directly to 25th Street, formalizing Texas Street and connecting it to Missouri Street on the northern edge of the site, and new east/west streets connecting Wisconsin Street and Coral Street to Texas Street. All buildings would be required to meet all applicable building and life safety regulations.

For these reasons, the Proposed Project and Reduced Development Alternative would not result in inadequate emergency access, and the impact would be ***less than significant*** under CEQA.

Because the Proposed Project and Reduced Development Alternative would provide emergency vehicle access and would meet SFFD's access requirements, the adverse effects on emergency access would be ***less than significant*** under NEPA.

Please refer to Impact TR-14(a), below, for an analysis of emergency access during construction.

Impact TR-13(b)	**Effects on Circulation** **CEQA: The Housing Replacement Alternative and the No Project Alternative would retain the existing Project site circulation network and connections to the existing off-site roadway network. (No Impact)** **NEPA: The Housing Replacement Alternative and the No Project Alternative would retain the existing Project site circulation network and connections to the existing off-site roadway network. (No Impact)**

Alternative 2 – Housing Replacement Alternative

The roadway layout within the Project site would not be modified. Therefore, it would not affect emergency access compared to existing conditions.

Alternative 3 – No Project Alternative

The roadway layout within the Project site would not be modified. Therefore, it would not affect emergency access compared to existing conditions.

Accordingly, the Housing Replacement Alternative and the No Project Alternative would result in ***no impact*** under CEQA and ***no impact*** under NEPA.

Construction Impacts

Impact TR-14(a)	**Construction Effects on Circulation** **CEQA: The Proposed Project, the Reduced Development Alternative, and the Housing Replacement Alternative would involve extensive construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures. (Less than Significant with Mitigation)** **NEPA: The Proposed Project, the Reduced Development Alternative, and the Housing Replacement Alternative would involve extensive construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures. (Less than Significant with Mitigation)**

For the Proposed Project and the Reduced Development Alternative, Phase 1 would consist of the vicinity south of 25th Street in the Terrace portion of the Project site. Phase 2 would consist of the area between 23rd Street and 25th Street, or the remaining portions of the Terrace site. Phase 3 would

consist of development of the entire Annex site. The exact timing of construction of each phase has not been determined.

However, for the proposed project, Phase 1 would last approximately 26 months with streets closed for approximately 8 months, and Phases 2 and 3 would each last 48 months with streets closed for approximately 12 months during each phase. All street layout improvements would be constructed when neighboring blocks are constructed. This construction phasing is preliminary and is subject to change.

For the Reduced Development Alternative, Phase 1 is anticipated to last 22 months, Phase 2 is expected to last 42 months, and Phase 3 is anticipated to last 43 months. For the Housing Replacement Alternative, Phases 1, 2, and 3 are expected to last about 20, 34, and 35 months, respectively.

Each phase of construction would include demolition of existing facilities, followed by grading and construction of new facilities. Wherever possible, the project would accommodate on-site relocation of existing residents. Qualified residents would be able to move into the new housing units as they become available. The project applicant would develop an access plan for pedestrians and transit during each phase of construction coordinating with the residents, SFMTA, SFDPW, and other utility agencies and the City departments.

As with other similar construction projects within the city, construction activity is expected to occur on Monday through Saturday from 7:00 a.m. and 5:00 p.m. Construction staging and worker parking would not be provided within the Project site and would occupy the on-street parking spaces instead. All construction work would be performed using the Regulations for Working in San Francisco Streets (the Blue Book).

Proposed Project

Site Access

The redevelopment of the Project site would involve temporary street closures in each phase for the demolition, regrading, modification of site layout, and construction activities. These street closures are expected to last for about eight months, but not the whole duration of each phase. A proposed street closure plan follows:

Phase 1. During Phase 1, portions of 25th and 26th Streets located between Wisconsin and Connecticut Streets would be closed for all traffic, except for construction and emergency vehicles. However, to minimize disruption to east/west traffic, these streets would be closed in two non-overlapping periods, each period lasting about four to five months. During the period when 26th Street is closed, traffic would be detoured to 25th Street via Wisconsin Street. During the period when 25th Street is closed, traffic would be detoured to 26th Street via Connecticut Street. As such, travel distance for traffic would increase by about one to two blocks during both the periods. The

closure of portions of 25th and 26th Streets would add about 100 to 150 detour trips during the PM peak hour to 26th, Connecticut, 25th, and Wisconsin Streets in either direction for a period of 10 to 14 months. Currently, these streets carry about 100 to 200 vehicles in each direction during the PM peak hour. With the detour traffic, the overall traffic on these streets would increase to about 300 to 350 vehicles per hour in each direction. Because the typical capacity of a local roadway is about 800 vehicles per hour per lane, even with the addition of detour traffic 26th, Connecticut, 25th, and Wisconsin Streets would continue to operate at levels lower than their capacities.

Phase 2. During Phase 2, the portion of Connecticut Street located from 25th Street to Wisconsin Street and that of Dakota Street from 24th Street to 25th Street would be closed for about 12 months. The majority of the north/south traffic would be detoured to Wisconsin Street via 23rd Street during this phase. Residents of the Potrero Annex portion of the Project site would have to access neighboring circulation network via 23rd and Wisconsin Streets, resulting in an increase in travel distance by about 0.3 mile. It is expected that detour traffic of about 150 vehicles would be added to Wisconsin Street (from 23rd to 25th Streets), 23rd Street (from Wisconsin Street to Dakota Street), and 25th Street (from Wisconsin Street to Dakota Street) in each direction during the PM peak hour. All three streets (Wisconsin, 23rd, and 25th Streets) currently operate well below their capacities of about 800 vehicles per hour per lane (they carry about 200 to 250 vehicles in each direction); therefore, even with the addition of detour traffic, these streets would continue to operate at levels lower than their capacities.

The student drop-off/pick-up facilities for Starr King Elementary School are located along Wisconsin Street between Coral Road and Carolina Street. As such, the increase in traffic along Wisconsin Street (from 23rd to 25th Streets) during Phase 2 due to detour traffic would delay the school's pick-up and drop-off activities during the morning and evening peak hours. However, as mentioned above, even with the addition of detour traffic, Wisconsin Street is expected to continue to operate at levels lower than their capacities. Therefore, significant delays to drop-off and pick-up activities at the school are not expected.

Phase 3. During Phase 3, the portion of 23rd Street located east of Dakota Street and that of Dakota Street from 24th to 23rd Streets would be closed for about 12 months. Due to the street closures, traffic from the Potrero Terrace portion of the Project site would be detoured to extended Arkansas Street via 23rd Street and newly built portion of 24th Street within the Project site, resulting in an increase in travel distance by about one to two blocks. Similar to Phase 2, detour traffic of about 50 to 100 vehicles would be added to 24th Street (from Arkansas Street to Dakota Street) and 23rd Street (between Dakota Street and Arkansas Street), while about 150 vehicles would be added to Arkansas Street (between 23rd and 24th Streets) in each direction during the PM peak hour. Traffic volumes along streets located within the Project site are in general low and operate well below their capacities. Therefore, even with an increase of about 100 to 150 vehicles during the PM peak hour due to the detour traffic, these streets are expected to operate at levels lower than their capacities.

During construction work, local access to any homes/businesses located on adjacent streets would be maintained, as required. None of the street closures planned as part of the three phases would block direct access to Starr King Elementary School, Starr King Open Space, or the Potrero Hill Recreation Center. A portion of the traffic accessing these facilities using 25th, 26th, Connecticut, Dakota, and 23rd Streets would have to detour using the routes discussed above during each construction phase when those streets are closed. Also, as mentioned above, the increase in traffic along Wisconsin Street (from 23rd to 25th Streets) during Phase 2 due to detour traffic would delay the school's drop-off and pick-up activities during the morning and evening peak hours, though significant delays are not expected due to less-than-capacity traffic on Wisconsin Street.

No Ramp and freeway lane closures are anticipated during the construction of the Proposed Project. All lane closures would be within or adjacent to the Project site; therefore, the potential street closures during the construction of the Proposed Project would not affect traffic on the state highway system.

Street closures would temporarily disrupt traffic, resulting in a ***significant*** impact under both CEQA and NEPA.

Construction Traffic

Traffic Operations. The Proposed Project would include grading of approximately 248,160 cubic yards of earthwork over the three construction phases. During Phase 1, approximately 18,000 cubic yards of earthwork would be used as fill and approximately 7,400 cubic yards would be exported off site. During Phase 2, approximately 135,680 cubic yards would be excavated and filled on site, but a total of approximately 213,490 cubic yards would be necessary for fill; as such, approximately 77,810 cubic yards of fill would be imported to the Project site. During Phase 3, approximately 35,730 cubic yards of earthwork would be used as fill and approximately 51,350 cubic yards would be exported off site. This earthwork would generate a minimum of about 3,550 truck trips (assuming 18-wheel trucks with a capacity of 70 cubic yards would be used for hauling) and a maximum of about 14,600 truck trips (assuming dump trucks with a capacity of about 17 cubic yards would be used for hauling) during the construction period. Construction work is anticipated to occur Monday through Saturday from 7:00 a.m. to 5:00 p.m. The hours of construction would be consistent with the Department of Building Inspection requirements, and the contractor would be required to comply with the City's Noise Ordinance. This would translate to about 9 to 34 truck trips per day, based on the conservative assumption of a six-month period of hauling activity per phase. Additionally, development of the Project site would involve approximately 150 daily worker trips during Phase 1 and approximately 220 during Phases 2 and 3. In total, the Proposed Project would generate approximately 144 construction-related vehicle trips (110 worker trips and 34 trucks trips) during the PM peak hour. Therefore, the total peak hour construction-related vehicle trips would be substantially fewer than the number of vehicle-trips that would be generated by the project (approximately 890 PM peak hour vehicle trips). Additionally, construction-related trips would be

temporary depending on the phase of construction. To minimize impacts, construction-related traffic, include truck traffic and worker traffic is expected to avoid the weekday morning and evening peak commute hours. Nevertheless, because construction traffic could reduce capacity of surrounding streets due to planned street closures and detours, this would be a ***significant*** impact under CEQA and NEPA.

Transit, Bicycle, and Pedestrian Operations

When street closures are implemented during the construction phase, it is anticipated that sidewalks located along those roadways would also be temporarily closed. However, temporary pedestrian facilities, subject to SFMTA approval, would be provided under those circumstances to facilitate pedestrian movement within and to the Project site. It is anticipated that demolition and construction during each phase would be planned to maintain pedestrian connections to the Project site. As such, the construction-related temporary closures due to the Proposed Project would be a ***less-than-significant*** impact under CEQA and a ***less-than-significant impact*** under NEPA on the pedestrian operations within the study area.

Although it is anticipated that very few construction workers would access the Project site using transit, on foot, or using bicycle, it is anticipated that the construction traffic along with street closures could increase the potential vehicle-pedestrian and vehicle-bicycle conflicts within the study area. However, there is low pedestrian and bicycle activity in the vicinity of the Project site under Existing Conditions. As such, the pedestrian and bicycle facilities available within the study area are expected to handle the bicycle and pedestrian activity related to construction traffic. Also, construction sites would be fenced off during each construction phase to avoid and minimize disruption to pedestrian and bicycle operations outside the construction zone.

Parking

Construction staging and worker parking would not be provided, but would occupy the on-street parking spaces available within the Project site. Therefore, even though construction workers would cause a temporary parking demand, it would be accommodated on site and is not anticipated to impact neighboring parking operations.

On-Site Transit Operations

During Phase 1, Muni lines traveling along 25th Street might be rerouted to 26th Street via Connecticut Street when 25th Street between Connecticut and Wisconsin Streets is closed. Also, due to the closure of 25th and 26th Streets in Phase 1, bus stops located at the Wisconsin Street/25th Street and Connecticut Street/26th Street intersections might be closed or relocated. However, since both 25th Street and 26th Street would not be closed at the same, the above mentioned bus stops are not expected to close at the same time. So riders could access Muni buses from the other bus stop when one is closed. Additionally, Muni riders could access two other neighboring bus stops located within a block radius at the Wisconsin Street/26th Street and 25th Street/Connecticut Street intersections.

During Phase 2, Muni lines traveling along 26th Street would be restored to 25th Street. However, all Muni lines traveling along Dakota Street between 25th and 23rd Streets and along Connecticut Street between 25th and Wisconsin Streets might be rerouted to Wisconsin Street. Due to the closure of Connecticut and Dakota Streets, two bus stops located along these roadway segments would be closed or relocated. However, Muni riders could access buses from four other neighboring bus stops located within a two-block radius at the Wisconsin Street/Coral Street, Dakota Street/23rd Street, 25th Street/Dakota Street, and 25th Street/Dakota Street intersections.

During Phase 3, all Muni lines traveling along Dakota Street between 25th and 23rd Streets and along Connecticut Street between 25th and Wisconsin Streets might be rerouted to Wisconsin Street and Arkansas Street that would be extended during Phase 2. Due to the closure of Dakota Street, the bus stop located at the Dakota Street/23rd Street intersection would also be closed or relocated. However, Muni riders could access buses from the neighboring bus stop located within a two-block radius at the Wisconsin Street/23rd Street intersection.

Construction Emergency Vehicle Access

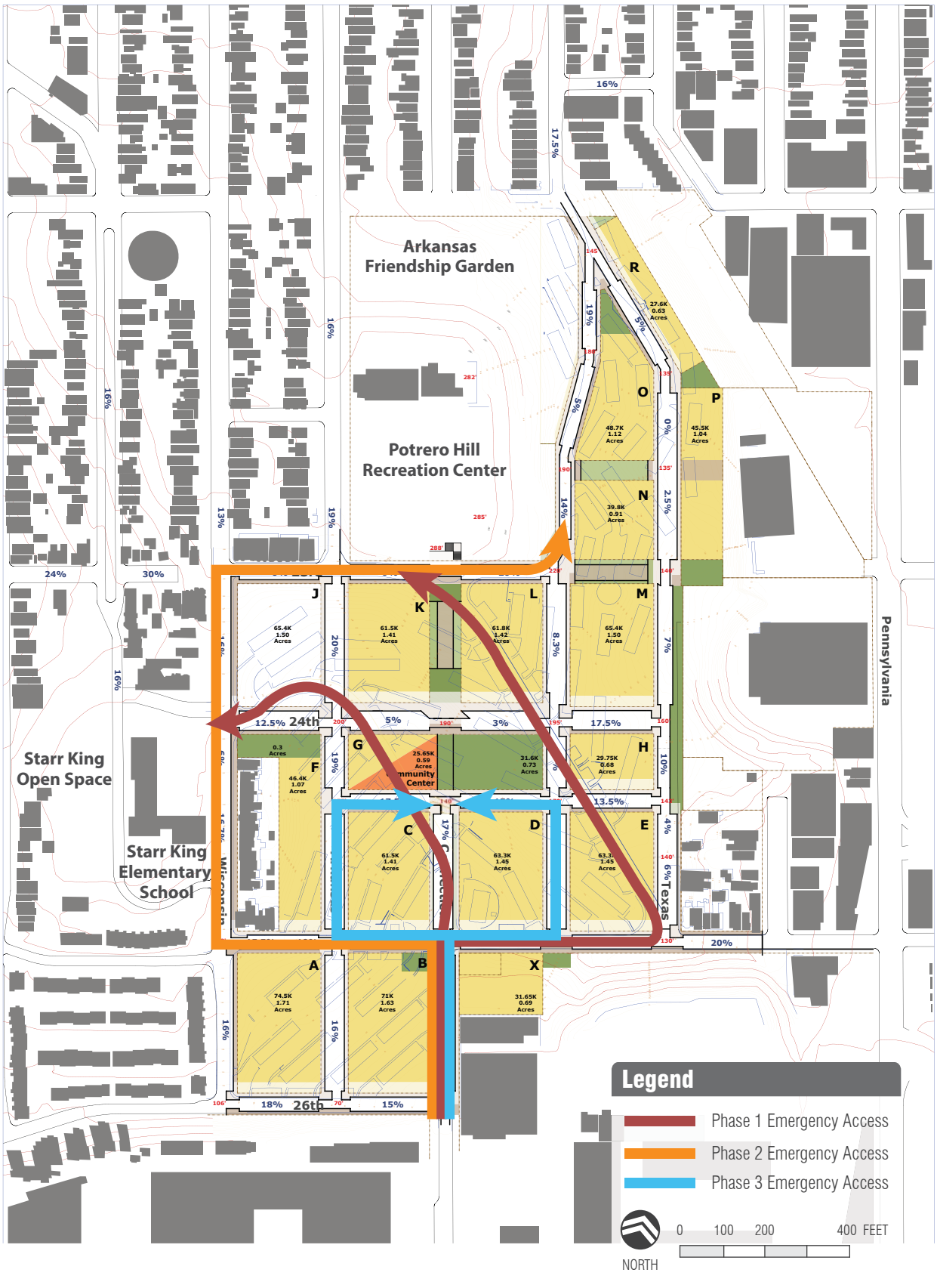
The construction emergency vehicle access plan for the Proposed Project is shown in Figure 5.7-7.

During Phase 1, emergency vehicle access routes would consist of Connecticut Street between 26th and Wisconsin Streets, Connecticut Street between 26th and 25th Streets, 25th Street between Connecticut and Dakota Streets, and Dakota Street north of 25th Street. During Phase 2, emergency vehicle access routes would consist of Connecticut Street between 26th and 25th Streets, 25th Street between Connecticut and Wisconsin Streets, Wisconsin Street between 25th and 23rd Streets, and 23rd Street east of Wisconsin Street. During Phase 3, the emergency access route would consist of Connecticut Street between 26th and 25th Streets, 25th Street between Arkansas and 25th Streets, 25th Street between Arkansas and Missouri Streets, Arkansas Street between 25th and 24 and ½ Streets, Missouri Street between 25th and 24 and ½ Streets, and 24 and ½ Street between Arkansas and Missouri Streets.

Summary

Due to the length of the construction schedule (approximately 10 years), the number of required street closures/detours, the number of bus route and stop relocations and the uncertainty associated with a long construction project, the Proposed Project would result in a ***significant*** impact.

However, with implementation of Mitigation Measure M-TR-14, which would require implementation of a Construction Transportation Control Plan (TCP) submitted to TASC, would help alleviate the impact. Therefore, the impact would be ***less than significant with mitigation*** with the implementation of Mitigation Measure M-TR-14 under both CEQA and NEPA.



SOURCE: Wilbur Smith Associates 2014.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.7-7: CONSTRUCTION EMERGENCY VEHICLE ACCESS—PROPOSED PROJECT AND ALTERNATIVE 1

Mitigation Measure M-TR-14 – Construction Traffic Control Plan (Proposed Project, Reduced Development Alterative, and Housing Replacement Alternative). To reduce construction-related impacts, the project applicant shall develop and implement a Construction Transportation Control Plan (TCP) for each construction phase to anticipate and minimize impacts of various construction activities associated with the Proposed Project, Reduced Development Alternative and Housing Replacement Alternative. The TCP shall be submitted to TASC, consisting of representatives from the SFMTA and Muni operations, Fire Department, Police Department, and SFDPW for review/approval.

Specifically, the plan shall:

- Identify construction traffic management and a cohesive program of operational and demand management strategies designed to maintain acceptable levels of travel flow during periods of construction activities. These include, but are not limited to, construction strategies, demand management activities, alternative route strategies, and public information strategies consistent with best practices in San Francisco, as well as other cities or agencies that, although not being implemented in the city, could provide valuable management practices for the project. Management practices include, but are not limited to:
  - > Planning site construction and truck deliveries such as to minimize construction-related traffic operations during the weekday morning and evening peak commute hours
  - > Identifying ways to reduce construction worker vehicle trips through transportation demand management programs and methods to manage construction work parking demands, such as promoting carpooling/vanpooling, encouraging transit usage, discouraging workers from parking off-site, etc.
  - > Working further with SFDPW to identify the best traffic detours during each construction phase
  - > Identifying best practices to accommodate pedestrians, such as temporary pedestrian wayfinding signage or temporary walkways
  - > Working with the SFMTA to identify relocated Muni routes and stops
  - > Identifying ways to consolidate truck delivery trips, including a plan to consolidate deliveries from a centralized construction material and equipment storage facility
  - > Identifying best practices to manage traffic flows on surrounding streets
- Describe procedures required by different departments and/or agencies in the city for implementation of the TCP, such as reviewing agencies, approval processes, and estimated timelines. For example:
  - > The project applicant shall coordinate temporary and permanent changes to the transportation network within the city of San Francisco, including traffic, street and parking changes and lane closures, with the SFMTA. All travel lane, parking

lane, or sidewalk closures shall be reviewed by the TASC. Any permanent changes may require meeting with the SFMTA Board of Directors or one of its sub-Committees. This may require a public hearing. Temporary traffic and transportation changes must be coordinated through the SFMTA's Interdepartmental Staff Committee on Traffic and Transportation (ISCOTT) and would require a public meeting. As part of this process, the Construction Plan may be reviewed by the TASC to resolve internal differences between different transportation modes.

> Caltrans Deputy Directive 60 (DD-60) requires TCP and contingency plans for all state highway activities. These plans shall be part of the normal project development process and must be considered during the planning stage to allow for the proper cost, scope and scheduling of the TCP activities on Caltrans right-of-way. These plans shall adhere to Caltrans standards and guidelines for stage construction, construction signage, traffic handling, lane and ramp closures and TCP documentation for all work within Caltrans right-of-way.

- Notify emergency vehicle providers about the planned street closures/detours and their duration for each construction phase.
- Develop a public information plan to provide adjacent residents and businesses with regularly updated information regarding project construction, including construction activities, durations, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and other lane closures.
- Hire a transportation manager to actively manage the construction vehicle, truck loading, passenger loading and emergency vehicle access to the Project site through at least the most intense phases of construction.
- Develop a public information plan to provide adjacent residents and businesses with regularly updated information regarding project construction, including construction activities, durations, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and other lane closures.
- Hire a transportation manager to actively manage the construction vehicle, truck loading, passenger loading and emergency vehicle access to the Project site through at least the most intense phases of construction.

Alternative 1 – Reduced Development Alternative

Site Access

The redevelopment of the Project site would involve temporary street closures in each phase for the demolition, regrading, modification of site layout, and construction activities. These street closures are expected to last for about eight months, but not the whole duration of each phase. During Phase 1, portions of 25th and 26th Streets located between Wisconsin and Connecticut Streets would be closed for all traffic, except for construction and emergency vehicles. However, to minimize disruption to east/west traffic, these streets would be closed in two non-overlapping periods, each

period lasting about four to five months. During the period when 26th Street is closed, traffic would be detoured to 25th Street via Wisconsin Street. During the period when 25th Street is closed, traffic would be detoured to 26th Street via Connecticut Street. As such, travel distance for traffic would increase by about one to two blocks during both the periods. The closure of portions of 25th and 26th Streets would add about 100 to 150 detour trips during the PM peak hour to 26th, Connecticut, 25th, and Wisconsin Streets in either direction for a period of 10 to 14 months. Currently, these streets carry about 100 to 200 vehicles in each direction during the PM peak hour. With the detour traffic, the overall traffic on these streets would increase to about 300 to 350 vehicles per hour in each direction. Because the typical capacity of a local roadway is about 800 vehicles per hour per lane, even with the addition of detour traffic 26th, Connecticut, 25th, and Wisconsin Streets would continue to operate at levels lower than their capacities.

During Phase 2, the portion of Connecticut Street located from 25th Street to Wisconsin Street and that of Dakota Street from 24th Street to 25th Street would be closed for about 12 months. The majority of the north/south traffic would be detoured to Wisconsin Street via 23rd Street during this phase. Residents of the Potrero Annex portion of the Project site would have to access neighboring circulation network via 23rd and Wisconsin Streets, resulting in an increase in travel distance by about 0.3 mile. It is expected that detour traffic of about 150 vehicles would be added to Wisconsin Street (from 23rd to 25th Streets), 23rd Street (from Wisconsin Street to Dakota Street), and 25th Street (from Wisconsin Street to Dakota Street) in each direction during the PM peak hour. All three streets (Wisconsin, 23rd, and 25th Streets) currently operate well below their capacities of about 800 vehicles per hour per lane (they carry about 200 to 250 vehicles in each direction); hence, even with the addition of detour traffic these streets would continue to operate at levels lower than their capacities.

The student drop-off/pick-up facilities for Starr King Elementary School are located along Wisconsin Street between Coral Road and Carolina Street. As such, the increase in traffic along Wisconsin Street (from 23rd to 25th Streets) during Phase 2 due to detour traffic would delay the school's pick-up and drop-off activities during the morning and evening peak hours. However, as mentioned above, even with the addition of detour traffic, Wisconsin Street is expected to continue to operate at levels lower than their capacities. Therefore, significant delays to drop-off and pick-up activities at the school are not expected.

During Phase 3, the portion of 23rd Street located east of Dakota Street and that of Dakota Street from 24th to 23rd Streets would be closed for about 12 months. Due to the street closures, traffic from the Potrero Terrace portion of the Project site would be detoured to extended Arkansas Street via 23rd Street and newly built portion of 24th Street within the Project site, resulting in an increase in travel distance by about one to two blocks. Similar to Phase 2, detour traffic of about 50 to 100 vehicles would be added to 24th Street (from Arkansas Street to Dakota Street) and 23rd Street (between Dakota Street and Arkansas Street), and about 150 vehicles would be added to Arkansas Street (between 23rd and 24th Streets) in each direction during the PM peak hour. Traffic volumes along

streets located within the Project site are in general low and operate well below their capacities. Therefore, even with an increase of about 100 to 150 vehicles during the PM peak hour due to the detour traffic, these streets are expected to operate at levels lower than their capacities.

During construction work, local access to any homes/businesses located on adjacent streets would be maintained, as required. None of the street closures planned as part of the three phases would block direct access to Starr King Elementary School, Starr King Open Space, or the Potrero Hill Recreation Center. A portion of the traffic accessing these facilities using 25th, 26th, Connecticut, Dakota, and 23rd Streets would have to detour using the routes discussed above during each construction phase when those streets are closed. Also, as mentioned above, the increase in traffic along Wisconsin Street (from 23rd to 25th Streets) during Phase 2 due to detour traffic would delay the school's drop-off and pick-up activities during the morning and evening peak hours, though significant delays are not expected due to less-than-capacity traffic on Wisconsin Street.

No Ramp and freeway lane closures are anticipated during the construction of the Reduced Development Alternative. All lane closures would be within or adjacent to the Project site; therefore, the potential street closures during the construction of the Reduced Development Alternative would not affect traffic on the state highway system.

With implementation of Mitigation Measure TR-14, impacts related to street closures during construction of the Reduced Development Alternative would be ***less than significant with mitigation*** under CEQA and NEPA.

Construction Traffic

Traffic Operations. The Reduced Development Alternative would include grading of approximately 248,160 cubic yards of earthwork over the three construction phases. During Phase 1, approximately 18,000 cubic yards of earthwork would be used as fill and approximately 7,400 cubic yards would be exported off site. During Phase 2, approximately 135,680 cubic yards would be excavated and filled on site, but a total of approximately 213,490 cubic yards would be necessary for fill; as such, approximately 77,810 cubic yards of fill would be imported to the Project site. During Phase 3, approximately 35,730 cubic yards of earthwork would be used as fill and approximately 51,350 cubic yards would be exported off site. This earthwork would generate a minimum of about 3,550 truck trips (assuming 18-wheel trucks with a capacity of 70 cubic yards would be used for hauling) and a maximum of about 14,600 truck trips (assuming dump trucks with a capacity of about 17 cubic yards would be used for hauling) during the construction period. Construction work is anticipated to occur Monday through Saturday from 7:00 a.m. to 5:00 p.m. The hours of construction would be consistent with the Department of Building Inspection requirements, and the contractor would be required to comply with the City's Noise Ordinance. This would translate to about 9 to 34 truck trips per day, based on the conservative assumption of a six-month period of hauling activity per phase. Additionally, development of the Project site would involve approximately 150 daily worker trips during Phase 1 and approximately 220 during Phases 2 and 3.

In total, the Reduced Development Alternative would generate approximately 144 construction-related vehicle trips (110 worker trips and 34 trucks trips) during the PM peak hour. Therefore, the total peak hour construction-related vehicle trips would be substantially fewer than the number of vehicle-trips that would be generated by this alternative (approximately 550 PM peak hour vehicle trips). Additionally, construction-related trips would be temporary depending on the phase of construction. To minimize impacts, construction-related traffic, include truck traffic and worker traffic is expected to avoid the weekday morning and evening peak commute hours. Nevertheless, because construction traffic could reduce capacity of surrounding streets due to planned street closures and detours, this would be considered a ***significant*** impact under CEQA and NEPA.

Transit, Bicycle, and Pedestrian Operations

When street closures are implemented during the construction phase, it is anticipated that sidewalks located along those roadways would also be temporarily closed. However, temporary pedestrian facilities, subject to SFMTA approval, would be provided under those circumstances to facilitate pedestrian movement within and to the Project site. It is anticipated that demolition and construction during each phase would be planned to maintain pedestrian connections to the Project site. As such, under CEQA, the construction-related temporary closures due to the Reduced Development Alternative would result in ***less than significant*** impacts on the pedestrian operations within the study area. Under NEPA, impacts would be ***less than significant***.

Although it is anticipated that very few construction workers would access the Project site using transit, on foot, or using bicycle, it is anticipated that the construction traffic along with street closures could increase potential vehicle-pedestrian and vehicle-bicycle conflicts within the study area. However, there is low pedestrian and bicycle activity in the vicinity of the Project site under Existing Conditions. As such, the pedestrian and bicycle facilities available within the study area are expected to handle the bicycle and pedestrian activity related to construction traffic. Also, construction sites would be fenced off during each construction phase to avoid and minimize disruption to pedestrian and bicycle operations outside the construction zone.

Parking

Construction staging and worker parking would not be provided, but would occupy the on-street parking spaces available within the Project site. Therefore, even though construction workers would cause a temporary increase in parking demand, it would be accommodated on site and is not anticipated to impact neighboring parking operations.

On-Site Transit Operations

During Phase 1, Muni lines traveling along 25th Street might be rerouted to 26th Street via Connecticut Street when 25th Street between Connecticut and Wisconsin Streets is closed. Also, due to the closure of 25th and 26th Streets in Phase 1, bus stops located at the Wisconsin Street/25th Street and Connecticut Street/26th Street intersections might be closed or relocated. However, since both

25th Street and 26th Street would not be closed at the same, the above-mentioned bus stops are not expected to close at the same time. So riders could access Muni buses from the other bus stop when one is closed. Additionally, Muni riders could access two other neighboring bus stops located within a block radius at the Wisconsin Street/26th Street and 25th Street/Connecticut Street intersections.

During Phase 2, Muni lines traveling along 26th Street would be restored to 25th Street. However, all Muni lines traveling along Dakota Street between 25th and 23rd Streets and along Connecticut Street between 25th and Wisconsin Streets might be rerouted to Wisconsin Street. Due to the closure of Connecticut and Dakota Streets, two bus stops located along these roadway segments would be closed or relocated. However, Muni riders could access buses from four other neighboring bus stops located within a two-block radius at the Wisconsin Street/Coral Street, Dakota Street/23rd Street, 25th Street/Dakota Street, and 25th Street/Dakota Street intersections.

During Phase 3, all Muni lines traveling along Dakota Street between 25th and 23rd Streets and along Connecticut Street between 25th and Wisconsin Streets might be rerouted to Wisconsin Street and Arkansas Street that would be extended during Phase 2. Due to the closure of Dakota Street, the bus stop located at the Dakota Street/23rd Street intersection would also be closed or relocated. However, Muni riders could access buses from the neighboring bus stop located within a two-block radius at the Wisconsin Street/23rd Street intersection.

Construction Emergency Vehicle Access

The construction emergency vehicle access plan for the Reduced Development Alternative is shown in Figure 5.7-7.

During Phase 1, emergency vehicle access routes would consist of Connecticut Street between 26th and Wisconsin Streets, Connecticut Street between 26th and 25th Streets, 25th Street between Connecticut and Dakota Streets, and Dakota Street north of 25th Street. During Phase 2, emergency vehicle access routes would consist of Connecticut Street between 26th and 25th Streets, 25th Street between Connecticut and Wisconsin Streets, Wisconsin Street between 25th and 23rd Streets, and 23rd Street east of Wisconsin Street. During Phase 3, the emergency access route would consist of Connecticut Street between 26th and 23rd Streets, 26th Street west of Connecticut Street, 25th Street west of Connecticut Street, and 24th Street east and west of Connecticut Street.

Summary

Implementation of Mitigation Measure M-TR-14, which would require implementation of a Construction TCP) submitted to TASC, would help alleviate the impact. Therefore, the Reduced Development Alternative impact would be ***less than significant with mitigation*** under CEQA and NEPA.

Alternative 2 – Housing Replacement Alternative

Site Access

During Phases 1 and 3 of the Housing Replacement Alternative, no streets would be closed. Therefore, there would be no site-access related impacts during these two phases. However, during Phase 2, the portion of Connecticut Street located north of 25th Street would be closed for about 27 months. Since this segment of Connecticut Street would only serve the Potrero Terrace portion of the Project site located north of 25th Street, which would be under construction during Phase 2, the planned street closures during Phase 2 would not affect access to/from the remaining portions of the Project site. All other traffic would be detoured to 25th Street to access Wisconsin Street. As mentioned earlier, currently 25th Street carries about 100 to 200 vehicles in each direction during the PM peak hour. With the detour traffic, the overall traffic on these streets is expected to increase to about 300 vehicles per hour in each direction. Therefore, even with the addition of detour traffic 25th Street would continue to operate at levels lower than its capacity (about 800 vehicles per hour per lane).

Fencing, grading, and street closures would be planned so as to maintain access to the existing occupied units at all times during the construction period. Temporary pedestrian facilities would be provided to facilitate pedestrian movement within and to the Project site. It is anticipated that demolition and construction during each phase would be planned such as to maintain pedestrian and bicycle access to the Project site. As mentioned earlier, the project applicant would develop an access plan for pedestrians and transit during each phase of construction coordinating with the residents, SFMTA, SFDPW, and other utility agencies and the City departments. In the event of emergency, emergency vehicles would be able to access the occupied portion of the Project site at all times. A discussion on the emergency vehicle access plan during the construction period is provided later in this section.

Construction Traffic

Traffic Operations. The Housing Replacement Alternative would involve approximately 150 daily worker trips during Phase 1, approximately 260 during Phase 2, and approximately 220 during Phase 3. This alternative would involve a maximum of about 164 construction-related vehicle trips (130 worker trips and 34 trucks trips) during the PM peak hour. These peak hour construction-related vehicle trips would be substantially higher than the number of vehicle-trips that would be generated by this alternative, because the Housing Replacement Alternative would result in no net increase in PM peak hour vehicle trips compared to existing conditions. To minimize impacts, construction-related traffic, including truck traffic and worker traffic is expected to avoid the weekday morning and evening peak commute hours.

Transit, Bicycle, and Pedestrian Operations

When street closures are implemented during the construction phase, it is anticipated that sidewalks located along those roadways would also be temporarily closed. However, temporary pedestrian facilities, subject to SFMTA approval, would be provided under those circumstances to facilitate pedestrian movement within and to the Project site. It is anticipated that demolition and construction during each phase would be planned to maintain pedestrian connections to the Project site. As such, the construction-related temporary closures would result in ***less-than-significant*** impacts on the pedestrian operations within the study area under CEQA and a ***less-than-significant impact*** under NEPA.

It is anticipated that very few construction workers would access the Project site using transit, on foot, or using bicycle, but construction traffic along with street closures would increase potential vehicle-pedestrian and vehicle-bicycle conflicts within the study area. Because there is low pedestrian and bicycle activity in the vicinity of the Project site under Existing Conditions, the pedestrian and bicycle facilities available within the study area are expected to handle the bicycle and pedestrian activity related to construction traffic. Also, construction sites would be fenced off during each construction phase to avoid and minimize disruption to pedestrian and bicycle operations outside the construction zone.

Parking

Construction staging and worker parking would be provided within the Project site. Therefore, even though construction workers would cause a temporary parking demand, it would be accommodated on site and is not anticipated to impact neighboring parking operations.

On-Site Transit Operations

During Phases 1 and 3 of this alternative, no streets would be closed. Therefore, no rerouting of Muni lines is required for these two phases. However, bus stops may be closed or relocated due to ongoing construction off-street. Under such conditions, Muni riders could access buses from neighboring bus stops located within a two-block radius. Also, during Phase 2, the portion of Connecticut Street located north of 25th Street would be closed or relocated. Therefore, Muni lines traveling along Connecticut Street between 25th and Wisconsin Streets might have to be rerouted to Wisconsin Street. Due to the closure of Connecticut Street, the bus stops located along this roadway segment would be closed or relocated as well. However, Muni riders could access buses from three other neighboring bus stops located within a two-block radius at the Wisconsin Street/Coral Street, 25th Street/Connecticut Street, and Wisconsin Street/25th Street intersections.

To minimize construction-related impacts on Muni's operations, the project applicant would be required to work with the SFMTA to develop a bus rerouting and bus stop relocation plan prior to each construction phase.

Construction Emergency Vehicle Access

The construction emergency vehicle access for the Housing Replacement Alternative would remain the same as under Existing Conditions. During Phases 1 and 3, emergency vehicle access routes would be provided via the following two routes:

- Connecticut Street located between 26th and Wisconsin Streets
- Connecticut Street located between 26th and 25th Streets, 25th Street between Connecticut and Dakota Streets, and Dakota Street north of 25th Street

During Phase 2, emergency vehicle access would be provided via the following two routes:

- Connecticut Street located between 26th and 25th Streets, 25th Street between Connecticut and Dakota Streets, and Dakota Street north of 25th Street
- Connecticut Street between 26th and 25th Streets, 25th Street between Connecticut and Wisconsin Streets, Wisconsin Street between 25th and 23rd Streets, and 23rd Street east of Wisconsin Street

Summary

Implementation of the Housing Replacement Alternative would result in no street closures during Phases 1 or 3. A portion of Connecticut Street north of 25th Street would be closed for about 27 months. This would not affect emergency access because alternate routes would be available. However, it could involve temporary rerouting of Muni lines traveling on that street and bus stops. Although peak hour construction trips would be higher than the number generated by this alternative, construction traffic is expected to avoid the weekday morning and evening peak commute hours.

Because implementation of the Housing Replacement Alternative would take place over approximately 68 months (5.6 years), due to the duration of the project, this is considered a ***less than significant*** impact under CEQA and NEPA.

However, implementation of Mitigation Measure M-TR-14, which would require implementation of a Construction TCP submitted to TASC, would help alleviate the impacts of the Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative. Street closures during Phase 2 and temporary bus stop and route relocations would be temporary in nature. Therefore, with the implementation of Mitigation Measure M-TR-14, the impact would be ***less than significant with mitigation*** under CEQA and NEPA.

Impact TR-14(b)	**Construction Effects on Circulation**
	CEQA: The No Project Alternative would not involve construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures. (No Impact)
	NEPA: The No Project Alternative would not involve construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures. (No Impact)

Alternative 3 – No Project Alternative

Under the No Project Alternative, there would be no demolition or construction of buildings and roadway network improvements. Therefore, the No Project Alternative would result in ***no impact*** under CEQA on site access, Muni operations, or pedestrian facilities.

Similarly, the No Project Alternative would result in ***no impact*** under NEPA.

Parking Impact: Operations Analysis

As noted above, the Proposed Project and alternatives are subject to SB 743 and Public Resources Code Section 21099, which amended CEQA regarding the analysis of parking impacts for certain urban infill projects in transit priority areas. However, since the Proposed Project is also subject to NEPA, and the issue of parking was raised during the scoping period, a parking impact analysis is included below.

Impact TR-15(a)	**Effects on Parking**
	CEQA: This topic is not covered under CEQA.
	NEPA: The Proposed Project and the Reduced Development Alternative would provide parking consistent with local planning requirements. (No Impact)

As stated above, the parking impact analysis under NEPA is focused on compliance with local planning requirements which are discussed below. The following parking demand analysis is included for informational purposes.

Proposed Project

The Proposed Project would result in a total parking demand for about 1,764 spaces during the evening peak period, consisting of 81 spaces for short-term demand and 1,683 spaces for long-term demand. As shown in Table 5.7-15, to meet current *Planning Code* requirements for the site, the Proposed Project would be required to provide 663 off-street parking spaces (630 spaces for

residential, 16 spaces for retail, and 17 spaces for the Community Center). An additional 42 handicap-accessible and 9 car-share spaces would also be required.

Table 5.7-15 San Francisco Planning Code Off-Street Parking Requirements

Land Use	*Code Requirement*	*Proposed Project*				*Reduced Development Alternative*			
		Size	*Minimum Required*	*Proposed Supply*	*Difference*	*Size*	*Minimum Required*	*Proposed Supply*	*Difference*
Residential									
Market rate	1 per unit	630 units	630	535	-95	404 units	404	345	-59
Affordable	None	970 units	0	485	485	796 units	0	398	398
Senior Housing	None	100 units	0	20	20	80 units	0	15	15
Retail	1 per 500 gsf occupied								
Block K		5,500 gsf	0	0	0	5,500 gsf	0	0	0
Block L		9,500 gsf	16	10	-6	9,500 gsf	16	10	-6
Community Center	n.a.[a]	35,000 gsf	17	5	-12	25,000 gsf	12	5	-7
Total			*663*	*1,055*	*392*		*432*	*773*	*341*
Handicap-accessible	1 per 25 spaces provided	n.a.	42	42	0	n.a.	30	30	0
Car-share	2 per first 200 units, 1 every 200 units after	n.a.	9	9	0	n.a.	7	7	0

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

a. Parking requirements for the Community Center are determined by calculating the parking requirement of each specific use in the facility (gymnasium, pre-school, etc.) and totaling the parking requirements for each of these uses.

gsf = gross square feet

Off-Street Automobile Parking

However, the parking requirements would change with the creation of the Special Use District, consistent with the following performance standards. Preliminarily, the number of off-street parking spaces within this Special Use District shall not exceed one parking space per residential dwelling unit; or one parking space per 500 sf occupied commercial, institutional and community facility space. Car share parking spaces shall be provided in the amount set forth in Section 166 of the *Planning Code*.

Based on the performance standards outlined above, the Project as presently proposed would provide approximately 600 on-street and 1,055 off-street parking spaces within the Project site consisting of 485 parking spaces for affordable housing units, 535 parking spaces for market rate housing units, 20 parking spaces for senior housing, 10 parking spaces for retail use, and five spaces for the Community Center. In addition, there would be 42 handicap-accessible spaces and nine car-share spaces. Car-share spaces would be publicly accessible, as defined by the *Planning Code*.

In general, these off-street parking spaces would be split by structured or underground garages to be constructed at each block. The exact locations of the parking spaces would be determined

following the building design phase. As required by the City of San Francisco, all parking spaces for housing units would be unbundled and sold separately from the housing unit itself.

Alternative 1 – Reduced Development Alternative

The Reduced Development Alternative would result in a total parking demand for about 1,315 spaces during the evening peak period, consisting of 77 spaces for short-term demand and 1,238 spaces for long-term demand. As shown in Table 5.7-15, to meet *Planning Code* requirements, the Reduced Development Alternative would be required to provide 432 off-street parking spaces (404 spaces for residential, 16 spaces for retail, and 13 spaces for the Community Center). An additional 30 handicap-accessible and 7 car-share spaces are also required.

Consistent with the performance standards in the Special Use District the Reduced Development Alternative would include a maximum of approximately 773 off-street parking spaces within the Project site consisting of 398 parking spaces for affordable housing units, 345 parking spaces for market rate units, 15 parking spaces for senior housing units, 10 spaces for retail uses, and 5 spaces for the Community Center. In addition, there would be 30 handicap-accessible spaces and 7 car-share spaces. Car-share spaces would be publicly accessible, as defined by the *Planning Code*.

In general, these off-street parking spaces would be accommodated within structured podium-level or underground garages to be constructed at each block. The exact locations of the parking spaces would be determined following the building design phase. As required by the City of San Francisco, all parking spaces for housing units would be unbundled and sold separately from the housing unit itself.

Because the Proposed Project and the Reduced Development Alternative would be consistent with the performance standards established for parking within the Special Use District and the *Planning Code*, ***no impact*** would occur.

Impact TR-15(b)	**Effects on Parking**
	CEQA: This topic is not covered under CEQA.
	NEPA: The Housing Replacement Alternative and the No Project Alternative would provide parking consistent with local planning requirements. (No Impact)

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would have the same parking demand and supply as under Existing Conditions. As shown in Table 5.7-15, the *Planning Code* does not include residential parking requirements for affordable residential housing units. Therefore, there would be no conflict with local planning requirements. There would be ***no impact***.

Alternative 3 – No Project Alternative

The No Project Alternative would have the same parking demand as under Existing Conditions. Parking occupancy within the Project site is less than 50 percent for both on- and off-street facilities during the weekday PM peak period under Existing Conditions, indicating that the parking demand at the Project site is less than the available parking supply.

Therefore, the Housing Replacement Alternative and No Project Alternative would be identical to Existing Conditions, the available on-site parking supply of approximately 256 off-street and 100 on-street parking spaces is expected to be sufficient to meet the parking demand of this alternative, and there would be ***no impact***.

Site Access and On-Site Circulations: Operations Analysis

Impact TR-16(a)	**Effects on Site Access and On-Site Circulation** **CEQA: The newly constructed roadway network associated with the Proposed Project and the Reduced Development Alternative would effectively connect the local roadway system, but could impact internal circulation. (Less than Significant with Mitigation)** **NEPA: The newly constructed roadway network associated with the Proposed Project and the Reduced Development Alternative would effectively connect the local roadway system, but could impact internal circulation. (Less than Significant with Mitigation)**

Proposed Project

The Proposed Project would incorporate existing and reconfigured roadways on the Project site. Within the Project site, 23rd Street would have its intersection with Dakota Street eliminated and it would be straightened and extended eastward to meet the newly constructed Missouri Street. 26th Street would retain its existing roadway alignment, with minor sidewalk, crosswalk, and bulb-out improvements and is proposed to have a 54-foot-wide right-of-way between Wisconsin Street and Connecticut Street. Wisconsin Street would remain in its current alignment. Texas Street and Missouri Street would be extended and connect at the northern border of the Project site. Arkansas Street would be extended from 23rd Street south to 26th Street. Instead of traveling northwest/southeast, Connecticut Street would be realigned to travel north/south and would terminate at 24 and ½ Street. From there, a pedestrian path and open space would be provided as an extension north and connect to the Potrero Hill Recreation Center. Two new streets are proposed for an east/west alignment: a 24th Street extension and 24 and ½ Street. The 24th Street extension would travel east/west from Wisconsin Street to Texas Street. From Arkansas Street to Texas Street, 24 and ½ Street would be south of 24th Street. Dakota Street, Turner Terrace, and Watchman Way would be eliminated.

It is anticipated that the newly constructed roadway grid would better connect locally with other nearby streets. Vehicular site circulation is anticipated to consist primarily of localized traffic and transit service accessing the residential units, parks, and Community Center on the Project site. Intersections located within the Project site that were evaluated in this study (25th Street/Connecticut Street, 23rd Street/Missouri Street, 23rd Street/Wisconsin Street, and 25th Street/Texas Street) experience LOS D or better operating conditions after implementing the Proposed Project. Due to the anticipated localized traffic patterns for the Proposed Project, and the acceptable internal study intersection operating conditions, it is not expected that the Project site would experience any significant circulation or site access issues as a result of project implementation. However, since the designs of intersection bulb-outs and driveways connecting to the parking garages are not developed, the Proposed Project could result in a ***significant*** impact on traffic circulation under CEQA.

Alternative 1 – Reduced Development Alternative

The Reduced Development Alternative would incorporate existing and reconfigured roadways on the Project site. Within the Project site, the intersection of 23rd Street and Dakota Street would be eliminated; 23rd Street would be straightened and extended eastward to meet the newly constructed Missouri Street. 26th Street would retain its existing roadway alignment, with minor sidewalk, crosswalk, and bulb-out improvements, and a 54-foot-wide right-of-way between Wisconsin Street and Connecticut Street. Wisconsin Street would remain in its current alignment. Texas Street and Missouri Street would be extended and connect at the northern border of the Project site. Arkansas Street would be extended from 23rd Street south to 26th Street. Instead of traveling northwest/southeast, Connecticut Street would be realigned to travel north/south and would terminate at 24 and ½ Street. From there, a pedestrian path and open space would be provided as an extension north and connect to the Potrero Hill Recreation Center. Two new streets are proposed for an east/west alignment: a 24th Street extension and 24 and ½ Street. The 24th Street extension would travel east/west from Wisconsin Street to Texas Street. From Arkansas Street to Texas Street, 24 and ½ Street would be south of 24th Street. Dakota Street, Turner Terrace, and Watchman Way would be eliminated.

It is anticipated that the newly constructed roadway grid would better connect locally with other nearby streets. Vehicular site circulation is anticipated to consist primarily of localized traffic and transit service accessing the residential units, parks, and Community Center on the Project site. Intersections located within the Project site that were evaluated in this study (25th Street/Connecticut Street, 23rd Street/Missouri Street, 23rd Street/Wisconsin Street, and 25th Street/Texas Street) experience LOS D or better operating conditions after implementing the Reduced Development Alternative. Due to the anticipated localized traffic patterns for the Proposed Project, and the acceptable internal study intersection operating conditions, it is not expected that the Project site would experience any significant circulation or site access issues as a result of project implementation. However, since the designs of intersection bulb-outs and driveways connecting to

the parking garages are not developed, the Reduced Development Alternative could result in a ***significant*** impact to traffic circulation.

Mitigation Measure M-TR-16 – Design of Bulb-Outs and Driveways (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative). During the design of each phase of the project, the project applicant shall develop designs for intersection bulb-outs and driveways connecting to parking garages incorporating the guidelines and design controls provided below. These design recommendations were identified from Better Streets Plan and guidelines provided by SFMTA, and the Planning Department.

Bulb-out Design (Source – Better Streets Plan)

- All streets within the Project site shall adhere to standards contained in the Better Streets Plan by the San Francisco Planning Department, including the following:
  - > Streets and bulb-outs shall be designed to accommodate emergency vehicle (WB-40) turns
  - > Streets and bulb-outs along Muni routes shall be designed to accommodate a 40-foot (B-40) bus
- Bulb-outs shall be designed consistent with the SFDPW and other City agency specifications to accommodate use of mechanical street sweepers, and shall be consistent with SFFD and SFMTA regulations. All bulb-outs require the approval of the interagency TASC committee.

Driveway Design (Source – Better Streets Plan, Planning Department, and SFMTA)

- All driveways leading to parking garages shall be designed in accordance with the *San Francisco Planning Code* Sections 145.1 and 155 standards applicable in RM zoning districts and the Planning Department's Guidelines for Adding Garages and Curb Cuts.
- Garages with more than 20 parking spaces would be subject to the Planning Department's Queue Abatement Condition of Approval, requiring the project applicant to design for and prevent through monitoring the potential for vehicle queues in the public right-of-way.
- Garage entrances and curb cuts shall be designed to minimize their impact on other modes of travel, including pedestrian circulation.
- Garage entrances shall be no wider than 20 feet if combined for ingress and egress, and no wider than 12 feet if ingress and egress are separated.
- Garage entrances located along streets with transit service (Missouri, Arkansas, and Wisconsin Streets) shall not encumber any bus stop and not be located directly before a bus stop.

The minimum clearance distance between any garage driveway and neighboring intersections would be identified coordinating with the SFMTA.

Implementation of Mitigation Measure M-TR-16 would ensure compliance with the Better Streets Plan and SFMTA. As a result, the Proposed Project and Reduced Development Alternative impacts would be ***less than significant*** with mitigation under CEQA.

As implementation of Mitigation Measure M-TR-16 would ensure that internal circulation of Proposed Project and Reduced Development Alternative would not be affected, the impacts on circulation would be ***less than significant*** under NEPA.

Impact TR-16(b)	**Effects on Site Access and On-Site Circulation**
	CEQA: With the Housing Replacement Alternative and the No Project Alternative the existing roadway would remain, therefore; would not result in an impact to internal circulation. (No Impact)
	NEPA: With the Housing Replacement Alternative and the No Project Alternative the existing roadway would remain, therefore; would not result in an impact to internal circulation. (No Impact)

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not modify the existing roadway network within the Project site. All site-access points would remain unchanged and internal circulation would continue to function as it does under existing conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not modify the existing roadway network within the Project site. All site-access points would remain unchanged and internal circulation would continue to function as it does under existing conditions.

Therefore, under CEQA, the Housing Replacement Alternative and No Project Alternative would have ***no impact*** on site access or on-site circulation associated with modification of the roadway network. Similarly, the Housing Replacement Alternative and No Project Alternative would result in ***no impact*** under NEPA.

2030 Cumulative Impacts

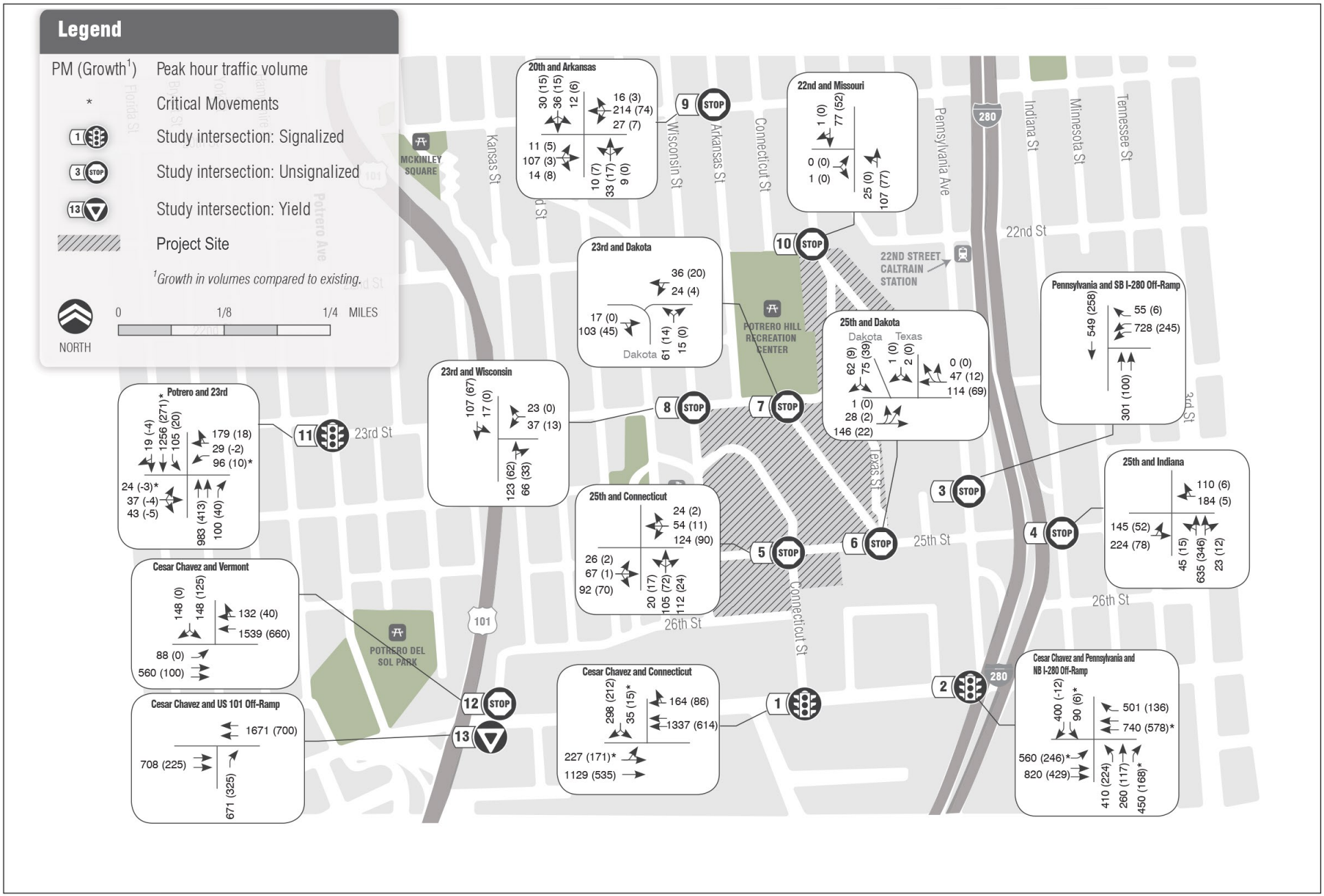
Impact C-TR-1(a)	**2030 Cumulative Impacts** **CEQA: The Proposed Project and the Reduced Development Alternative would not result in a cumulatively considerable contribution to delay exceedances at intersection #2—Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp. (Less than Significant)** **NEPA: The Proposed Project and the Reduced Development Alternative would not result in a cumulatively considerable contribution to delay exceedances at intersection #2—Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp. (Less than Significant)**

Under 2030 Cumulative No Project Conditions, during the weekday PM peak hour, five of the 13 study intersections (Potrero Avenue/23rd Street, 23rd Street/Dakota Street, 23rd Street/Wisconsin Street, 20th Street/Arkansas Street, and 22nd Street/Missouri Street) would continue to operate at the same acceptable LOS (LOS C or better) as under Existing Conditions, and LOS conditions at the remaining eight study intersections would deteriorate from their existing operations. However, of these eight intersections, four would continue to operate with an acceptable LOS (LOS D or better). The remaining four intersections would operate at an unacceptable LOS (LOS E or F):

- Intersection #2 – Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp (worsening from LOS D under Existing Conditions to LOS F under 2030 Cumulative No Project Conditions)
- Intersection #3 – Pennsylvania Avenue/Southbound I-280 Off-Ramp (worsening from LOS C under Existing Conditions to LOS F under 2030 Cumulative No Project Conditions)
- Intersection #12 – Cesar Chavez Street/Vermont Street (worsening from LOS C under Existing Conditions to LOS F under 2030 Cumulative No Project Conditions)
- Intersection #13 – Cesar Chavez Street/US 101 Off-Ramp (worsening from LOS B under Existing Conditions to LOS F under 2030 Cumulative No Project Conditions)

Traffic volumes at the study intersections, along with their geometric configurations under 2030 Cumulative No Project Conditions are illustrated in Figure 5.7-8. The resulting traffic volumes and proposed geometric configurations at the study intersections under 2030 Cumulative Plus Project Conditions are illustrated in Figure 5.7-9. Table 5.7-16 summarizes the analysis of study intersection operations during the weekday PM peak hour under 2030 Cumulative No Project Conditions and 2030 Cumulative Plus Project Conditions.

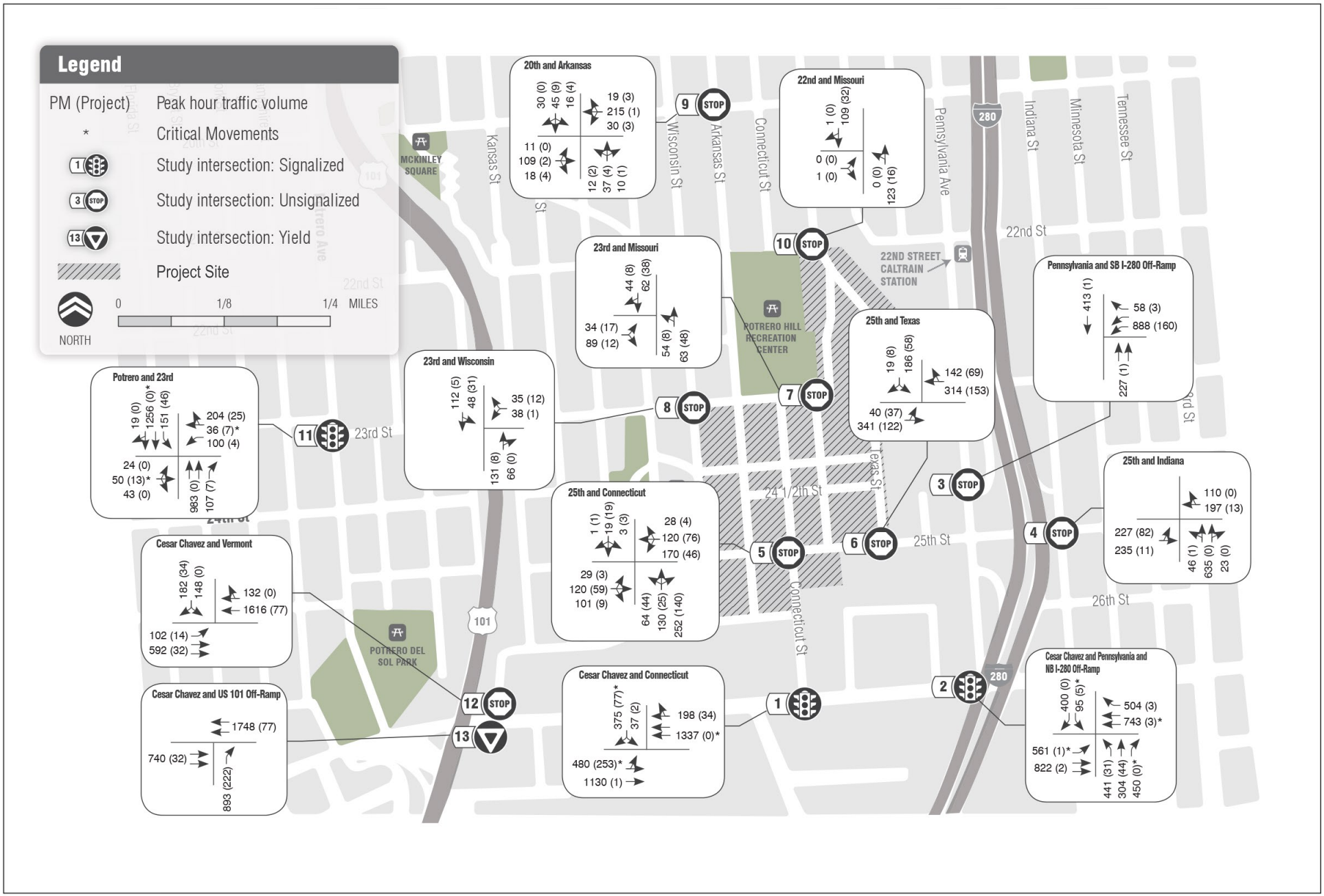
Under 2030 Cumulative Plus Project Conditions, eight of the 13 study intersections would continue to operate at an acceptable LOS (LOS D or better) during the weekday PM peak hour as compared to 2030 Cumulative No Project Conditions.



SOURCE: Potrero HOPE Transportation Study, June 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.7-8: INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS—2030 CUMULATIVE PM PEAK HOUR



SOURCE: Potrero HOPE Transportation Study, June 2012.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.7-9: INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS—2030 CUMULATIVE PLUS PROJECT PM PEAK HOUR

Table 5.7-16 PM Peak Hour Intersection Operations—2030 Cumulative vs. Cumulative Plus Project Conditions

#	Intersection	Existing			2030 Cumulative			2030 Cumulative Plus Project					
								Proposed Project			Reduced Development Alternative		
		Delay	V/C Ratio	LOS	Delay	V/C Ratio	LOS	Delay	V/C Ratio	LOS	Delay	V/C Ratio	LOS
Signalized													
1	Cesar Chavez St/ Connecticut St	16.3	—	B	25.3	—	C	47.1	—	D	38.2	—	D
2	Cesar Chavez St/ Pennsylvania Ave/ NB I-280 Off-Ramp	38.4	—	D	82.9	1.07	F	85.2	1.08	F	84.4	1.07	F
11	Potrero Ave/23rd St	22.2	—	C	24.3	—	C	26.6	—	C	25.6	—	C
Unsignalized													
3	Pennsylvania Ave/ SB I-280 Off-Ramp	15.2 (SB)	—	C	92.8 (SB)	1.10	F[c]	50.1 (WB)	0.93	F[d]	40.3 (WB)	0.87	E[d]
4	25th St/Indiana St/ NB I-280 On-Ramp	11.4 (EB)	—	B	21.5 (EB)	—	C	37.9 (EB)	0.88	E[d]	30.7 (EB)	0.82	D
5	25th St/Connecticut St	8.0 (EB)	—	A	10.3 (NB)	—	B	28.0 (NB)	—	D	16.6 (NB)	—	C
6	25th St/Texas St[a]	9.6 (SEB)	—	A	11.0 (SB)	—	B	30.1 (SB)	—	D	20.0 (SB)	—	C
7	23rd St/Dakota St[b]	9.2 (NB)	—	A	10.1 (NB)	—	A	11.1 (NB)	—	B	10.5 (NB)	—	B
8	23rd St/Wisconsin St	7.5 (SB)	—	A	8.1 (SB)	—	A	8.5 (SB)	—	A	8.3 (SB)	—	A
9	20th St/Arkansas St	8.5 (WB)	—	A	10.0 (WB)	—	A	10.2 (WB)	—	B	10.2 (WB)	—	B
10	22nd St/Missouri St	8.5 (EB)	—	A	8.5 (EB)	—	A	8.8 (EB)	—	A	8.7 (EB)	—	A
12	Cesar Chavez St/ Vermont St	24.8 (SB)	—	C	>1000 (SB)	2.97	F[c]	>1000 (SB)	3.76	F[d]	>1000 (SB)	3.48	F[d]
13	Cesar Chavez St/ US 101 Off-Ramp	13.3 (NB)	—	B	104.6 (NB)	1.14	F[c]	276.0 (NB)	1.55	F[d]	213.1 (NB)	1.41	F[d]

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

V/C ratio = volume-to-capacity ratio; it is reported for intersections operating at LOS E and F only.

EB = eastbound; NB = northbound; SB = southbound; WB = westbound

Delay is presented in seconds per vehicle; for unsignalized intersections, delay, v/c ratio, and LOS are presented for the worst approach, annotated in parenthesis ( ).

Bold indicates intersection operates at an unacceptable LOS.

a. This intersection is 25th/Dakota/Texas under Cumulative Conditions and 25th/Texas under Cumulative Plus Project Conditions.

b. This intersection is 23rd/Dakota under Cumulative Conditions and 23rd/Missouri under Cumulative Plus Project Conditions.

c. This intersection satisfies Caltrans signal warrants under 2030 Cumulative Conditions.

d. This intersection satisfies Caltrans signal warrants under 2030 Cumulative Plus Project Conditions.

The remaining five intersections (#2 – Cesar Chavez Street/Pennsylvania Avenue/NB I-280 Off-Ramp, #3 – Pennsylvania Avenue/SB I-280 Off-Ramp, #4 – 25th Street/Indiana Street/NB I-280 On-Ramp, #12 – Cesar Chavez Street/Vermont Street, and #13 – Cesar Chavez Street/US 101 Off-Ramp) would operate at an unacceptable LOS (LOS E or F).

Proposed Project

Intersection #2 – Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp. The Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp intersection would operate at LOS F under 2030 Cumulative No Project and 2030 Cumulative Plus Project Conditions. The Proposed Project would increase traffic along the critical movements operating at LOS F as follows:

- 0.2 percent or one trip along the eastbound left-turning movement
- 0.4 percent or three trips along the westbound through movement

Alternative 1 – Reduced Development Alternative

Intersection #2 – Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp. The Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp intersection would operate at LOS F under 2030 Cumulative No Project and 2030 Cumulative Plus Project Conditions. The Reduced Development Alternative would increase traffic along one critical movement operating at LOS F as follows:

- Two trips or 0.3 percent along the westbound through movement

Although the Proposed Project and Reduced Development Alternative would increase traffic along the critical movement operating at LOS F at the Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp, the increase would be less than five percent. Therefore, this would not be considered a considerable contribution to cumulative impacts at this intersection and would represent a ***less than significant*** cumulative impact under CEQA.

Similarly, the Proposed Project and Reduced Development Alternative would result in ***less than significant*** cumulative impact under NEPA.

Impact C-TR-1(b)	**2030 Cumulative Impacts** **CEQA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to delay exceedances at four intersections: #3 – Pennsylvania Avenue/SB I-280 Off-Ramp, #4 – 25th Street/Indiana Street/NB I-280 On-Ramp, #12 – Cesar Chavez Street/Vermont Street and #13 – Cesar Chavez Street/US 101 Off-Ramp. (Significant and Unavoidable with Mitigation)** **NEPA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to delay exceedances at four intersections: #3 – Pennsylvania Avenue/SB I-280 Off-Ramp, #4 – 25th Street/Indiana Street/NB I-280 On-Ramp, #12 – Cesar Chavez Street/Vermont Street and #13 – Cesar Chavez Street/US 101 Off-Ramp. (Significant and Unavoidable with Mitigation)**

Proposed Project

Based on the significance criteria discussed earlier in this section, the Proposed Project would result in significant traffic impacts at the following four study intersections under 2030 Cumulative Plus Project Conditions:

- #3 – Pennsylvania Avenue/SB I-280 Off-Ramp
- #4 – 25th Street/Indiana Street/NB I-280 On-Ramp
- #12 – Cesar Chavez Street/Vermont Street
- #13 – Cesar Chavez Street/US 101 Off-Ramp

Intersection #3 – Pennsylvania Avenue/Southbound I-280 Off-Ramp. The LOS/worst approach of the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection would operate at LOS F (approximate average vehicle delay of 93 seconds) for the southbound approach under 2030 Cumulative No Project Conditions, and shift to the westbound approach with the worst average delay decreasing for the intersection to 50 seconds, although the overall LOS would remain at LOS F under 2030 Cumulative Plus Project Conditions. As mentioned earlier in this section, the modification of roadway layout planned as part of the Proposed Project is anticipated to shift approximately 25 percent of traffic travelling along Pennsylvania Avenue to Texas Street. This shift in traffic would reduce traffic along northbound and southbound Pennsylvania Avenue, thereby improving traffic operations at this intersection under 2030 Cumulative Plus Project Conditions. As such, the worst operating approach at this intersection would also shift from southbound approach under 2030 Cumulative No Project Conditions to westbound approach under 2030 Cumulative Plus Project Conditions. This intersection would satisfy the Caltrans signal warrants under both 2030 Cumulative No Project and Cumulative Plus Project Conditions. Therefore, contribution of the Proposed Project to traffic along the worst approach was examined. The Proposed Project would increase traffic along the westbound left-turning movement by about 160 vehicle trips (18 percent). Because the Proposed Project would alter the worst approach and result in an increase in traffic of the westbound left-turning critical movement at the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection by more than five percent, this would be a ***significant*** cumulative impact.

Capacity improvements such as providing an additional left-turning lane on the Southbound I-280 Off-Ramp to improve the operating conditions of this approach and intersection was considered, but would require providing an additional through lane along Southbound Pennsylvania Avenue, from either reducing sidewalk widths or encroaching into the neighboring property. Therefore, adding an additional southbound left-turn lane, although considered, is not recommended as mitigation.

Mitigation Measure C-M-TR-1a, which would consist of signalizing this intersection, was identified to potentially reduce this impact. Installation of a traffic signal at this location would improve the operating conditions of this intersection from LOS F (approximately 50 seconds of delay per vehicle for the westbound approach) to LOS B (approximately 17 seconds of delay per vehicle). However,

when signal warrants are met at any intersection, before a signal is recommended, additional review and prioritization is required by SFMTA. The intersection is evaluated to determine whether a signal would be warranted; and if so, it would be added to the proposed signal list maintained by SFMTA Transportation Engineering. The intersection signalization is prioritized based on a number of factors, including availability of funding, degree of hazard, and need in relation to other locations in the city. SFMTA does not have any plans to install a traffic signal at this intersection currently, and therefore the project contributing to a potential future signalization at this intersection would not be a feasible mitigation measure. The project applicant would work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at the impacted intersections.

Due to the uncertainty of implementation of Mitigation Measure C-M-TR-1a, the feasibility of the recommended mitigation measure is unknown. Therefore, the Proposed Project's impact at the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection would remain ***significant and unavoidable*** under CEQA. The adverse cumulative effect under NEPA would be considered a ***significant and unavoidable*** impact in light of worsening conditions at various area intersections that would compound the effect.

> **Mitigation Measure C-M-TR-1a – Pennsylvania Avenue/Southbound I-280 Off-Ramp Traffic Signal (Proposed Project and Reduced Development Alternative Only).** The project applicant shall mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The project applicant shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Intersection #4 – 25th Street/Indiana Street/Northbound I-280 On-Ramp. The worst approach (eastbound approach) of the 25th Street/Indiana Street/Northbound I-280 On-Ramp intersection would deteriorate from LOS C (about 22 seconds of delay) under 2030 Cumulative No Project Conditions to LOS E (about 38 seconds of delay) under 2030 Cumulative Plus Project Conditions. In addition, traffic added by the Proposed Project would cause Caltrans signal warrant to be met at this intersection under 2030 Cumulative Plus Project Conditions. This would be a ***significant*** cumulative impact.

Implementation of Mitigation Measure C-M-TR-1b would improve the intersection operations to LOS C (approximately 24 seconds of delay per vehicle in the northbound direction). Hence, with Mitigation Measure C-M-TR-1b, the traffic impact at this intersection would be reduced to ***less than significant*** for the Proposed Project. Constructing a new left-turn pocket would result in the removal of two on-street parking spaces or, although less likely, a slight reduction in sidewalk widths along the eastbound approach. These impacts related to the implementation of Mitigation

Measure C-M-TR-1b would not be considered significant, and would be consistent with those analyzed with the Proposed Project. The impact would be ***less than significant*** under CEQA and NEPA.

> **Mitigation Measure C-M-TR-1b – 25th Street/Indiana Street/Northbound I-280 On-Ramp Eastbound Approach Turn Lane Modification or Traffic Signal (Proposed Project Only).** Restripe the eastbound approach so as to convert the existing shared left-through lane to a through lane and provide a new 75-foot left-turn pocket. The restriping would require prohibition of on-street parking for approximately 75 feet in the eastbound approach (loss of two parking spaces).

Intersection #12 – Cesar Chavez Street/Vermont Street. The worst approach (southbound approach) of the Cesar Chavez Street/Vermont Street intersection would operate at LOS F under 2030 Cumulative No Project Conditions. In addition, this intersection would continue to satisfy the Caltrans signal warrants under 2030 Cumulative No Project and Cumulative Plus Project Conditions. Therefore, contribution of the Proposed Project to traffic along the worst approach was examined. The Proposed Project would increase traffic along the southbound approach of this intersection by about 33 vehicles (11 percent). Because the Proposed Project would alter the worst approach and result in an increase in traffic of the southbound approach at the Cesar Chavez Street/Vermont Street intersection by more than five percent, this would be a ***significant*** cumulative impact.

During the PM peak hour of 2030 Cumulative Conditions, the southbound approach of this intersection would operate with an average vehicle delay greater than 1,000 seconds. This is primarily due to the lack of sufficient gaps between vehicles travelling along Cesar Chavez Street (2,319 vph) for the southbound left-turning vehicles (148 vph) to perform the maneuver. Capacity improvements at this intersection would not help improve gaps between traffic travelling along Cesar Chavez Street. As such, capacity improvements alone, although considered, are not recommended to improve operations at this intersection.

Similarly, restricting southbound left turns from Vermont Street to Cesar Chavez Street was considered for mitigation. This improvement would reduce the delay of the southbound approach from greater than 1,000 seconds per vehicle (LOS F) to approximately 45 seconds per vehicle (LOS E). However, elimination of left turns would force vehicles turning left to use Cesar Chavez Street/Connecticut Street intersection to travel along eastbound Cesar Chavez Street. This would worsen operations at the Cesar Chavez Street/Connecticut Street intersection from LOS D to LOS F. Therefore, this improvement is not recommended as a feasible mitigation measure either.

Mitigation Measure C-M-TR-1c, which would signalize this intersection, was identified to potentially reduce this impact. Installation of a traffic signal at this location would improve the operating conditions of this intersection from LOS F (greater than 1,000 seconds of delay per vehicle in the southbound direction) to LOS B (approximately 17 seconds of delay per vehicle). However,

when signal warrants are met at any intersection, before a signal is recommended, additional review and prioritization is required by SFMTA. In particular, this intersection is located less than 50 feet away from the neighboring unsignalized intersection of Cesar Chavez Street and US 101 Off-Ramp, and as such, traffic signalization at this intersection is not likely to be considered feasible. SFMTA does not have any plans to install a traffic signal at this intersection currently, and therefore the project contributing to a potential future signalization at this intersection would not be a feasible mitigation measure. Therefore, the impact at the intersection of Cesar Chavez Street/Vermont Street would be ***significant and unavoidable***.

> **Mitigation Measure C-M-TR-1c – Cesar Chavez Street/Vermont Street Intersection Traffic Signal (Proposed Project and Reduced Development Alternative Only).** The project applicant shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The project applicant shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Intersection #13 – Cesar Chavez Street/US 101 Off-Ramp. The worst approach (northbound approach) of the Cesar Chavez Street/US 101 Off-Ramp intersection would operate at LOS F under 2030 Cumulative No Project Conditions. In addition, this intersection would continue to satisfy the Caltrans signal warrants under 2030 Cumulative No Project and Cumulative Plus Project Conditions. Therefore, contribution of the Proposed Project to traffic along the worst approach was examined. The Proposed Project would increase traffic along the northbound approach of this intersection by about 222 vehicles (33 percent). Because the Proposed Project would alter the worst approach and result in an increase in traffic of the northbound approach at the Cesar Chavez Street/ US 101 Off-Ramp intersection by more than five percent, this would be a ***significant*** cumulative impact.

This intersection would satisfy the Caltrans signal warrant during the PM peak hour. However, even with the installation of a traffic signal this intersection would continue to operate at LOS F (approximately 105 seconds of delay per vehicle). Hence, improving the traffic operations at this intersection would require widening of the US 101 Off-ramp, in addition to installing a traffic signal. However, widening of the off-ramp would involve substantial right-of-way acquisition, ramp construction, and pavement striping. Additionally, when signal warrants are met at any intersection, before a signal is recommended, additional review and prioritization is required by SFMTA. The intersection is evaluated to determine whether a signal would be warranted; and if so, it would be added to the proposed signal list maintained by SFMTA Transportation Engineering. The intersection signalization is prioritized based on a number of factors, including availability of funding, degree of hazard, and need in relation to other locations in the city. SFMTA does not have

any plans to install a traffic signal at this intersection currently, and therefore the project contributing to a potential future signalization at this intersection would not be a feasible mitigation measure.

The Planning Department is currently developing improvements to the Cesar Chavez Street/Bayshore Avenue/Potrero Avenue intersection as part of the Cesar Chavez East Community Design Plan. According to this plan, a "hairball" design of this intersection has been recommended to improve pedestrian and bicycle operations. In addition, it has been proposed to allow left turns from eastbound Cesar Chavez Street directly onto the northbound US 101 On-ramp near Vermont Street. It is anticipated that these recommendations would improve the operating conditions of the Cesar Chavez Street/US 101 Off-Ramp intersection. However, the Cesar Chavez East Community Design Plan is in the planning stage and has not been adopted yet. The project applicant would work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

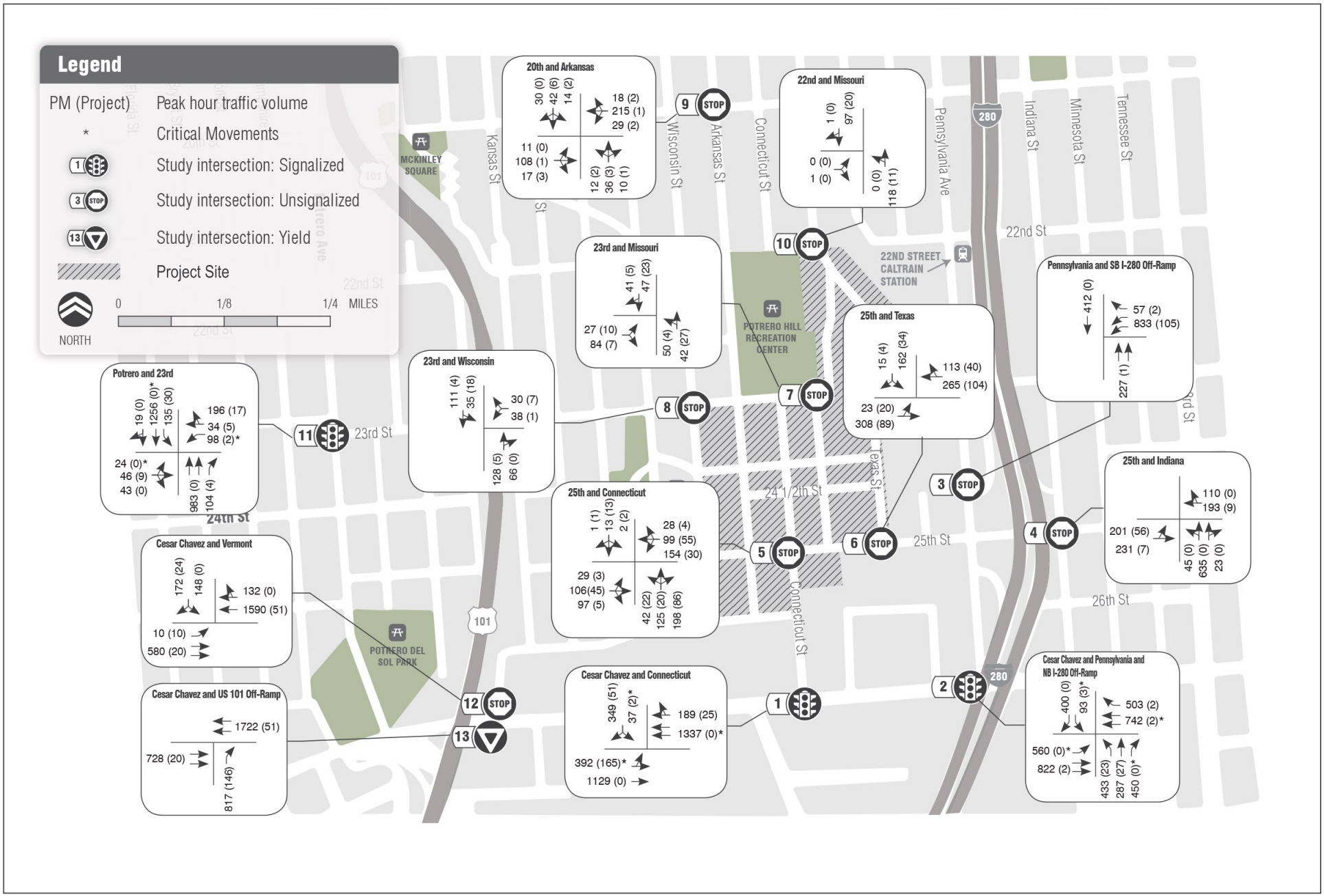
Due to the uncertainty of the implementation of Mitigation Measure C-M-TR-1d, the feasibility of the recommended mitigation measure is unknown. Therefore, the Proposed Project's impact at the Cesar Chavez Street/US 101 Off-Ramp intersection would remain ***significant and unavoidable***.

> **Mitigation Measure C-M-TR-1d – Cesar Chavez Street/US 101 Off-Ramp Traffic Signal (Proposed Project and Reduced Development Alternative Only).** The project applicant shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The project applicant shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Alternative 1 – Reduced Development Alternative

Figure 5.7-10 illustrates the resulting traffic volumes and proposed geometric configurations at the study intersections under 2030 Cumulative Plus Project Conditions. Based on the significance criteria discussed earlier in this section, the Reduced Development Alternative would result in significant traffic impacts at the following three study intersections under 2030 Cumulative Plus Project Conditions:

- #3 – Pennsylvania Avenue/SB I-280 Off-Ramp
- #12 – Cesar Chavez Street/Vermont Street
- #13 – Cesar Chavez Street/US 101 Off-Ramp



SOURCE: Potrero HOPE Transportation Study, June 2012.

FIGURE 5.7-10: INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS—2030 CUMULATIVE PLUS PROJECT PM PEAK HOUR (ALTERNATIVE 1)

Intersection #3 – Pennsylvania Avenue/Southbound I-280 Off-Ramp. The worst approach of the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection would operate at LOS F (approximate average vehicle delay of 93 seconds) for the southbound approach under 2030 Cumulative No Project Conditions, but would improve to operate at LOS F (approximate average vehicle delay of 50 seconds) for the westbound approach under 2030 Cumulative Plus Project Conditions. As mentioned earlier in this section, the modification of roadway layout planned as part of the Reduced Development Alternative is anticipated to shift approximately 25 percent of traffic travelling from Pennsylvania Avenue to Texas Street. This shift in traffic would reduce traffic along northbound and southbound Pennsylvania Avenue, thereby improving traffic operations at this intersection under 2030 Cumulative Plus Project Conditions. As such, the worst operating approach at this intersection would also shift from southbound approach under 2030 Cumulative No Project Conditions to westbound approach under 2030 Cumulative Plus Project Conditions. Also, this intersection would continue to satisfy the Caltrans signal warrants under 2030 Cumulative No Project and Cumulative Plus Project Conditions. Therefore, contribution of the Reduced Development Alternative to traffic along the worst approach was examined. The Reduced Development Alternative would increase traffic along the westbound left-turning movement by about 105 vehicle trips (13 percent), which is slightly lower than the Proposed Project's contribution of 160 vehicle trips (18 percent). However, similar to the Proposed Project, the Reduced Development Alternative would alter the worst approach and result in an increase in traffic of the westbound left-turning critical movement at the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection by more than 5 percent; this would be a ***significant*** cumulative impact.

Similar to that for the Proposed Project, installation of a traffic signal would improve the operating conditions of this intersection from LOS F (approximately 50 seconds of delay per vehicle for the westbound approach) to LOS B (approximately 17 seconds of delay per vehicle). However, the project contributing to a potential future signalization at this intersection would not be a feasible mitigation measure due to reasons discussed above for the Proposed Project.

Intersection #12 – Cesar Chavez Street/Vermont Street. The worst approach (southbound approach) of the Cesar Chavez Street/Vermont Street intersection would operate at LOS F under 2030 Cumulative No Project Conditions. In addition, this intersection would continue to satisfy the Caltrans signal warrants under 2030 Cumulative No Project and Cumulative Plus Project Conditions. Therefore, contribution of the Reduced Development Alternative to traffic along the worst approach was examined. The Reduced Development Alternative would increase traffic along the southbound approach of this intersection by about 24 vehicles (8 percent), which is slightly lower than the Proposed Project's contribution of 33 vehicles (11 percent). However, similar to the Proposed Project, the Reduced Development Alternative would alter the worst approach and result in an increase in traffic of the southbound approach at the Cesar Chavez Street/Vermont Street intersection by more than five percent, this would be a ***significant*** cumulative impact.

Similar to that for the Proposed Project, installation of a traffic signal would improve the operating conditions of this intersection, but would still continue to operate at LOS F. However, the project contributing to a potential future signalization at this intersection would not be a feasible mitigation measure due to reasons discussed above for the Proposed Project.

Intersection #13 – Cesar Chavez Street/US 101 Off-Ramp. The worst approach (northbound approach) of the Cesar Chavez Street/US 101 Off-Ramp intersection would operate at LOS F under 2030 Cumulative No Project Conditions. In addition, this intersection would continue to satisfy the Caltrans signal warrants under 2030 Cumulative No Project and Cumulative Plus Project Conditions. Therefore, contribution of the Reduced Development Alternative to traffic along the worst approach was examined. The Reduced Development Alternative would increase traffic along the northbound approach of this intersection by about 146 vehicles (22 percent), which is lower than the Proposed Project's contribution of 222 vehicles (33 percent). However, similar to the Proposed Project, the Reduced Development Alternative would alter the worst approach and result in an increase in traffic of the northbound approach at the Cesar Chavez Street/US 101 Off-Ramp intersection by more than five percent, this would be a ***significant*** cumulative impact.

Similar to that for the Proposed Project, installation of a traffic signal would improve the operating conditions of this intersection, but would still continue to operate at LOS F. However, the project contributing to a potential future signalization at this intersection would not be a feasible mitigation measure due to reasons discussed above for the Proposed Project.

Summary

Mitigation Measures C-M-TR-1a through C-M-TR-1d for the Proposed Project and Reduced Development Alternative require the project applicant to contribute a fair-share payment to impacts at affected intersections. Due to the uncertainty of these mitigation measures, this cumulative impact is considered ***significant and unavoidable*** under CEQA.

Similarly, due to uncertainty of the effectiveness of Mitigation Measures C-M-TR-1a through C-M-TR-1d, the Proposed Project and Reduced Development Alternative would result in a ***significant and unavoidable*** impact at the affected intersections under NEPA.

Impact C-TR-1(c)	**2030 Cumulative Effects**
	CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to delay exceedances at Project study intersections. (No Impact)
	NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to delay exceedances at Project study intersections. (No Impact)

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new trips; as such, all study intersections would continue to operate with the same LOS and delay values as under 2030 Cumulative No Project Conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not add any new trips; as such, all study intersections would continue to operate with the same LOS and delay values as under 2030 Cumulative No Project Conditions.

Therefore, the Housing Replacement Alternative and No Project Alternative would result in ***no cumulative impact*** on study area intersection LOS under CEQA.

Similarly, the Housing Replacement Alternative and No Project Alternative would result in ***no cumulative impact*** on study area intersection LOS under NEPA.

Impact C-TR-2(a)	**2030 Cumulative Effects on LOS**
	CEQA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to LOS F conditions in the PM peak hour at the Northbound I-280 (north of Indiana Street On-Ramp) freeway segment. (Less than Significant)
	NEPA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to LOS F conditions in the PM peak hour at the Northbound I-280 (north of Indiana Street On-Ramp) freeway segment. (Less than Significant)

Table 5.7-17 summarizes the analysis of freeway segment operations during the weekday AM and PM peak hours under 2030 Cumulative No Project Conditions and 2030 Cumulative Plus Project Conditions.

Table 5.7-17 AM and PM Peak Hour Freeway Segment Operations—2030 Cumulative vs. 2030 Cumulative Plus Project Conditions

#	Study Freeway Segment	Existing		2030 Cumulative		2030 Cumulative Plus Project			
						Proposed Project		Reduced Development Alternative	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
AM Peak Hour									
1	NB I-280 (south of Cesar Chavez St Off-Ramp)	34.4	D	>45	F	>45	F	>45	F
3	NB I-280 (north of Indiana St On-Ramp)	22.9	C	31.8	D	32.5	D	32.2	D
5	NB US 101 (north of Cesar Chavez St On-Ramp)	30.4	D	>45	F	>45	F	>45	F
6	SB US 101 (north of Cesar Chavez St Off-Ramp)	>45	F	>45	F	>45	F	>45	F
PM Peak Hour									
1	NB I-280 (south of Cesar Chavez St Off-Ramp)	16.0	B	>45	F	>45	F	>45	F
2	SB I-280 (south of Pennsylvania Ave On-Ramp)	29.3	D	>45	F	>45	F	>45	F
3	NB I-280 (north of Indiana St On-Ramp)	13.1	B	33.2	D	33.6	D	33.5	D
4	SB I-280 (north of Pennsylvania Ave Off-Ramp)	32.6	D	>45	F	>45	F	>45	F
5	NB US 101 (north of Cesar Chavez St On-Ramp)	>45	F	>45	F	>45	F	>45	F
6	SB US 101 (north of Cesar Chavez St Off-Ramp)	33.4	D	>45	F	>45	F	>45	F

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).
NB = northbound; SB = southbound
Density is reported in passenger cars per mile per lane (pc/mi/ln).
Bold indicates unacceptable conditions (LOS E or F).
a. Source: Freeway analysis conducted as part of the CP-HPS Phase II EIR.
b. Source: Ramp junction analysis conducted as part of the CP-HPS Phase II EIR.

Proposed Project

AM Peak Hour

Under 2030 Cumulative No Project Conditions, during the AM peak hour, none of the study freeway segments would operate at the same LOS as under Existing Conditions; LOS of all the study freeway segments would deteriorate from their existing operations. However, one freeway segment (Northbound I-280, north of Indiana Street On-Ramp) would operate at an acceptable LOS (LOS D or better). The remaining three freeway segments would operate at an unacceptable LOS (LOS F) and include the following:

- Northbound I-280 (south of Cesar Chavez Street Off-Ramp)
- Northbound US 101 (north of Cesar Chavez Street On-Ramp)
- Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

Under 2030 Cumulative Plus Project weekday AM peak hour conditions, one study freeway segment (#3 – Northbound I-280 north of Indiana Street On-Ramp) would continue to operate at acceptable operating conditions (LOS D or better) as would occur for 2030 Cumulative No Project

Conditions. The remaining three study freeway segments (#1 – Northbound I-280 south of Cesar Chavez Street Off-Ramp, #5 – Northbound I-280 north of Cesar Chavez Street On-Ramp, and #6 – Southbound US 101 north of Cesar Chavez Street Off-Ramp) would operate at unacceptable operating conditions (LOS F). However, the Proposed Project's contribution to the increase in traffic along these three freeway segments that would operate at LOS F would be less than 5 percent.

PM Peak Hour

During the PM peak hour, only one study freeway segment (Northbound US 101, north of Cesar Chavez Street On-Ramp) would operate at the same LOS (LOS F) as under Existing Conditions, and LOS of the remaining five study freeway segments would deteriorate from their existing operations. However, of these five study freeway segments, one segment (Northbound I-280, north of Indiana Street On-Ramp) would operate with an acceptable LOS (LOS D or better). The remaining four freeway segments would operate at an unacceptable LOS (LOS F) and include the following:

- Northbound I-280 (south of Cesar Chavez Street Off-Ramp)
- Southbound I-280 (south of Pennsylvania Avenue On-Ramp)
- Southbound I-280 (north of Pennsylvania Avenue Off-Ramp)
- Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

Under 2030 Cumulative Plus Project weekday PM peak hour conditions, only one study freeway segment would continue to operate at acceptable operating conditions (LOS D or better) under 2030 Cumulative and 2030 Cumulative Plus Project Conditions #3 – Northbound I-280 (north of Indiana Street On-Ramp).

The remaining five freeway segments, #1 – Northbound I-280 (south of Cesar Chavez Street Off-Ramp, #2 – Southbound I-280 (south of Pennsylvania Avenue On-Ramp), #4 – Southbound I-280 (north of Pennsylvania Avenue Off-Ramp), #5 – Northbound US 101 (north of Cesar Chavez Street On-Ramp), and #6 – Southbound US 101 (north of Cesar Chavez Street Off-Ramp) would operate at unacceptable operating conditions (LOS F).

At freeway segments #1 – Northbound I-280 (south of Cesar Chavez Street Off-Ramp, #2 – Southbound I-280 (south of Pennsylvania Avenue On-Ramp), #5 – Northbound US 101 (north of Cesar Chavez Street On-Ramp), and #6 – Southbound US 101 (north of Cesar Chavez Street Off-Ramp), the Proposed Project's contribution to traffic increase would vary between 0.7 percent and 1.3 percent, which would not be cumulatively considerable. However, the Proposed Project's contribution to traffic increase along these five freeway segments that would operate at LOS F would be less than 5 percent and is not anticipated to be significant. Since the Proposed Project would not contribute cumulatively considerable amounts of traffic to these freeway segments, the Proposed Project would result in a ***less than significant*** impact during the PM peak hour, as well.

Alternative 1 – Reduced Development Alternative

Table 5.7-17 summarizes the analysis of freeway segment operations during the weekday AM and PM peak hours under 2030 Cumulative No Project Conditions and 2030 Cumulative Plus Project Conditions.

AM Peak Hour

Under 2030 Cumulative Plus Project weekday AM peak hour conditions, one study freeway segment (#3 – Northbound I-280 north of Indiana Street On-Ramp) would continue to operate at acceptable operating conditions (LOS D or better) as would occur for 2030 Cumulative No Project Conditions. The remaining three study freeway segments (#1 – Northbound I-280 south of Cesar Chavez Street Off-Ramp, #5 – Northbound I-280 north of Cesar Chavez Street On-Ramp, and #6 – Southbound US 101 north of Cesar Chavez Street Off-Ramp) would operate at unacceptable operating conditions (LOS F). However, the Reduced Development Alternative's contribution to the increase in traffic along these three freeway segments operating at LOS F would be less than 5 percent.

PM Peak Hour

Under 2030 Cumulative Plus the Reduced Development Alternative weekday PM peak hour conditions, only one study freeway segment would continue to operate at acceptable operating conditions (LOS D or better) under 2030 Cumulative and 2030 Cumulative Plus Project Conditions (#3 – Northbound I-280 (north of Indiana Street On-Ramp).

The remaining five freeway segments, #1 – Northbound I-280 (south of Cesar Chavez Street Off-Ramp, #2 – Southbound I-280 (south of Pennsylvania Avenue On-Ramp), #4 – Southbound I-280 (north of Pennsylvania Avenue Off-Ramp), #5 – Northbound US 101 (north of Cesar Chavez Street On-Ramp), and #6 – Southbound US 101 (north of Cesar Chavez Street Off-Ramp) would operate at unacceptable operating conditions (LOS F).

At these five freeway segments, the Reduced Development Alternative's contribution to traffic increase would be less than 5 percent, which would not be cumulatively considerable.

Therefore, under CEQA, the Proposed Project and Reduced Development Alternative would result in ***less-than-significant*** traffic impacts at all of the study freeway segments under 2030 Cumulative Plus Project Conditions.

Similarly, given that the Proposed Project and Reduced Development Alternative would not result in a decrease in LOS at the study freeway segments, the cumulative effects related to increases in delay would be ***less than significant*** under NEPA.

Impact C-TR-2(b)	**2030 Cumulative Effects on LOS**
	CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to LOS F conditions in the PM peak hour at the Northbound I-280 (north of Indiana Street On-Ramp) freeway segment. (No Impact)
	NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to LOS F conditions in the PM peak hour at the Northbound I-280 (north of Indiana Street On-Ramp) freeway segment. (No Impact)

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new trips; as such, all study freeway segments would continue to operate with the same LOS and density values as under 2030 Cumulative No Project Conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not add any new trips; as such, all study freeway segments would continue to operate with the same LOS and density values as under 2030 Cumulative No Project Conditions.

Therefore, the Housing Replacement Alternative and No Project Alternative would result in ***no cumulative impact*** on study area freeway segments under CEQA.

Similarly, the Housing Replacement Alternative and No Project Alternative would result in ***no cumulative impact*** on study area freeway segments under NEPA.

Impact C-TR-3(a)	**2030 Cumulative Effects on Freeways**
	CEQA: The Proposed Project and the Reduced Development Alternative would not result in a cumulatively considerable contribution to freeway ramp junction operations. (Less than Significant)
	NEPA: The Proposed Project and the Reduced Development Alternative would not result in a cumulatively considerable contribution to freeway ramp junction operations. (Less than Significant)

Table 5.7-18 summarizes the analysis of study freeway ramp junctions operations during the weekday PM peak hour under 2030 Cumulative No Project Conditions and 2030 Cumulative Plus Project Conditions.

Table 5.7-18 PM Peak Hour Ramp Junction Operations—2030 Cumulative vs. 2030 Cumulative Plus Project Conditions

#	Study Ramp Junction	Existing		2030 Cumulative		2030 Cumulative Plus Project			
						Proposed Project		Reduced Development Alternative	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
1	NB I-280/Cesar Chavez St Off-Ramp	4.8	A	DEC	F	DEC	F	DEC	F
2	SB I-280/Pennsylvania Ave Off-Ramp	29.4	D	DEC	F	DEC	F	DEC	F
3	NB I-280/Indiana St On-Ramp	17.0	B	DEC	F	DEC	F	DEC	F
4	SB I-280/Pennsylvania Ave On-Ramp	26.9	C	DEC	F	DEC	F	DEC	F

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).
NB = northbound; SB = southbound
DEC = demand exceeds capacity
Density is reported in passenger cars per mile per lane (pc/mi/ln).
Bold indicates unacceptable conditions (LOS E or F).

Proposed Project

Under 2030 Cumulative No Project Conditions, all of the study ramp junctions would operate at an unacceptable LOS (LOS F). As shown in Table 5.7-18, under 2030 Cumulative Plus Project Conditions, the contribution of the Proposed Project to the increase in traffic at the study ramp junctions would vary between 1 percent and 1.8 percent. This would not be a cumulatively considerable contribution to LOS F at these ramp junctions. Alternative 1 – Reduced Development Alternative

Under 2030 Cumulative No Project Conditions, all of the study ramp junctions would operate at an unacceptable LOS (LOS F). Under 2030 Cumulative Plus Project Conditions, the contribution of the Reduced Development Alternative to the increase in traffic at the study ramp junctions would vary between 0.6 percent and 1 percent. This would not be a cumulatively considerable contribution to LOS F at these ramp junctions, and would result in ***less-than-significant*** cumulative impacts under NEPA at all of the study ramp junctions.

Therefore, under CEQA, the Proposed Project and Reduced Development Alternative would result in ***less-than-significant*** cumulative impacts at all of the study ramp junctions.

Similarly, the Proposed Project and Reduced Development Alternative would result in ***less-than-significant*** cumulative impacts at all of the study ramp junctions under NEPA.

Impact C-TR-3(b)	**2030 Cumulative Effects on Freeways**
	CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to freeway ramp junction operations (No Impact)
	NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to freeway ramp junction operations (No Impact)

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new trips; as such, all study ramp junctions would continue to operate with the same LOS and density values as under 2030 Cumulative No Project Conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not add any new trips; as such, all study ramp junctions would continue to operate with the same LOS and density values as under 2030 Cumulative No Project Conditions.

Therefore, the Housing Replacement Alternative and No Project Alternative would result in ***no cumulative impact*** under CEQA on study area freeway ramp junctions.

Under NEPA, the Housing Replacement Alternative and No Project Alternative would result in ***no cumulative impact.***

Impact C-TR-4(a)	**2030 Cumulative Effects on Transit Capacity**
	CEQA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to capacity utilization exceedances on the 10 Townsend and 48 Quintara-24th Street Muni lines. (Significant and Unavoidable)
	NEPA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to capacity utilization exceedances on the 10 Townsend and 48 Quintara-24th Street Muni lines. (Less than Significant with Mitigation)

For the Proposed Project, it is assumed 119 of the 175 inbound trips to the Project site and 66 of the 98 outbound transit trips would be served by the 10 Townsend, 19 Polk, and 48 Quintara-24th Street lines (because of transit line orientation, an inbound trip to the Project site for the 10 Townsend and 19 Polk routes would constitute an outbound trip as defined by Muni's operational direction). For the Reduced Development Alternative, 72 of the 107 inbound trips and 42 of the 63 outbound trips would be served by these three Muni lines. Table 5.7-19 summarizes the analysis of ridership and

capacity utilization for Muni line-by-line operations under 2030 Cumulative No Project Conditions and 2030 Cumulative Plus Project Conditions.

Table 5.7-19 Muni Line-by-Line Ridership Analysis—2030 Cumulative vs. Cumulative Plus Project Weekday PM Peak Hour

Route	*Travel Direction*	*Existing*		*2030 Cumulative*		*Project Trips*	*2030 Cumulative Plus Project*	
		Ridership	*Capacity Utilization*	*Ridership*	*Capacity Utilization*		*Ridership*	*Capacity Utilization*
Proposed Project								
10 Townsend/ Sansome[a]	Inbound	186	98%	238	94%	36	274	109%
	Outbound	171	90%	219	87%	68	287	114%
19 Polk	Inbound	172	68%	220	58%	0[b]	220	58%
	Outbound	124	49%	159	42%	0[b]	159	42%
48 Quintara-24th St	Inbound	175	46%	224	89%	30	254	101%
	Outbound	180	48%	230	91%	21	251	100%
Reduced Development Alternative								
10 Townsend/ Sansome[a]	Inbound	186	98%	238	94%	23	261	104%
	Outbound	171	90%	219	87%	42	261	104%
19 Polk	Inbound	172	68%	220	58%	0[b]	220	58%
	Outbound	124	49%	159	42%	0[b]	159	42%
48 Quintara-24th St	Inbound	175	46%	224	89%	17	241	96%
	Outbound	180	48%	230	91%	13	243	97%

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).
Bold indicates load exceeding Muni's 85 percent capacity utilization standard.
a. The 10 Townsend is proposed to be renamed to the 10 Sansome following TEP implementation.
b. No project-related transit trips were assumed to access 19 Polk due to the proposed rerouting of this line as part of the TEP.

Proposed Project

10 Townsend/Sansome Line

The 10 Townsend/Sansome line would operate with capacity utilization exceeding the Muni's 85 percent threshold under 2030 Cumulative No Project Conditions. Under 2030 Cumulative Plus Project Conditions, during the weekday PM peak hour, the Proposed Project would substantially increase the ridership of outbound 10 Townsend/Sansome by about 68 riders (about 23 riders per bus during the peak hour) and inbound 10 Townsend/Sansome by about 36 riders (about 12 riders per bus during the peak hour). This would result in an increase in capacity utilization of 15 percent (from 94 to 109 percent) in the inbound direction and an increase of 27 percent (from 87 to 114 percent) in the outbound direction.

48 Quintara-24th Street Line

The 48 Quintara-24th Street line would operate with capacity utilization exceeding the Muni's 85 percent threshold under 2030 Cumulative No Project Conditions. Under 2030 Cumulative Plus

Project Conditions, during the weekday peak hour, the Proposed Project would increase outbound 48 Quintara-24th Street by about 19 riders (about 3 riders per bus during the peak hour) and inbound 48 Quintara-24th Street by about 30 riders (about 5 riders per bus during the peak hour). This would result in an increase in capacity utilization of 12 percent (from 89 to 101 percent) in the inbound direction and an increase of 8 percent (from 91 to 99 percent) in the outbound direction.

Because the Proposed Project would increase the ridership of this line by a maximum of 30 trips (12 percent) and the increase would cause the 85 percent threshold to be exceeded, this would be a ***significant*** cumulative impact for the 48 Quintara-24th Street line.

The operations of the 10 Townsend/Sansome and 48 Quintara-24th Street Muni lines can only be improved by increasing their capacity, which requires providing more buses serving those routes. A fair-share funding agreement with SFMTA could help offset the Proposed Project's contribution as outlined in M-TR-4. However, because the ability of SFMTA to provide the additional service on these lines to accommodate the Proposed Project is uncertain, the effectiveness of fair-share mitigation is unknown.

Alternative 1 – Reduced Development Alternative

10 Townsend/Sansome Line

The 10 Townsend/Sansome line would operate with capacity utilization exceeding the Muni's 85 percent threshold under 2030 Cumulative No Project Conditions. Under 2030 Cumulative Plus Project Conditions, during the weekday PM peak hour, the Reduced Development Alternative would substantially increase the ridership of outbound 10 Townsend/Sansome by about 42 riders (about 14 riders per bus during the peak hour) and inbound 10 Townsend/Sansome by about 23 riders (about 8 riders per bus during the peak hour). This would result in an increase in capacity utilization of 10 percent (from 94 to 104 percent) in the inbound direction and an increase of 17 percent (from 87 to 104 percent) in the outbound direction.

Because the Reduced Development Alternative would increase ridership of this line by a maximum of 42 trips (17 percent) and would cause the 85 percent threshold to be exceeded, this would be a ***significant*** cumulative impact for the 10 Townsend/Sansome line.

48 Quintara-24th Street Line

The 48 Quintara-24th Street line would operate with capacity utilization exceeding the Muni's 85 percent threshold under 2030 Cumulative No Project Conditions. Under 2030 Cumulative Plus Project Conditions, during the weekday PM peak hour, the Reduced Development Alternative would substantially increase the ridership of outbound 48 Quintara-24th Street by about 12 riders (about three riders per bus during the peak hour) and inbound 48 Quintara-24th Street by about 17 riders (about three riders per bus during the peak hour). This would result in an increase in capacity utilization of 7 percent (from 89 to 96 percent) in the inbound direction and an increase of 5 percent (from 91 to 96 percent) in the outbound direction.

Because the Reduced Development Alternative would increase the ridership of this line by a maximum of 17 trips (7 percent) and the increase would cause the 85 percent threshold to be exceeded, this would be a ***significant*** cumulative impact for the 48 Quintara-24th Street line under CEQA.

The operations of the 10 Townsend/Sansome and 48 Quintara-24th Street Muni lines can only be improved by increasing their capacity, which requires providing more buses serving those routes. A fair-share funding agreement with SFMTA could help offset the Reduced Development Alternative's contribution as outlined in M-TR-4. However, because the ability of SFMTA to provide the additional service on these lines to accommodate the Reduced Development Alternative is uncertain, the effectiveness of fair-share mitigation is unknown.

Therefore, the Proposed Project and Reduced Development Alternative would remain a ***significant and unavoidable*** cumulative impact on the operation of 10 Townsend/Sansome and 48 Quintara-24th Street lines under CEQA.

The geographic context of the effect is limited, and it is anticipated that riders of the 10 Townsend/Sansome and 48 Quintara-24th Street lines would make appropriate route adjustments if possible. Therefore, the Proposed Project and the Reduced Development Alternative would result in a cumulative impact considered ***less than significant with mitigation*** under NEPA.

Impact C-TR-4(b)	**2030 Cumulative Effects on Transit Capacity** **CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to capacity utilization exceedances on the 10 Townsend and 48 Quintara-24th Street Muni lines. (No Impact)** **NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to capacity utilization exceedances on the 10 Townsend and 48 Quintara-24th Street Muni lines. (No Impact)**

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new transit-related trips; as such, the 19 Polk, 10 Townsend, and 48 Quintara-24th Street Muni lines would continue to operate with the same capacity utilization as under 2030 Cumulative No Project Conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not add any new transit-related trips; as such, the 19 Polk, 10 Townsend, and 48 Quintara-24th Street Muni lines would continue to operate with the same capacity utilization as under 2030 Cumulative No Project Conditions.

Therefore, the No Project Alternative and Housing Replacement Alternative would result in ***no cumulative impact*** on these Muni lines' operations under CEQA.

Similarly, the Housing Replacement Alternative would result in ***no cumulative impact*** under NEPA on these Muni lines' operations.

Impact C-TR-5(a)	**2030 Cumulative Effects on Municipal Screenline Capacity** **CEQA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to capacity utilization exceedances on Muni Southeast screenline. (Significant and Unavoidable with Mitigation)** **NEPA: The Proposed Project and the Reduced Development Alternative would result in a cumulatively considerable contribution to capacity utilization exceedances on Muni Southeast screenline. (Significant and Unavoidable with Mitigation)**

Table 5.7-20 summarizes the analysis of ridership and capacity utilization for Muni Southeast Screenline operations under 2030 Cumulative No Project Conditions and 2030 Cumulative Plus Project Conditions.

Proposed Project

All Other Lines

The Proposed Project would result in a 5.9 percent increase in ridership that would increase the capacity utilization of all other lines (consisting of J Church, 12 Folsom, and 19 Polk lines) from 85 percent to 90 percent. Because the Proposed Project would increase the capacity utilization for all other Muni lines crossing the Southeast Screenline by 5.9 percent and the increase would cause the 85 percent threshold to be exceeded, this would be a significant cumulative impact for all other lines crossing the Muni Southeast Screenline.

The operations of the other Muni lines crossing the Southeast Screenline (consisting of J Church, 12 Folsom, and 19 Polk lines) can only be improved by increasing their capacity, which requires providing more buses serving those routes. A fair-share funding agreement with SFMTA could help offset the Proposed Project's contribution. However, because the ability of SFMTA to provide the additional service on the other lines to accommodate the Proposed Project is uncertain, the effectiveness of fair-share mitigation is unknown. Therefore, this would remain a ***significant and unavoidable*** cumulative impact.

Table 5.7-20 2030 Cumulative vs. Cumulative Plus Project Muni Screenline Analysis—Weekday PM Peak Hour

Screenline/Corridor	Existing			2030 Cumulative			2030 Cumulative Plus Project					
							Proposed Project			Reduced Development Alternative		
	Ridership	Peak Hour Capacity	Capacity Utilization	Ridership	Peak Hour Capacity	Capacity Utilization	Project Trips	Ridership	Capacity Utilization	Project Trips	Ridership	Capacity Utilization
Southeast Screenline												
Third St	554	714	78%	2,592	2,856	91%	39	2,631	92%	24	2,616	92%
Mission St	1,254	2,350	53%	1,370	2,256	61%	0	1,370	61%	0	1,370	61%
San Bruno/Bayshore	1,671	2,256	74%	2,344	3,008	78%	0	2,344	78%	0	2,344	78%
All Other Lines	1,189	1,708	70%	1,550	1,820	85%	91	1,641	90%	56	1,606	88%
Total	*4,668*	*7,028*	*66%*	*7,856*	*9,940*	*79%*	*130*	*7,996*	*80%*	*80*	*7,936*	*80%*

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).
Screenline analysis conducted only in the peak outbound direction from San Francisco toward the Project site.

The payment of the fee identified in mitigation measure C-M-TR-5 would reduce the impact of the Proposed Project and the Reduced Development Alternative on the operations of the All Other Lines corridor in the Southeast Screenline to a less-than-significant level. However, because the ability of SFMTA to provide the additional service on these lines needed to accommodate this project is uncertain, the feasibility of the mitigation measure is unknown.

Mitigation Measure C-M-TR-5 – Fair-Share Contribution for Southeast Screenline Improvements (Proposed Project and Reduced Development Alternative Only). The project applicant shall work with SFMTA to ensure that the transit capacity impact to the All Other Lines corridor related to the Proposed Project and the Reduced Development Alternative under cumulative conditions is reduced to a less-than-significant level by financially compensating SFMTA for the cost of providing the service needed to accommodate the project at proposed levels of service. The financial contribution shall be calculated and applied in a manner that is consistent with the SFMTA cost/scheduling model. The amount and schedule of payment and commitment to application of service needs shall be set forth in a Transit Mitigation Agreement between the project applicant and SFMTA

Alternative 1 – Reduced Development Alternative

All Other Lines

The Reduced Development Alternative would result in a 3.6 percent increase in ridership that would increase the capacity utilization of all other lines (excluding Third Street, Mission Street, and San Bruno/Bayshore corridors) from 85 percent to 88 percent. Because the Reduced Development Alternative would increase the capacity utilization for all other Muni lines crossing the Southeast Screenline by approximately 4 percent and the increase would cause the 85 percent threshold to be exceeded, this would be a ***significant*** cumulative impact under CEQA for all other lines crossing the Muni Southeast Screenline.

The operations of the other Muni lines crossing the Southeast Screenline (excluding Third Street, Mission Street, and San Bruno/Bayshore corridors) can only be improved by increasing their capacity, which requires providing more buses serving those routes. A fair-share funding agreement with SFMTA could help offset the Reduced Development Alternative's contribution outlined in M-TR-4. However, because the ability of SFMTA to provide the additional service on the other lines to accommodate the Reduced Development Alternative is uncertain, the effectiveness of fair-share mitigation is unknown.

Therefore, the impact of the Proposed Project and Reduced Development Alternative on the operations of all other lines corridor in the Southeast Screenline would be considered ***significant and unavoidable*** under CEQA**.**

The geographic context of the adverse effect is limited, and it is anticipated that riders would make appropriate route adjustments if possible. Therefore, the Proposed Project and Reduced Development Alternative cumulative impact would be considered ***significant and unavoidable*** under NEPA.

Impact C-TR-5(b)	**2030 Cumulative Effects on Municipal Screenline Capacity**
	CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to capacity utilization exceedances on Muni Southeast Screenline. (No Impact)
	NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a cumulatively considerable contribution to capacity utilization exceedances on Muni Southeast Screenline. (No Impact)

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new transit-related trips; as such, the Muni Southeast Screenline would continue to operate with the same capacity utilization as under 2030 Cumulative No Project Conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not add any new transit-related trips; as such, the Muni Southeast Screenline would continue to operate with the same capacity utilization as under 2030 Cumulative No Project Conditions.

Therefore, the Housing Replacement Alternative and No Project Alternative would result in ***no cumulative impact*** under CEQA on operations on the Southeast Screenline and all corridors within it.

The Housing Replacement Alternative and No Project Alternative would result in ***no cumulative impact*** under NEPA on operations on the Southeast Screenline and all corridors within it.

Impact C-TR-6(a)	**2030 Cumulative Effects on Regional Screenline Capacity**
	CEQA: The Proposed Project and the Reduced Development Alternative would not result in a substantial contribution to capacity utilization of regional transit screenline providers. (Less than Significant)
	NEPA: The Proposed Project and the Reduced Development Alternative would not result in a substantial contribution to capacity utilization of regional transit screenline providers. (Less than Significant)

Table 5.7-21 summarizes the analysis of ridership and capacity utilization for regional transit screenline operations under 2030 Cumulative No Project Conditions and 2030 Cumulative Plus Project Conditions.

Table 5.7-21 2030 Cumulative vs. Cumulative Plus Project Regional Transit Screenline Analysis—Weekday PM Peak Hour

Region	Regional Transit Operator	Existing			2030 Cumulative			2030 Cumulative Plus Project					
								Proposed Project			Reduced Development Alternative		
		Ridership	Peak Hour Capacity	Capacity Utilization	Ridership	Peak Hour Capacity	Capacity Utilization	Project Trips	Ridership	Capacity Utilization	Project Trips	Ridership	Capacity Utilization
East Bay	BART	20,067	24,150	83%	32,225	29,400	110%	7	32,232	110%	5	32,230	110%
	AC Transit	2,517	4,193	60%	7,477	6,600	113%	2	7,479	113%	1	7,478	113%
	Ferries	702	1,519	46%	2,118	2,719	78%	0	2,118	78%	0	2,118	78%
	Subtotal	*23,286*	*29,862*	*78%*	*41,819*	*38,719*	*108%*	*9*	*41,829*	*108%*	*6*	*41,826*	*108%*
North Bay	GGT Buses	1,397	2,205	63%	2,508	2,205	114%	1	2,509	114%	1	2,509	114%
	GGT Ferries	906	1,700	53%	1,627	1,700	96%	1	1,628	96%	1	1,628	96%
	Subtotal	*2,303*	*3,905*	*59%*	*4,135*	*3,905*	*106%*	*2*	*4,137*	*106%*	*2*	*4,137*	*106%*
South Bay	BART	10,202	16,800	61%	11,202	21,000	53%	9	11,211	53%	6	11,208	53%
	Caltrain	1,986	3,250	61%	3,981	6,400	62%	5	3,986	62%	2	3,983	62%
	SamTrans	575	940	61%	402	940	43%	0	402	43%	0	402	43%
	Ferries	—	—	—	74	300	25%	0	74	25%	0	74	25%
	Subtotal	*12,763*	*20,990*	*61%*	*15,659*	*28,640*	*55%*	*14*	*15,673*	*55%*	*8*	*15,667*	*55%*
	Total	*38,352*	*54,757*	*70%*	*61,614*	*71,264*	*86%*	*25*	*61,639*	*86%*	*16*	*61,630*	*86%*

SOURCE: CDM Smith, *Potrero HOPE Transportation Study*, Final Report (October 11, 2012).

Proposed Project

Under 2030 Cumulative Plus Project Conditions, the Proposed Project would generate a total of 25 regional transit trips during the PM peak hour in the peak direction (away from San Francisco). The capacity utilizations of all regional transit operators would remain almost the same under both 2030 Cumulative No Project and 2030 Cumulative Plus Project Conditions. The South Bay screenline would continue to operate with a capacity utilization of less than 100 percent, while the East Bay and North Bay regional screenlines would continue to operate with capacity utilizations of greater than 100 percent. Specifically, BART to the East Bay, AC Transit to the East Bay, and GGT buses to the North Bay would operate with capacity utilizations of 110 percent, 113 percent and 114 percent, respectively, thereby exceeding their 100 percent utilization standard. However, the Proposed Project would add less than 1 percent of the trips to these transit providers (seven trips to BART serving the East Bay, two trips to AC Transit serving the East Bay, and one trip to GGT buses serving the North Bay).

Alternative 1 – Reduced Development Alternative

Under 2030 Cumulative Plus Project Conditions, the Reduced Development Alternative would generate a total of 16 regional transit trips during the PM peak hour in the peak direction (away from San Francisco). The capacity utilizations of all regional transit operators would remain almost the same under both 2030 Cumulative No Project and 2030 Cumulative Plus Project Conditions. The South Bay screenline would continue to operate with a capacity utilization of less than 100 percent, while the East Bay and North Bay regional screenlines would continue to operate with capacity utilizations of greater than 100 percent. Specifically, BART to the East Bay, AC Transit to the East Bay, and GGT buses to the North Bay would operate with capacity utilizations of 110 percent, 113 percent and 114 percent, respectively, thereby exceeding their 100 percent utilization standard. The Reduced Development Alternative would add less than 1 percent of the trips to these transit providers (five trips to BART serving the East Bay, one trip to AC Transit serving the East Bay, and one trip to GGT buses serving the North Bay).

Therefore, the Proposed Project and Reduced Development Alternative would not contribute substantially to the ridership of regional transit operators, and this would be a ***less than significant*** cumulative impact under CEQA.

Because implementation of the Proposed Project and Reduced Development Alternative would result in a negligible net increase in ridership, the adverse cumulative effect on regional transit operations would be ***less than significant*** under NEPA.

Impact C-TR-6(b)	**2030 Cumulative Effects on Regional Screenline Capacity** **CEQA: The Housing Replacement Alternative and the No Project Alternative would not result in a substantial contribution to capacity utilization of regional transit screenline providers. (No Impact)** **NEPA: The Housing Replacement Alternative and the No Project Alternative would not result in a substantial contribution to capacity utilization of regional transit screenline providers. (No Impact)**

Alternative 2 – Housing Replacement Alternative

The Housing Replacement Alternative would not add any new transit-related trips; as such, the regional transit operators would continue to operate with the same capacity utilization as under 2030 Cumulative No Project Conditions.

Alternative 3 – No Project Alternative

The No Project Alternative would not add any new transit-related trips; as such, the regional transit operators would continue to operate with the same capacity utilization as under 2030 Cumulative No Project Conditions.

Therefore, the Housing Replacement Alternative and No Project Alternative would result in ***no cumulative impact*** under CEQA on regional transit operators.

The Housing Replacement Alternative would result in ***no cumulative impact*** under NEPA.

Improvement Measures

Transportation Demand Management Plan

A transportation demand management (TDM) plan generally includes strategies that aim to promote and encourage more efficient use of transportation resources. It may comprise of a multitude of solutions and evaluative techniques that provide information on measures to increase transportation system efficiency.

TDM measures typically encourage travelers to utilize alternative modes of transportation, such as inducing shifts from single auto occupancy travel to transit, rideshare, bicycle, and pedestrian travel. The following sections include a description of various TDM measures that are applicable to the Proposed Project.

TDM Strategies Currently Considered by the project applicant. This section describes the TDM strategies that either would be implemented or are being considered by the project applicant to implement as part of the Proposed Project.

Promote Transit Usage. The project applicant would promote transit usage to reduce external auto-based trips.

- The project applicant would explore the feasibility of providing a subsidized transit pass to low-income households. The project applicant would either identify a source of funding to provide subsidized passes or coordinate with the SFMTA to have an agreement to offer transit passes at a reduced cost to residents.
- The Master Homeowners Association would regularly distribute transit information, including timetables, schedules, information on nearby transit stations and stops, and additional information on local and regional transit operators to all residents. Accurate, up-to-date information on transit options would also be provided via a transit bulletin board or similar structure in the Community Center.

Promote Pedestrian Activity. The project applicant would promote pedestrian activity to reduce external and internal auto-based trips.

- A series of pedestrian paths and stairways would be provided within the Project site, including along Connecticut Street, 23rd Street, and 22nd Street.
- An accessible path would be provided to important neighborhood amenities, such as Starr King Elementary School and the health clinic at the Wisconsin Street/Coral Street intersection.
- Pedestrian facilities provided along 22nd Street is anticipated to offer a pedestrian connection at the north end of the park down to the 22nd Street Caltrain station, the T Third Street light rail station at 23rd Street and Third Street, and the 22nd Street mixed-use district.

Promote Car-Sharing. Car-sharing programs provide convenient auto access to a resident, employee, or visitor on a demand response basis. Dedicated car-share parking locations or "pods" are established which is accessed through an automated reservation system. This system provides access to a vehicle for trips requiring an automobile but reduces the bundled costs of private ownership and parking of a dedicated vehicle for every resident or employee. The project applicant would promote car-sharing to reduce external auto-based trips.

- Car-sharing spaces would be provided within the Project site.
- To encourage more users, the project applicant is considering the provision of discounted membership rates, especially to the affordable housing residents for using car-sharing facilities.

Provide On-Site Neighborhood Center. The project applicant would provide on-site neighborhood center to reduce external project-related trips.

- Small neighborhood retail outlets would be provided within the Project site.
- Pre-school, day care, gymnasium, and sports facilities would be provided at the proposed on-site Community Center.

- The project applicant is considering the provision of a non-profit food cooperative within the Project site.

Traffic Calming Measures. Traffic calming includes various design features and strategies intended to reduce vehicle traffic speeds and volumes on a particular roadway. These roadway design treatments range from minor modifications for an individual street to a comprehensive redesign of the roadway network.

- New safe streets, open spaces, and a walkable neighborhood.
- The surrounding street grid-pattern would be extended in to the Project site to improve the movement and safety of pedestrians and bicyclists.
- New streets would be constructed in the north/south and east/west direction to improve vehicle, pedestrian, and bicycle circulation.
- At least five-foot-wide sidewalks and striped crosswalks are expected to be provided on all block faces within the Project site, along with pedestrian bulb-outs at intersections to improve pedestrian safety and reduce crossing distances. The pedestrian bulb-outs would also serve as traffic calming measures. These sidewalks and corner bulb-outs would be compliant with the American Disability Act (ADA) to ensure safe crossings for seniors and persons with disabilities.
- The diagonally aligned Dakota Street from 23rd Street to 25th Street would be replaced by Missouri Street aligned in the north/south direction. This would either eliminate or reduce speeding issues currently observed along Dakota Street.

The above mentioned traffic calming measures provided on-site would improve pedestrian safety by reducing the severity of pedestrian injuries when they do occur by calming traffic, creating intersections for convenient and safe pedestrian crossings, and reducing the incidence of speeding. Street and park lighting play a key role in enhancing personal security and creating safe public spaces. As such, light levels shall be as specified in the San Francisco Better Streets Plan. Stairways and terraces shall be well lit at night to enhance safety and personal security. Lighting shall be pedestrian scaled and be coordinated with street trees and site furnishings.

Additional TDM Strategies – Improvement Measures. The following TDM strategies are recommended in addition to those that are already being considered by the project applicant to implement as part of the Proposed Project and its alternatives.

Hire Local. The project applicant could encourage the owners of neighborhood retail developments to hire employees from the local community. This would either eliminate or reduce work-related auto-based trips to the retail developments planned within the Project site.

Preferential HOV Parking. The project applicant could provide incentives for use of alternate modes of travel to the single occupancy vehicle by reserving close-in, secure, covered, and/or preferable parking spaces for high-occupancy vehicles. Carpool and vanpool spaces could be provided closer

to the building entrance or elevator, but not closer than the parking spaces designated for use by handicapped persons.

Carpool/Vanpool. The project applicant could promote carpool or vanpool programs for commuters who live within the Project site and share the same schedule. The project applicant could subsidize the cost of vehicles and fuel costs; the remaining costs could be divided among the participants based on the distance they travelled.

On-Site TDM Coordinator. The project applicant could provide a TDM Coordinator with responsibilities such as providing concierge trip-planning services, mobility training, provision of transit passes, new resident outreach to promote moving in without a vehicle (like Travel Choice New Residents program), coordination of ride-sharing/vanpooling, etc. The TDM Coordinator could be located at the neighborhood Community Center.

Provision of Muni Fast Pass. The project applicant could provide at least one Muni Fast Pass per dwelling unit, as part of rent/HOA fees. This program could be partially subsidized by the project applicant.

Promote Bicycling. The project applicant could promote bicycle usage to reduce external and internal auto-based trips by providing bicycle facilities within the Project site, primarily along less steep streets, including Texas Street and 24th Street.

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5.8 NOISE

5.8.1 Regulatory Framework

Federal

U.S. Environmental Protection Agency

The Federal *Noise Control Act of 1972* addressed the issue of noise as a threat to human health and welfare, particularly in urban areas. In response to the Act, the U.S. Environmental Protection Agency (USEPA) published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (USEPA Levels). Table 5.8-1 summarizes USEPA recommendations for noise-sensitive areas. Ideally, the yearly average L_{eq} should not exceed 70 decibels (A-weighted) (dBA) to prevent measurable hearing loss over a lifetime, and the L_{dn} should not exceed 55 dBA outdoors and 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas. In addition to the identified noise levels to protect public health, the USEPA Levels identify an increase of 5 dBA as an adequate margin of safety relative to a baseline noise exposure level of 55 dBA L_{dn} before a noticeable increase in adverse community reaction would be expected.

Table 5.8-1 Summary of Noise Levels Identified as Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety

Effect	*Level*	*Area*
Hearing Loss	L_{eq}(24 hr) < 70 dBA[a]	All areas.
Outdoor activity interference and annoyance	L_{dn} < 55 dBA	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
Outdoor activity interference and annoyance	L_{eq}(24 hr) < 55 dBA	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	L_{dn} < 45 dBA	Indoor residential areas.
Indoor activity interference and annoyance	L_{eq}(24 hr) < 45 dBA	Other indoor areas with human activities such as schools, etc.

SOURCE: 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. Yearly average equivalent sound levels in decibels; the exposure period that results in hearing loss at the identified level is a period of 40 years.

U.S. Department of Housing and Urban Development

U.S. Department of Housing and Urban Development (HUD) environmental noise regulations are outlined in 24 CFR, Part 51, Subpart B, Noise Abatement and Control. HUD noise criteria are applicable to projects with HUD assistance, subsidy, or insurance for housing, manufactured home

parks, nursing homes, hospitals, and all programs providing assistance or insurance for land development, redevelopment, modernization, rehabilitation or any other provision of facilities and services which are directed to making land available for housing or noise sensitive development.[1] Regulation guidelines include a screening process to assess whether a project with HUD assistance is compatible for a proposed site based on existing background noise levels. The HUD guidelines for a compatible Project site to include new housing construction based on existing background noise levels is as follows:

- **Acceptable**—65 dBA day-night average sound level (L_{dn}) or less
- **Normally unacceptable**—Exceeding 65 A-weighted decibels (dBA) L_{dn} but not exceeding 75 dBA L_{dn}
- **Unacceptable**—Exceeding 75 dBA L_{dn}

An interior noise level guideline has also been established by HUD. This guideline is not a standard, rather a goal for an optimal noise environment where new construction of noise-sensitive receptors is proposed, that interior noise levels not exceed 45 dBA L_{dn}.[2] HUD regulations require predicting exterior noise levels ten years into the future as well. In the event that the noise environment would cause the interior noise levels to exceed HUD guidelines, sound attenuating barriers or sound attenuating building materials should be used to reduce interior noise levels where feasible. In addition to exterior and interior noise guidelines, HUD regulations also encourage the application of quieter construction equipment where noise-sensitive uses exist in close proximity to the Proposed Project site.[3]

Federal Transit Administration

The Federal Transit Administration (FTA) developed a methodology and significance criteria to evaluate vibration impacts from construction activity in *Transit Noise Impact and Vibration Assessment* (FTA Guidelines).[4] The FTA promulgated criteria for judging the significance of vibration produced by construction activity is shown in Table 5.8-2.

[1] HUD, Noise Abatement and Control, 24 CFR, Part 51, Subpart B.

[2] 24 CFR, Section 51.104(a).

[3] 24 CFR, Section 51.101(7).

[4] Federal Transit Administration: Office of Planning and Environment, *Transit Noise and Vibration Impact Assessment* (May 2006).This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

Table 5.8-2 Groundborne Vibration Impact Criteria for General Assessment

Land Use Category	*Impact Levels (VdB; relative to 1 micro-inch/second)*		
	Frequent Events[a]	*Occasional Events*[b]	*Infrequent Events*[c]
Category 1: Buildings where vibration would interfere with interior operations	65[d]	65[d]	65[d]
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime uses	75	78	83

SOURCE: Federal Transit Administration, *Transit Noise Impact and Vibration Assessment* (May 2006).

a. "Frequent Events" is defined as more than 70 vibration events of the same source per day.

b. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.

c. "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.

d. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define the acceptable vibration levels.

State

Governor's Office of Planning and Research

The Governor's Office of Planning and Research (OPR) *General Plan Guidelines 2003* (GP Guidelines) promotes use of L_{dn} or CNEL for evaluating the compatibility of various land uses with respect to their noise exposure. The designation of a level of noise exposure as "normally acceptable" for a given land use category implies that the interior noise levels would be acceptable to the occupants without the need for any special structural acoustic treatment. The GP Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels. The GP Guidelines provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the USEPA Levels influenced the recommendations of the GP Guidelines, most importantly in the choice of noise exposure metrics (i.e., L_{dn} or CNEL) and in the upper limits for the "normally acceptable" outdoor exposure of noise-sensitive uses (i.e., no higher than 60 dBA L_{dn}/CNEL for residential, which is obtained when the USEPA's 5 dBA margin of safety is added to the baseline noise exposure level of the 55 dBA level that the USEPA believes is completely adequate to protect public health and welfare). The City has adopted and changed the GP Guidelines for use within San Francisco.

Title 24 and Title 25 (California Noise Insulation Standards)

The State of California has adopted noise standards in areas of regulation not preempted by the federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation.

Title 24 of the California Code of Regulations, also known as the *California Building Standards Code*, establishes building standards applicable to all occupancies throughout the state. The code provides acoustical regulations for both exterior-to-interior sound insulation as well as sound and impact isolation between adjacent spaces of various occupied units. Title 24 regulations state that interior

noise levels generated by exterior noise sources shall not exceed 45 decibels (dB) L_{dn}, with windows closed, in any habitable room for general residential uses.

The California Noise Standards (*California Code of Regulations*, Title 25, Section 1092) establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 25 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA L_{dn} or CNEL (the same levels that the USEPA and HUD recommends for residential interiors) in any habitable room of new dwellings. Acoustical studies must be prepared for proposed multiple unit residential and hotel/motel structures where outdoor L_{dn} or CNEL is 60 dBA or greater. The studies must demonstrate that the design of the building would reduce interior noise to 45 dBA L_{dn} or CNEL, or lower. Dwellings are to be designed so that interior noise levels would meet this standard for at least ten years from the time of building permit application. Interior noise levels can be reduced through the use of noise-insulating windows, and by using sound isolation materials when constructing walls and ceilings.

California Department of Transportation

Caltrans recommends a conservative threshold of 0.2 inch per second (in/sec) peak particle velocity (PPV) for normal residential buildings and 0.08 in/sec PPV for old or historically significant structures for the protection of fragile, historic, and residential structures exposed to vibration-generating activities (Caltrans 2002).[5]

Local

San Francisco General Plan

The *San Francisco General Plan* provides long-term guidance and policies for maintaining and improving the quality of life and the man-made and natural resources of the community. The Environmental Protection Element of the *San Francisco General Plan* is concerned primarily with avoiding or mitigating the adverse effects of transportation noise. Objectives and policies that apply to the Proposed Project and project alternatives are discussed in Chapter 3, *Plans and Policies*.

San Francisco Noise Ordinance (Article 29, San Francisco Police Code)

The San Francisco Noise Ordinance (Article 29, *San Francisco Police Code*, Section 2900) specifically recognizes that adverse effects on a community, including physiological and psychological stress, sleep disturbance, and depression, can arise from persistent exposure to elevated levels of typical urban community noise sources. These sources include noise associated with transportation, construction activity, mechanical equipment, entertainment, and human and animal behavior.

[5] California Department of Transportation (Caltrans), *Transportation and Construction Induced Vibration Guidance Manual*, Sacramento, CA (June 2004).This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

Accordingly, the Noise Ordinance recognizes noise as an environmental pollutant that must be managed and mitigated through the planning and development processes. The Noise Ordinance makes the following declaration:

> 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.

The following policies are included to address and limit disruptive noise intrusions from these sources.

Waste Disposal Services (Section 2904). The Noise Ordinance limits noise from waste disposal services mechanical or hydraulic device to 75 dBA when measured from 50 feet. This maximum noise level does not apply to the noise associated with crushing, impacting, dropping, or moving garbage on the truck, but only to the truck's mechanical processing system.

Construction (Sections 2907 and 2908). The Noise Ordinance limits noise from powered construction equipment to a level of 80 dBA at a distance of 100 feet (or an equivalent level at some other distance).[6] This does not apply to impact tools (provided they are equipped with appropriate noise control features recommended by the manufacturers and approved by the Director of Public Works or the Director of Building Inspection) nor to construction equipment used in connection with emergency work. Also, construction activities are generally prohibited between the hours of 8:00 p.m. and 7:00 a.m. if the noise created would be in excess of the ambient noise level by 5 dBA at the nearest property line (although exceptions to these limits can be made in certain cases by the Director of Public Works or the Director of Building Inspection).

Noise Limits (Section 2909). 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 (jackhammers, hoe rammers, impact wrenches) must have both intake and exhaust mufflers as well as 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 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 Noise Ordinance limits noise from sources defined as "any machine or device, music or

[6] By definition, Noise Ordinance Section 2901(j) states "Powered construction equipment" means any tools, machinery, or equipment used in connection with construction operations which can be driven by energy in any form other than manpower, including all types of motor vehicles when used in the construction process of any construction site, regardless of whether such construction site be located on-highway or off-highway, and further including all helicopters or other aircraft when used in the construction process except as may be preempted for regulation by state or federal law.

entertainment or any combination of same" located on residential or commercial/industrial property to 5 dBA or 8 dBA, respectively, above the local "ambient"[7] noise level at any point outside of the property line of a residential, commercial/industrial or public land use containing the noise source. An additional low-frequency criterion applies to noise generated from a licensed "Place of Entertainment," specifically, that no associated noise or music shall exceed the low-frequency ambient noise level by more than 8 dBA.

The Noise Ordinance limits noise from a "fixed source"[8] from causing the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00 p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

Variances (Section 2910). The Noise Ordinance gives the Directors of Public Health, Public Works, Building Inspection, or the Entertainment Commission, or the Chief of Police authority to grant variances to noise regulations over which they have jurisdiction. The Department of Public Health has jurisdiction over sources specified in Noise Limits (Section 2909), the Departments of Building Inspection and Public Works over sources specified in Construction (Sections 2907 and 2908), and the Director of the Entertainment Commission may enforce noise standards associated with licensed Places of Entertainment.

5.8.2 Impacts and Mitigation Measures

Significance Thresholds under CEQA

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. As discussed further below, these criteria also encompass the factors taken into account under NEPA to determine the significance of an action in terms of the context and intensity of its effects. The Proposed Project and alternatives would have a significant noise impact if they would:

1. Result in exposure of persons to or generation of noise levels in excess of standards established in the Environmental Protection Element of the *San Francisco General Plan*, San

[7] By definition, Noise Ordinance Section 2901(a) states "ambient" means the lowest sound level repeating itself during a minimum ten-minute period as measured with a type 1, precision sound level meter, set on slow response and A-weighting … in no case shall the ambient be considered or determined to be (1) less than 35 dBA for interior residential noise, and (2) 45 dBA in all other locations."

[8] By definition, Noise Ordinance Section 2901(e) states "fixed source" means a machine or device capable of creating a noise level at the property upon which it is regularly located, including but not limited to: industrial and commercial process machinery and equipment, pumps, fans, air-conditioning apparatus or refrigeration machines.

Francisco Noise Ordinance (Article 29, *San Francisco Police Code*) or applicable standards of other agencies

2. Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
3. Result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the project
4. Result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the project
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels
6. For a project within the vicinity of a private airstrip, expose people residing or working in the Project area to excessive noise levels
7. Be substantially affected by existing noise levels

The following considerations apply to significance threshold numbers 2, 3, and 4 above:

- Temporary, short-term construction noise impacts: Temporary, short-term construction noise impacts are considered significant if construction-generated noise levels exceed the applicable standards at nearby noise-sensitive land uses.
- Noise impacts from increased daily traffic: For all affected noise sensitive uses, noise that would be generated by an increase in daily traffic volumes due to the project is considered significant if it would cause the overall exterior noise level to exceed the "normally acceptable" exterior land use compatibility noise standard of 60 dBA L_{dn}/CNEL (day-night average noise level/community noise equivalent level) at outdoor activity areas, exceed the interior noise standard of 45 dBA L_{dn}/CNEL in any inhabitable room or would result in an increase of ambient noise levels by +3 dBA.
- Exposure of sensitive receptors to, or generation of, excessive vibration levels: Short- and long-term vibration impacts would be significant if project construction or operation would result in the exposure of sensitive receptors to, or would generate, vibration levels that exceed Caltrans' recommended standard of 0.2 in/sec PPV with respect to the prevention of structural damage for normal buildings or FTA's maximum acceptable vibration standard of 80 vibration decibels (VdB) with respect to human response for residential uses (i.e., annoyance) at any nearby existing sensitive land uses.

Context and Intensity Evaluation Guidelines under NEPA

HUD's noise policy requires that noise attenuation measures be provided when proposed projects are to be located in high noise areas. Within the HUD Noise Assessment Guidelines, potential noise sources are examined for projects located within 15 miles of a military or civilian airport, 1,000 feet

from a road, or 3,000 feet from a railroad. HUD Regulations set forth the following exterior noise standards for new housing construction assisted or supported by the department:

- 65 dBA L_{dn}[9] or less—Acceptable
- Exceeding 65 dBA L_{dn} but not exceeding 75 dBA L_{dn}—Normally Unacceptable (To achieve an acceptable status, appropriate sound attenuation measures must be provided)
- Exceeding 75 dBA L_{dn}—Unacceptable

HUD's regulations do not contain standards for interior noise levels. Rather, a goal of 45 dBA is set forth and the attenuation requirements are geared toward achieving that goal. It is assumed that with standard construction any building will provide sufficient attenuation so that if the exterior level is 65 dBA L_{dn} or less, the interior level will be 45 dBA L_{dn} or less.

In accordance with NEPA, the Proposed Project and alternatives would have a significant noise impact if they would expose residents of public housing to background noise levels that exceed HUD's acceptable noise level of 65 dB Day/Night Noise Level (DNL). This threshold is similar to the CEQA significance threshold number 1 above. Aside from the HUD criteria of 65 dB DNL, the analysis in this section measures impacts using the CEQA thresholds of significance. These CEQA criteria encompass the factors that must be taken into account under NEPA because they adequately consider the appropriate context as the residents at the Project site and the intensity as it relates to relative increases in noise.

Approach to Analysis

The Proposed Project is not located in an area covered by an airport land use plan or within two miles of a public airport or public use airport or within the vicinity of a private airstrip. The Proposed Project is not located within the 65 dBA noise contour for any regional or international airport in the San Francisco Bay Area.[10] Therefore, the Proposed Project would not expose people residing or working on the Project site to excessive airport or airstrip noise and this issue is not addressed further in this EIR/EIS.

Construction Noise Impacts

Construction noise and vibration levels were quantified using equipment noise reference levels presented in the Federal Transit Administration's *Transit Noise and Vibration and Impact Assessment*

[9] L_{dn} = Day/Night average sound level (DNL) is the 24-hour average sound level, in decibels, obtained after the addition of 10 decibels to the sound levels occurring between 10:00 p.m. and 7:00 a.m.

[10] City/County Association of Governments of San Mateo County Redwood City, *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport,* Ricondo & Associates, Inc., Final Draft (May 2012).This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

methodology.[11] This document provides typical noise levels for multiple types of construction equipment. For the analysis of construction noise associated with the Proposed Project, the equipment that is relevant to the Proposed Project's construction activities was compared to the City's noise thresholds. The significance of the construction noise was then assessed based on if the equipment noise levels exceed the threshold.

Operational Noise Impacts

The analysis of the existing and future noise environments is based on noise-level monitoring, noise-prediction computer modeling, and empirical observations of receptor noise exposure characteristics. As noted in Section 4.8, *Noise*, one long-term (24-hour) ambient noise measurement and four short-term noise measurements were conducted in the Project area between June 7 and June 8, 2011. The results of these noise measurements are shown in Table 4.8-2, *Existing Peak-Hour Traffic Noise Measurements* (L_{eq}). Figure 4.8-1, *Noise Monitoring Locations*, shows the locations of these measurements.

Vehicle traffic noise levels in the Project area were modeled using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic data included in the Transportation Study for the Proposed Project.[12] The FHWA model is based on CALVENO reference noise factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receptor, and ground attenuation factors. For purposes of analysis, the average daily traffic volumes were calculated from peak hour traffic volumes contained in the Transportation Study and input into the model to estimate existing and future traffic noise levels on roadway segments in the Project area where existing or proposed sensitive receptors are located.

To comply with HUD requirements for community noise assessment, HUD has developed an electronic assessment tool that calculates the DNL from roadway and railway traffic. This is a web-based application of the existing Noise Assessment Guidelines (NAG). It is a component of the Assessment Tools for Environmental Compliance (ATEC). Derivations of the basic noise equation from the noise regulation, 24 CFR Part 51 Subpart B, were applied to a new application of the NAG.

Noise from loud impulse sounds is addressed through this tool as well, and is assessed once its presence has been confirmed. The assessment tool was used to determine NEPA conclusions with respect to the Proposed Project.

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[11] Federal Transit Administration: Office of Planning and Environment, *Transit Noise and Vibration Impact Assessment*, (May 2006). Available at: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf, (accessed February 10, 2014).

[12] CDM smith, *Potrero HOPE Transportation Study, Draft #3* (June 5, 2012). This report is available for review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2010.0515E.

Impact Evaluation

Proposed Project

Impact NO-1	**Exposure of Persons to or Generation of Noise Levels in Excess of Standards** **CEQA: The Proposed Project would not 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. (Construction: Less than Significant with Mitigation; Operation: Less than Significant)** **NEPA: The Proposed Project would not expose residents of public housing to background noise levels that exceed HUD's acceptable noise level of 65 dB DNL. (Construction: Less than Significant with Mitigation; Operation: Less than Significant)**

Construction

Neither the *HUD Noise Guidebook* nor the *City of San Francisco General Plan* addresses or establishes restrictions on or standards for construction-related noise. Consequently, construction noise impacts are assessed relative to the restrictions of the Noise Ordinance codified in Sections 2907 and 2908 of the *Police Code*. As shown in Figure 2-5, Proposed Action Construction Phasing, construction of the Proposed Project would be completed in three phases, as follows:

- Phase 1 would consist of the vicinity south of 25th Street in the Terrace portion of the Project site.
- Phase 2 would consist of the area north of 24th Street and West of Missouri Street.
- Phase 3 would consist of the remaining portion of the Project site, between 23rd Street and 25th Street.

Construction of the Proposed Project would require the use of heavy equipment for building demolition, site grading and excavation, paving, road construction, and building fabrication. Construction activities would also involve the use of smaller power tools, generators, mechanical equipment, and other noise sources. During each construction phase, there would be a different mix of equipment operating and noise levels would vary based on the type and amount of equipment in operation and the distance of the construction activity from sensitive receptors. The noise-generating characteristics of specific types of construction equipment are presented in Table 5.8-3.

Sensitive receptors include nearby residents, i.e., residents located along Wisconsin Street, Texas Street, Missouri Street, and 23rd Street adjacent to the Project site, existing occupants of the Potrero Terrace and Annex development, and students and teachers at the Starr King Elementary school.

Table 5.8-3 Noise Level of Typical Construction Equipment

Construction Equipment	*Noise Levels in dBA L_{eq} at 50 Feet*[a]
Front Loader	85
Dozer	85
Trucks	88
Cranes	88
Concrete Vibrator	76
Saws	76
Pneumatic Impact Equipment	85
Jack Hammers	88
Pumps	76
Generators	81
Compressors	81
Concrete Mixers	85
Concrete Pumps	82
Back Hoe	80
Pile Driving (impacts)	101
Scraper/Grader	89
Paver	89

SOURCE: FTA (2006).

a. Machinery equipped with noise-control devices or other noise-reducing design features do not generate the same level of noise emissions as that shown in this table.

The *Police Code* Sections 2907 and 2908 require that 1) noise levels from individual pieces of construction equipment, other than impact tools, must not exceed 80 dBA at a distance of 100 feet from the source (the equipment generating the noise); 2) impact tools, such as jackhammers, must have both the intake and exhaust muffled to the satisfaction of the Director of Department of Public Works (DPW); and 3) if the noise from construction were to exceed ambient noise levels at the property line of the site by 5 dBA, the work must not be conducted between 8:00 p.m. and 7:00 a.m., unless the Director of DPW authorizes a special permit for conducting the work during that period.

It is anticipated that construction hours for the Proposed Project would be between 7:00 a.m. and 8:00 p.m., in compliance with the Noise Ordinance. If nighttime work is required for construction of the Proposed Project, construction activities must comply with all regulations set forth in the Noise Ordinance. Compliance with the Noise Ordinance is required by law and would serve to avoid significant negative impacts on sensitive receptors between 8:00 p.m. and 7:00 a.m. The greatest noise impacts would occur during the construction of new roadways, foundations, and exterior structural and façade elements. Construction would require impact and non-impact equipment. Impact equipment would be required for the preparation of the building foundations. As shown in Table 5.8-3, impact equipment, concrete vibrators, pneumatic impact equipment, and jackhammers

would result in noise L_{eq} values at 50 feet of 76 dBA, 85 dBA, and 88 dBA, respectively. At 100 feet, jackhammer noise could result in noise levels above the City's 80 dBA threshold at 100 feet, as the noise level would be 83 dBA, assuming an attenuation of 6 dBA. As discussed above, however, the Noise Ordinance does not apply to impact tools that are equipped with appropriate noise-control features. Thus, assuming that the impact equipment complies with the Noise Ordinance pertaining to noise-control features, the 80-dBA threshold at 100 feet would not apply to the impact equipment in Table 5.8-3 and impacts would be less than significant.

Other types of construction equipment would operate during all three phases of construction at varying distances from sensitive receptors. However, noise from interior construction activities would be substantially reduced by the presence of exterior walls. The noise levels associated with the operation of non-impact construction equipment range from 76 to 89 dBA L_{eq} at 50 feet. Assuming the most conservative case, a construction noise level of 89 dBA at 50 feet (83 dBA at 100 feet, assuming an attenuation of 6 dBA), construction noise would have the potential to exceed the threshold established in the City's noise ordinance. However, implementing the mitigation measures discussed below would reduce noise levels in this case to below the 80-dBA threshold. Mitigation Measures M-NO-1a and M-NO-1b would likely reduce noise levels by more than 3 dBA, which is the amount by which the threshold is exceeded for the most conservative scenario. In addition, implementation of Mitigation Measures M-NO-1a and M-NO-1b, and compliance with the Noise Ordinance would limit construction activities to daytime hours and reduce construction noise at on-site and off-site receptors.

With implementation of identified mitigation measures, the Proposed Project would not 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. This impact would be ***less than significant with mitigation*** under CEQA.

With implementation of identified mitigation measures, the Proposed Project would not generate construction noise that would not comply with local standards. This impact would be ***less than significant with mitigation*** under NEPA.

> **Mitigation Measure M-NO-1a – Submit a Construction Noise Plan to Reduce Construction Noise.** The project applicant shall submit a Construction Noise Plan for review and approval prior to the issuance of the demolition permit.
>
> **Mitigation Measure M-NO-1b – Implement a Construction Noise Plan to Reduce Construction Noise.** The project applicant shall implement the following measures during demolition and construction of the Proposed Project:
>
> - To the extent feasible, the noisiest construction activities shall be scheduled during times that would have the least impact on nearby residential land uses. This includes restricting typical demolition and exterior construction activities to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday.

- Equipment and trucks used for project construction shall use 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.
- Impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.
- Construction contractors, to the maximum extent feasible, shall be required to use "quiet" gasoline-powered compressors or other electric-powered compressors, and use electric rather than gasoline or diesel powered forklifts for small lifting.
- Stationary noise sources, such as temporary generators, shall be located as far from nearby receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent feasible.
- Install temporary plywood noise barriers eight feet in height around the construction site to minimize construction noise to 80 dBA as measured at 100 feet from the Project site boundary unless an acoustical engineer submits documentation that confirms that the barriers are not necessary to achieve the attenuation levels.
- Trucks shall be prohibited from idling along streets serving the construction site.

Operation

Section 2909 of the Noise Ordinance limits noise from sources defined as "any machine or device, music or entertainment or any combination of same" located on residential or commercial/industrial property and requires that these new operational noise sources not generate noise that is greater than 5 dBA or 8 dBA above the local ambient level at any point outside the property plane of a residential, commercial/industrial or public land use containing the noise source. Operation of the Proposed Project would introduce additional on-site stationary noise sources, similar to those currently occurring on the Project site including mechanical heating, ventilation, and air conditioning (HVAC) systems and idling of delivery vehicles during limited delivery of retail supplies. In addition, project-related traffic increases would introduce additional traffic noise at the Project site.

Stationary Noise Sources

Noise levels from typical HVAC equipment, range from 50 to 65 dBA L_{eq} at 50 feet from the equipment without shielding. The HVAC units on the Project site would be mounted within HVAC wells on the rooftops of the proposed buildings and would be screened with sufficient noise

insulation by the walls and other building features; therefore, noise levels from these units would not affect sensitive receptors at the Project site or sensitive receptors surrounding the Project site. Additionally, noise from mechanical equipment associated with operation of the Proposed Project would be required to comply with Title 24 of the *California Building Code* pertaining to noise attenuation, which requires that all multifamily residential units achieve an interior noise level of 45 dBA. This would ensure that the residents in new multifamily buildings at the Project site would not be exposed to interior noise levels greater than 45 dBA.

Operation of the Proposed Project would also involve limited delivery of supplies to retail operations and refuse pick up for both retail and residential uses. Noise associated with delivery operations typically includes idling truck engines and reverse signal beeper alarms. Noise generated by idling diesel engines typically ranges between 64 and 66 dBA L_{eq} at 75 feet. This noise would be temporary in nature, typically lasting no more than five minutes. Noise generated by authorized City refuse collectors would be limited to 75 dBA per Section 2904 of the *Police Code*.

Overall, mechanical equipment associated with daily operation of the Proposed Project (HVAC, limited retail deliveries, etc.) would not result in increases of 5 dBA over the anticipated ambient noise level.

Traffic Noise Sources

The Proposed Project would increase traffic volumes beyond background growth over the next 20 years. This increase in traffic volumes would increase ambient noise levels at noise-sensitive locations along the major vehicular access routes in the Project vicinity. All future roadway analysis assumed completion of roadway improvement measures required as part of the Proposed Project's traffic mitigation measures detailed in Section 5.7, *Transportation and Traffic*. Table 5.8-4 identifies the future noise levels along local roadway segments where project-related traffic volume increases could affect nearby sensitive receptors, including residential uses and the Starr King Elementary School.

As shown in Table 5.8-4, the Proposed Project would generate noise-level increases that exceed 3 dBA L_{dn}, which is the adopted threshold for a "substantial permanent increase," in traffic noise for sensitive receptors located adjacent to those roadways.[13] Traffic noise level changes generated by the Proposed Project would range from -1 dBA to 20 dBA L_{dn}.

[13] See Appendix 4.8 for detailed noise calculations.

Table 5.8-4 Proposed Project Modeled Traffic Noise Levels along Roadways in the Project Site Vicinity (dBA)

Roadway	Segment		L_{dn} (dBA) at 100 feet					
	From	To	Existing	Existing Plus Project	Existing Change	2030 Cumulative	2030 Cumulative Plus Project	Cumulative Change
Cesar Chavez St	York St	Vermont St	63	64	1	65	65	0
Cesar Chavez St	Vermont St	Connecticut St	63	64	1	66	67	1
Cesar Chavez St	Connecticut St	Pennsylvania Ave	63	63	0	66	66	0
Cesar Chavez St	Pennsylvania Ave	Tennessee St	62	62	0	65	65	0
25th St	Wisconsin St	Connecticut St	51	54	3	54	56	2
25th St	Connecticut St	Dakota St	53	57	4	55	58	3
25th St	Dakota St	Indiana St	53	58	5	55	59	4
25th St	Indiana St	3rd St	56	56	0	57	57	0
23rd St	Folsom St	Potrero Ave	51	52	1	51	52	1
23rd St	Potrero Ave	SR 101	56	57	1	57	58	1
23rd St	Wisconsin St	Dakota St	49	51	2	51	52	1
23rd St	Dakota St	Missouri St	48	—	—	49	—	—
20th St	Rhode Island St	Arkansas St	54	54	0	55	55	0
20th St	Arkansas St	Missouri St	54	54	0	55	55	0
Potrero Ave	21st St	23rd St	63	63	0	64	64	0
Potrero Ave	23rd St	25th St	62	62	0	64	64	0
Wisconsin St	20th St	23rd St	51	52	1	54	55	1
Wisconsin St	23rd St	26th St	51	52	1	55	55	0
Arkansas St	18th St	20th St	48	49	1	51	51	0
Arkansas St	20th St	23rd St	48	49	1	51	51	0
Connecticut St	Cesar Chavez St	25th St	53	57	4	58	60	2
Connecticut St	25th St	23rd St	48	51	3	51	53	2
Dakota St	25th St	23rd St	51	—	—	52	—	—
Texas St	25th St	22nd St	34	54	20	44	55	11
Missouri St	20th St	22nd St	47	50	3	52	53	1

Table 5.8-4 Proposed Project Modeled Traffic Noise Levels along Roadways in the Project Site Vicinity (dBA)

Roadway	*Segment*		*L_{dn} (dBA) at 100 feet*					
	From	*To*	*Existing*	*Existing Plus Project*	*Existing Change*	*2030 Cumulative*	*2030 Cumulative Plus Project*	*Cumulative Change*
Missouri St	22nd St	23rd St	47	50	3	53	53	0
Pennsylvania St	Cesar Chavez St	25th St	61	61	0	62	62	0
Pennsylvania St	25th St	22nd St	57	56	-1	59	58	-1
Indiana St	23rd St	25th St	56	57	1	59	59	0
Indiana St	25th St	Cesar Chavez St	55	55	0	58	58	0

SOURCE: Modeled by Atkins (2012) (see Appendix 4.8).
Bold indicates segments that would experience a noise level increase of 3 dBA or greater.

The decrease in traffic noise levels (-1 dBA L_{dn}) along Pennsylvania Street between 25th Street and 22nd Street is due to a change in traffic patterns as a result of proposed roadway network design changes that would redistribute traffic volumes onto additional proposed roadways, which would reduce daily traffic counts on roadway segments, resulting in lower daily traffic noise levels. These roadway network design changes would also result in no traffic or traffic noise on 23rd Street between Dakota Street and Missouri Street and on Dakota Street between 25th Street and 23rd Street because these roadway segments would be removed from the roadway network, as shown in Figure 2-1, *Proposed Action Site Plan*, in Chapter 2, *Project Alternatives and Project Description*.

The greatest traffic-related noise increase (20 dBA L_{dn} and 11 dBA L_{dn} when comparing existing no project traffic noise levels to existing plus project traffic noise levels and cumulative no-project traffic noise levels to cumulative plus project noise levels, respectively) would occur along Texas Street between 22nd Street and 25th Street. Additionally, 25th Street between Dakota Street and Indiana Street would experience traffic-related noise level increases of 5 dBA L_{dn} and 4 dBA L_{dn} in the cumulative with and without project traffic scenarios, respectively.

However, as shown in Table 5.8-4, existing plus Proposed Project and 2030 cumulative with project traffic noise levels would not exceed the City's exterior noise level standard of 60 dBA L_{dn} at the proposed public open spaces along roadways showing a substantial permanent increase due to Proposed Project implementation. The proposed public open spaces would be shielded by intervening structures and balconies.

Assuming a standard exterior-to-interior attenuation rate of 25 dBA for typical residential buildings with doors and windows closed, traffic noise levels on roadway segments at 70 dBA L_{dn} or lower would achieve an interior noise level of 45 dBA L_{dn} or less. As shown in Table 5.8-4, none of the modeled roadway segments would exceed 70 dBA L_{dn} as a result of implementing the Proposed Project. Thus, interior noise levels would not exceed 45 dBA L_{dn} at existing residential and educational uses (including Starr King Elementary School) or proposed residential uses.

HUD Standards – Combined Operational Noise Levels

HUD exterior noise standards consider 65 dBA L_{dn} as an acceptable background noise level for the development of new residential uses. Table 5.8-4 shows existing traffic noise levels at the Project site. As shown in Table 5.8-4, traffic noise levels would not exceed HUD's 65 dBA L_{dn} exterior noise standard for existing or existing plus project traffic conditions. The combined background noise level of existing plus traffic (63 dBA L_{dn}), Interstate 280 (60 dBA L_{dn}), Caltrain operations (52 dBA L_{dn}), and aircraft overflight (50 dBA L_{dn}) would result in a background noise level of 65 dBA L_{dn}. The Project site is not located within a 65-dBA noise contour for any regional or international airport in the San Francisco Bay Area nor within a specific flight path. However, flights generated by San Francisco International Airport would generally fly over the Project site and would contribute to the general background noise levels.

In summary, daily stationary noise sources associated with operational activity would not exceed the noise standards established by the *Police Code.* Traffic noise sources combined with the background noise level would meet but not exceed the acceptable HUD's exterior noise standard of 65 dBA L_{dn} for residential uses.

Under CEQA, impacts associated with traffic-related noise would not result in generation of noise levels in excess of established standards. This impact would be ***less than significant.***

Under NEPA, impacts associated with traffic-related noise would not result in exposure of residents of public housing to background noise levels that exceed HUD's acceptable noise level of 65 dB DNL. This impact would be ***less than significant.***

Impact NO-2	**Exposure of Persons to or Generation of Excessive Groundborne Vibration** **CEQA: The Proposed Project would not result in exposure of persons to or generation of excessive vibration. (Construction: Less than Significant; Operation: Less than Significant)** **NEPA: The Proposed Project would not result in exposure of persons to or generation of excessive vibration. (Construction: Less than Significant; Operation: Less than Significant)**

Construction

Operation of heavy-duty construction equipment has the potential to generate low levels of groundborne vibration during project construction. Although construction-related vibration would occur in phases and would be temporary, it could result in annoyance to nearby residents, disturb classroom activities at the Starr King Elementary School, and have the potential to cause structural damage to nearby vibration-sensitive structures. Structural damage is typically associated with pile driving, blasting, use of hoe-rams for demolishing large concrete structures, and caisson drilling. No pile driving would occur during Project construction.

The FTA has identified various vibration levels for the types of construction equipment that may be used during construction of the Proposed Project. Typical heavy duty equipment that would be used during construction would include, but not be limited to, concrete crushers, cranes, tractors, excavators, forklifts, off-highway tractors and trucks, material handling equipment, pavers, pumpers, rollers, bulldozers, surfacing and grading equipment, backhoes, and trenchers.

Table 5.8-5 identifies various vibration velocity levels for the types of construction equipment which may be employed during construction. Construction equipment would have the potential to disturb people trying to sleep in close proximity to construction activities if conducted during nighttime hours. Since no pile driving would occur, structural damage to existing buildings due to construction vibration is not anticipated.

Table 5.8-5 Vibration Source Levels for Construction Equipment

Construction Equipment	*At 25 feet*		*At 100 feet*	
	Approximate VdB	*Peak Particle Velocity (in/sec)*	*Approximate VdB*[a]	*Peak Particle Velocity (in/sec)*[b]
Large Bulldozer	87	0.089	69	0.011
Loaded Trucks	86	0.076	68	0.010
Jackhammer	79	0.035	61	0.004
Small Bulldozer	58	0.003	40	0
Caisson Drilling	87	0.089	69	0.011
Roller	94	0.210	76	0.026
Pile Driver (impact, upper range)	112	1.518	94	0.190
Pile Driver (sonic, upper range)	105	0.734	87	0.011

SOURCE: FTA (2006).

a. Based on the formula $PPV_{equip} = PPV_{ref} * (25/D)^{1.5}$ provided by the FTA (2006).

b. Based on the formula VdB = VdB(25 feet) – 30log(d/25) provided by the FTA (2006).

The operation of trucks and bulldozers during construction would result in vibration levels of approximately 86 to 87 VdB at 25 feet from the source. Based on the information in Table 5.8-5, vibration levels from construction activities at 100 feet could reach up to 76 VdB, or 0.026 PPV during construction activities.

Because vibration levels would not exceed the FTA-recommended threshold of 80 VdB for sleep disturbance or Caltrans' threshold of 0.2 PPV for structural damage to normal buildings for any of the construction activities, no significant vibrational impacts would occur during the construction period.

The impact would be ***less than significant*** under CEQA because the Proposed Project would not result in exposure of persons or residents to generation of excessive groundborne vibration or groundborne noise levels during construction.

The impact would be ***less than significant*** under NEPA because the Proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels during construction.

Operation

The primary operational noise sources associated with the Proposed Project would not typically have the potential to generate noticeable groundborne vibration levels. These noise sources along with increased traffic at the Project site, HVAC equipment operation, and delivery and waste hauling truck trips, would not result in the same intensity of ground impact and vibration generation as the activity that would cause significant impacts for the construction period, as shown in Table 5.8-5.

The impact would be ***less than significant*** under CEQA because the Proposed Project would not result in exposure of persons or residents to generation of excessive groundborne vibration or groundborne noise levels during operation.

The impact would be ***less than significant*** under NEPA because the Proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels during operation.

Impact NO-3	**Substantial Permanent Increase in Ambient Noise** **CEQA: The Proposed Project would cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the project. (Significant and Unavoidable)** **NEPA: The proposed project would not result in a substantial permanent increase in ambient noise levels for existing off-site sensitive receptors. (Less than Significant)**

As discussed for Impact NO-1, although exterior and interior noise levels would not exceed noise level standards, traffic noise increases associated with the Proposed Project would exceed the 3 dBA adopted threshold for a "substantial permanent increase" in residential areas. For the Existing plus Project scenario, noise levels would meet or exceed the 3 dBA threshold at the following segments: 25th Street from Wisconsin Street to Connecticut Street, Connecticut Street to Dakota Street, and Dakota Street to Indiana Street; Connecticut Street from Cesar Chavez Street to 25th Street, and 25th Street to 23rd Street; Texas Street from 25th Street to 22nd Street; and Missouri Street from 20th Street to 22nd Street, and 22nd Street to 23rd Street. Cumulative traffic noise levels would meet or exceed the 3 dBA threshold at the following segments: 25th Street from Connecticut to Dakota Street, and Dakota Street to Indiana Street; and Texas Street from 25th Street to 22nd Street. As discussed above, other permanent noise sources, such as the operation of HVAC equipment would be shielded and would not exceed exterior or interior noise standards.

Implementation of the Proposed Project would result in substantial permanent increases above the 3-dBA threshold in traffic noise levels along affected roadway segments. For the Existing plus Project scenario, noise levels would meet or exceed the 3-dBA threshold at the following segments:

- 25th Street from Wisconsin Street to Connecticut Street, Connecticut Street to Dakota Street, and Dakota Street to Indiana Street
- Connecticut Street from Cesar Chavez Street to 25th Street, and 25th Street to 23rd Street
- Texas Street from 25th Street to 22nd Street
- Missouri Street from 20th Street to 22nd Street, and 22nd Street to 23rd Street

Cumulative traffic noise levels would meet or exceed the 3-dBA threshold at the following segments:

- 25th Street from Connecticut to Dakota Street, and Dakota Street to Indiana Street
- Texas Street from 25th Street to 22nd Street

Under CEQA, traffic noise would exceed the 3 dBA standard and would result in a ***significant and unavoidable*** impact.

As discussed above under Impact NO-1, noise levels resulting from the Project would not exceed HUD's 65 dBA L_{dn} exterior noise standard. The impact would be ***less than significant*** under NEPA.

Impact NO-4	**Substantial Temporary Increase in Ambient Noise Levels** **CEQA: The Proposed Project could result in a substantial temporary increase in ambient noise levels during construction. (Less than Significant with Mitigation)** **NEPA: This topic is analyzed separately under NEPA.**

The only temporary sources of noise associated with the Proposed Project would be construction-related noise, which was addressed in Impact NO-1 and identified as having a ***less-than-significant impact with mitigation***.

Alternative 1 – Reduced Development Alternative

Impact NO-1	**Exposure of Persons to or Generation of Noise Levels in Excess of Standards** **CEQA: The Reduced Development Alternative would not 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. (Construction: Less than Significant with Mitigation; Operation: Less than Significant)** **NEPA: The Reduced Development Alternative would not expose residents of public housing to background noise levels that exceed HUD's acceptable noise level of 65 dB DNL. (Construction: Less than Significant with Mitigation; Operation: Less than Significant)**

Construction

Construction noise generation under Alternative 1 would be similar to the Proposed Project. The development footprint for the Reduced Development Alternative would be the same as the Proposed Project, but proposed building heights would not exceed 40 feet, and fewer housing units would be constructed. Demolition, grading, roadway and housing construction would still be conducted using similar construction equipment and phasing outlined for the Proposed Project. As with the Proposed Project, impact equipment would comply with Section 2909 of the Noise Ordinance, which would result in the equipment being outfitted with intake and exhaust mufflers and acoustically attenuating shields. As a result, impact equipment would not be subject to the noise

threshold. Non-impact equipment would not result in significant impacts, because Mitigation Measures M-NO-1a and M-NO-1b would reduce noise levels to a less-than-significant level, as discussed above.

With implementation of identified mitigation measures, Alternative 1 would not 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. This impact would be ***less than significant with mitigation*** under CEQA.

With implementation of identified mitigation measures, Alternative 1 would not generate construction noise that would not comply with local standards. This impact would be ***less than significant with mitigation*** under NEPA.

Operation

Section 2909 of the Noise Ordinance limits noise from sources defined as "any machine or device, music or entertainment or any combination of same" located on residential or commercial/industrial property and requires that these new operational noise sources shall not generate noise greater than 5 dBA or 8 dBA above the local ambient level at any point outside the property plane of a residential, commercial/industrial, or public land use, respectively, containing the noise source. Operation of Alternative 1 would introduce additional on-site stationary noise sources, similar to those currently occurring on the Project site including mechanical HVAC systems and idling of delivery vehicles during limited delivery of retail supplies. In addition, project-related traffic increases would introduce additional traffic noise at the Project site.

Stationary Noise Sources

Similar to the Proposed Project, HVAC equipment associated with Alternative 1 would be shielded and would not exceed interior noise thresholds. Delivery and waste hauling trucks, as discussed above, would also not exceed noise standards.

Traffic Noise Sources

Implementation of Alternative 1 would increase traffic volumes beyond background growth over the next 20 years, similar to the Proposed Project. This increase in traffic volumes would increase ambient noise levels at noise-sensitive locations along the major vehicular access routes in the Project vicinity. All future roadway analysis assumed completion of roadway improvement measures required as part of the Proposed Project's traffic mitigation measures as detailed in Section 5.7, *Transportation and Traffic*. Table 5.8-6, below, identifies future noise levels along local roadway segments where project-related traffic volume increases could affect nearby sensitive receptors, including residential uses and the Starr King Elementary School.

Table 5.8-6 Alternative 1 – Reduced Development Modeled Traffic Noise Levels Along Roadways in the Project Site Vicinity (dBA)

Roadway	Segment		L_{dn} (dBA) at 100 feet					
	From	To	Existing	Existing Plus Alt 2	Existing Change	2030 Cumulative	2030 Cumulative Plus Alt 2	Cumulative Change
Cesar Chavez St	York St	Vermont St	63	64	1	65	65	0
Cesar Chavez St	Vermont St	Connecticut St	63	64	1	66	66	0
Cesar Chavez St	Connecticut St	Pennsylvania Ave	63	63	0	66	66	0
Cesar Chavez St	Pennsylvania Ave	Tennessee St	62	62	0	65	65	0
25th St	Wisconsin St	Connecticut St	51	54	3	54	55	1
25th St	Connecticut St	Dakota St	53	56	3	55	57	2
25th St	Dakota St	Indiana St	53	57	4	55	59	4
25th St	Indiana St	3rd St	56	56	0	57	57	0
23rd St	Folsom St	Potrero Ave	51	52	1	51	52	1
23rd St	Potrero Ave	SR 101	56	57	1	57	57	0
23rd St	Wisconsin St	Dakota St	49	50	1	51	52	1
23rd St	Dakota St	Missouri St	48	—	—	49	—	—
20th St	Rhode Island St	Arkansas St	54	54	0	55	55	0
20th St	Arkansas St	Missouri St	54	54	0	55	55	0
Potrero Ave	21st St	23rd St	63	63	0	64	64	0
Potrero Ave	23rd St	25th St	62	62	0	64	64	0
Wisconsin St	20th St	23rd St	51	52	1	54	54	0
Wisconsin St	23rd St	26th St	51	52	1	55	55	0
Arkansas St	18th St	20th St	48	49	1	51	51	0
Arkansas St	20th St	23rd St	48	49	1	51	51	0
Connecticut St	Cesar Chavez St	25th St	53	56	3	58	59	1
Connecticut St	25th St	23rd St	48	50	2	51	52	1
Dakota St	25th St	23rd St	51	—	—	52	—	—

Table 5.8-6 Alternative 1 – Reduced Development Modeled Traffic Noise Levels Along Roadways in the Project Site Vicinity (dBA)

Roadway	*Segment*		*L_{dn} (dBA) at 100 feet*					
	From	*To*	*Existing*	*Existing Plus Alt 2*	*Existing Change*	*2030 Cumulative*	*2030 Cumulative Plus Alt 2*	*Cumulative Change*
Texas St	25th St	22nd St	34	53	19	44	54	10
Missouri St	20th St	22nd St	47	49	2	52	53	1
Missouri St	22nd St	23rd St	47	49	2	53	53	0
Pennsylvania St	Cesar Chavez St	25th St	61	61	0	62	62	0
Pennsylvania St	25th St	22nd St	57	56	-1	59	58	-1
Indiana St	23rd St	25th St	56	58	2	59	59	0
Indiana St	25th St	Cesar Chavez St	55	55	0	58	58	0

SOURCE: Modeled by Atkins (2012) (see Appendix 4.8).

As shown in Table 5.8-6, existing plus proposed Alternative 1 and 2030 cumulative with Alternative 1 traffic noise levels would not exceed the City's exterior noise level standard of 60 dBA L_{dn} at the proposed public open spaces along roadways showing a substantial permanent increase due to implementation of this alternative. Additionally, the public open spaces would be shielded by intervening structures and balconies, further reducing noise levels at these areas from those shown in Table 5.8-6.

Assuming a standard exterior-to-interior attenuation rate of 25 dBA for typical residential buildings with doors and windows closed traffic noise levels on roadway segments at 70 dBA L_{dn} or lower would achieve an interior noise level of 45 dBA L_{dn} or less. As shown in Table 5.8-6 none of the modeled roadway segments would exceed 70 dBA L_{dn} as a result of implementing the Reduced Development Alternative. Thus, interior noise levels would not exceed 45 dBA L_{dn} at existing residential and educational uses (Starr King Elementary School) or proposed residential uses as a result of Alternative 1 implementation and subsequent traffic noise level increase along affected roadway segments.

HUD Standards – Combined Operational Noise Levels

HUD exterior noise standards consider 65 dBA L_{dn} as an acceptable background noise level for the development of new residential uses. Table 5.8-6 shows existing traffic noise levels at the Alternative 1 project site. As shown in Table 5.8-6, traffic noise levels would not exceed HUD's 65 dBA L_{dn} exterior noise standard for existing or existing plus Alternative 1 traffic conditions. The combined background noise level of existing plus traffic (63 dBA L_{dn}), Interstate 280 (60 dBA L_{dn}), Caltrain operations (52 dBA L_{dn}), and aircraft overflight (50 dBA L_{dn}) would result in a background noise level of 65 dBA L_{dn}. This combined background noise level would meet but not exceed the acceptable HUD's exterior noise standard of 65 dBA L_{dn} for residential uses. Therefore, there would be no adverse effect from combined background noise levels on new residents of Alternative 1. Thus, daily stationary noise sources associated with operational activity would not exceed the noise standards established by the *Police Code.* Traffic noise sources combined with the background noise level would meet but not exceed the acceptable HUD's exterior noise standard of 65 dBA L_{dn} for residential uses.

Under CEQA, implementation of Alternative 1 would not result in the generation of noise levels in excess of established standards. Impacts would be considered ***less than significant.***

Under NEPA, impacts associated with traffic-related noise would not result in exposure of residents of public housing to background noise levels that exceed HUD's acceptable noise level of 65 dB DNL. This impact would be ***less than significant.***

Impact NO-2	**Exposure of Persons to or Generation of Excessive Groundborne Vibration**
	CEQA: The Reduced Development Alternative would not result in exposure of persons to or generation of excessive vibration. (Construction: Less than Significant; Operation: Less than Significant)
	NEPA: The Reduced Development Alternative would not result in exposure of persons to or generation of excessive vibration. (Construction: Less than Significant; Operation: Less than Significant)

Construction

Construction vibration under Alternative 1 would be similar to the Proposed Project. The development footprint for Alternative 1 would be the same as the Proposed Project, but proposed building heights would not exceed 40 feet, thus fewer housing units would be constructed. Demolition, grading, roadway and housing construction would still be conducted using similar construction equipment and phasing outlined for the Proposed Project.

As discussed for the Proposed Project, vibration levels from construction activities at 100 feet could reach up to 76 VdB, or 0.026 PPV, for normal construction activities, which would be below the impact thresholds established for this EIR/EIS. Because vibration levels would not exceed the FTA-recommended threshold of 80 VdB for sleep disturbance or Caltrans' threshold of 0.2 PPV for structural damage to normal buildings for any of the construction activities, no significant vibrational impacts would occur during the construction period. Thus, no persons would be exposed to, nor would the Housing Replacement Alternative generate, excessive vibration.

The impact would be ***less than significant*** under CEQA because Alternative 1 would not result in exposure of persons or residents to generation of excessive groundborne vibration or groundborne noise levels during construction.

The impact would ***be less than significant*** under NEPA because Alternative 1 would not expose persons to or generate excessive groundborne vibration or groundborne noise levels during construction.

Operation

The primary operational noise sources associated with Alternative 1 do not typically have the potential to generate noticeable groundborne vibration levels. These noise sources, increased traffic at the Project site, HVAC equipment operation, and delivery and waste hauling truck trips, do not result in the same intensity of ground impact and vibration generation as the pile-driving activity that would cause significant impacts for the construction period, as shown in Table 5.8-5.

The impact would be ***less than significant*** under CEQA because Alternative 1 would not result in exposure of persons or residents to generation of excessive groundborne vibration or groundborne noise levels.

The impact would be ***less than significant*** under NEPA because Alternative 1 would not expose persons to or generate excessive groundborne vibration or groundborne noise levels.

Impact NO-3	**Substantial Permanent Increase in Ambient Noise** **CEQA: The Reduced Development Alternative would cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the project. (Significant and Unavoidable)** **NEPA: The Reduced Development Alternative would not result in a substantial permanent increase in ambient noise levels for existing off-site sensitive receptors. (Less than Significant)**

As discussed for Alternative 1 Impact NO-1, although exterior and interior noise levels would not exceed noise level standards, traffic noise increases associated with Alternative 1 would exceed the 3 dBA adopted threshold for a "substantial permanent increase" in residential areas. As discussed above, other permanent noise sources, such as the operation of HVAC equipment would be shielded and would not exceed exterior or interior noise standards.

As shown in Table 5.8-6, the Reduced Development Alternative would generate noise level increases that exceed 3 dBA L_{dn}, which is the adopted threshold for a "substantial permanent increase" in traffic noise for sensitive receptors located adjacent to those roadways. Alternative 1 generated traffic noise level changes would range from -1 dBA to 19 dBA L_{dn}. The decrease in traffic noise levels (-1 dBA L_{dn}) along one roadway segments is due to a shift in traffic patterns as a result of proposed roadway network design changes that would redistribute traffic volumes. These roadway network design changes would also result in no traffic or traffic noise on 23rd Street between Dakota Street and Missouri Street and on Dakota Street between 25th Street and 23rd Street because these roadway segments would be removed from the roadway network, as shown in Figure 2-1, Proposed Action Site Plan, in Chapter 2, *Project Alternatives and Project Description*.

The greatest traffic noise increase associated with Alternative 1 (19 dBA L_{dn} and 10 dBA L_{dn} when comparing existing no project traffic noise levels to existing plus project traffic noise levels and cumulative no project traffic noise levels to cumulative plus project noise levels, respectively) would occur along Texas Street between 22nd and 25th Streets. Additionally, 25th Street between Dakota and Indiana Streets would experience traffic-related noise level increases associated with Alternative 1 of 4 dBA L_{dn} in the cumulative with and without Alternative 1 traffic scenarios. These traffic noise level increases are considered large enough to exceed the 3 dBA adopted threshold for a "substantial permanent increase" in traffic noise in residential areas and would be considered potentially significant.

Under CEQA, traffic noise would exceed the 3 dBA standard and would result in a ***significant and unavoidable*** impact.

As discussed above under Impact NO-1, noise levels resulting from Alternative 1 would not exceed HUD's 65 dBA L_{dn} exterior noise standard. The impact would be ***less than significant*** under NEPA.

Impact NO-4	**Substantial Temporary Increase in Ambient Noise Levels** **CEQA: The Reduced Development Alternative would cause a substantial temporary increase in ambient noise levels during construction. (Less than Significant with Mitigation)** **NEPA: This topic is analyzed separately under NEPA.**

The only temporary sources of noise associated with Alternative 1 would be construction-related noise, which was addressed in Impact NO-1 and identified as ***less than significant with mitigation.***

Alternative 2 – Housing Replacement Alternative

Impact NO-1	**Exposure of Persons to or Generation of Noise Levels in Excess of Standards** **CEQA: The Housing Replacement Alternative would not 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. (Construction: Less than Significant with Mitigation; Operation: Less than Significant)** **NEPA: The Housing Replacement Alternative could expose residents of public housing to background noise levels that exceed HUD's acceptable noise level of 65 dB DNL. (Construction: Less than Significant with Mitigation; Operation: Less than Significant)**

Construction

Construction noise generation under Alternative 2 would be similar to the Proposed Project. The development footprint for Alternative 2 would be the same building pattern as what exists currently. The same number of housing units would be re-built and the same street pattern would be retained and fewer housing units would be constructed as compared to the Proposed Project. Demolition, grading, and housing construction would still be conducted using similar construction equipment outlined for the Proposed Project. Additional parks, retail facilities, and community center would not be constructed under this alternative. Alternative 2 would generate similar construction noise levels as the Proposed Project. As shown in Table 5.8-3, construction equipment used at the Project site would be anticipated to generate noise levels between 65 to 88 dBA L_{eq} at 50 feet, which is generally below the City's construction noise thresholds. Nevertheless, the potential exists for general construction activities to exceed the Noise Ordinance for construction equipment temporarily; this is a potentially significant impact.

Implementation of Mitigation Measures M-NO-1a and M-NO-1b and compliance with the Noise Ordinance would limit construction activities to daytime hours and reduce construction noise to the extent feasible at on-site and off-site receptors and it is anticipated that construction noise levels would comply with Sections 2907 and 2908 of the Noise Ordinance.

With implementation of identified mitigation measures, Alternative 2 would not 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. This impact would be ***less than significant with mitigation*** under CEQA.

With implementation of identified mitigation measures, Alternative 2 would not generate construction noise that would not comply with local standards. This impact would be ***less than significant with mitigation*** under NEPA.

Operation

Alternative 2 would not introduce additional on-site stationary noise sources. In addition, implementation of Alternative 2 would not result in an increase in traffic volumes from future development and ambient growth over the next 20 years. There would not be increases in traffic volumes and this alternative would not result in increased ambient noise levels at noise-sensitive locations along the major vehicular access routes in the Project vicinity because the same number of residential units would be constructed under Alternative 2 as there are existing. Traffic noise levels would be similar to existing conditions. Therefore, operational impacts would be ***less than significant***.

HUD Standards – Combined Operational Noise Levels

HUD exterior noise standards consider 65 dBA L_{dn} as an acceptable background noise level for the development of new residential uses. Table 5.8-6 shows the existing traffic noise levels at the Project site. As shown in Table 5.8-6, traffic noise levels would not exceed HUD's 65 dBA L_{dn} exterior noise standard for the existing traffic conditions. The combined background noise level of existing traffic (63 dBA L_{dn}), Interstate 280 (60 dBA L_{dn}), Caltrain operations (52 dBA L_{dn}), and aircraft overflight (50 dBA L_{dn}) would result in a background noise level of 65 dBA L_{dn}. This combined background noise level would meet but not exceed the acceptable HUD's exterior noise standard of 65 dBA L_{dn} for residential uses. Therefore, there would be no adverse effect from combined background noise levels for new residential development associated with Alternative 2.

Under CEQA, implementation of Alternative 2 would not result in the generation of noise levels in excess of established standards. This impact would be ***less than significant.***

Under NEPA, noise impacts associated with traffic-related noise would not result in exposure of residents of public housing to background noise levels that exceed HUD's acceptable noise level of 65 dB DNL. This impact would be ***less than significant.***

Impact NO-2	**Exposure of Persons to or Generation of Excessive Groundborne Vibration**
	CEQA: The Housing Replacement Alternative would not result in exposure of persons to or generation of excessive vibration. (Construction: Less than Significant; Operation: Less than Significant)
	NEPA: The Housing Replacement Development Alternative would not result in exposure of persons to or generation of excessive vibration. (Construction: Less than Significant; Operation: Less than Significant)

Construction

Construction vibration under Alternative 2 would be similar to the Proposed Project. The development footprint for Alternative 2 would be the same building pattern as what exists currently. The same number of housing units would be re-built and the same street pattern would be retained and fewer housing units would be constructed as compared to the Proposed Project. Demolition, grading, and housing construction would still be conducted using similar construction equipment outlined for the Proposed Project. Additional parks, retail facilities, and community center would not be constructed under this alternative. Similar vibration levels attributable to construction noise for Alternative 2 would be similar to levels generated by the Proposed Project. As discussed for the Proposed Project, vibration levels from construction activities at 100 feet could reach up to 76 VdB, or 0.026 PPV, for normal construction activities, which would be below the impact thresholds established for this EIR/EIS. Because vibration levels would not exceed the FTA-recommended threshold of 80 VdB for sleep disturbance or Caltrans' threshold of 0.2 PPV for structural damage to normal buildings for any of the construction activities, no significant vibrational impacts would occur during the construction period. Thus, no persons would be exposed to, nor would the Housing Replacement Alternative generate, excessive vibration.

The impact would ***less than significant*** under CEQA because Alternative 2 would not result in exposure of persons or residents to generation of excessive groundborne vibration or groundborne noise levels during construction.

The impact would ***be less than significant*** under NEPA because Alternative 2 would not expose persons to or generate excessive groundborne vibration or groundborne noise levels during construction.

Operation

The primary operational noise sources associated with Alternative 2 do not typically have the potential to generate noticeable groundborne vibration levels. These noise sources, increased traffic at the Project site, HVAC equipment operation, and delivery and waste hauling truck trips, do not result in the same intensity of ground impact and vibration generation as the construction activities that would cause significant impacts for the construction period, as shown in Table 5.8-5.

The impact would be ***less than significant*** under CEQA because the Alternative 2 would not result in exposure of persons or residents to generation of excessive groundborne vibration or groundborne noise levels.

The impact would be ***less than significant*** under NEPA because Alternative 2 would not expose persons to or generate excessive groundborne vibration or groundborne noise levels.

Impact NO-3	**Substantial Permanent Increase in Ambient Noise** **CEQA: The Housing Replacement Alternative would not cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the project. (Less than Significant)** **NEPA: The Housing Replacement Alternative would not result in a substantial permanent increase in ambient noise levels for existing off-site sensitive receptors. (Less than Significant)**

As discussed for Alternative 2, Impact NO-1, operational activity would not exceed any applicable thresholds, because no new operational noise sources would be associated with Alternative 2. Thus, this impact would be ***less than significant***.

Under CEQA, traffic noise not would exceed the 3 dBA standard and would result in a ***less-than-significant*** impact.

The impact would be ***less than significant*** under NEPA because Alternative 2 would not result in a substantial permanent increase in ambient noise levels for existing off-site sensitive receptors.

Impact NO-4	**Substantial Temporary Increase in Ambient Noise Levels** **CEQA: The Housing Replacement Alternative would cause a substantial temporary increase in ambient noise levels during construction. (Less than Significant with Mitigation)** **NEPA: This topic is analyzed separately under NEPA.**

The only temporary sources of noise associated with Alternative 2 would be construction-related noise, which was addressed in Impact NO-1 and identified as a ***less than significant with mitigation.***

Alternative 3 – No Project Alternative

Under Alternative 3 construction and operation at Potrero Terrace and Potrero Annex would not occur. No other foreseeable development would occur at the proposed site because no other development proposals for this site have been submitted or are anticipated. Therefore, under both CEQA and NEPA, there would be ***no impact***.

Cumulative Impacts

The geographic context for evaluation of cumulative operational noise impacts is the Eastern Neighborhoods Plan area as described in Section 5.1, *Introduction to the Analysis*. The geographic context for construction-related noise impacts is the immediate Project area.

Impact C-NO-1	**Cumulative Noise Impacts** **CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to noise. (Less than Significant)** **NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to noise. (Less than Significant)**

Substantial construction-related noise and vibration would affect only areas in close proximity to each of the individual construction sites, since noise and vibration intensity decreases substantially with distance. The EN EIR determined that through compliance with identified mitigation measures, impacts related to construction noise would be less than significant. Overall construction-related noise and vibration cumulative impacts are less than significant. Similarly, through mitigation measures impacts from the Proposed Project are also less than significant and, thus, would not result in a considerable contribution to this cumulative impact.

Development under the EN Plan could combine with operational impacts of the Proposed Project to result in significant cumulative environmental impacts. The EN EIR identified potential conflicts related to the siting of residential and other noise-sensitive uses in proximity to noisy uses such as Production, Distribution, and Repair; retail; entertainment; cultural/institutional/educational uses; and office uses. In addition, the EN EIR noted that implementation of the Plan would incrementally increase traffic-generated noise on some streets in the Plan area. Ultimately, through implementation of various mitigation measures that are required for projects contemplated in the EN EIR, cumulative noise impacts would be less than significant.

Operation of the Proposed Project would increase traffic noise levels, which would affect sensitive receptors along access roads to the Project site. The noise increases associated with cumulative development, including the Proposed Project, are shown in Table 5.8-4 and 5.8-6. As shown in the tables, the cumulative increase would exceed the adopted threshold for a "substantial permanent increase," or 3 dBA, in traffic noise in residential areas; however, these increases would not exceed exterior or interior noise level standards. The roadway segments that would experience noise levels in exceedance of adopted thresholds represent only a small portion of studied roadways and roadways in the Project area. Specifically, three roadway segments under the Proposed Project two roadway segments under Alternative 1 would exceed thresholds. The Project's contribution to a cumulative impact is not considerable. Impacts are less than significant.

The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would result in ***less-than-significant*** noise impacts under CEQA.

The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would result in ***less-than-significant*** noise impacts under NEPA.

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5.9 AIR QUALITY

5.9.1 Regulatory Framework

Federal

Federal Ambient Air Quality Standards

The 1970 Clean Air Act (CAA; 42 USC 7401 et. seq.) is a federal law that regulates air emissions. Under the authority of the CAA, the U.S. Environmental Protection Agency (USEPA) has established national ambient air quality standards (NAAQS) for six air pollutants that are often referred to as criteria pollutants: ozone, nitrogen dioxide, carbon monoxide (CO), sulfur dioxide, suspended particulate matter (PM10 and PM2.5), and lead. The NAAQS are listed in Table 4.9-2 in Section 4.9, *Air Quality*. The NAAQS are intended to protect public health and welfare by establishing pollutant concentrations to which the public can be exposed without adverse health effects. Each state is required to identify areas where ambient air quality does not comply with the NAAQS and to develop and implement State Implementation Plans (SIPs) that detail how the area will comply with the NAAQS. The SIP must be submitted to and approved by USEPA. The CAA prohibits federal assistance to projects that are not in conformance with the SIP.

An area's status with respect to compliance with the NAAQS is categorized as follows: *nonattainment* (does not meet the NAAQS), *attainment* (better than the NAAQS), or *unclassified*. The unclassified designation includes attainment areas that comply with federal standards as well as areas for which monitoring data are lacking. Unclassified areas are treated as attainment areas for most regulatory purposes.

The Project site is located in the San Francisco Bay Area Air Basin (SFBAAB). The current attainment status for this air basin, with respect to federal standards, is summarized in Table 4.9-2 in Section 4.9, *Air Quality*. In general, the SFBAAB experiences low concentrations of most pollutants when compared to federal standards, except for ozone and particulate matter (PM10 and PM2.5), for which standards are exceeded periodically (see Table 4.9-1). The air basin is designated as a federal nonattainment area for the 8-hour ozone and 24-hour PM2.5 standards and as a maintenance area for the CO standard.[1]

Section 176(c) of the CAA, also known as the General Conformity Rule, requires federal agencies to ensure that actions undertaken in nonattainment or maintenance areas are consistent with the CAA

[1] Maintenance areas are geographic areas that have a history of nonattainment but are now consistently meeting the applicable standard. BAAQMD, Air Quality Standards and Attainment Status. Available: <http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm>. Accessed March 3, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

and SIPs. The General Conformity Rule is codified at 40 CFR, Part 51, Subpart W, and Title 40 CFR, Part 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans. The General Conformity Rule thresholds applicable to the SFBAAB are presented below in Table 5.9-1. According to the U.S. Department of Housing and Urban Development (HUD) Regulation 24 CFR, Part 58.5, Subpart A, an environmental analysis of a HUD proposed project must certify that the project complies with the CAA as amended, particularly the General Conformity Rule, which requires conformance with relevant State or Federal Implementation Plans.

Table 5.9-1 General Conformity Rule *de minimis* Thresholds for the San Francisco Bay Area Air Basin

VOC or ROG (ozone precursor)	100 tons per year
NOx (ozone precursor)	100 tons per year
PM2.5	100 tons per year
CO	100 tons per year

SOURCE: USEPA Title 40 CFR, Part 93, 1993|
VOC = volatile organic compounds
ROG = reactive organic gas
NOx = nitrous oxides
CO = carbon monoxide

State

Although the CCA established NAAQS, individual states retained the option to adopt more stringent standards and to include other sources of air pollution or other air pollutants. California had already established its own air quality standards when federal standards were established, and because of the unique meteorological problems in California, there is considerable diversity between the state and national ambient air quality standards, as shown in Table 4.9-2 Section 4.9, *Air Quality*. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent.

In 1988, California passed the California Clean Air Act (California Health and Safety Code Sections 39600 et seq.). Like its federal counterpart, this act called for the designation of areas as attainment or nonattainment, but based on state ambient air quality standards rather than the federal standards. As indicated in Table 4.9-2, the SFBAAB is designated as "nonattainment" for state ozone, PM10, and PM2.5 standards. The SFBAAB is designated as "attainment" for other pollutants.

California Air Resources Board Asbestos Air Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations

In July 2002, the California Air Resources Board (ARB) approved an Air Toxic Control Measure (ATCM) for construction, grading, quarrying and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices

(BMPs) to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. Under the regulation order that establishes the naturally occurring asbestos ATCM, California Code of Regulations Title 17, Section 93105, each air pollution control and air quality management district is delegated authority by ARB to implement and enforce the ATCM or propose their own asbestos airborne toxic control measure. The naturally occurring asbestos ATCM establishes specific testing, notification and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than 1 acre. These projects require the submittal of a Dust Mitigation Plan and approval by the air district prior to the start of a project.

In the City of San Francisco, the BAAQMD oversees and enforces implementation of the naturally occurring asbestos ATCM. Local implementation of the naturally occurring asbestos ATCM by the BAAQMD is discussed in more detail below.

California Air Resources Board Air Toxic Control Measure for Stationary Compression Ignition Engines

In 2004, the ARB approved an ATCM for stationary compression ignition engines to minimize the public's exposure to diesel particulate matter. The ATCM was amended in 2010 with the intent of reducing compliances costs. The Stationary Compression Ignition Engine ATCM sets emissions standards and operating requirements for new and existing stationary diesel engines in California, and differentiates between those engines that are used for emergency purposes, and those engines that are considered prime engines. Emissions standards for NOx, PM10 and hydrocarbons are established by this ATCM for new and existing emergency and non-emergency engines are dependent on the maximum engine power and the model year of the equipment.[2]

Toxic Air Contaminants

In 2005, ARB approved a regulatory measure to reduce emissions of toxic and criteria pollutants by limiting the idling of heavy-duty diesel vehicles. The regulations generally limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area for more than 5 consecutive minutes or periods aggregating more than 5 minutes in any 1 hour.[3] Buses or vehicles also must turn off their engines upon stopping at a school and must not turn their engines on more than 30 seconds before beginning to depart from a school. Additionally, state law Senate Bill 352 (SB 352) was adopted in 2003 and limits locating public schools within 500

[2] California Air Resources Board. 2010. *Final Regulation Order: The Airborne Toxic Control Measure for Stationary Compression Ignition Engines.* Available: <http://www.arb.ca.gov/regact/2010/atcm2010/finalregorder.pdf>. Accessed: August 5, 2014.

[3] California Air Resources Board. *Final Regulation Order: Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools.* Available: <http://www.arb.ca.gov/regact/sbidling/revfro.pdf>. Accessed: March 3, 2014.

feet of a freeway or busy traffic corridor (Section 17213 of the Education Code; Section 21151.8 of the Public Resources Code).

Asbestos is listed as a toxic air contaminant (TAC) by ARB and as a Hazardous Air Pollutant by USEPA. Asbestos occurs naturally in surface deposits of several types of rock formations. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Crushing or breaking these rocks, through construction or other means, can release asbestoform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease depends on the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and, with time, may be linked to such diseases as asbestosis, lung cancer, and mesothelioma.[4]

Local

Bay Area Air Quality Planning Relative to State and Federal Standards

The Bay Area Air Quality Management District (BAAQMD) is the regional agency with jurisdiction over the nine-county region located in the SFBAAB. The Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), county transportation agencies, cities and counties, and various non-governmental organizations also join in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs. BAAQMD is responsible for attaining and/or maintaining air quality in the region within federal and state air quality standards. Specifically, BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the region and to develop and implement strategies to attain the applicable federal and state standards.

The federal and state CAAs require SIPs to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the state PM10 standard). The *2010 Bay Area Clean Air Plan* (CAP) was adopted on September 15, 2010, by BAAQMD, in cooperation with MTC, the Bay Conservation and Development Commission (BCDC), and ABAG. The plan outlines a multi-pollutant approach for addressing ozone, particulate matter, air toxics, and greenhouse gas (GHG) emission reductions in a single, integrated strategy. The primary objectives of the plan are to improve local and regional air quality, protect public health, and minimize climate change impacts.

The CAP updates the *2005 Ozone Strategy* in accordance with the requirements of the California CAA to implement "all feasible measures" to reduce ozone; provides a control strategy to reduce

[4] U.S. Geological Survey. 2011. Available: <http://pubs.usgs.gov/of/2011/1188/>. Accessed: February 25, 2014.

ozone, particulate matter, toxic air contaminants, and GHGs in a single, integrated plan; reviews progress on improving air quality in recent years; and establishes emission control measures to be adopted or implemented. The control strategy includes stationary-source control measures to be implemented through BAAQMD regulations; mobile-source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with MTC, local governments, transit agencies, and others. The CAP also represents the Bay Area's most recent triennial assessment of the region's strategy to attain the state 1-hour ozone standard.[5]

BAAQMD manages a naturally occurring asbestos program that administers the requirements of ARB's Asbestos ATCM, as discussed above. The ATCM became effective in the BAAQMD in November 2002, superseding BAAQMD Regulation 11, Rule 14, which regulated serpentine that contains asbestos. BAAMQD provides an exemption application, notification form for road construction and maintenance operations, and asbestos dust mitigation plan applications for projects to submit prior to the start of construction, or upon discovery of asbestos, ultramafic rock, or serpentine during construction. Forms must be submitted to BAAQMD in accordance with the procedures detailed in the BAAQMD Asbestos ATCM Inspection Guidelines Policies and Procedures. BAAQMD Regulation 11, Rule 2 regulates asbestos contained in structures that could be released during demolition.

San Francisco General Plan Air Quality Element

The *San Francisco General Plan* provides long-term guidance and policies for maintaining and improving the quality of life and the man-made and natural resources of the community. The Air Quality Element of the *San Francisco General Plan* is concerned primarily with improving air quality. Objectives and policies that apply to the Proposed Project and project alternatives are discussed in Chapter 3, *Plans and Policies*.

San Francisco Construction Dust Control Ordinance

San Francisco Health Code Article 22B and *San Francisco Building Code* Section 106.A.3.2.6 collectively constitute the Construction Dust Control Ordinance. 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 the Department of Building Inspection (DBI). The Director of DBI may waive this requirement for activities on sites less than 0.5 acre that are unlikely to result in any visible wind-blown dust.

[5] BAAQMD, *2010 Clean Air Plan*. Available: <http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx>. Accessed: March 3, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

For project sites greater than 0.5 acre in size, the ordinance requires that the project applicant submit a Dust Control Plan for approval by the Department of Public Health (DPH). DBI will not issue a building permit without written notification from the Director of DPH that the applicant has a site-specific Dust Control Plan unless the Director waives the requirement. Interior-only tenant improvements, even if over 0.5 acre, that will not produce exterior visible dust are exempt from the site-specific Dust Control Plan requirements. The Project site is approximately 39 acres; thus, this requirement would apply to the Proposed Project and Alternatives 1 and 2.

San Francisco Health Code Provisions Regarding Roadway-generated Pollutants (Article 38)

The City 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 DPH, to determine whether residents would be exposed to unhealthful levels of PM2.5. The air quality assessment evaluates the concentration of PM2.5 from local roadway traffic that may impact a proposed residential development site. If the air quality assessment indicates that the annual average daily concentration of PM2.5 at the site would be greater than 0.2 micrograms per cubic meter ($\mu g/m^3$), Health Code Section 3807 requires development on the site to be designed or relocated to avoid exposure greater than 0.2 $\mu g/m^3$. Alternately, a ventilation system could be installed that would be capable of removing 80 percent of ambient outdoor PM2.5 concentrations from habitable areas of residential units. A portion of the Project site is located in the high-traffic zone and is therefore subject to additional analysis pursuant to Article 38. Based on DPH's latest guidance document (March 2014) for implementation of this ordinance, the Proposed Project would not be required to install an enhanced ventilation system capable of removing 80 percent of ambient outdoor PM2.5 concentrations from habitable areas of residential units.[6]

San Francisco Health Code Regulation of Diesel Backup Generators (Article 30)

The City adopted Article 30 of the *San Francisco Health Code* in 2002, which requires that all diesel backup generators be registered with DPH, limit the operation of diesel backup generators for non-emergency use to 50 hours per year, and require the best available control technologies specified by ARB and BAAQMD to reduce air pollutant emissions. The Community Center building would

[6] San Francisco Department of Public Health. 2014. *San Francisco Health Code Article 38 Guidance for Project Sponsors*. March. Available: <http://www.sfdph.org/dph/files/EHSdocs/AirQuality/Article38DevGuidance.pdf>. Accessed: March 28, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E. Project applicants have three options for determining whether enhanced ventilation is required for proposed residential units. Option 3, which is relevant to the Proposed Project, allows for project applicant to determine whether enhanced ventilation is required by determining whether the Project site is within the Air Pollutant Exposure Zone Map. The Project site is not located within the Air Pollutant Exposure Zone Map; therefore enhanced ventilation is not required for the proposed residential units.

require a diesel backup generator for the Proposed Project; thus, the project applicant would be required to comply with this regulation in the operation of the generator.

5.9.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

For this analysis, significance criteria are based on the checklist presented in Appendix G of the CEQA Guidelines and regulatory standards of federal, state, and local agencies. The Proposed Project and alternatives would result in a significant impact related to air quality if they 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 in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

Context and Intensity Evaluation Guidelines under NEPA

In accordance with HUD Regulation 24 CFR, Part 58.5, Subpart A, an environmental analysis of a HUD proposed project must certify that the project complies with the federal CAA as amended, particularly the General Conformity Rule, which requires conformance with relevant State or Federal Implementation Plans. Conformance with relevant State or Federal Implementation Plans, and thus adherence to the General Conformity Rule, requires that a project not result in emissions that would exceed the *de minimis* thresholds shown in Table 5.9-1. Therefore, the following significance criterion is applicable:

- The project must be compliant with the federal CAA, as amended, in particular the General Conformity Rule by generating emissions that are below the *de minimis* thresholds.

Beyond the criterion mentioned above, HUD does not have separate criteria against which air quality impacts should be measured. HUD recommends adherence to the guidelines as dictated by the local air district, in this case BAAQMD. The following analysis addresses each of the CEQA thresholds noted above using the guidelines and direction from BAAQMD and the San Francisco Planning Department.

Approach to Analysis

This section discusses the thresholds for determining whether a project would exceed the significance criteria identified above, resulting in a significant air quality impact. Table 5.9-2 summarizes the criteria air pollutant standards and is followed by a discussion of each threshold.

Table 5.9-2 Criteria Air Pollutant Significance Thresholds[7]

	Construction Thresholds	*Operational Thresholds*	
Pollutant	*Average Daily Emissions (lbs/day)*	*Average Daily Emissions (lbs/day)*	*Maximum Annual Average Emissions (tons/year)*
ROG	54	54	10
NO_x	54	54	10
PM10	82 (exhaust)	82	15
PM2.5	54 (exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Best Management Practices	Not Applicable	

ROG = reactive organic gas
NOx = nitrous oxides
PM10 = particulate matter 10 microns or less
PM2.5 = particulate matter 2.5 microns or less
CO = carbon monoxide

The San Francisco Planning Department has determined that Appendix D of BAAQMD's *CEQA Air Quality Guidelines*,[7] in combination with BAAQMD's *Revised Draft Options and Justification Report*, provide substantial evidence to support the BAAQMD recommended thresholds for criteria air pollutants. Therefore, the Planning Department has determined these thresholds are appropriate for use in this analysis.

Ozone Precursors

As discussed previously, the SFBAAB is currently designated as non-attainment for ozone and particulate matter (PM10 and PM2.5). Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROGs) and nitrous oxides (NOx). The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, is based on emissions limits for stationary sources set in the state and federal CAAs. 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

[7] BAAQMD. 2011. *CEQA Guidelines*. May. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en>. Accessed: March 3, 2014.

specified emissions limit must offset those emissions. For ozone precursors, ROG and NOx, the offset emissions level is an annual average of 10 tons per year (or 54 pounds per day).[8] These levels represent levels in which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

Particulate Matter (PM10 and PM2.5)

The BAAQMD has not established an offset limit for PM2.5. The current federal Prevention of Significant Deterioration (PSD) offset limit of 100 tons per year for PM10 is too high and would not be an appropriate significance threshold for the SFBAAB considering the nonattainment status of the BAAQMD for PM10.

The federal New Source Review (NSR) program was created by the federal CCA 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. BAAQMD suggests that the emissions limits provided for in the federal NSR for stationary sources that emit criteria air pollutants in areas that are currently designated as nonattainment are an appropriate significance threshold. For PM10 and PM2.5, these emissions limits under NSR are 15 tons per year (82 pounds per day) and 10 tons per year (54 pounds per day), respectively. These emissions limits represent levels at which a source is not expected to have an impact on air quality. Projects that result in emissions below the NSR emissions limits would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in PM10 and PM2.5 emissions.

Although the above regulations apply to new or modified stationary sources, land use development projects result in ROG, NOx, and particulate matter emissions as a result of increases in vehicle trips, architectural coating, natural gas combustion, landscape maintenance and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of land use projects, and projects that result in emissions below these thresholds would not be considered to contribute to an existing or projected air quality violation. They would also not be considered to result in a considerable net increase in ozone precursors (ROG, and NOx) or particulate matter emissions. Because construction activities are temporary in nature, generally only the average daily thresholds are applicable to construction phase emissions; however, given the long-term nature of proposed construction activities, the significance of construction emissions are assessed based on the average daily thresholds and annual thresholds identified in Table 5.9-2.

[8] BAAQMD. 2009. *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*. October. p. 17. Available: <http://baaqmd.gov/~/media/Files/%20Planning%20and%20Research/CEQA/Revised%20Draft%20CEQA%20Thresholds%20%20Justification%20Report%20Oct%202009.ashx>. Accessed: March 3, 2014.

Other Criteria Pollutants

Regional concentrations of carbon monoxide (CO) have not exceeded the California ambient air quality standards in the past 19 years, and sulfur dioxide (SO_2) concentrations have never exceeded the standards. The primary source of CO impacts from land use projects is vehicle traffic. Construction-related SO_2 emissions represent a negligible portion of the total basin-wide emissions, and construction-related CO emissions represent less than 5 percent of the total basin-wide CO emissions.[9] As shown in Table 4.9-2, the SFBAAB is designated as marginal attainment/attainment for both CO and SO_2. Furthermore, BAAQMD has demonstrated that in order to exceed the California ambient air quality standard of 9.0 ppm (8-hour average) or 20.0 ppm (1-hour average) for CO, project traffic in addition to existing traffic would need to exceed 44,000 vehicles per hour at affected intersections (or 24,000 vehicles per hour where vertical and/or horizontal mixing is limited; this lower volume is applicable to downtown areas with concentrations of high-rise buildings and is not applicable to the Project site). In Section 5.7, *Transportation and Circulation*, the intersection volumes analysis shows that, under the Cumulative Plus Proposed Project scenario, maximum volumes would be less than 4 percent of this volume. Therefore, given the region's attainment status and the limited CO and SO_2 emissions that could result from the Proposed Project, the Proposed Project would not result in a cumulatively considerable net increase in CO or SO_2. Therefore, quantitative analysis is not required, and impacts of the project with respect to CO and SO_2 emissions pursuant to CEQA are not discussed further (CO emissions are quantified for purposes of determining General Conformity under NEPA).

Fugitive Dust

Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of BMPs at construction sites significantly control fugitive dust.[10] Individual measures have been shown to reduce fugitive dust by anywhere from 30 percent to 90 percent. BAAQMD has identified a number of BMPs to control fugitive dust emissions from construction activities.[11] The City's Construction Dust Control Ordinance requires a number of measures to control fugitive dust and has a mandate for "no visible dust." BMPs employed in compliance with

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[9] BAAQMD. 2009. *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*. October. p. 27. Available: <http://baaqmd.gov/~/media/Files/%20Planning%20and%20Research/CEQA/Revised%20Draft%20CEQA%20Thresholds%20%20Justification%20Report%20Oct%202009.ashx>. Accessed: March 3, 2014.

[10] Western Regional Air Partnership. 2006. *WRAP Fugitive Dust Handbook*, September 7. Available: <http://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf>. Accessed: March 3, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[11] Bay Area Air Quality Management District. 2010. *California Environmental Quality Act Air Quality Guidelines*. May. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Draft_BAAQMD_CEQA_Guidelines_May_2010_Final.ashx?la=en>. Accessed: March 3, 2014.

the City's Construction Dust Control Ordinance provide an effective strategy for controlling fugitive dust.

Health Risks

Land use projects that require a substantial amount of heavy-duty diesel vehicles and equipment, as well as projects that include stationary sources, such as a diesel backup generator, would result in emissions of diesel particulate matter (DPM) and possibly other TACs that may affect nearby sensitive receptors.

In determining whether a proposed project would expose sensitive receptors to substantial air pollutants in accordance with Appendix G of the State CEQA Guidelines, the San Francisco Planning Department considers a project to contribute considerably to cumulative health risks if the proposed project would result in the following at the maximally exposed individual sensitive receptor (MEI):

- A considerable contribution to cumulative excess cancer risk greater than 100 per 1 million persons exposed; or
- A considerable contribution to cumulative PM2.5 concentrations that exceed 10 μg/m3 (inclusive of ambient PM2.5 concentrations).

Areas within San Francisco that currently exceed these standards are termed "air pollution exposure zones." These criteria are further discussed below. In addition, if a project does not result in sensitive receptor locations meeting the Air Pollutant Exposure Zone criteria, the project would not result in a significant health risk impact and would not expose sensitive receptors to substantial pollutant concentrations. 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 PM2.5 concentrations above 0.3 $\mu g/m^3$ or result in an excess cancer risk greater than 10.0 per million would be considered a significant impact. The 0.3 $\mu g/m^3$ PM2.5 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.[12]

Excess Caner Risk: The 100 per 1 million persons exposed (100 excess cancer risk) criteria is based on the USEPA guidance for conducting air toxic analyses and making risk management decisions at the facility and community-scale level.[13] As described by BAAQMD, USEPA considers a cancer risk of

[12] BAAQMD, California Environmental Quality Act Guidelines Update, Proposed Air Quality CEQA Thresholds of Significance. May 3, 2010. Available online at http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Proposed_Thresholds_Report_%20May_3_2010_Final.ashx?la=en. Accessed February 20, 2014.

[13] Bay Area Air Quality Management District (BAAQMD). 2009. *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significanc*e. October. page 67.

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,[14] 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 existing cancer risk in the most pristine portions of the Bay Area based on BAAQMD regional modeling.[13]

Fine Particulate Matter: In April 2011, USEPA published the *Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards*, which included the Particulate Matter Policy Assessment. The purpose of the Particulate Matter Policy Assessment is to "bridge the gap" between the scientific information and the judgments required of the USEPA Administrator in determining whether it is appropriate to retain or revise the particulate matter standards. In the policy assessment document, USEPA concludes that the currently available information calls into question the adequacy of the federal standard of 15 μg/m^3 for PM2.5 and that consideration should be given to revising the standards to provide increased public health protection. USEPA staff further concludes that the current annual PM2.5 standard should be revised to a level within the range of 13 to 11 μg/m^3, with evidence strongly supporting a standard within the range of 12 to 11 μg/m^3.

On December 14, 2012, USEPA finalized the revised fine particulate matter standard under the federal CAA, reducing the NAAQS standard from 15 μg/m^3 to 12 μg/m^3.[15] This revised annual standard is equivalent to California's fine particulate matter standard of 12 μg/m^3.[16]

San Francisco has identified air pollution exposure zones based on whether a site exceeds a cancer risk of 100 per one million person exposed and/or whether PM2.5 concentrations exceed 10 μg/m^3. The PM2.5 standard is based on 11 μg/m^3, as supported by USEPA's Particulate Matter Policy Assessment, although lowered to 10 μg/m^3 in order to be even more health protective and to account for uncertainty in accurately predicting air pollution concentrations using air dispersion modeling programs.

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[14] 54 Federal Register 38044, September 14, 1989.

[15] USEPA. 2012. *Press Release: USEPA Announces Next Round of Clean Air Standards to Reduce Harmful Soot Pollution*, December 14. Available: <http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/a7446ca9e228622b85257ad400644d82!OpenDocument>. Accessed: March 3, 2014.

[16] ARB. 2009. *Ambient Air Quality Standards (AAQS) for Particulate Matter*. November 24. Available: <http://www.arb.ca.gov/research/aaqs/pm/pm.htm#3>. Accessed: February 27, 2013.

Although the Project site is not located within an identified air pollution exposure zone, given the long construction period (approximately 10 years or longer) and proposed increase in density, this analysis assesses the potential for the Proposed Project to result in a new air pollution exposure zones.

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.[17] 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.

With respect to localized health risks, the significance thresholds described above represent a cumulative impact analysis, as this analysis considers all potential sources that may result in adverse health impacts within a receptor's zone of influence. Similarly, new sources that contribute health risks to nearby sensitive receptors that exceed these cumulative thresholds would result in a significant health risk impact on existing sensitive receptors.

Consistency with Applicable Air Quality Plan

As discussed under 5.9.2, *Regulatory Context*, BAAQMD has published the CAP, representing the most current applicable air quality plan for the SFBAAB. 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. To determine consistency with the CAP, the analysis considers whether the project would (1) support the primary goals of the CAP, (2) include applicable control measures from the CAP, and (3) avoid disrupting or hindering implementation of control measures identified in the CAP.

Odor Impacts

According to the 2011 BAAQMD CEQA Guidelines, odor impacts could result from siting a new odor source near existing sensitive receptors or siting a new sensitive receptor near an existing odor source. Examples of land uses that the BAAQMD regards having the potential to generate

[17] Bay Area Air Quality Management District. 2010. *California Environmental Quality Act Air Quality Guidelines*. May. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Draft_BAAQMD_CEQA_Guidelines_May_2010_Final.ashx?la=en>. Accessed: March 3, 2014.

considerable odors include: wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, oil refineries, and chemical plants. The Project site would be located near a wastewater treatment plant that could result in odor impacts on new sensitive receptors at the site.

Table 3-3 in the BAAQMD's May 2011 CEQA Guidelines presents screening distances for land uses that typically generate odors. These screening distances are recommended by the air district to serve as a guideline to assess the odor impacts that would result from locating sensitive receptors near each land use type. The screening distance for wastewater treatment plants is 2 miles.[18] The screening distances are not intended to be used as thresholds for determining the significance of an impact; that is, if a project with sensitive receptors is located closer to an odor-emitting land use than the corresponding BAAQMD screening distance, there is not necessarily a significant odor impact. Additional analysis would be required to determine the odor impacts of/to the project. This additional analysis includes assessing the landscape and topography between the project and the odor source and analyzing the history of confirmed complaints filed for the existing odor source and the location of the complaints relative to the odor source. The BAAQMD considers a source to have a substantial number of odor complaints if the complaint history of the facility includes five or more confirmed complaints per year averaged over a 3-year period. The impacts of the treatment plant on sensitive receptors are discussed below, consistent with the BAAQMD CEQA Guidelines on odor impacts.

Impact Evaluation

Proposed Project

Impact AQ-1	**Conflict with Air Quality Plan** **CEQA: The Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. (Less than Significant)** **NEPA: The Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. (Less than Significant)**

The most recently adopted air quality plan for the SFBAAB is the CAP. The CAP is a road map that demonstrates how the San Francisco Bay Area will achieve compliance with the state ozone standards as expeditiously as is practicable and how the region will reduce the transport of ozone and ozone precursors to neighboring air basins. In determining consistency with the CAP, this analysis considers the degree to which the project would: (1) support the primary goals of the CAP,

[18] Bay Area Air Quality Management District. 2010. *California Environmental Quality Act Air Quality Guidelines*. May. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Draft_BAAQMD_CEQA_Guidelines_May_2010_Final.ashx?la=en>. Accessed: March 3, 2014.

(2) include applicable control measures from the CAP, and (3) avoid disrupting or hindering implementation of control measures identified in the CAP.

The primary goals of the CAP 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 GHG emissions. To meet the primary goals, the CAP 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 CAP 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 GHGs from motor vehicles is to channel future Bay Area growth into vibrant urban communities where goods and services are close at hand and people have a range of viable transportation options. To this end, the CAP includes 55 control measures aimed at reducing air pollution in the SFBAAB.

The measures most applicable to the proposed project are transportation control measures and energy and climate control measures. The proposed project would be consistent with energy and climate control measures because, as discussed in Section 5.10, *Greenhouse Gas Emissions*, the proposed project would comply with the applicable provisions of the City's Greenhouse Gas Reduction Strategy.

The compact development of the Proposed Project and high availability of viable transportation options ensure that residents could bicycle, walk, and ride transit to and from the Project site instead of taking trips via private automobile. The Proposed Project would add three new pedestrian connections, dedicated bicycle facilities, bicycle spaces provided in accordance with the *Planning Code*, and provide a total of 12 bus stops. The roadway network would be reconfigured as part of Project development and would comply with the San Francisco Better Streets Plan. The new roadway configuration would be developed to support all modes of circulation, which would create a more walkable neighborhood than the existing site. The Proposed Project would replace obsolete uses and result in a net increase of residential units, commercial space, a community center, and public open space.

The Project site is within a walkable urban area near a concentration of regional and local transit service. Local transit services near the Project site include the following Muni bus lines: 10 Townsend, 19 Polk, and 48th Quintara-24th Street, as well as the KT-Ingleside/Third Street light rail line. The bus lines travel on the roadways through and adjacent to the project area, and have service headways of approximately 10–30 minutes, depending on the time of day. The nearest station for the light rail line, the 23rd Street Station, is located approximately a half mile from the Project site, with service headways of 9–30 minutes, depending on the time of day. Regional transit includes service provided by Caltrain at the 22nd Street Station, located approximately one third of a mile east of the Project site, with 1–4 trains serving the station per hour depending on the time of day. Section

4.7, *Transportation and Circulation*, discusses regional transit in the Project area in more detail. Furthermore, the Proposed Project would be generally consistent with the General Plan, as discussed throughout this Draft EIR/EIS. Transportation control measures that are identified in the CAP are implemented by the General Plan and the *Planning Code*, for example, through the City's Transit First Policy, bicycle parking requirements, and transit impact development fees. Compliance with these requirements would ensure the Proposed Project includes relevant transportation control measures specified in the CAP. Therefore, the Proposed Project would include applicable control measures identified in the CAP to the meet the CAP's primary goals.

Examples of a project that could cause the disruption or delay of CAP control measures are projects that would preclude the extension of a transit line or bike path or projects that propose excessive parking beyond parking requirements. The Proposed Project would increase the number of bus stops at the site, provide pedestrian connections to adjacent neighborhoods, and provide parking as required, but not in exceedance of *Planning Code* requirements. The Proposed Project would not preclude the extension of a transit line or a bike path or any other transit improvement, and thus would avoid disrupting or hindering implementation of control measures identified in the CAP.

The Proposed Project would result in criteria pollutant emissions during construction that could temporarily worsen air quality to a significant level, but the full buildout condition of the Proposed Project, as discussed below for Impact AQ-3, would not exceed any thresholds. Furthermore, as discussed in Impact AQ-2, the Proposed Project would be required to implement all feasible control measures to reduce criteria air pollutants during construction.

The Proposed Project would result in increased density, housing in close proximity to jobs and retail establishments, reconfigured streets and a pedestrian realm that promotes alternative modes of transportation (walking and bicycling). The Proposed Project would also not hinder implementation of the CAP. Thus, the Proposed Project on the whole would not conflict with the most recent CAP.

Under CEQA, the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be ***less than significant***.

Under NEPA, the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be ***less than significant***.

Impact AQ-2	**Violate Air Quality Standard during Construction**
	CEQA: During construction, the Proposed Project would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. (Significant and Unavoidable)
	NEPA: During construction, the Proposed Project would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. (Significant and Unavoidable)

Criteria Air Pollutants

Construction of the Proposed Project would require the use of on-road and off-road construction vehicles that would generate criteria pollutant emissions that could worsen air quality. Operational emissions generated by stationary, area, and mobile sources would result from normal day-to-day activities within the Project area. Stationary source emissions would be generated from the operation of the proposed back up diesel generator. Area source emissions would be generated by the consumption of natural gas for space and water heating devices, and the operation of landscape maintenance equipment. Mobile emissions would be generated by the motor vehicles traveling to, within, and from the Project site.

Because construction of the Proposed Project would be phased over the course of approximately 10 years, construction activities would overlap with operational activity at the Project site. For instance, after Phase 1 of the project is completed, operational activity associated with Phase 1 would overlap with construction activity that would occur during Phase 2 of the Project. After the second phase of the Proposed Project is completed, operational activity from the first two phases would overlap with construction activity that would occur during Phase 3. After all three phases are completed, the buildout condition would be reached, which would result in long-term, operational emissions associated with the Proposed Project (See Impact AQ-3). It is anticipated that initial construction would begin in 2015 and that Phase 1 would last approximately 26 months, with streets closed for approximately 8 months, and Phases 2 and 3 would each last approximately 48 months, with streets closed for approximately 12 months during each phase.

Construction emissions were quantified using the OFFROAD 2011 program, which provides equipment emission factors, and the CalEEMod program, which estimates criteria pollutant emissions from land use development projects. CalEEMod estimates emissions based on the number of residential units, square footage of non-residential buildings, type of construction equipment, and the schedule and duration of construction activities. It was assumed that the following activities would occur during construction: abatement and demolition, site preparation and earthwork/grading, new infrastructure construction, and building construction. The primary sources of emissions present during these activities would be equipment and vehicle exhaust, off-gassing from architectural coating, and fugitive dust generated from ground disturbance.

For more detail on the methodology used to quantify construction criteria pollutant emissions, including a detailed list of construction equipment, refer to Appendix 4.9.

Emissions that would occur during the construction phase (and which include construction emissions from later phases and operational emissions from earlier phases) are presented in Tables 5.9-3a (daily emissions) and 5.9-3b (annual emissions) by year. The tables below only include emissions generated as a direct result of the Project; that is, emissions produced at the site from existing development and land uses are not included.

Table 5.9-3a Maximum Daily Criteria Air Pollutant Emissions during Construction

	ROG	*NO_x*	*PM10*	*PM2.5*	*CO*
Maximum Daily Emissions by Year (lbs/day)					
2015 (Total Emissions)	*5.13*	*68.79*	*2.87*	*2.58*	*34.18*
Construction	5.13	68.79	2.87	2.58	34.18
Operation	0	0	0	0	0
2016 (Total Emissions)	*6.86*	*86.03*	*3.94*	*3.55*	*47.00*
Construction	6.86	86.03	3.94	3.55	47.00
Operation	0	0	0	0	0
2017 (Total Emissions)	*14.87*	*128.91*	*5.14*	*4.58*	*96.68*
Construction	10.52	128.91	5.14	4.58	52.56
Operation	4.35	0	0	0	44.12
2018 (Total Emissions)	*16.49*	*100.4*	*4.19*	*3.81*	*90.80*
Construction	9.47	100.4	4.19	3.81	42.03
Operation	7.02	0	0	0	48.77
2019 (Total Emissions)[a]	*25.30*	*137.26*	*5.49*	*5.01*	*99.63*
Construction	4.76	62.2	2.56	2.3	
Operation	20.69	75.53	2.97	2.74	68.99
2020 (Total Emissions)	*27.37*	*124.41*	*5.58*	*4.71*	*94.26*
Construction	6.82	85.5	3.84	3.46	46.68
Operation	20.55	38.91	1.74	1.25	47.58
2021 (Total Emissions)	*35.41*	*142.34*	*6.88*	*5.42*	*131.07*
Construction	11.65	128.76	5.14	4.67	55.51
Operation	23.76	13.58	1.74	0.75	75.56
2022 (Total Emissions)	*37.04*	*129.49*	*6.52*	*5.12*	*143.31*
Construction	11.97	115.92	4.78	4.36	50.14
Operation	25.07	13.57	1.74	0.76	93.17
2023 (Total Emissions)[a]	*42.33*	*150.83*	*7.22*	*5.77*	*151.83*
Construction	2.99	38.39	1.62	1.46	19.91

Table 5.9-3a Maximum Daily Criteria Air Pollutant Emissions during Construction

	ROG	NO_X	PM10	PM2.5	CO
Maximum Daily Emissions by Year (lbs/day)					
Operation	39.34	112.44	5.6	4.31	131.92
2024 (Total Emissions)	*45.15*	*137.99*	*6.87*	*5.47*	*146.46*
Construction	5.96	65.49	2.56	2.31	27.16
Operation	39.19	72.5	4.31	3.16	119.3
2025 (Total Emissions)	*39.78*	*31.98*	*2.79*	*1.73*	*96.89*
Construction	0.60	6.15	0.26	0.24	2.67
Operation	39.18	25.83	2.53	1.49	94.22
Maximum Daily Emissions during Construction (all years)	45.15	150.83	7.22	5.77	151.83
Significance Threshold	54	54	82	54	NA
Threshold Exceeded?	No	Yes	No	No	NA
Years Threshold is Exceeded	NA	2015-2024	NA	NA	NA

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).

NA: Not applicable

Emissions in 2015 and 2016 only include construction-related emissions. During these years, there would be no completed phases of the project and no operational emissions.

Values in bold indicate that emissions would be in exceedance of the applicable threshold.

[a] Emissions in these years occur in more than one phase, but the phases do not overlap. The emissions shown in the table for these years are the highest daily emissions that occur in the year.

Table 5.9-3b Maximum Annual Criteria Air Pollutant Emissions during Construction

	ROG	NO_X	PM10	PM2.5	CO
Maximum Annual Emissions (tons/year)					
2015 *(Total Emissions)*	0.72	9.63	0.40	0.36	4.79
Construction	0.72	9.63	0.4	0.36	2.95
Operation	0	0	0	0	1.84
2016 *(Total Emissions)*	*0.96*	*12.04*	*0.55*	*0.50*	*6.58*
Construction	0.96	12.04	0.55	0.5	4.09
Operation	0	0	0	0	2.49
2017 *(Total Emissions)*	*2.42*	*18.05*	*0.72*	*0.64*	*15.08*
Construction	1.47	18.05	0.72	0.64	3.9
Operation	0.95	0	0	0	11.18
2018 *(Total Emissions)*[a]	*2.65*	*14.06*	*0.60*	*0.55*	*14.26*
Construction	1.33	14.06	0.59	0.53	3.24
Operation	1.32	0	0.01	0.02	11.02
2019 *(Total Emissions)*	*4.26*	*19.51*	*0.78*	*0.71*	*15.49*

Table 5.9-3b Maximum Annual Criteria Air Pollutant Emissions during Construction

	ROG	NO_x	PM10	PM2.5	CO
Maximum Annual Emissions (tons/year)					
Construction	1.63	18.03	0.72	0.65	4.31
Operation	2.63	1.48	0.06	0.06	11.18
2020 *(Total Emissions)*	*4.55*	*17.72*	*0.84*	*0.67*	*14.74*
Construction	1.68	16.23	0.67	0.61	4.08
Operation	2.87	1.49	0.17	0.06	10.66
2021 *(Total Emissions)*	*8.49*	*22.55*	*1.16*	*0.91*	*24.63*
Construction	1.63	18.03	0.72	0.65	4.31
Operation	6.86	4.52	0.44	0.26	20.32
2022 *(Total Emissions)*	*8.53*	*20.75*	*1.11*	*0.87*	*23.87*
Construction	1.68	16.23	0.67	0.61	4.08
Operation	6.85	4.52	0.44	0.26	19.79
2023 *(Total Emissions)*	*7.30*	*21.89*	*1.08*	*0.85*	*24.63*
Construction	1.63	18.05	0.72	0.65	4.31
Operation	5.67	3.84	0.36	0.2	20.32
2024 *(Total Emissions)*	*7.69*	*20.09*	*1.03*	*0.80*	*23.87*
Construction	1.68	16.23	0.67	0.61	4.08
Operation	6.01	3.86	0.36	0.19	19.79
2025 *(Total Emissions)*	*6.94*	*5.38*	*0.48*	*0.29*	*17.23*
Construction	0.08	0.86	0.04	0.03	0.21
Operation	6.86	4.52	0.44	0.26	17.02
Maximum Annual Emissions during Construction	8.53	22.55	1.16	0.91	24.63
Significance Threshold	10	10	15	10	NA
Threshold Exceeded?	No	Yes	No	No	NA
Years Threshold is Exceeded	NA	2016–2024	NA	NA	NA
de minimis Threshold (tons/year)	100	100	NA	100	100
de minimis Threshold Exceeded?	No	No	NA	No	No

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).

NA: Not applicable

Emissions in 2015 and 2016 only include construction-related emissions. During these years, there would be no completed phases of the project and no operational emissions.

Values in bold indicate that emissions would be in exceedance of the applicable threshold.

Emissions shown in Tables 5.9-3a and 5.9-3b represent an actual scenario in which construction activity from a later phase would overlap with the operational activity from an earlier phase. As shown in Tables 5.9-3a and 5.9-3b, NOx emissions in 2015–2024 and 2016–2024 would exceed the daily and annual thresholds, respectively. Emissions of ROG, PM2.5, and PM10 are below the

respective daily and annual thresholds for all years. The elevated NOx emissions are primarily due to vehicle exhaust from the off-road and on-road equipment required for project construction. Construction activities are responsible for more than 65 percent of total daily NO_x emissions in 7 of the 10 years of construction. Because emissions would exceed the BAAQMD NOx thresholds for multiple years, this would be a significant impact. Implementing Mitigation Measures M-AQ-2a and M-AQ-2b would reduce emissions associated with vehicle exhaust during construction.

> **Mitigation Measure M-AQ-2a – Utilize Efficient Construction Equipment at the Start of Construction.** For construction activities occurring in year 2015, all off-road construction equipment greater than 50 horsepower (hp) shall have engines that meet or exceed USEPA or ARB Tier 3 off-road emission standards, or the project applicant must prepare a construction emissions minimization plan designed to reduce NOx by a minimum of 39 percent from Tier 2 equivalent engines.
>
> **Mitigation Measure M-AQ-2b – Utilize More Efficient Construction Equipment after 2016.** For all construction occurring after 2016, all off-road construction equipment greater than 50 hp shall have engines that meet or exceed USEPA or ARB Tier 4 interim off-road emission standards, or the project applicant must prepare a construction emissions minimization plan designed to reduce NOx by a minimum of 21 percent from Tier 3 equivalent engines.

A quantitative analysis was conducted to determine criteria air pollutant emissions throughout construction with incorporation of Mitigation Measures M-AQ-2a and M-AQ-2b, described above. Implementing the above mitigation measures would result in reduced criteria air pollutant emissions during construction as shown in Tables 5.9-4a (maximum daily emissions) and 5.9-4b (maximum annual emissions).

Table 5.9-4a Mitigated Maximum Daily Criteria Air Pollutant Emissions during Construction

	ROG	*NO_x*	*PM10*	*PM2.5*	*CO*
Maximum Daily Emissions by Year (lbs/day)					
2015 (Total Emissions)	*5.13*	*42.18*	*0.43*	*0.39*	*21.07*
Construction	5.13	42.18	0.43	0.39	21.07
Operation	0	0	0	0	0
2016 (Total Emissions)	6.86	53.01	0.65	0.59	29.2
Construction	6.86	53.01	0.65	0.59	29.2
Operation	0	0	0	0	0
2017 (Total Emissions)	*14.73*	*64.63*	*0.99*	*0.85*	*71.95*
Construction	10.27	64.63	0.99	0.85	27.84
Operation	4.46	0	0	0	44.11
2018 (Total Emissions)	16.3	50.37	0.89	0.84	*67.28*
Construction	9.27	50.23	0.64	0.59	22.1
Operation	7.03	0.14	0.25	0.25	45.18

Table 5.9-4a Mitigated Maximum Daily Criteria Air Pollutant Emissions during Construction

	ROG	NO_x	PM10	PM2.5	CO
2019 (Total Emissions)[a]	*25.17*	*74.59*	*1.4*	*1.33*	*74.91*
Construction	4.48	30.34	0.36	0.32	15.36
Operation	20.69	44.25	1.04	1.01	59.55
2020 (Total Emissions)	*27.17*	*69.32*	*1.52*	*1.46*	*73.24*
Construction	6.63	41.87	0.55	0.49	23.16
Operation	20.54	27.45	0.97	0.97	50.08
2021 (Total Emissions)	*35.27*	*79.67*	*1.87*	*1.74*	*113.51*
Construction	11.41	66.09	1.05	0.99	30.79
Operation	23.86	13.58	0.82	0.75	82.72
2022 (Total Emissions)	*36.84*	*74.39*	*1.99*	*1.87*	*119.67*
Construction	11.74	60.82	1.17	1.11	29.12
Operation	25.1	13.57	0.82	0.76	90.55
2023 (Total Emissions)[a]	*42.24*	*88.16*	*2.22*	*2.09*	*127.11*
Construction	2.9	18.95	0.23	0.21	10.04
Operation	39.34	69.21	1.99	1.88	117.07
2024 (Total Emissions)	*45.02*	*82.89*	*2.33*	*2.22*	*125.44*
Construction	5.83	33.63	0.49	0.45	15.16
Operation	39.19	49.26	1.84	1.77	110.28
2025 (Total Emissions)	*39.77*	*28.98*	*1.65*	*1.53*	*96.74*
Construction	0.58	3.14	0.05	0.04	1.47
Operation	39.19	25.84	1.6	1.49	95.27
Maximum Daily Emissions during Construction (all years)	45.02	**88.16**	2.33	2.22	127.11
Significance Threshold	54	54	82	54	NA
Threshold Exceeded?	No	Yes	No	No	NA
Years Threshold is Exceeded	NA	2017, 2019-2024	NA	NA	NA

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).

NA: Not applicable

Emissions in 2015 and 2016 only include construction-related emissions. During these years, there would be no completed phases of the project and no operational emissions.

Values in bold indicate that emissions would be in exceedance of the applicable threshold.

[a] Emissions in these years occur in more than one phase, but the phases do not overlap. The emissions shown in the table for these years are the highest daily emissions that occur in the year.

Table 5.9-4b Mitigated Maximum Annual Criteria Air Pollutant Emissions during Construction

	ROG	*NO_X*	*PM10*	*PM2.5*	*CO*
Maximum Annual Emissions by Year (tons/year)					
2015 *(Total Emissions)*	0.72	5.91	0.06	0.05	2.95
Construction	0.72	5.91	0.06	0.05	2.95
Operation	0	0	0	0	0
2016 *(Total Emissions)*	0.96	7.42	0.09	0.08	4.09
Construction	0.96	7.42	0.09	0.08	4.09
Operation	0	0	0	0	0
2017 *(Total Emissions)*	2.4	9.05	0.14	0.12	11.62
Construction	1.39	9.05	0.14	0.12	3.9
Operation	1.01	0	0	0	7.72
2018 *(Total Emissions)*	2.62	7.35	0.14	0.13	10.96
Construction	1.24	7.03	0.09	0.08	3.24
Operation	1.38	0.32	0.05	0.05	7.72
2019 *(Total Emissions)*	4.24	10.74	0.21	0.2	12.03
Construction	1.55	9.25	0.15	0.14	4.31
Operation	2.69	1.49	0.06	0.06	7.72
2020 *(Total Emissions)*	4.52	10.00	0.22	0.22	11.8
Construction	1.6	8.51	0.16	0.16	4.08
Operation	2.92	1.49	0.06	0.06	7.72
2021 *(Total Emissions)*	8.45	13.77	0.43	0.4	21.17
Construction	1.55	9.25	0.15	0.14	4.31
Operation	6.9	4.52	0.28	0.26	16.86
2022 *(Total Emissions)*	8.5	13.04	0.44	0.42	20.93
Construction	1.6	8.51	0.16	0.16	4.08
Operation	6.9	4.53	0.28	0.26	16.85
2023 *(Total Emissions)*	7.29	13.12	0.35	0.33	21.17
Construction	1.55	9.25	0.15	0.14	4.31
Operation	5.74	3.87	0.2	0.19	16.86
2024 *(Total Emissions)*	7.67	12.38	0.37	0.35	20.93
Construction	1.6	8.51	0.16	0.16	4.08
Operation	6.07	3.87	0.21	0.19	16.85
2025 *(Total Emissions)*	6.94	4.96	0.29	0.27	17.06
Construction	0.08	0.35	0.01	0.01	0.21
Operation	6.86	4.61	0.28	0.26	16.85
Maximum Annual Emissions during Construction	8.50	13.77	0.44	0.42	21.17

Table 5.9-4b Mitigated Maximum Annual Criteria Air Pollutant Emissions during Construction

	ROG	NO_X	PM10	PM2.5	CO
Maximum Annual Emissions by Year (tons/year)					
Significance Threshold	10	10	15	10	NA
Threshold Exceeded?	No	Yes	No	No	NA
Years Threshold is Exceeded	NA	2019, 2021-2024	NA	NA	NA
de minimis Threshold (tons/year)	100	100	NA	100	100
de minimis Threshold Exceeded?	No	No	NA	No	No

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).

N/A: Not applicable

Emissions in 2015 and 2016 only include construction-related emissions. During these years, there would be no completed phases of the project and no operational emissions.

Values in bold indicate that emissions would be in exceedance of the applicable threshold.

As shown in Tables 5.9-4a and 5.9-4b, even with the implementation of mitigation measures designed to reduce exhaust emissions from construction vehicles, emissions would continue to exceed the daily and annual NOx thresholds throughout the construction phase of the Proposed Project. Although the mitigation measures would reduce daily emissions in 2016 and 2018 to a less-than-significant level, NOx emissions would exceed the daily thresholds in 2017 and 2019–2024. ROG, PM10 and PM2.5 emissions would continue to be below the applicable thresholds for all years, however.

The May 27, 2014 Fifth Appellate District court decision *Sierra Club et al. v. County of Fresno County et al*. concludes that EIR should disclose and evaluate the public health consequences associated with increasing air pollutants. As discussed in Section 4.9, *Air Quality*, all criteria pollutants generated by the Project are associated with some form of health risk (e.g., asthma, asphyxiation). Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individual [e.g., age, gender]). In particular, ozone precursors (ROG and NOx) affect air quality on a regional scale. Health effects related to ozone are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations, and as such, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, minor increases in regional air

pollution from project-generated ROG and NO_x would have nominal or negligible impacts on human health.[19]

No additional feasible mitigation measures have been identified to further reduce NOx emissions. Therefore, during the construction phase, the Proposed Project would contribute substantially to an existing air quality violation and result in a cumulatively considerable net increase in criteria air pollutants.

During construction, the Proposed Project would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. Under CEQA, this is considered a ***significant and unavoidable*** impact.

During construction, the Proposed Project would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. Under NEPA, this is considered a ***significant and unavoidable*** impact.

Construction Fugitive Dust Emissions

During each construction phase, construction activities would have the potential to result in criteria pollutant emissions, including fugitive dust, ozone precursors, and diesel particulate matter. In compliance with the Construction Dust Control Ordinance, the project applicant and the contractor responsible for construction activities at the project site would be required to comply with the following practices to control construction dust on the site or other practices that result in equivalent dust control that are acceptable to the Director of DBI. 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*. If not required, reclaimed water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating run-off in any area of land clearing, and/or earth movement). During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths, and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than 7 days) greater than 10 cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10 millimeter (0.01 inch) polyethylene plastic (or equivalent) tarp, braced down, or contained using other equivalent soil stabilization techniques.

[19] As an example, the Bay Area Air Quality Management District's (BAAQMD) Multi-Pollutant Evaluation Method (MPEM) requires a 3 to 5 percent increase in regional ozone precursors to produce a material change in modeled human health impacts. Based on 2008 ROG and NO_x emissions in the Bay Area, a 3 to 5 percent increases equates to over 20,000 pounds per day or ROG and NO_x.

For projects more than 0.5 acre, such as the Proposed Project, the Dust Control Ordinance requires that the project applicant submit a Dust Control Plan for approval by DBI. 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 would require the project applicant to:

- submit of 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 hauling trucks to the size of the truck bed and secure soil with a tarpaulin;
- enforce a 15 mph 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; and apply soil stabilizers to inactive areas; and
- sweep off adjacent streets to reduce particulate emissions.

The project applicant would be required to designate an individual to monitor compliance with these dust control requirements.

Under CEQA, compliance with the regulations and procedures set forth by the San Francisco Dust Control Ordinance would ensure that potential dust-related air quality impacts would be reduced to a ***less than significant*** level.

Under NEPA, compliance with the regulations and procedures set forth by the San Francisco Dust Control Ordinance would ensure that potential dust-related air quality impacts would be reduced to a ***less than significant*** level.

Impact AQ-3	**Violate Air Quality Standard during Operation** **CEQA: At buildout, the Proposed Project would not violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)** **NEPA: At buildout, the Proposed Project would not violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)**

Net Operational Criteria Pollutant Emissions

After construction is completed and the Proposed Project is fully operational, criteria pollutant emissions would be emitted as a result of natural gas combustion for heating, landscape and maintenance equipment operations, and increased motor vehicle emissions. Although the project applicant would be required to comply with the *San Francisco Health Code* Regulation of Diesel Backup Generators, which would ensure that emissions from the generator is reduced, operation of the generator would also result in criteria pollutant emissions.

Similar to the construction discussion, operational emissions were quantified using the CalEEMod program, which also estimates emissions associated with the operational periods of land use developments. The Project parameters (number of residential units, commercial square footage, etc.) were input into the program to estimate the emissions associated with energy consumption in buildings at the site and vehicle trips associated with Project facilities. Emissions resulting from operation of the generator were calculated separately based on an assumed Tier 2 rated diesel engine with a horsepower of 1,100 that would operate for 50 hours per year. For more detail on the methodology used to quantify operational criteria pollutant emissions refer to Appendix 4.9.

Existing emissions, operational emissions by phase, and net operational emissions are presented in Table 5.9-5 and represent the build-out condition—that is, the net emissions associated with operation of the Proposed Project upon completion of construction activities.

Table 5.9-5 Net Criteria Air Pollutant Emissions at Project Buildout

	ROG	NO_X	PM10	PM2.5	CO
Average Daily Operational Emissions by Year(lbs/day)					
Existing	32.69	32.46	0.86	0.86	161.66
Phase 1	13.89	12.69	0.46	0.46	64.97
Phase 2	38.97	30.63	1.31	1.26	150.91
Generator	N/A	1.82	0.01	0.01	1.82
Phase 3	28.69	21.66	1.95	0.97	102.00
Net Operational Build Out (Sum of Phases 1,2,3 & Generator minus Existing)	48.86	32.92	2.75	1.76	158.05
Significance Threshold	54	54	82	54	NA
Threshold Exceeded?	No	No	No	No	NA
Maximum Annual Operational Emissions by Year(tons/year)					
Existing	5.72	5.68	0.15	0.15	28.29
Phase 1	2.43	2.22	0.08	0.08	11.37
Phase 2	6.82	5.36	0.23	0.22	26.41
Generator	N/A	0.32	0.001	0.001	0.32
Phase 3	5.02	3.79	0.34	0.17	17.85
Net Operational Build Out (Sum of Phases 1,2,3 & Generator minus Existing)	8.55	6.01	0.50	0.32	27.66
Significance Threshold	10	10	15	10	NA
Threshold Exceeded?	No	No	No	No	NA
de minimis Threshold (tons/year)	100	100	NA	100	100
de minimis Threshold Exceeded?	No	No	NA	No	No

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).
NA = Not applicable

As shown in Table 5.9-5, post-construction operational activity would not generate emissions that exceed the thresholds for any criteria air pollutants or ozone precursors.

Upon buildout, the Proposed Project would not violate an air quality standard or contribute substantially to an existing air quality violation. Under CEQA, this is considered a ***less-than-significant*** impact.

Upon buildout, the Proposed Project would not violate an air quality standard or contribute substantially to an existing air quality violation. Under NEPA, this is considered a ***less-than-significant*** impact.

Net Operational Carbon Monoxide Hotspot

As discussed above, a project could result in a CO hot spot if it increases traffic volumes at affected intersections to more than 44,000 vehicles per hour. As discussed in the Transportation Study (Appendix 4.7), the maximum traffic volumes that would occur would be 1,748 vehicles per hour at the Cesar Chavez Street and US 101 off-ramp in the 2030 Cumulative PM peak hour scenario. This volume is less than 4 percent of the BAAQMD screening volume of 44,000 vehicles per hour; and therefore, would not result in a CO hot spot.

The Proposed Project would not create a CO hot spot at studied intersections. Impacts related to CO hot spots are considered ***less than significant*** under CEQA.

The Proposed Project would not create a CO hot spot at studied intersections. Impacts related to CO hot spots are considered ***less than significant*** under NEPA.

Impact AQ-4	**Expose Sensitive Receptors to Substantial Pollutant Concentrations** **CEQA: The Proposed Project would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)** **NEPA: The Proposed Project would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)**

Existing Local Air Quality

The City, in conjunction with the BAAQMD, has modeled the excess cancer risk and ambient PM2.5 concentrations throughout the City. Sources contributing to the existing cancer risk and PM2.5 concentrations in the vicinity of the Project site include major roadways and stationary sources. Major roadways include the US 101 and I-280 freeways located approximately 1,200 feet west and 500 feet east of the Project site, respectively. Also vehicles travelling along local roadways including Cesar Chavez Street, Potrero Avenue, and Pennsylvania Avenue currently contribute to health risks within the area.

Stationary sources are those permitted by BAAQMD. Stationary sources include known generators and gasoline stations, as well as other manufacturing/ industrial sites that emit TACs. The closest permitted stationary sources include Yellow Cab, Inc., located at 1200 Mississippi Street (140 feet southeast of the Project site); Dynamic Automotive, located at 1850 Cesar Chavez Street (approximately 380 feet south of the Project site); Hong Kong Printing, located at 755 Pennsylvania Avenue (approximately 500 feet east of the Project site); and Trayer Engineering Corp., located at 898 Pennsylvania Avenue (adjacent and east of the Project site).

Table 5.9-6 shows the range of existing cancer risk and PM2.5 concentrations in the Project area for existing sensitive receptors including residential receptors, the on-site preschool and daycare facility, and off-site residential and off-site school receptors within 1,000 feet of the project

boundaries. The closer a receptor is to an emissions source, the greater the anticipated excess risk or PM2.5 concentration.

Table 5.9-6 Existing Cancer Risk and PM2.5 Concentrations

	Cancer Risk (per million)		*$PM_{2.5}$ ($\mu g/m^3$)*	
	Minimum	*Maximum*	*Minimum*	*Maximum*
On-site residential receptors	10	34	8.2	8.7
On-site daycare/preschool receptors	17	24	8.3	8.4
Off-site residential receptors	8	74	8.2	10.0
Off-site school receptors	10	53	8.3	8.5

SOURCE: Atkins 2013.

Sensitive receptors in the Project area include school children attending the Starr King Elementary School, located approximately 60 feet west of the Project site directly across Wisconsin Street, and residential land uses, which surround the Project site to the west (west of Wisconsin Street); to the north (north of 23rd Street); and to the north along both the east and west sides of Missouri Street.

As discussed above and shown in Table 5.9-6, the Project site is not located within an air pollution exposure zone (areas where the existing excess cancer risk exceeds 100 per million persons exposed or the annual average PM2.5 concentration exceeds 10 $\mu g/m^3$). While the excess cancer risk standard is used to determine the risk of contracting cancer over a lifetime exposure of carcinogenic pollutant concentrations, the PM2.5 standard is used to determine the impact of the annual average concentrations of pollutants, which can vary depending on the phase of a project. Construction activity often results in elevated pollutant concentrations relative to operational activity, as construction periods typically have a concentrated amount of pollutant-generating equipment. Considering that the construction period spans 10 years or longer, this analysis assesses the potential for the Proposed Project to result in areas that exceed the health protective standards discussed above during construction and at full buildout. For PM2.5 concentrations, the results below include maximum cumulative PM2.5 concentrations during construction and at full build out.

Project Sources

Construction Sources

Off-road equipment (which includes construction-related equipment) is a large contributor to DPM emissions in California. Although since 2007, ARB has found the emissions to be substantially lower than previously expected.[20] Newer and more refined emission inventories have substantially lowered the estimates of DPM emissions from off-road equipment such that off-road equipment is

[20] ARB. 2010. *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements*, p.1 and p. 13 (Figure 4), October.

now considered the sixth largest source of DPM emissions in California.[21] For example, revised PM emission estimates for the year 2010, which DPM is a major component of total PM, have decreased by 83 percent from previous 2010 emissions estimates for the SFBAAB.[22] Approximately half of the reduction in emissions can be attributed to the economic recession and half to updated methodologies used to better assess construction emissions.[21]

Additionally, a number of federal and state regulations are requiring cleaner off-road equipment. Specifically, both USEPA and the State of California have set emissions standards for new off-road equipment engines, ranging from Tier 1 to Tier 4. Tier 1 emission standards were phased in between 1996 and 2000, and Tier 4 Interim and Final emission standards for all new engines are being phased in between 2008 and 2015. To meet the Tier 4 emission standards, engine manufacturers will be required to produce new engines with advanced emission-control technologies. Although the full benefits of these regulations will not be realized for several years, USEPA estimates that by implementing the federal Tier 4 standards, NOx and PM emissions will be reduced by more than 90 percent.[23] Furthermore, California regulations limit maximum idling times to 5 minutes, which further reduces public exposure to NOx and PM emissions.[24]

Nevertheless, construction of the Proposed Project would require off-road construction equipment that would generate substantial DPM concentrations during the approximately 10 years or longer construction period.

The sources of emissions that would occur during the construction period include the use of heavy-duty, on-road and off-road equipment. Construction would occur in three non-overlapping phases from 2015 to 2025. The phases (Phase 1, Phase 2, and Phase 3) each consist of a separate area of the Project site that would first be cleared of existing development then developed with new land uses. The timing of the construction phases has not been finalized, so three disparate scenarios were developed to assess the worst-scenario of possible construction phasing, which would be construction of Phase 3, followed by Phase 2, and ending with Phase 1. For further discussion of the scenarios analyzed in this analysis, refer to Appendix 4.9.

Operational Sources

The sources of emissions that would occur during the operational phase of the Project include emissions from mobile sources (passenger vehicles and delivery vehicles), and one stationary source

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[21] ARB. 2010. *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements,* October.

[22] ARB. *In-Use Off-Road Equipment, 2011 Inventory Model*. Available: <http://www.arb.ca.gov/msei/categories.htm#inuse_or_category>. Accessed: March 3, 2014.

[23] USEPA, "Clean Air Nonroad Diesel Rule: Fact Sheet," May 2004. Available:<http://www.epa.gov/otaq/documents/nonroad-diesel/420f04032.pdf>. Accessed: March 3, 2014.

[24] California Code of Regulations, Title 13, Division 3, Section 2485.

(diesel generator). Diesel generators, if larger than 50 horsepower, must obtain a permit from the BAAQMD and comply with the ATCM for Stationary Compression Ignition Engines, as discussed in Section 5.9.1, Regulatory Framework.

Health Risk Assessment

Methodology

Health risks are analyzed by first estimating project-related particulate matter emissions from construction and operational sources. Next, the dispersion of emissions is modeled using the U.S. Environmental Protection Agency's AERMOD model. Finally, cancer risk on surrounding sensitive receptors is calculated. The methodology for each of these steps is described below.

To estimate pollutant emissions, the BAAQMD's most recent protocol was utilized along with consultation with the City of San Francisco Environmental Planning department.[25] The BAAQMD protocol involves evaluating DPM concentrations by using PM2.5 emissions as a surrogate. Gasoline exhaust pollutant emissions were determined using a speciation profile from the BAAQMD protocol that identifies the composition of TACs in gasoline exhaust. Emission rates for Project emissions sources were determined using the 2011 OFFROAD model for off-road construction equipment, CalEEMOD for on-road haul trucks, EMFAC2011 for on-road passenger vehicles, and USEPA data on Tier 2 diesel engines for the proposed generator. In addition, the locations of the emissions sources are necessary to accurately model the dispersion of emissions. The AERMOD model was then utilized in conjunction with the quantified pollutant emissions to estimate pollutant concentrations from the Project's construction and operational sources. Off-road construction equipment emissions, haul truck emissions, roadway emissions, and generator emissions were modeled using specific plume heights, widths, and release heights for each emission source. Air pollutant concentrations were modeled using the same 20 meter by 20 meter receptor grid used to determine air pollutant exposure zones, but confined to the project site and within radius of over 1,000 feet around the Project site. Pollutant concentrations for on-site receptors were evaluated using a virtual 10 meter by 10 meter grid, covering the area of the project site, where people would be living during construction. Modeled PM2.5 concentrations at sensitive receptor points were obtained from this step. Inputs to the model, including meteorological, terrain, and population data, were obtained from available data sets from the BAAQMD and City of San Francisco census. The specific modeling parameters are detailed in Appendix 4.9.

Cancer risk for residential receptors is the sum of the probability of contracting cancer as a result of exposure to the construction emissions for construction period (over 10 years) and the operational emissions for the remaining 60 years of a person's lifetime. To evaluate cancer risk for sensitive receptors at the Project site, pollutant concentrations from AERMOD were input into cancer risk

[25] BAAQMD. 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May.

equations that take into the account, the dose and the cancer potency of the TAC. The dose is quantified based on the concentration of the pollutant, the daily breathing rate of receptors, the inhalation absorption factor, the exposure duration and frequency, averaging time and finally the age sensitivity factor. The cancer risk equation and Project-specific values can be found in Appendix 4.9.

Sensitive receptors surrounding the Project site (discussed above) would need to be relocated during the construction period, as existing residents would be relocated during demolition of existing structures. It was assumed that residents living in an area where active construction activity is occurring would be relocated to the non-active areas of the Project site. After construction is completed, it was assumed that the residents would remain stationary for the remainder of the 70-year risk-analysis period. In addition, the existing daycare facility could be relocated to another location onsite, depending on the sequence of construction phases. Because the locations of sensitive receptors will be dynamic during construction, the exposure to air pollutants and subsequent health risk to receptors would vary. It is unlikely that residents would be exposed to the maximum pollutant concentrations during the first phase of construction, and then be relocated to another location where they would also experience the maximum amount of pollutant concentrations during subsequent construction phases. Therefore, a range of excess cancer risks for onsite receptors were identified based on exposure to the mean pollutant concentrations for each phase and the mean plus one standard deviation. This approach approximates a more likely exposure to pollutant concentrations that onsite receptors would be exposed to and is reasonably conservative, without substantially overstating the potential health risk. For off-site receptors, a maximum, worst-case scenario of health risks was modeled and reported because off-site receptors would not be relocated as a result of the proposed project or the Project alternatives.

Once the cancer risk estimates were developed, the potential for the Project to result in new air pollution exposure zones was assessed. Risks associated with the existing sources of air pollution were added to the risks associated with the Project's sources and were compared to the total risk to standards discussed above in *Approach to Analysis*.

Results

The below discussion and Tables 5.9-7 and 5.9-8 present the excess cancer risk and PM2.5 concentration at on-site and off-site sensitive receptor locations where the Project in combination with existing sources of air pollution would have the greatest impact.

Excess Cancer Risk

The results of the cancer risk analysis are presented in Table 5.9-7 for Project sources and existing sources, and for on-site and off-site receptors.

Table 5.9-7 Proposed Project Cumulative Risk

Scenario	Receptor Location			Receptor Type	Source	Maximum Cancer Risk (per million)	Mean Cancer Risk (per million)	Mean +1 SD Cancer Risk (per million)
	#	UTM E	UTM N					
On-Site Receptors								
Resident	Various on Site			Resident	Construction	N/A	103	169
					Roadway	N/A	< 1	< 1
					Generator	N/A	< 1	< 1
					Project Total	*N/A*	*103*	*169*
					Existing	N/A	34	34
					Total	***N/A***	***136***	***202***
Daycare	Various on Site			Daycare Child	Construction	N/A	125	141
					Roadway	N/A	< 1	< 1
					Generator	N/A	< 1	< 1
					Project Total	*N/A*	*126*	*142*
					Existing	N/A	25	25
					Total	***N/A***	***152***	***168***
Off-Site Receptors								
Resident	2455	553020	4178620	Resident	Construction	113	N/A	N/A
					Roadway	< 1		
					Generator	< 1		
					Project Total	*113*		
					Existing	13		
					Total	***127***		
School	2109	552980	4178540	School Child	Construction	72	N/A	N/A
					Roadway	< 1		
					Generator	< 1		
					Project Total	*72*		
					Existing	16		
					Total	***88***		

SOURCE: Atkins 2013
Values may not add due to rounding.
N/A = Means the risk determination is not appropriate to that receptor.

As shown in Table 5.9-7, the range of cancer risk for both a resident and a child at daycare at the project site would be above 100 per one million, even at the lower end of the range. Similarly, a resident in the vicinity of the Project site, but not within the Project site, would also be exposed to pollutant concentrations resulting in a cancer risk above 100 per million. A school child in the vicinity of the Project site would have a cancer risk of below 100 per million. Thus, all receptors

except an off-site school child would be exposed to a cancer risk that is above the 100 per one million persons exposed standard. The Proposed Project would result in a significant health risk impact.

Fine Particulate Matter Concentrations

Unlike the cancer risk standard, the PM2.5 standard is an annual average concentration and varies depending on the level of activity. PM2.5 concentrations were quantified for this analysis for construction activities and added to ambient concentrations, as shown in Table 5.9-8.

Table 5.9-8 Cumulative PM2.5 Concentrations

Scenario	*Receptor Location*			*Receptor Type*	*Source*	*Maximum $PM_{2.5}$ Concentration ($\mu g/m^3$)*
	#	*UTM E*	*UTM N*			
On-site Receptors						
Resident	Various on Site			Resident	Project Construction	2.71
					Ambient	8.67
					Total	*11.38*
Daycare	Various on Site			Daycare Child	Project Construction	0.87
					Ambient	8.54
					Total	*9.42*
Off-site Receptors						
Resident	1679	552980	4178440	Resident	Project Construction	1.01
					Ambient	8.43
					Total	*9.44*
School	2109	552980	4178540	School Child	Project Construction	0.77
					Ambient	8.34
					Total	*9.11*

SOURCE: Atkins (2013).

Note: Some operational emissions may occur during construction, but upon full build out of the project, PM2.5 concentrations would be less than 0.1 ug/m^3; therefore, adding these operational emissions would not substantially affect the results in this table.

As shown in Table 5.9-8, PM2.5 concentrations for a resident living at the Project site would be above 10 μg/m^3. All other receptors, including a child at daycare at the Project site, and a resident and a school child in the Project vicinity, would not be exposed to PM2.5 concentrations that exceed 10 μg/m^3. However, because the concentrations for a resident would exceed the standards, the impact of PM2.5 concentrations would be significant.

However, upon completion of Project construction activities, the Project would result in PM2.5 concentrations less than 0.01 μg/m^3, and the maximally exposed receptor points would all be below the 10 μg/m^3 standard with implementation of the mitigation measures discussed below, as shown in Table 5.9-9. Therefore, at Project buildout, PM2.5 concentrations would be ***less than significant***.

Table 5.9-9 Mitigated Cumulative $PM_{2.5}$ Concentrations At Buildout

Scenario	Receptor Location			Receptor Type	Source	Maximum $PM_{2.5}$ Concentration ($\mu g/m^3$)
	#	UTM E	UTM N			
On-Site Receptors						
Resident	Various on Site			Resident	Project	<0.01
					Ambient	8.69
					Total	*8.69*
Daycare	Various on Site			Daycare Child	Project	<0.01
					Ambient	8.54
					Total	*8.54*
Off-Site Receptors						
Resident	~~2280~~ 2306	553480	4178580	Resident	Project	<0.01
					Ambient	8.64
					Total	*8.65*
School	~~5668~~ 5733	553240	4179380	School Child	Project	<0.01
					Ambient	8.35
					Total	*8.35*

SOURCE: Atkins (2013).
Values may not add due to rounding.

Uncertainties in the modeling of health risks do exist, but, because of a series of conservative assumptions, it is likely the analysis presented above is representative of a conservative, "worst-case" scenario. Consistent with the Office of Environmental Health Hazard Assessment (OEHHA) methodology, it was assumed that residential receptors would be exposed to pollutant concentrations for 24 hours each day for 70 years. This assumption may overstate the health risks to receptors; thus, the actual cancer risks are likely may be lower than the results presented above. Appendix 4.9 includes a full discussion of the conservative assumptions used in the analysis.

Mitigation Measures

Because the Project would result in a significant excess cancer risk to on-site and off-site receptors, and exposure to significant PM2.5 concentrations for on-site receptors, mitigation is necessary to reduce the impacts on sensitive receptors. The significant impacts largely result from the construction period and the associated PM2.5 emissions from off-road equipment. Implementing M-AQ-4 would reduce the PM2.5 exhaust emissions, which would reduce the health risks associated with elevated PM2.5 concentrations. Mitigation Measure M-AQ-4 requires certain low emitting construction equipment that is equipped with diesel particulate filters.

A quantitative analysis was conducted to determine health risks and PM2.5 concentrations resulting from the Proposed Project with implementation of Mitigation Measure M-AQ-4. The resulting health risks and PM2.5 concentrations were quantified using the same methodology discussed

above, yet accounting for lower emitting equipment as required by Mitigation Measure M-AQ-4. Table 5.9-10 presents the mitigated cumulative excess cancer risk associated with the Proposed Project and with implementation of Mitigation Measure M-AQ-4.

Table 5.9-10 Proposed Project Mitigated Cumulative Risk

Scenario	Receptor Location			Receptor Type	Source	Maximum Cancer Risk (per million)	Mean Cancer Risk (per million)	Mean +1 SD Cancer Risk (per million)
	#	UTM E	UTM N					
On-Site Receptors								
Resident	Various on Site			Resident	*Project Total*	*N/A*	*12*	*19*
					Construction	N/A	12	19
					Roadway	N/A	< 1	< 1
					Generator	N/A	< 1	< 1
					Existing	N/A	34	34
					Total	*N/A*	*45*	*53*
Daycare	Various on Site			Daycare Child	*Project*	*N/A*	*12*	*14*
					Construction	N/A	12	13
					Roadway	N/A	< 1	< 1
					Generator	N/A	< 1	< 1
					Existing	N/A	25	25
					Total	*N/A*	*38*	*39*
Off-Site Receptors								
Resident	2471	553340	4178620	Resident	*Project*	*11*	N/A	N/A
					Construction	11		
					Roadway	< 1		
					Generator	< 1		
					Existing	23		
					Total	*34*		
School	2109	552980	4178540	School Child	*Project*	*8*	N/A	N/A
					Construction	8		
					Roadway	< 1		
					Generator	< 1		
					Existing	16		
					Total	*24*		

SOURCE: Atkins (2013)
Values may not add due to rounding.
N/A = Means the risk determination is not appropriate to that receptor.

As shown in Table 5.9-10, the cumulative excess cancer risk would be reduced from a maximum range of between 136 and 202 per one million for an on-site resident to a maximum range of between 45 and 53 per one million, with implementation of Mitigation Measure M-AQ-4. A similar reduction would occur for an on-site child at daycare (from between 152 and 168 to between 38 and 39 with Mitigation Measure M-AQ-4). Maximum cumulative excess cancer risk for off-site receptors would be reduced from 127 per one million for a resident to 34 per one million, and 88 per one

million for a school child to 24 per one million. For all receptors, the maximum cumulative excess cancer risk would be less than 100 per one million.

Table 5.9-11 shows the cumulative PM2.5 concentrations with implementation of Mitigation Measure M-AQ-4.

Table 5.9-11 Mitigated Cumulative PM2.5 Concentrations

Scenario	*Receptor Location*			*Receptor Type*	*Source*	*Maximum $PM_{2.5}$ Concentration ($\mu g/m^3$)*
	#	*UTM E*	*UTM N*			
On-Site Receptors						
Resident	Various on Site			Resident	Project Construction	0.34
					Ambient	8.67
					Total	*9.02*
Daycare	Various on Site			Daycare Child	Project Construction	0.06
					Ambient	8.54
					Total	*8.61*
Off-Site Receptors						
Resident	2133	553460	4178540	Resident d	Project Construction	0.14
					Ambient	8.43
					Total	*8.83*
School	2109	552980	4178540	School Child	Project Construction	0.09
					Ambient	8.34
					Total	*8.43*

SOURCE: Atkins (2013).
Values may not add due to rounding.

As shown in Table 5.9-11, the effects of Mitigation Measure M-AQ-4 would reduce PM2.5 concentrations to below 10 $\mu g/m^3$. Thus, the Proposed Project would not create a new air pollutant exposure zone.

With implementation of Mitigation Measure M-AQ-4, the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations related to construction. Under CEQA, compliance with Mitigation Measure M-AQ-4 would reduce construction emissions impacts on nearby sensitive receptors to a ***less-than-significant*** level.

With implementation of Mitigation Measure M-AQ-4, the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations related to construction. Under NEPA, compliance with Mitigation Measure M-AQ-4 would reduce construction emissions impacts on nearby sensitive receptors to a ***less-than-significant*** level.

High excess cancer risk levels associated with construction of the Proposed Project are the result of PM2.5 emissions from the off-road construction vehicles. Implementation of Mitigation Measure M-

AQ-2b, would reduce PM2.5 from later construction periods because Tier 4 equipment includes diesel particulate filters and are the best available control technology for PM2.5 emissions control. However, the initial construction phase would still result in higher levels of risk, as Tier 3 engines do not reduce particulate emissions over the reduction attributed to Tier 2 engines. Therefore, the implementation of Mitigation Measure M-AQ-4 would further reduce risk to on-site and off-site receptors for the initial construction phase.

Mitigation Measure M-AQ-4: Construction Emissions Minimization

M-AQ-4 A. Construction Emissions Minimization Plan. Prior to issuance of a construction permit, the project applicant 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 is available, portable diesel engines shall be prohibited;

   b. All off-road equipment shall have:

      i. (See Mitigation Measures M-AQ-2a and M-AQ-2b)

      ii. Engines that are retrofitted with an ARB Level 3 Verified Diesel Emissions Control Strategy (VDECS).[26]

   c. Exceptions:

      i. Exceptions to A(1)(a) may be granted if the project applicant 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 applicant shall submit documentation of compliance with A(1)(b) for on-site power generation.

      ii. Exceptions to A(1)(b)(ii) may be granted if the project applicant 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

[26] Equipment with engines meeting Tier 4 Interim or Tier 4 Final emission standards automatically meet this requirement; therefore, a VDECS would not be required.

that are not retrofitted with an ARB Level 3 VDECS and the applicant 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 applicant must comply with the requirements of A(1)(c)(iii).

iii. If an exception is granted pursuant to A(1)(c)(ii), the project applicant shall provide the next cleanest piece of off-road equipment as provided by the step down schedule as follows and shall provide documentation that emissions are sufficiently reduced to ensure excess cancer risks and PM2.5 concentrations do not exceed the air pollution exposure zone criteria:

1. Compliance Alternative 1: Engine Emission Standard 2 with ARB Level 2 VDECS
2. Compliance Alternative 2: Engine Emission Standard 2 with ARB Level 1 VDECS
3. Compliance Alternative 3: Engine Emission Standard 2 with alternative fuels (Alternative fuels are not VDECS)

If the requirements of (A)(1)(b) cannot be met, then the project applicant would need to meet Compliance Alternative 1. Should the project applicant not be able to supply off-road equipment meeting Compliance Alternative 1, then Compliance Alternative 2 would need to be met. Should the project applicant not be able to supply off-road equipment meeting Compliance Alternative 2, then Compliance Alternative 3 would need to be met.

2. The project applicant 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 applicant 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 applicant shall provide copies of Plan to members of the public as requested.

B. Reporting. Monthly 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 6 months of the completion of construction activities, the project applicant 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.

C. Certification Statement and On-site Requirements. Prior to the commencement of construction activities, the project applicant must certify (1) compliance with the Plan, and (2) all applicable requirements of the Plan have been incorporated into contract specifications.

Asbestos

Asbestos is a Hazardous Air Pollutant that can cause lung diseases and Mesothelioma. Construction activities associated with the Proposed Project, such as grading and excavation in areas with serpentine bedrock or other asbestos minerals, could cause naturally occurring asbestos to be released into the air. Asbestos is regulated in the Project area by the BAAQMD, through ARB's ATCM. In addition, grading and excavation activities would be subject to the BAAQMD's construction dust ordinance, which limits the amount of fugitive dust and asbestos that would be released into the atmosphere. The mitigation measures discussed in *Section 5.18, Hazards and Hazardous Materials*, would also ensure that the release of asbestos into the atmosphere would be limited.

Compliance with BAAQMD regulations and the construction dust ordinance would sufficiently reduce the amount of asbestos that may become airborne during grading and excavation activities. Therefore, this impact is ***less than significant*** under CEQA.

Compliance with BAAQMD regulations and the construction dust ordinance would sufficiently reduce the amount of asbestos that may become airborne during grading and excavation activities. Therefore, this impact is ***less than significant*** under NEPA.

Furthermore, Mitigation Measures HZ-2.2, HZ-2.3, and HZ-2.4, require further analysis and precaution in the presence of asbestos and would further reduce this less-than-significant impact.

Impact AQ-5	**Expose Residents to Objectionable Odors**
	CEQA: The Proposed Project would not expose residents to objectionable odors. (Less than Significant)
	NEPA: The Proposed Project would not expose residents to objectionable odors. (Less than Significant)

Project-Generated Odors

The Project site would be a large, mixed-use development containing residential, community facilities, retail, and public open space. Although there may be some potential for small-scale, localized odor issues to emerge around Project site sources, such as solid waste collection and food preparation facilities, etc., these small-scale localized odor sources do not typically affect a substantial number of people.

Existing Odor Sources

As discussed in Section 4.9, *Air Quality*, the Project site would be located within 1 mile of the Southeast Treatment Plant, and as near as 0.6 mile at the southern end of the Project area. The Project area is located within the BAAQMD's screening distance for requiring further evaluation of potential odor impacts on the Proposed Project.

According to the BAAQMD in their CEQA Air Quality Guidelines, an odor impact would occur if the Proposed Project is located near an odor emitting facility that has more than five confirmed complaints per year averaged over the past 3 years. As discussed in Section 4.9, three complaints were received by the BAAQMD in the previous 3 years, with all occurring in 2012. Two complaints occurred from the 1600 block of Evans Avenue in San Francisco, and the location of the third complainant is unknown. The 3 year complaint history of Southeast Treatment Plant averages to one complaint per year, which is not a substantial number of complaints, per the BAAQMD guidelines.

As shown in Figure 4.9-1, even in the immediate vicinity (within approximately 200 feet) and downwind of the treatment plant, odors from the facility have resulted in a minimal number of complaints in the previous 3 years. The sensitive receptors that would be located as part of the Proposed Project would be at a distance from the treatment plant that is five times greater than the distance between the location of two confirmed complaints and the treatment plant. In addition, the sensitive receptors would not be located downwind of the treatment plant, as is the case with the complainants. Thus, odor impacts from the treatment plant on the Proposed Project's sensitive receptors would be minimal.

Impacts under CEQA are ***less than significant*** because the Proposed Project would not expose residents to objectionable odors.

Impacts under NEPA are ***less than significant*** because the Proposed Project would not expose residents to objectionable odors.

Impact AQ-6:	**Trigger Need for General Conformity Assessment** **CEQA: This topic is not covered under CEQA.** **NEPA: The Proposed Project would not generate criteria pollutants or their precursors in quantities that would trigger the need for a general conformity assessment. (Less than Significant)**

In relation to the NAAQS, as shown in Table 5.9-3b, Project emissions during construction, and Table 5.9-5, Project emissions at buildout, emissions associated with the Proposed Project would not exceed the applicable *de minimis* thresholds for General Conformity for any year; therefore, the Proposed Project would not cause violations of federal ambient air quality standards, and the region is expected to remain an attainment area for CO. The Proposed Project would be in conformance with the CAA and SIP, as required by HUD 24 CFR, Part 58.5, Subpart A. Thus, the Proposed Project would not violate or contribute to new violations of the NAAQS, would not increase the frequency or severity of existing violations of the NAAQS, and would not delay timely attainment of the NAAQS for ozone, CO or PM2.5. Therefore, a formal General Conformity determination is not required. Because there would be no violations of the NAAQS or exceedance of the *de minimis* thresholds, under NEPA, the effect would be considered ***less than significant***.

Alternative 1—Reduced Development Alternative

Impact AQ-1:	**Conflict with Air Quality Plan** **CEQA: The Reduced Development Alternative would not conflict with or obstruct implementation of the applicable air quality plan. (Less than Significant)** **NEPA: The Reduced Development Alternative would not conflict with or obstruct implementation of the applicable air quality plan. (Less than Significant)**

As discussed for Proposed Project Impact AQ-1, the most recently adopted air quality plan for the SFBAAB is the CAP. The primary goals of the CAP 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. The CAP includes 55 control measures aimed at reducing air pollution in the SFBAAB.

The measures most applicable to Alternative 1 are transportation control measures and energy and climate control measures. Alternative 1 would be consistent with energy and climate control measures because, as discussed in Section 5.10, *Greenhouse Gas Emissions*, Alternative 1 would comply with the applicable provisions of the City's Greenhouse Gas Reduction Strategy.

Alternative 1 would result in reduced development relative to the Proposed Project and would be less effective at providing a substantial number of new residences in close proximity to transit. The

available transit services near the Project site are discussed in Proposed Project Impact AQ-1. However, Alternative 1 development would still be compact, and there would be plentiful availability of viable transportation options that would ensure that residents could bicycle, walk, and ride transit to and from the project site instead of taking trips via private automobiles. The roadway network under Alternative 1 would be the same as under the Proposed Project. As discussed under Proposed Project Impact AQ-1, the new roadway network configuration would be developed to support all modes of circulation, creating a more walkable neighborhood. Alternative 1 would result in fewer people living in a compact, walkable, public transit-oriented neighborhood relative to the Proposed Project (because fewer housing units would be constructed), but it would not result in a substantially different pattern of development. Nevertheless, Alternative 1 would still be generally consistent with the General Plan, as discussed throughout this Draft EIR/EIS. Transportation control measures that are identified in the CAP are implemented by the General Plan and the *Planning Code*, for example, through the City's Transit First Policy, bicycle parking requirements, and transit impact development fees. Compliance with these requirements would ensure the project includes relevant transportation control measures specified in the CAP. Therefore, Alternative 1 would include applicable control measures identified in the CAP to the meet the CAP's primary goals.

Examples of a project that could cause the disruption or delay of CAP control measures are projects that would preclude the extension of a transit line or bike path, or projects that propose excessive parking beyond parking requirements. Similar to the Proposed Project, Alternative 1 would not preclude the extension of a transit line or a bike path or any other transit improvement, and thus would avoid disrupting or hindering implementation of control measures identified in the CAP.

Alternative 1 would result in criteria pollutant emissions during construction that could temporarily worsen air quality to a significant level, but the full buildout condition of Alternative 1, as discussed below for Impact AQ-3, would not exceed any thresholds. Because Alternative 1 would locate housing in close proximity to jobs and retail establishments and encourage alternative modes of transportation, it would not conflict with the most recent CAP. Furthermore, as discussed in Impact AQ-2, the Alternative 1 would be required to implement all feasible control measures to reduce criteria air pollutants during construction.

Under CEQA, the Reduced Development Alternative would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be ***less than significant***.

Under NEPA, the Reduced Development Alternative would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be ***less than significant***.

Impact AQ-2:	**Violate Air Quality Standard during Construction** **CEQA: During construction, the Reduced Development Alternative would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. (Significant and Unavoidable)** **NEPA: During construction, the Reduced Development Alternative would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. (Significant and Unavoidable)**

Criteria Air Pollutants

Alternative 1 would result in the generation of emissions from construction equipment, as well as stationary and mobile sources during operations. As with the Proposed Project, construction of the Reduced Development Alternative would be phased over the course of approximately 9 years, during which construction activities would overlap with operational activity at the Project site. For instance, after Phase 1 of Alternative 1 is completed, operational activity associated with Phase 1 would overlap with construction activity that would occur for Phase 2. After the second phase of Alternative 1 is completed, operational activity from the first two phases would overlap with construction activity that would occur for Phase 3. After all three phases are completed, the buildout condition would be reached, which would result in long-term, operational emissions associated with Alternative 1 (See Impact Alternative 1, AQ-3).

Construction emissions associated with Alternative 1 were modeled using the same methodology as that described above for the Proposed Project. Construction phase timing for Alternative 1 was scaled from the Proposed Project based on the reduced level of development. Emissions that would occur during the construction phase (and which include construction emissions from later phases and operational emissions from earlier phases) are presented in Tables 5.9-12a (daily emissions) and 5.9-12b (annual emissions), by year. The tables below only include emissions generated as a direct result of Alternative 1; that is, emissions produced at the site from existing development and land uses are not included.

Table 5.9-12a Maximum Daily Alternative 1 Criteria Air Pollutant Emissions During Construction

	ROG	NO_X	PM10	PM2.5	CO
Maximum Daily Emissions by Year(lbs/day)					
2015 (Total Emissions)	5.62	75.14	3.16	2.84	37.60
Construction	5.62	75.14	3.16	2.84	37.60
Operations	0	0	0	0	0
2016 (Total Emissions)	10.16	80.28	3.67	3.31	49.39
Construction	6.41	80.28	3.67	3.31	43.90
Operations	3.75	0	0	0	5.49
2017 (Total Emissions)	10.94	121.74	4.64	4.18	61.61
Construction	9.74	121.74	4.64	4.18	50.56
Operations	1.20	0	0	0	11.05
2018 (Total Emissions)[a]	17.79	87.32	3.78	3.40	68.67
Construction	3.80	36.45	1.44	1.30	19.31
Operations	13.99	50.87	2.34	2.10	49.36
2019 (Total Emissions)	17.50	131.22	4.94	4.45	74.75
Construction	6.19	78.55	3.47	3.12	42.02
Operation	11.31	52.67	1.47	1.33	32.73
2020 (Total Emissions)	23.45	144.69	6.11	5.51	131.88
Construction	12.14	141.67	5.86	5.27	71.87
Operation	11.31	3.02	0.25	0.24	60.01
2021 (Total Emissions)	22.58	110.34	4.46	4.03	140.78
Construction	7.80	107.32	4.21	3.79	41.60
Operation	14.78	3.02	0.25	0.24	99.18
2022 (Total Emissions)	25.96	123.75	4.96	4.48	148.38
Construction	2.98	38.27	1.61	1.45	19.84
Operation	22.98	85.48	3.35	3.03	128.54
2023 (Total Emissions)	22.83	99.39	3.95	3.57	131.53
Construction	4.07	50.95	1.95	1.76	20.78
Operation	18.76	48.44	2.00	1.81	110.75
Maximum Daily Emissions	25.96	144.69	6.11	5.51	148.38
Significance Threshold	54	54	82	54	NA
Threshold Exceeded?	No	Yes	No	No	NA
If Exceedance, Which Years?	NA	2015-2023	NA	NA	NA

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).

NA = Not applicable

Emissions in 2015 and 2016 only include construction-related emissions. During these years, there would be no completed phases of the project and no operational emissions.

Values in bold indicate that emissions would be in exceedance of the applicable threshold.

[a] Emissions in this year occur in more than one phase, but the phases do not overlap. The emissions shown in the table for this year are the highest daily emissions that occur in the year.

Table 5.9-12b Maximum Annual Alternative 1 Criteria Air Pollutant Emissions During Construction

	ROG	*NO_x*	*PM10*	*PM2.5*	*CO*
Maximum Annual Emissions by Year(tons/year)					
2015 (Total Emissions)	0.79	10.52	0.44	0.40	5.26
Construction	0.79	10.52	0.44	0.40	5.26
Operations	0	0	0	0	0
2016 (Total Emissions)	1.6	11.24	0.51	0.46	7.70
Construction	0.90	11.24	0.51	0.46	6.15
Operations	0.70	0	0	0	1.55
2017 (Total Emissions)	1.71	17.04	0.65	0.58	9.41
Construction	1.36	17.04	0.65	0.58	7.08
Operations	1.35	0	0	0	2.33
2018 (Total Emissions)	2.89	12.35	0.53	0.48	10.72
Construction	0.94	11.73	0.51	0.46	6.21
Operations	1.95	0.62	0.02	0.02	4.51
2019 (Total Emissions)	2.85	18.49	0.70	0.63	11.41
Construction	1.44	17.88	0.68	0.61	7.34
Operation	1.41	0.61	0.02	0.02	4.07
2020 (Total Emissions)	3.68	20.36	0.86	0.78	15.59
Construction	1.70	19.83	0.82	0.74	10.06
Operation	1.98	0.53	0.04	0.04	5.53
2021 (Total Emissions)	3.74	15.55	0.63	0.57	15.39
Construction	1.09	15.03	0.59	0.53	6.00
Operation	2.65	0.52	0.04	0.04	9.39
2022 (Total Emissions)	4.21	16.63	0.66	0.60	16.68
Construction	1.34	15.48	0.61	0.55	7.25
Operation	2.87	1.15	0.05	0.05	9.43
2023 (Total Emissions)	3.77	13.28	0.54	0.49	14.19
Construction	0.90	12.13	0.48	0.43	4.75
Operation	2.87	1.15	0.06	0.06	9.44
Maximum Annual Emissions	4.21	20.36	0.86	0.78	16.68
Significance Threshold	10	10	15	10	NA
Threshold Exceeded?	No	Yes	No	No	NA
If Exceedance, Which Years?	NA	2015-2023	NA	NA	NA
de minimis Threshold	100	100	NA	100	100
de minimis Threshold exceeded?	No	No	No	No	No

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).

NA = Not applicable

Emissions in 2015 and 2016 only include construction-related emissions. During these years, there would be no completed phases of the project and no additional operational emissions.

Values in bold indicate that emissions would be in exceedance of the applicable threshold.

Emissions shown in Tables 5.9-12a and 5.9-12b represent an actual scenario in which construction activity from a later phase would overlap with the operational activity from an earlier phase. As shown in Tables 5.9-12a and 5.9-12b, NOx emissions in 2015–2023 would exceed the daily and annual thresholds, respectively. Emissions of ROG, PM2.5, and PM10 would be below the respective daily and annual thresholds for all years. The elevated NOx emissions are due vehicle exhaust from the off-road and on-road equipment required for Project construction. Construction activities are responsible for more than 90 percent of daily NOx emissions in each year of construction. This impact would be significant. Implementing Mitigation Measures M-AQ-2a and M-AQ-2b, as discussed for the Proposed Project, would reduce emissions associated with construction vehicle exhaust during construction.

Implementing Mitigation Measures M-AQ-2a and M-AQ-2b would result in reduced daily and annual emissions as shown in Tables 5.9-13a and 5.9-13b, respectively.

Table 5.9-13a Mitigated Maximum Daily Alternative 1 Criteria Air Pollutant Emissions During Construction

	ROG	*NO_x*	*PM10*	*PM2.5*	*CO*
Maximum Daily Emissions by Year (lbs/day)					
2015 (Total Emissions)	*5.62*	*46.06*	*0.47*	*0.43*	*23.16*
Construction	5.62	46.06	0.47	0.43	23.16
Operations	0	0	0	0	0
2016 (Total Emissions)	*10.07*	*49.50*	*0.61*	*0.56*	*38.91*
Construction	6.41	49.50	0.61	0.56	27.31
Operations	3.66	0	0	0	11.6
2017 (Total Emissions)	*10.51*	*61.66*	*0.73*	*0.66*	*41.52*
Construction	9.18	61.66	0.73	0.66	27.36
Operations	1.33	0	0	0	14.16
2018 (Total Emissions)[a]	*17.26*	*44.87*	*0.61*	*0.54*	*49.76*
Construction	3.54	23.43	0.29	0.26	9.93
Operations	13.72	21.44	0.32	0.28	39.83
2019 (Total Emissions)	*16.99*	*68.51*	*0.83*	*0.75*	*51.64*
Construction	5.78	38.44	0.49	0.44	20.84
Operation	11.21	30.07	0.34	0.31	30.8
2020 (Total Emissions)	*22.66*	*75.40*	*1.04*	*0.93*	*112.91*
Construction	11.45	72.39	0.93	0.84	38.76
Operation	11.21	3.01	0.11	0.09	74.15
2021 (Total Emissions)	*22.02*	*55.33*	*0.78*	*0.68*	*116.60*
Construction	7.28	52.32	0.62	0.56	20.65
Operation	14.74	3.01	0.16	0.12	95.95

Table 5.9-13a Mitigated Maximum Daily Alternative 1 Criteria Air Pollutant Emissions During Construction

	ROG	NO_X	PM10	PM2.5	CO
2022 (Total Emissions)	*25.32*	*67.90*	*1.01*	*0.90*	*123.62*
Construction	2.89	14.78	0.24	0.21	7.92
Operation	22.43	53.12	0.77	0.69	115.70
2023 (Total Emissions)	*22.27*	*53.66*	*0.77*	*0.67*	*113.82*
Construction	3.97	20.43	0.29	0.27	9.21
Operation	18.30	33.23	0.48	0.40	104.61
Maximum Daily Emissions	25.32	75.40	20.43	0.93	123.62
Significance Threshold	54	54	82	54	NA
Threshold Exceeded?	No	Yes	No	No	NA
If Exceedance, Which Years?	NA	2015-2023	NA	NA	NA

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).

NA = Not applicable

Emissions in 2015 and 2016 only include construction-related emissions. During these years, there would be no completed phases of the project and no operational emissions.

Values in bold indicate that emissions would be in exceedance of the applicable threshold.

[a] Emissions in this year occur in more than one phase, but the phases do not overlap. The emissions shown in the table for this year are the highest daily emissions that occur in the year.

Table 5.9-13b Mitigated Maximum Annual Alternative 1 Criteria Air Pollutant Emissions During Construction

	ROG	NO_X	PM10	PM2.5	CO
Maximum Annual Emissions by Year (tons/year)					
2015 (Total Emissions)	*0.79*	*6.45*	*0.07*	*0.06*	*3.24*
Construction	0.79	6.45	0.07	0.06	3.24
Operations	0	0	0	0	0
2016 (Total Emissions)	*1.59*	*6.93*	*0.09*	*0.08*	*6.22*
Construction	0.9	6.93	0.09	0.08	3.82
Operations	0.69	0	0	0	2.4
2017 (Total Emissions)	*1.65*	*8.63*	*0.10*	*0.09*	*6.58*
Construction	1.29	8.63	0.1	0.09	3.83
Operations	0.36	0	0	0	2.75
2018 (Total Emissions)	*2.81*	*6.41*	*0.09*	*0.08*	*8.04*
Construction	0.88	5.81	0.07	0.07	3.13
Operations	1.93	0.6	0.02	0.01	4.91
2019 (Total Emissions)	*2.77*	*9.72*	*0.12*	*0.11*	*8.31*
Construction	1.36	9.1	0.11	0.1	4.02
Operation	1.41	0.62	0.01	0.01	4.29
2020 (Total Emissions)	*3.56*	*10.66*	*0.15*	*0.13*	*11.52*

Table 5.9-13b Mitigated Maximum Annual Alternative 1 Criteria Air Pollutant Emissions During Construction

	ROG	NO_X	PM10	PM2.5	CO
Construction	1.6	10.14	0.13	0.12	5.43
Operation	1.96	0.52	0.02	0.01	6.09
2021 (Total Emissions)	*3.65*	*7.85*	*0.11*	*0.09*	*12.12*
Construction	1.02	7.33	0.09	0.08	2.91
Operation	2.63	0.52	0.02	0.01	9.21
2022 (Total Emissions)	*4.11*	*9.18*	*0.13*	*0.11*	*13.31*
Construction	1.27	8.04	0.1	0.1	4.07
Operation	2.84	1.14	0.03	0.01	9.24
2023 (Total Emissions)	*3.69*	*7.09*	*0.10*	*0.09*	*11.63*
Construction	0.84	5.95	0.07	0.06	2.41
Operation	2.85	1.14	0.03	0.03	9.22
Maximum Annual Emissions	4.11	**10.66**	0.15	0.13	13.31
Significance Threshold	10	10	15	10	NA
Threshold Exceeded?	No	Yes	No	No	NA
If Exceedance, Which Years?	NA	2020	NA	NA	NA
de minimis Threshold	100	100	NA	100	100
de minimis Threshold exceeded?	No	No	No	No	No

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).
NA = Not applicable
Emissions in 2015 and 2016 only include construction-related emissions. During these years, there would be no completed phases of the project and no operational emissions.
Values in bold indicate that emissions would be in exceedance of the applicable threshold.

As shown in Tables 5.9-13a and 5.9-13b, even with the implementation of mitigation measures designed to reduce exhaust emissions from construction vehicles, project NOx emissions would still exceed the daily and annual thresholds for NOx. Although the identified mitigation measures would reduce daily emissions in 2015, 2016, and 2019 to a less-than-significant level, NOx emissions would exceed the daily and annual thresholds in a number of years, as shown in Tables 5.9-13a and 5.9-13b. ROG, PM10 and PM2.5 emissions would continue to be below the applicable thresholds for all years, however. Nonetheless, the exceedance of NOx emissions above the thresholds would result in a significant impact. No additional feasible mitigation measures have been identified to reduce NOx emissions.

During construction, the Reduced Development Alternative would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. Under CEQA, this is considered a ***significant and unavoidable*** impact.

During construction, the Reduced Development Alternative would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. Under NEPA, this is considered a ***significant and unavoidable*** impact.

Construction Fugitive Dust Emissions

As discussed under Proposed Project Impact AQ-2, compliance with the San Francisco Dust Control Ordinance would ensure that potential dust-related air quality impacts would be reduced to a less-than-significant level. Alternative 1 construction activities would be required to comply with the dust minimization strategies discussed for Proposed Project Impact AQ-2.

Under CEQA, compliance with the regulations and procedures set forth by the San Francisco Dust Control Ordinance would ensure that potential dust-related air quality impacts would be reduced to a ***less-than-significant*** level.

Under NEPA, compliance with the regulations and procedures set forth by the San Francisco Dust Control Ordinance would ensure that potential dust-related air quality impacts would be reduced to a ***less-than-significant*** level.

Impact AQ-3:	**Violate Air Quality Standard during Operation**
	CEQA: At buildout, the Reduced Development Alternative would not violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)
	NEPA: At buildout, the Reduced Development Alternative would not violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

Net Operational Criteria Pollutant Emissions

After construction is completed and Alternative 1 is fully operational, criteria pollutant emissions would be emitted as a result of natural gas combustion for heating, landscape, and maintenance equipment operations, emergency generator operations, and increased motor vehicle emissions.

Operational criteria pollutant emissions were quantified using the methodology discussed for the Proposed Project.

The operational emissions for Alternative 1 are presented in Table 5.9-14 and represent the buildout condition—that is, the emissions associated with the operation of Alternative 1.

Table 5.9-14 Alternative 1 Net Criteria Air Pollutant Emissions at Project Buildout

	ROG	*NO_X*	*PM10*	*PM2.5*	*CO*
Average Daily Operational Emissions by Year(lbs/day)					
Existing	32.69	32.46	0.86	0.86	161.66
Phase 1	9.29	7.71	0.16	0.15	42.85
Phase 2	26.29	17.41	0.42	0.40	103.28
Generator	N/A	1.82	0.01	0.01	1.82
Phase 3	19.35	11.09	0.33	0.31	71.06
Net Operational Build Out (Sum of Phases 1,2,3 & Generator minus Existing)	22.24	5.57	0.06	0.01	57.36
Significance Threshold	54	54	82	54	NA
Threshold Exceeded?	No	No	No	No	NA
Maximum Annual Operational Emissions by Year(tons/year)					
Existing	5.72	5.68	0.15	0.15	28.29
Phase 1	1.63	1.35	0.03	0.03	7.50
Phase 2	4.60	3.05	0.07	0.07	18.07
Generator	N/A	0.32	0.00	0.00	0.32
Phase 3	3.39	1.94	0.06	0.05	12.44
Net Operational Build Out (Sum of Phases 1,2,3 & Generator minus Existing)	3.89	0.97	0.01	0.00	10.04
Significance Threshold	10	10	15	10	NA
Threshold Exceeded?	No	No	No	No	NA
de minimis Threshold (tons/year)	100	100	NA	100	100
de minimis Threshold Exceeded?	No	No	NA	No	No

SOURCE:Atkins (2013) and CalEEMod modeling output (2013).
NA: Not applicable

As shown in Table 5.9-14, post-construction operational activity would not generate emissions that exceed the thresholds for any criteria pollutants.

Upon buildout, the Reduced Development Alternative would not violate an air quality standard or contribute substantially to an existing air quality violation. Under CEQA, this is considered a ***less-than-significant*** impact.

Upon buildout, the Reduced Development Alternative would not violate an air quality standard or contribute substantially to an existing air quality violation. Under NEPA, this is considered a ***less-than-significant*** impact.

Net Operational Carbon Monoxide Hotspot

As discussed above, a project could result in a CO hotspot if it increases traffic volumes at affected intersections to more than 44,000 vehicles per hour, or more than 24,000 vehicles per hour where horizontal and/or vertical mixing is limited. As discussed in the Project's Transportation Study, the maximum traffic volumes that would occur would be 1,722 vehicles per hour at the Cesar Chavez Street and US 101 off-ramp in the 2030 Cumulative PM peak hour scenario. This volume is less than 4 percent of the BAAQMD screening volume of 44,000 vehicles per hour. The maximum traffic volume is substantially less than the screening thresholds.

Alternative 1 would not create a CO hotspot at studied intersections; therefore, the impact would be ***less than significant*** under CEQA.

Alternative 1 would not create a CO hotspot at studied intersections; therefore, the impact would be ***less than significant*** under NEPA.

Impact AQ-4:	**Expose Sensitive Receptors to Substantial Pollutant Concentrations** **CEQA: The Reduced Development Alternative would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)** **NEPA: The Reduced Development Alternative would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)**

A discussion of existing local air quality, existing cancer risk and PM2.5 concentrations, sensitive receptors, project emission sources, existing air pollution exposure zones is included in Proposed Project Impact AQ-4 and is applicable to this discussion for Alternative 1.

Health Risk Assessment

Methodology

Health risks were assessed by determining the cancer risk and PM2.5 concentrations that would result from the implementation of Alternative 1. The risks associated with construction activities were quantified by scaling the health impacts of the Proposed Project relative to the construction criteria pollutant emissions of the Proposed Project. The resulting ratio was then applied to Alternative 1 construction criteria pollutant emissions to determine Alternative 1 construction health risks. Operational risks were quantified by scaling the impacts that would result from the Proposed Project by the change in vehicle trips between the Proposed Project and Alternative 1. The number of vehicle trips under Alternative 1 would be 63.69 percent of the number of vehicle trips under the Proposed Project; thus, Proposed Project operational health risks were scaled by this proportion to quantify Alternative 1 operational health risks.

Results

The below discussion and Tables 5.9-15 and 5.9-16 present the results pertaining to the receptor location where Alternative 1 in combination with existing health risk. would have the greatest impact for both on-site and off-site receptors.

Table 5.9-15 Alternative 1 Cumulative Cancer Risk

Scenario	*Receptor Location*			*Receptor Type*	*Source*	*Maximum Cancer Risk (per million)*	*Mean Cancer Risk (per million)*	*Mean +1 SD Cancer Risk (per million)*
	#	*UTM E*	*UTM N*					
On-Site Receptors								
Resident	Various on Site			Resident	Construction	N/A	101.52	166.91
					Roadway	N/A	0.03	.03
					Generator	N/A	0.02	.02
					Project Total	N/A	101.58	166.97
					Existing	N/A	33.50	33.50
					Total	*N/A*	*135.08*	*200.47*
Daycare	Various on Site			Daycare Child	Construction	N/A	123.98	139.97
					Roadway	N/A	0.35	0.35
					Generator	N/A	0.04	0.04
					Project Total	*N/A*	*124.37*	*140.36*
					Existing	N/A	25.39	25.39
					Total	*N/A*	*149.76*	*165.75*
Off-Site Receptors								
Resident	2455	553020	4178620	Resident	Construction	112.01	N/A	N/A
					Roadway	0.03		
					Generator	0.01		
					Project Total	*112.05*		
					Existing	13.44		
					Total	*125.49*		
School	2109	552980	4178540	School Child	Construction	71.25	N/A	N/A
					Roadway	0.04		
					Generator	0.01		
					Project Total	*71.30*		
					Existing	15.89		
					Total	*87.19*		

SOURCE: Atkins 2013
Values may not add due to rounding.
N/A = Means the risk determination is not appropriate to that receptor.

Excess Cancer Risk

The results of the cancer risk analysis are presented in Table 5.9-15 for Alternative 1 sources and existing sources, and for on-site and off-site receptors.

For on-site receptors, the table presents the mean cancer risk, which is the average risk for each of the three construction phases for a receptor at a residence, school, or daycare at the Project site. The mean plus one standard deviation is included to provide a range of cancer risk due to the uncertainties discussed in Proposed Project Impact AQ-4. For off-site receptors, the table shows the maximum cancer risk for a school or resident near the Project site.

Although the Project site is not located within an identified air pollutant exposure zone, Alternative 1 would result in a cumulative cancer risk that is greater than 100 per million for on-site and off-site receptors. The ranges for on-site receptors for a resident and a child at daycare at the Project site are 135–200 per one million and 150–166 per one million, respectively. The maximum cancer risk for offsite receptors for a resident and a school child is 125 and 87 per one million, respectively. Thus, all receptors except the off-site school child would have a cancer risk that is above the standards. Alternative 1 would result in a significant health risk impact.

Fine Particulate Matter Concentrations

Unlike the cancer risk standard, the PM2.5 standard is an annual average concentration and varies depending on the level of activity. PM2.5 concentrations were quantified for this analysis for construction activities and for operational buildout activities and added to ambient concentrations, as shown in Table 5.9-16.

Table 5.9-16 Alternative 1 Cumulative PM2.5 Concentrations

Scenario	*Receptor Location*			*Receptor Type*	*Source*	*Maximum PM2.5 Concentration (µg/m^3)*
	#	*UTM E*	*UTM N*			
On-Site Receptors						
Resident	Various on Site			Resident	Project Construction	2.67
					Ambient	8.67
					Total	*11.34*
Daycare	Various on Site			Daycare Child	Project Construction	0.86
					Ambient	8.54
					Total	*9.40*
Off-Site Receptors						
Resident	1679	552980	4178440	Resident	Project Construction	1.00
					Ambient	8.43
					Total	*9.43*
School	2109	552980	4178540	School Child	Project Construction	0.76
					Ambient	8.34
					Total	*9.10*

SOURCE: Atkins (2013).

Note: Some operational emissions may occur during construction, but upon full build out of the project, PM2.5 concentrations would be less than 0.1 ug/m^3; therefore, adding these operational emissions would not substantially affect the results in this table.

As shown above, Alternative 1 would result in a cumulative PM2.5 concentration that is greater than 10 μg/m^3 for an on-site resident thus, Alternative 1 would create a new air pollutant exposure zone as it exceeds the significance criteria. Consequently, this would result in a ***significant*** impact.

However, upon completion of Alternative 1 construction activities, the Project would result in PM2.5 concentrations less than 0.01 μg/m^3, and the maximally exposed receptor points would all be below the 10 μg/m^3 standard with implementation of the mitigation measures discussed above, as shown in Table 5.9-17. Therefore, at Project buildout, PM2.5 concentrations would be ***less than significant***.

Table 5.9-17 Alternative 1 Mitigated Cumulative $PM_{2.5}$ Concentrations at Buildout

Scenario	*Receptor Location*			*Receptor Type*	*Source*	*Maximum $PM_{2.5}$ Concentration (μg/m^3)*
	#	*UTM E*	*UTM N*			
On-Site Receptors						
Resident	Various On site			Resident Child	Project	<0.01
					Ambient	8.69
					Total	*8.69*
Daycare	Various On site			Daycare Child	Project	0.00
					Ambient	<0.01
					Total	*8.54*
Off-Site Receptors						
Resident	~~2280~~ 2306	553480	4178580	Resident Child	Project	<0.01
					Ambient	8.64
					Total	*8.64*
School	~~5668~~ 5733	553240	4179380	School Child	Project	<0.01
					Ambient	8.35
					Total	*8.35*

SOURCE: Atkins (2013, 2014).
N/A = not applicable to that scenario

Mitigation Measures

Because Alternative 1 would result in a significant excess cancer risk for on- and off-site residents and for the on-site day care, mitigation is necessary to reduce the impacts to sensitive receptors. Implementing Mitigation Measure M-AQ-4, discussed for the Proposed Project, would also reduce the PM2.5 exhaust emissions and reduce the health risks associated with elevated PM2.5 concentrations. Mitigation Measure M-AQ-4 requires certain low emitting construction equipment that is equipped with diesel particulate filters.

A quantitative analysis was conducted to determine health risks and PM2.5 concentrations resulting from with Alternative 1 and with implementation of Mitigation Measure M-AQ-4. The resulting health risks and PM2.5 concentrations were quantified using the same methodology as discussed

above, yet accounting for lower emitting equipment as required by Mitigation Measure M-AQ-4. Table 5.9-18 presents the mitigated cumulative excess cancer risk associated with Alternative 1 and with implementation of Mitigation Measure M-AQ-4.

Table 5.9-18 Alternative 1 Mitigated Cumulative Risk

Scenario	Receptor Location			Receptor Type	Source	Maximum Cancer Risk (per million)	Mean Cancer Risk (per million)	Mean +1 SD Cancer Risk (per million)
	#	UTM E	UTM N					
On-Site Receptors								
Resident	Various on Site			Resident	Construction	N/A	9.83	16.32
					Roadway	N/A	0.03	0.03
					Generator	N/A	0.02	0.02
					Project Total	*N/A*	*9.88*	*16.37*
					Existing	N/A	33.50	33.50
					Total	*N/A*	*43.38*	*49.88*
Daycare	Various on Site			Daycare Child	Construction	N/A	10.01	11.22
					Roadway	N/A	0.19	0.19
					Generator	N/A	0.10	0.10
					Project Total	*N/A*	*10.29*	*11.50*
					Existing	N/A	25.39	25.39
					Total	*N/A*	*35.68*	*36.89*
Off-Site Receptors								
Resident	2471	553340	4178620	Resident	Construction	9.11	N/A	N/A
					Roadway	0.01		
					Generator	0.00		
					Project Total	*9.12*		
					Existing	23.44		
					Total	*32.57*		
School	2109	552980	4178540	School Child	Construction	6.78	N/A	N/A
					Roadway	0.04		
					Generator	0.01		
					Project Total	*6.83*		
					Existing	15.89		
					Total	*22.72*		

SOURCE: Atkins 2013
Values may not add due to rounding.
N/A = Means the risk determination is not appropriate to that receptor.

As shown in Table 5.9-18, the cumulative excess cancer risk would be reduced from a maximum range of 135–200 per one million for an on-site resident to a maximum range of 43–50 per one million, with implementation of Mitigation Measure M-AQ-4. A similar reduction would occur for

an on-site child at the daycare (from 150–166 to 36–37 with Mitigation Measure M-AQ-4). Maximum cumulative excess cancer risk for off-site receptors would be reduced from 125 per one million for a resident to 33 per one million, and 87 per one million for a school child to 23 per one million. For all receptors, the maximum cumulative excess cancer risk would be less than 100 per one million.

Table 5.9-19 shows the cumulative PM2.5 concentrations with implementation of Mitigation Measure M-AQ-4.

Table 5.9-19 Alternative 1 Mitigated Cumulative PM2.5 Concentrations

Scenario	*Receptor Location*			*Receptor Type*	*Source*	*Maximum PM2.5 Concentration (µg/m³)*
	#	*UTM E*	*UTM N*			
On-Site Receptors						
Resident	Various on Site			Resident	Project	0.28
					Ambient	8.67
					Total	*8.95*
Daycare	Various on Site			Daycare Child	Project	0.05
					Ambient	8.54
					Total	*8.59*
Off-Site Receptors						
Resident	2133	553460	4178540	Resident	Project	0.12
					Ambient	8.43
					Total	*8.55*
School	2109	552980	4178540	School Child	Project	0.08
					Ambient	8.34
					Total	*8.42*

SOURCE: Atkins (2013).
Values may not add due to rounding.

As shown in Table 5.9-19, the effects of Mitigation Measure M-AQ-4 would reduce cumulative PM2.5 concentrations to below 10 µg/m³. The PM2.5 concentrations reported are for the period with the greatest PM2.5 emissions, which occurs during construction. Upon completion of construction activities, Alternative 1 would result in less than 0.01 µg/m³ from either roadway or generator use, as shown above in Table 5.9-17.

With implementation of Mitigation Measure M-AQ-4, Alternative 1 would not expose sensitive receptors to substantial pollutant concentrations related to construction. Under CEQA, compliance with Mitigation Measure M-AQ-4 would reduce construction emissions impacts on nearby sensitive receptors to a ***less-than-significant*** level.

With implementation of Mitigation Measure M-AQ-4, Alternative 1 would not expose sensitive receptors to substantial pollutant concentrations related to construction. Under NEPA, compliance

with Mitigation Measure M-AQ-4 would reduce construction emissions impacts on nearby sensitive receptors to a ***less-than-significant*** level.

Asbestos

Asbestos is a Hazardous Air Pollutant that can cause lung disease and Mesothelioma. Construction activities associated with Alternative 1, such as grading and excavation in areas with serpentine bedrock or other asbestos minerals, could cause naturally occurring asbestos to be released into the air. Asbestos is regulated in the Project area by the BAAQMD, through ARB's ATCM. In addition, grading and excavation activities would be subject to the BAAQMD's construction dust ordinance, which limits the amount of fugitive and dust and asbestos that would be released into the atmosphere. The mitigation measures discussed in Section 5.18, *Hazards and Hazardous Materials*, would also ensure that the release of asbestos into the atmosphere would be limited.

Compliance with BAAQMD regulations and the construction dust ordinance would sufficiently reduce the amount of asbestos that may become airborne during grading and excavation activities. Therefore, this impact is ***less than significant*** under CEQA.

Compliance with BAAQMD regulations and the construction dust ordinance would sufficiently reduce the amount of asbestos that may become airborne during grading and excavation activities. Therefore, this impact is ***less than significant*** under NEPA.

Furthermore, Mitigation Measures HZ-2.2, HZ-2.3, and HZ-2.4, require further analysis and precaution in the presence of asbestos and would further reduce this less-than-significant impact.

Impact AQ-5:	**Expose Residents to Objectionable Odors**
	CEQA: The Reduced Development Alternative would not expose residents to objectionable odors. (Less than Significant)
	NEPA: The Reduced Development Alternative would not expose residents to objectionable odors. (Less than Significant)

As discussed for Proposed Project Impact AQ-5, construction and operational activity associated with the land uses that would be built at the Project site for Alternative 1 would not result in the generation of substantial, offensive odors. In addition, the siting of sensitive receptors near the Southeast Treatment Plant would not result in significant odor impacts at the Project site because, as discussed above, the topography, wind direction, and history of complaints associated with the facility indicate that there would be no significant impacts.

Impacts under CEQA would be ***less than significant*** because Alternative 1 would not expose residents to objectionable odors.

Impacts under NEPA would be ***less than significant*** because the Alternative 1 would not expose residents to objectionable odors.

Impact AQ-6:	**Trigger Need for General Conformity Assessment** **CEQA: This topic is not covered under CEQA.** **NEPA: The Reduced Development Alternative would not generate criteria pollutants or their precursors in quantities that would trigger the need for a general conformity assessment. (Less than Significant)**

In relation to the NAAQS, as shown in Table 5.9-12b, emissions during construction and Table 5.9-14, project emissions at build out, associated with Alternative 1 would not exceed the applicable *de minimis* thresholds for General Conformity for any year; therefore, Alternative 1 would not cause violations of federal ambient air quality standards, and the region is expected to remain an attainment area for CO. Alternative 1 would be in conformance with the CAA and SIP, as required by HUD 24 CFR, Part 58.5, Subpart A. Thus, Alternative 1 would not violate or contribute to new violations of the NAAQS, would not increase the frequency or severity of existing violations of the NAAQS, and would not delay timely attainment of the NAAQS for ozone, CO, or PM2.5, and a formal General Conformity determination is not required. Because there would be no violations of the NAAQS or exceedance of the *de minimis* thresholds, under NEPA, the effect would be considered ***less than significant***.

Alternative 2 – Housing Replacement Alternative

Impact AQ-1:	**Conflict with Air Quality Plan** **CEQA: The Housing Replacement Alternative would not conflict with or obstruct implementation of the applicable air quality plan. (Less than Significant)** **NEPA: The Housing Replacement Alternative would not conflict with or obstruct implementation of the applicable air quality plan. (Less than Significant)**

The primary goals of the CAP 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. The CAP includes 55 control measures aimed at reducing air pollution in the SFBAAB.

The measures most applicable to Alternative 2 are transportation control measures and energy and climate control measures. Alternative 2 would be consistent with energy and climate control measures because, as discussed in Section 5.10, *Greenhouse Gas Emissions*, Alternative 2 would comply with the applicable provisions of the City's Greenhouse Gas Reduction Strategy.

Although Alternative 2 would construct the same building footprint and retain the same roadway configuration as the existing site and would not increase density, the Project site is located in a dense

urban area well served by transit consistent with the CAP. The available transit services near the Project site are discussed in Proposed Project Impact AQ-1.

Examples of a project that could cause the disruption or delay of CAP control measures are projects that would preclude the extension of a transit line or bike path or projects that propose excessive parking beyond parking requirements. Alternative 2, by reconstructing the existing building footprints, would not preclude the extension of a transit line or a bike path or any other transit improvements, and thus would avoid disrupting or hindering implementation of control measures identified in the CAP.

Alternative 2 would result in criteria pollutant emissions during construction that could temporarily worsen air quality to a significant level, but the full buildout condition of Alternative 2 would result in emissions that are, at a maximum, equal to the existing conditions. The buildout condition of Alternative 2 would likely result in a lower level of emissions due to improvements in technology and energy efficiency in newly constructed buildings. Finally, Alternative 2 would continue the existing land use pattern of compact housing in close proximity to public transportation.

Under CEQA, the Housing Replacement Alternative would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be ***less than significant***.

Under NEPA, the Housing Replacement Alternative would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be ***less than significant***.

Impact AQ-2:	**Violate Air Quality Standard during Construction** **CEQA: During construction, the Housing Replacement Alternative would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant with Mitigation)** **NEPA: During construction, the Housing Replacement Alternative would violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant with Mitigation)**

Construction and Operational Criteria Air Pollutants

Construction of Alternative 2 would be phased over approximately 8 years. However, because Alternative 2 would replace the existing land uses with newer buildings of the same land use pattern, it is assumed that no new operational emissions would be generated from Alternative 2. This is likely a conservative assumption because the new buildings that would be constructed are expected to have much higher energy efficiency than the older buildings, resulting in fewer emissions associated with energy consumption. Consequently, the analysis of Alternative 2 only considers emissions associated with construction activities. Construction emissions associated with Alternative 2 were modeled using the same methodology as that described above for the Proposed

Project. Construction phase timing for Alternative 2 was scaled from the Proposed Project based on the reduced level of development. Daily emissions associated with construction activities for Alternative 2 are shown in Table 5-9-20a, and annual emissions are shown in Table 5.9-20b. The tables below include only construction emissions generated as a direct result of Alternative 2. Emissions generated from existing development and land uses are not included.

Table 5.9-20a Maximum Daily Alternative 2 Construction Emissions by Year

	ROG	NO_X	PM10	PM2.5	CO
Maximum Daily Emissions by Year (lbs/day)					
2015	5.62	75.14	3.16	2.84	37.60
2016	6.41	80.28	3.67	3.31	43.90
2017[a]	6.63	87.38	3.40	3.06	35.60
2018	5.80	76.29	3.23	2.90	39.05
2019	6.70	82.21	3.63	3.27	44.55
2020[a]	4.81	66.42	2.59	2.33	25.70
2021	3.56	46.07	1.87	1.68	21.51
2022	0.44	3.42	0.15	0.14	1.81
Maximum Daily Emissions	6.70	87.38	3.67	3.31	44.55
Significance Threshold	54	54	82	54	NA
Threshold Exceeded?	No	Yes	No	No	NA
If Exceedance, Which Years?	NA	2015-2020	NA	NA	NA

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).
NA = Not applicable
Values in bold indicate that emissions would be in exceedance of the applicable threshold.
[a] Emissions in these years occur in more than one phase, but the phases do not overlap. The emissions shown in the table for these years are the highest daily emissions that occur in the year.

Table 5.9-20b Maximum Annual Alternative 2 Construction Emissions by Year

	ROG	NO_X	PM10	PM2.5	CO
Maximum Annual Emissions (tons/year)					
2015	0.79	10.52	0.44	0.40	5.26
2016	0.90	11.24	0.51	0.46	6.15
2017	1.04	13.57	0.53	0.47	5.74
2018	0.93	12.99	0.54	0.49	6.31
2019	0.94	11.51	0.51	0.46	6.24
2020	0.88	11.44	0.50	0.45	6.01
2021	1.11	14.60	0.60	0.54	6.63
2022	0.36	4.11	0.16	0.14	1.76
Maximum Annual Emissions	1.11	14.60	0.60	0.54	6.63

Table 5.9-20b Maximum Annual Alternative 2 Construction Emissions by Year

	ROG	NO_X	PM10	PM2.5	CO
Significance Threshold	10	10	15	10	NA
Threshold Exceeded?	No	Yes	No	No	NA
If Exceedance, Which Years?	NA	2015-2021	NA	NA	NA
de minimis Threshold	100	100	NA	100	100
de minimis Threshold exceeded?	No	No	No	No	No

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).
NA = Not applicable
Values in bold indicate that emissions would be in exceedance of the applicable threshold.

As shown in Tables 5.9-20a and 5.9-20b, NOx emissions in 2015–2020 and 2015–2021 would exceed the daily and annual NOx thresholds, respectively. Consequently, this would be a significant impact. Emissions of ROG, PM2.5, and PM10 are below the respective daily and annual thresholds for all years. The elevated NOx emissions are due to vehicle exhaust from the off-road and on-road equipment required for project construction. Implementing Mitigation Measures M-AQ-2a and M-AQ-2b, discussed for the Proposed Project, would reduce emissions associated with construction vehicle exhaust.

Implementing Mitigation Measures M-AQ-2a and M-AQ-2b would result in reduced daily emissions as shown in Table 5.9-21a, and annual emissions as shown in Table 5.9-21b.

Table 5.9-21a Maximum Daily Mitigated Alternative 2 Construction Emissions by Year

	ROG	NO_X	PM10	PM2.5	CO
Maximum Daily Emissions by Year(lbs/day)					
2015	5.62	46.06	0.47	0.43	23.16
2016	6.41	49.50	0.61	0.56	27.31
2017[a]	6.22	43.35	0.51	0.46	18.39
2018	5.42	37.36	0.46	0.41	19.41
2019	6.26	40.73	0.53	0.48	22.59
2020[a]	4.49	32.43	0.38	0.34	12.81
2021	3.46	22.91	0.27	0.25	11.07
2022	0.42	1.92	0.03	0.03	1.14
Maximum Daily Emissions	6.41	49.50	0.61	0.56	27.31
Significance Threshold	54	54	82	54	NA
Threshold Exceeded?	No	No	No	No	NA
If Exceedance, Which Years?	NA	NA	NA	NA	NA

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).
NA = Not applicable
[a] Emissions in these years occur in more than one phase, but the phases do not overlap. The emissions shown in the table for these years are the highest daily emissions that occur in the year.

Table 5.9-21b Maximum Annual Mitigated Alternative 2 Construction Emissions by Year

	ROG	*NO_X*	*PM10*	*PM2.5*	*CO*
Maximum Annual Emissions (tons/year)					
2015	0.79	6.45	0.07	0.06	3.24
2016	0.90	6.93	0.09	0.08	3.82
2017	0.98	6.78	0.08	0.07	2.98
2018	0.87	6.42	0.08	0.07	3.20
2019	0.88	5.70	0.07	0.07	3.16
2020	0.82	5.60	0.07	0.06	2.98
2021	1.04	7.90	0.09	0.09	3.76
2022	0.34	2.13	0.03	0.02	0.99
Maximum Annual Emissions	1.04	7.90	0.09	0.09	3.82
Significance Threshold	10	10	15	10	NA
Threshold Exceeded?	No	No	No	No	NA
If Exceedance, Which Years?	NA	NA	NA	NA	NA
de minimis Threshold	100	100	NA	100	100
de minimis Threshold exceeded?	No	No	No	No	No

SOURCE: Atkins (2013), and CalEEMod modeling output (2013).
NA = Not applicable

As shown in Tables 5.9-21a and 5.9-21b, with the implementation of mitigation measures designed to reduce exhaust emissions from construction vehicles, Alternative 2 NOx emissions would be reduced to below the criteria air pollutant daily and annual thresholds. ROG, PM10, and PM2.5 emissions would continue to be below the applicable thresholds for all years.

With implementation of Mitigation Measure M-AQ-4 during construction, the Housing Replacement Alternative would not violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. Under CEQA, with implementation of identified mitigation measures, this is considered a ***less-than-significant*** impact.

With implementation of Mitigation Measure M-AQ-4 during construction, the Housing Replacement Alternative would not violate an air quality standard, contribute substantially to an existing air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. Under NEPA, with implementation of identified mitigation measures, this is considered a ***less-than-significant*** impact.

Construction Fugitive Dust Emissions

As discussed under Proposed Project Impact AQ-2, compliance with the San Francisco Dust Control Ordinance would ensure that potential dust-related air quality impacts would be reduced to a less-

than-significant level. Alternative 2 construction activities would be required to comply with the dust minimization strategies discussed for Proposed Project Impact AQ-2.

Under CEQA, compliance with the regulations and procedures set forth by the San Francisco Dust Control Ordinance would ensure that potential dust-related air quality impacts would be reduced to a ***less than significant*** level.

Under NEPA, compliance with the regulations and procedures set forth by the San Francisco Dust Control Ordinance would ensure that potential dust-related air quality impacts would be reduced to a ***less than significant*** level.

Impact AQ-3:	**Violate Air Quality Standard during Operation** **CEQA: At buildout, the Housing Replacement Alternative would not violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)** **NEPA: At buildout, the Housing Replacement Alternative would not violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)**

Net Operational Criteria Pollutant Emissions

Alternative 2 would result in development that is substantially similar to the existing land uses at the Project site. As a result, operational emissions associated with Alternative 2 would be similar to the existing emissions at the Project site. This is likely a conservative assumption, however, because the new buildings that would be constructed would likely have much higher energy efficiency than the older buildings, resulting in fewer emissions from energy consumption. Therefore, there would be no additional impacts on air quality upon buildout of Alternative 2.

Upon buildout, the Housing Replacement Alternative would not violate an air quality standard or contribute substantially to an existing air quality violation. Under CEQA, this is considered a ***less-than-significant*** impact.

Upon buildout, the Housing Replacement Alternative would not violate an air quality standard or contribute substantially to an existing air quality violation. Under NEPA, this is considered a ***less-than-significant*** impact.

Net Operational Carbon Monoxide Hotspot

As discussed above, a project could result in a CO hotspot if traffic volumes at affected intersections with the project are estimated at more than 44,000 vehicles per hour. Because Alternative 2 would not add any additional land uses relative to the existing site, traffic volumes would remain identical to the existing conditions. Maximum intersection volumes with Alternative 2 would be 1,671

vehicles per hour at the Cesar Chavez Street and US 101 off-ramp in the 2030 Cumulative PM peak hour scenario, according to the Project's transportation study. Thus, Alternative 2 would not have the potential to result in new vehicle trips that could cause traffic volumes to exceed the 44,000 vehicle-per-hour screening criteria and thus would not have the potential to create a CO hotspot at affected intersections.

Impacts related to CO hot spots are considered ***less than significant*** under CEQA.

Impacts related to CO hot spots are considered ***less than significant*** under NEPA.

Impact AQ-4:	**Expose Sensitive Receptors to Substantial Pollutant Concentrations** **CEQA: The Housing Replacement Alternative would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)** **NEPA: The Housing Replacement Alternative would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)**

A discussion of existing local air quality, existing cancer risk and PM2.5 concentrations, sensitive receptors, project emission sources, and existing air pollution exposure zones is included in Proposed Project Impact AQ-4 and is applicable to this discussion for Alternative 2.

Health Risk Assessment

Methodology

Health risks were assessed by determining the cancer risk and PM2.5 concentrations that would result from the implementation of Alternative 2. The risks associated with construction activities were quantified by scaling the health impacts of the Proposed Project relative to the construction criteria pollutant emissions of the Proposed Project. The resulting ratio was then applied to Alternative 2 construction criteria pollutant emissions to determine Alternative 2 construction health risks. Operational risks were not quantified for Alternative 2, as there would be no increase in operational activity and no stationary sources of emissions.

Results

The below discussion and Tables 5.9-22 and 5.9-23 present the results pertaining to the receptor location where Alternative 2 in combination with existing health risks would have the greatest impact for both on-site and off-site receptors. Existing cancer risk and ambient PM2.5 concentrations at these locations are also provided.

Excess Cancer Risk

The results of the cancer risk analysis to on- and off-site sensitive receptors are presented in Table 5.9-22 for Alternative 2 and include the cancer risk from existing sources.

Table 5.9-22 Alternative 2 Cumulative Cancer Risk

Scenario	Receptor Location			Receptor Type	Source	Maximum Cancer Risk (per million)	Mean Cancer Risk (per million)	Mean +1 SD Cancer Risk (per million)
	#	UTM E	UTM N					
On-Site Receptors								
Resident	Various on Site			Resident	Construction	N/A	88.25	145.09
					Roadway	N/A	N/A	N/A
					Generator	N/A	N/A	N/A
					Project Total	*N/A*	*88.25*	*145.09*
					Existing	N/A	33.50	33.50
					Total	*N/A*	*121.75*	*178.59*
Daycare	Various on Site			Daycare Child	Construction	N/A	107.77	121.67
					Roadway	N/A	0.35	0.35
					Generator	N/A	0.04	0.04
					Project Total	*N/A*	*108.16*	*122.06*
					Existing	N/A	25.39	25.39
					Total	*N/A*	*133.55*	*147.45*
Off-Site Receptors								
Resident	2455	553020	4178620	Resident	Construction	97.37	N/A	N/A
					Roadway	N/A		
					Generator	N/A		
					Project Total	*97.37*		
					Existing	13.44		
					Total	*110.81*		
School	2109	552980	4178540	School Child	Construction	61.94	N/A	N/A
					Roadway	N/A		
					Generator	N/A		
					Project Total	*61.94*		
					Existing	15.89		
					Total	*77.83*		

SOURCE: Atkins 2013
Values may not add due to rounding.
N/A = Means the risk determination is not appropriate to that receptor.

For on-site receptors, the table shows the mean cancer risk, which is the average risk for each of the three construction phases for a receptor at a residence, school, or daycare at the Project site. The mean plus one standard deviation is included to provide a range of cancer risk due to the uncertainties discussed in Proposed Project Impact AQ-4. For off-site receptors, the table shows the maximum cancer risk for a school child or a resident near the Project site.

Although the Project site is not located within an identified air pollutant exposure zone, Alternative 2 would result in a cumulative cancer risk that is greater than 100 per million for on-site and off-site receptors. The ranges for on-site receptors for a resident and a child at daycare at the Project site are 122–179 per one million and 134–147 per one million, respectively. The maximum cancer risk for off-site receptors for a resident and a school child is 111 and 78 per one million, respectively. Thus, all receptors except the off-site school child would have a cancer risk that is above the standards. Alternative 2 would result in a significant health risk impact.

Fine Particulate Matter Concentrations

Unlike the cancer risk standard, the PM2.5 standard is an annual average concentration and varies depending on the level of activity. PM2.5 concentrations were quantified for this analysis for construction activities and added to ambient concentrations, as shown in Table 5.9-23. To determine whether the PM2.5 standard would be exceeded by Alternative 2's construction activities, the project-related maximum annual average PM2.5 concentrations shown above were added to the existing ambient PM2.5 concentrations. Total (cumulative) PM2.5 concentrations (Alternative 2 + ambient) are shown in Table 5.9-23.

Table 5.9-23 Alternative 2 Cumulative PM2.5 Concentrations

Scenario	*Receptor Location*			*Receptor Type*	*Source*	*Maximum PM2.5 Concentration (µg/m^3)*
	#	*UTM E*	*UTM N*			
On-site Receptors						
Resident	Various on Site			Resident	Project Construction	2.32
					Ambient	8.67
					Total	*10.99*
Daycare	Various on Site			Daycare Child	Project Construction	0.75
					Ambient	8.54
					Total	*9.29*
Off-Site Receptors						
Resident	1679	552980	4178440	Resident	Project Construction	0.87
					Ambient	8.43
					Total	*9.30*
School	2109	552980	4178540	School Child	Project Construction	0.66
					Ambient	8.34
					Total	*9.00*

SOURCE: Atkins (2013).

Note: Some operational emissions may occur during construction, but upon full build out of the project, PM2.5 concentrations would be less than 0.1 ug/m^3; therefore, adding these operational emissions would not substantially affect the results in this table.

As shown above, Alternative 2 would result in a cumulative PM2.5 concentration that is greater than 10 μg/m^3 for an onsite resident; thus, Alternative 2 would create a new air pollutant exposure zone as it exceeds the significance criteria. An on-site child at the daycare and off-site receptors would not be exposed to PM2.5 concentrations greater than 10 μg/m^3. Nevertheless, this would be a significant impact.

Mitigation Measures

Because Alternative 2 would result in a significant excess cancer risk to on- and off-site residences, the on-site day care and exceed the PM2.5 standard for the on-site residence, mitigation is necessary to reduce the impacts to sensitive receptors. Implementing Mitigation Measure M-AQ-4, discussed for the Proposed Project, would reduce the PM2.5 exhaust emissions, which would also reduce the health risks associated with elevated PM2.5 concentrations.

A quantitative analysis was conducted to determine health risks and PM2.5 concentrations resulting from Alternative 2 and with implementation of Mitigation Measure M-AQ-4. The resulting health risks and PM2.5 concentrations were quantified using the same methodology as discussed above and incorporating emissions reductions from Mitigation Measure M-AQ-4. Table 5.9-24 presents the mitigated cumulative excess cancer risk associated with Alternative 2 and with implementation of Mitigation Measure M-AQ-4.

Table 5.9-24 Alternative 2 Mitigated Cumulative Risk

Scenario	*Receptor Location*			*Receptor Type*	*Source*	*Maximum Cancer Risk (per million)*	*Mean Cancer Risk (per million)*	*Mean +1 SD Cancer Risk (per million)*
	#	*UTM E*	*UTM N*					
On-Site Receptors								
Resident	Various on Site			Resident	Project	N/A	8.37	13.91
					Existing	N/A	33.50	33.50
					Total	*N/A*	*41.87*	*47.41*
Daycare	Various on Site			Daycare Child	Project	N/A	8.52	9.55
					Existing	N/A	25.39	25.39
					Total	*N/A*	*33.91*	*34.94*
Off-Site Receptors								
Resident	2471	553340	4178620	Resident	Project	7.74	N/A	N/A
					Existing	23.44		
					Total	*31.18*		
School	2109	552980	4178540	School Child	Project	5.78	N/A	N/A
					Existing	15.89		
					Total	*21.67*		

SOURCE: Atkins 2013
Values may not add due to rounding.
N/A = Means the risk determination is not appropriate to that receptor.

As shown in Table 5.9-24, the cumulative excess cancer risk would be reduced from a maximum range of 122–179 per one million for an on-site resident to a maximum range of 42–47 per one million, with implementation of Mitigation Measure M-AQ-4. A similar reduction would occur for an on-site child at daycare (from 134–147 to 34–35 with Mitigation Measure M-AQ-4). Maximum cumulative excess cancer risk for off-site receptors would be reduced from 111 per one million for a resident to 31 per one million, and 78 per one million for a school child to 22 per one million. For all receptors, the maximum cumulative excess cancer risk would be less than 100 per one million.

Table 5.9-25 shows the cumulative PM2.5 concentrations with implementation of Mitigation Measure M-AQ-4.

Table 5.9-25 Alternative 2 Mitigated Cumulative PM2.5 Concentrations

Scenario	*Receptor Location*			*Receptor Type*	*Source*	*Maximum PM2.5 Concentration (µg/m³)*
	#	*UTM E*	*UTM N*			
On-Site Receptors						
Resident	Various on Site			Resident	Project	0.24
					Ambient	8.67
					Total	*8.91*
Daycare	Various on Site			Daycare Child	Project	0.04
					Ambient	8.54
					Total	*8.58*
Off-Site Receptors						
Resident	2133	553460	4178540	Resident	Project	0.10
					Ambient	8.43
					Total	*8.53*
School	2109	552980	4178540	School Child	Project	0.06
					Ambient	8.34
					Total	*8.40*

SOURCE: Atkins (2013).
Values may not add due to rounding.

As shown in Table 5.9-25, the effects of Mitigation Measure M-AQ-4 would reduce PM2.5 concentrations to below 10 µg/m³. Thus, with implementation of mitigation, Alternative 2 would not create a new air pollutant exposure zone. Therefore, compliance with Mitigation Measure M-AQ-4 would reduce construction emissions impacts on nearby sensitive receptors.

With incorporation of Mitigation Measure M-AQ-4, Alternative 2 would not expose sensitive receptors to substantial pollutant concentrations related to construction. Under CEQA, compliance with Mitigation Measure M-AQ-4 would reduce construction emissions impacts on nearby sensitive receptors to a ***less-than-significant*** level.

With incorporation of Mitigation Measure M-AQ-4, Alternative 2 would not expose sensitive receptors to substantial pollutant concentrations related to construction. Under NEPA, compliance with Mitigation Measure M-AQ-4 would reduce construction emissions impacts on nearby sensitive receptors to a ***less-than-significant*** level.

Asbestos

Asbestos is a Hazardous Air Pollutant that can cause lung disease and Mesothelioma. Construction activities associated with Alternative 2, such as grading and excavation in areas with serpentine bedrock or other asbestos minerals, could cause naturally occurring asbestos to be released into the air. Asbestos is regulated in the Project area by the BAAQMD, through ARB's ATCM. In addition, grading and excavation activities would be subject to the BAAQMD's construction dust ordinance, which limits the amount of fugitive and dust and asbestos that would be released into the atmosphere. The mitigation measures discussed in Section 5.18, *Hazards and Hazardous Materials*, would also ensure that the release of asbestos into the atmosphere would be limited.

Compliance with BAAQMD regulations and the construction dust ordinance would sufficiently reduce the amount of asbestos that may become airborne during grading and excavation activities. Therefore, this impact is ***less than significant*** under CEQA.

Compliance with BAAQMD regulations and the construction dust ordinance would sufficiently reduce the amount of asbestos that may become airborne during grading and excavation activities. Therefore, this impact is ***less than significant*** under NEPA.

Furthermore, Mitigation Measures HZ-2.2, HZ-2.3, and HZ-2.4, require further analysis and precaution in the presence of asbestos and would further reduce this less-than-significant impact.

Impact AQ-5:	**Expose Residents to Objectionable Odors**
	CEQA: The Housing Replacement Alternative would not expose residents to objectionable odors. (Less than Significant)
	NEPA: The Housing Replacement Alternative would not expose residents to objectionable odors. (Less than Significant)

As discussed for Proposed Project Impact AQ-5, construction activity associated with the land uses that would be built at the Project site for Alternative 2 would not result in the generation of substantial, offensive odors. In addition, odors from the Southeast Treatment Plant would not result in significant impacts on receptors at the Project site because, as discussed above, the topography, wind direction, and history of complaints associated with the facility indicate that impacts would not occur.

Impacts under CEQA are ***less than significant*** because Alternative 2 would not expose residents to objectionable odors.

Impacts under NEPA are ***less than significant*** because the Alternative 2 would not expose residents to objectionable odors.

Impact AQ-6:	**Trigger Need for General Conformity Assessment** **CEQA: This topic is not covered under CEQA.** **NEPA: The Housing Replacement Alternative would not generate criteria pollutants or their precursors in quantities that would trigger the need for a general conformity assessment. (Less than Significant)**

In relation to the NAAQS, as shown in Table 5.9-20b, construction emissions associated with Alternative 2 would not exceed the applicable de minimis thresholds for General Conformity in any year, and there would be no new operational emissions associated with Alternative 2; therefore, Alternative 2 would not violate or contribute to new violations of the NAAQS, would not increase the frequency or severity of existing violations of the NAAQS, and would not delay timely attainment of the NAAQS for ozone, CO, or PM2.5 and a formal General Conformity determination is not required. Under NEPA, no adverse effect would occur. Because there would be no violations of the NAAQS or exceedance of the *de minimis* thresholds, under NEPA, the impact would be considered ***less than significant***.

Alternative 3 – No Project Alternative

Under Alternative 3, construction and operation at Potrero Terrace and Potrero Annex would not occur. No other foreseeable development would occur at the Proposed site because no other development proposals for this site have been submitted or are anticipated. No emissions would occur under Alternative 3; thus, this alternative would have no potential to worsen air quality or generate criteria pollutant emissions or toxic air contaminant emissions that could affect sensitive receptors. Therefore, there would be ***no impact*** under both CEQA and NEPA.

Cumulative Impacts

Impact C-AQ-1	**Cumulative Air Quality Impacts** **CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would result in a significant cumulative impact related to air quality. (Significant and Unavoidable)** **NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would result in a significant cumulative impact related to air quality. (Significant and Unavoidable)**

Criteria Pollutants

As discussed in the Approach to Analysis section above, the project-level emissions thresholds are used to determine if a project would result in criteria air pollutants at levels that are cumulatively considerable. If a project exceeds the project-level emissions thresholds, then it would be cumulatively considerable. The Proposed Project and Alternative 1 would exceed the project-level NOx thresholds for multiple years during construction; thus, both the Proposed Project and Alternative 1 would result in criteria air pollutant emissions that would be cumulatively considerable, resulting in a significant cumulative impact. Mitigation Measures M-AQ-2a and M-AQ-2b have been identified to reduce NOx emissions during construction. However, even with implementation of these mitigation measures, both the Proposed Project and Alternative 1 would still exceed the NOx significance criteria and would result in a considerable contribution to cumulative air quality impacts. This cumulative impact under CEQA would be ***significant and unavoidable.*** Under NEPA, this cumulative impact would be ***significant and unavoidable.*** With implementation of mitigation measures, Alternative 2 would not exceed any project-level thresholds for criteria air pollutants. Therefore, Alternative 2 would result in a less than considerable contribution to cumulative air quality impacts, and this impact under CEQA would be ***less than significant with mitigation.*** Under NEPA this impact would be ***less than significant with mitigation***. Alternative 3 would not result in criteria air pollutant emissions and would therefore not have the potential to cumulative criteria air pollutant impacts.

Health Risks

As discussed in the *Significance Criteria under CEQA* section above, this EIR/EIS evaluates whether the project has the potential to expose sensitive receptors to substantial levels of air pollutants. The *Approach to Analysis* section identifies the criteria for defining areas that are substantially affected by air pollution. Because an individual is exposed to cumulative concentrations of air pollution (i.e., air pollution from the Proposed Project in addition to existing sources), the health risk evaluation above provides a cumulative analysis because it also considers an individual's exposure to existing sources of air pollution when determining whether a substantial increase in air pollution exposure zones would result from implementation of the Proposed Project or Project alternatives. As shown above, the Proposed Project and Alternatives 1 and 2 would all result in new air pollution exposure zones by causing an area to exceed the cumulative cancer risk standard of 100 per one million persons exposed or the PM2.5 concentrations exceeding 10 $\mu g/m^3$. This would be a significant impact.

With implementation of Mitigation Measure M-AQ-4, cumulative health risk impacts from the Proposed Project and Alternatives 1 and 2 would be reduced to a less-than-significant level and no new air pollution exposure zones would occur. Thus, cumulative health risk impacts would not be significant. Consequently, cumulative health impacts would be ***less than significant*** with mitigation under CEQA. Under NEPA, this cumulative effect is ***less than significant*** with mitigation. Alternative 3 would not result in TAC emissions and would, therefore, not have the potential to

contribute to cumulative health risks. Alternative 3 would not contribute to cumulative health risk impacts.

5.10 GREENHOUSE GAS EMISSIONS

5.10.1 Regulatory Framework

Federal

U.S. Supreme Court Ruling on Greenhouse Gases

The U.S. Environmental Protection Agency (USEPA) is the federal agency responsible for implementing the Clean Air Act (CAA). The U.S. Supreme Court ruled on April 2, 2007, that carbon dioxide (CO_2) is an air pollutant as defined under the CAA, and that the USEPA has the authority to regulate emissions of GHGs.[1] At this time, there are no federal regulations or policies regarding GHG emissions directly applicable to the Proposed Project. (See discussion of Assembly Bill [AB] 1493, below, for information on the USEPA's grant of a waiver of federal CAA preemption to California.)

Energy and Independence Security Act of 2007 and Corporate Average Fuel Economy Standards

The Energy and Independence Security Act of 2007 (EISA) amended the Energy Policy and Conservation Act (EPCA) to further reduce fuel consumption and expand the production of renewable fuels. The EISA's most significant amendment includes a statutory mandate for the National Highway Traffic Safety Administration (NHTSA) to set passenger car corporate average fuel economy (CAFE) standards for each model year (MY) vehicle at the maximum feasible level. This statutory mandate also eliminates the old default CAFE standard of 27.5 miles per gallon (mpg). The EISA requires that CAFE standards for MY 2011 to 2020 be set sufficiently high to achieve the goal of an industry-wide passenger car and light-duty truck average CAFE standard of 35 mpg.

The rule-making for this goal, per President Barack Obama's request, has been divided into two separate parts. The first part, which was published in the *Federal Register* in May 2010, includes CAFE standards for model year 2011 to meet the statutory deadline (i.e., March 30, 2009). These would be the maximum CAFE standards feasible under the limits of the EISA and the EPCA. The final combined USEPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016.

The second part of the rule-making applies to subsequent model years. On August 28, 2012, USEPA and NHTSA issued a joint Final Rulemaking to extend the national program of harmonized GHG

[1] United States Environmental Protection Agency. 2009. *Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act*. Available: <http://www.epa.gov/climatechange/endangerment/index.html>. Accessed: August 22, 2012.

and fuel economy standards to model year 2017 through 2025 passenger vehicles. These standards will increase fuel economy to the equivalent of 54.5 mpg for cars and light-duty trucks by model year 2025. In a related action, in June 2009, USEPA granted California a waiver under the federal CAA, allowing the state to impose its own, stricter GHG regulations for vehicles beginning in 2009.

USEPA and NHTSA have also developed a program to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses. This program will reduce fuel use and GHG emissions from medium- and heavy-duty vehicles, including semi-trucks, large pickup trucks and vans, as well as all types and sizes of work trucks and buses. The agencies have each adopted complementary standards under their respective authorities covering model years 2014 through 2018. USEPA and NHTSA have adopted standards for CO_2 emissions and fuel consumption, respectively, tailored to each of three main regulatory categories: (1) combination tractors; (2) heavy-duty pickup trucks and vans; and (3) vocational vehicles. Also exclusive to the USEPA program are USEPA's nitrous oxide (N_2O) and methane (CH_4) standards that will apply to all heavy-duty engines, pickups, and vans.

Under the EISA of 2007, the existing Renewable Fuel Standard (RFS) program was expanded in several ways:

- EISA expanded the RFS program to include diesel in addition to gasoline;
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
- EISA established new categories of renewable fuel, and set separate volume requirements for each one; and
- EISA required USEPA to apply lifecycle GHG performance standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

The expanded RFS lays the foundation for achieving substantial reductions of GHG emissions from the use of renewable fuels, for reducing imported petroleum, and encouraging the development and expansion of the renewable fuels sector.

U.S. Environmental Protection Agency Actions

In response to the issue of climate change, USEPA has taken actions to regulate, monitor, and potentially reduce GHG emissions.

Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act

On April 23, 2009, the USEPA published its proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the CAA (Endangerment Finding) in the *Federal Register*. The Endangerment Finding is based on Section 202(a) of the CAA, which states that the USEPA Administrator should regulate and develop standards for "emission[s] of air pollution from any

class or classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." The proposed rule addresses Section 202(a) in two distinct findings. The first addresses whether or not the concentrations of the identified six key GHGs (i.e., CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations. The second addresses whether or not the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs and thus increase the threat of climate change.

The USEPA Administrator proposed the finding that atmospheric concentrations of GHGs endanger the public health and welfare within the meaning of Section 202(a) of the CAA. The evidence supporting this finding consists of human activity resulting in "high atmospheric levels" of GHG emissions, which are very likely responsible for increases in average temperatures and other climatic changes. Furthermore, the observed and projected results of climate change (e.g., higher likelihood of heat waves, wildfires, droughts, sea level rise, and higher intensity storms) are a threat to public health and welfare. Accordingly, GHGs were found to endanger the public health and welfare of current and future generations.

The Administrator also proposed the finding that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. The proposed finding states that in 2006, motor vehicles were the second largest contributor to domestic GHG emissions (24 percent of the total), behind electricity generation. Furthermore, in 2005, the United States was responsible for 18 percent of global GHG emissions.[2] Thus, GHG emissions from motor vehicles and motor vehicle engines were found to contribute to air pollution that endangers public health and welfare.

On December 7, 2009, USEPA finalized its decision that GHG emissions from motor vehicles constitute an "endangerment" under the CAA. On December 9, 2009, the final rule was published in the *Federal Register*. It became effective January 14, 2010. This finding allows for the establishment of GHG emissions standards for new motor vehicles. In a related action, in June 2009, USEPA granted California a waiver under the federal CAA, allowing the state to impose its own, stricter GHG regulations for vehicles beginning in 2009, as discussed further below.

State

California Air Resources Board

The California Air Resources Board (ARB) is the state agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the

[2] U.S. Federal Register, Part V, Environmental Protection Agency, 40 CFR Chapter 1, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the California Clean Air Act; Final Rule (December 15, 2009).

California Clean Air Act (CCAA), adopted in 1988. The passage of the California Global Warming Solutions Act of 2006, or Assembly Bill 32 (AB 32), gave the ARB broad responsibility for promulgating regulations designed to achieve the general goals of reducing GHG emissions from sources and activities under its jurisdiction. (For a discussion of AB 32, see *Assembly Bill 32 and the California Climate Change Scoping Plan*, below.)

Various statewide and local initiatives have been introduced to reduce the state's contribution to GHG emissions. However, because every nation emits GHGs and thus makes an incremental cumulative contribution to global climate change, cooperation on a global scale will be required to reduce the rate of GHG emissions to a level that can effectively slow or stop the human-caused increase in global average temperatures and associated changes in climatic conditions.

Assembly Bill 1493

In 2002, then-Governor Gray Davis signed AB 1493 (also known as the Pavley Standards named for the bill's author, State Senator Fran Pavley). The Pavley standards required the ARB to develop and adopt, by January 1, 2005, regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks and other vehicles determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the state.

To meet the requirements of AB 1493, the ARB approved amendments to the California Code of Regulations (CCR) in 2004, adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 (13 CCR 1900, 1961), and adoption of Section 1961.1 (13 CCR 1961.1), require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes (i.e., any medium-duty vehicle with a gross vehicle weight (GVW) rating of less than 10,000 pounds and designed primarily for the transportation of persons), beginning with MY 2009 vehicles.

For passenger cars and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 pounds or less, the GHG emission limits for model year 2016 are approximately 37 percent lower than the limits for the first year of the regulations, model year 2009. For light-duty trucks with an LVW of 3,751 pounds to a GVW of 8,500 pounds, as well as for medium-duty passenger vehicles, GHG emissions will be reduced approximately 24 percent between 2009 and 2016.

Because the Pavley standards would impose stricter vehicle standards than those under the federal CAA, California was required to apply to the USEPA for a waiver from the federal CAA requirements. This waiver, granted in 2009, allows California to impose stricter vehicle standards.[3] In September 2009, the ARB adopted amendments to the Pavley standards that reduce GHG

[3] U.S. Federal Register, Environmental Protection Agency, [FRL-8927-2], California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles (July 8, 2009).

emissions from new passenger vehicles MY 2009 through 2016.[4] These amendments are part of California's commitment toward a nationwide program to reduce new passenger vehicle GHG emissions.

Executive Order S-3-05

Executive Order S-3-05 sets forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million gross metric tons of carbon dioxide equivalent [$MMTCO_2E$]); by 2020, reduce GHG emissions to 1990 levels (an estimated 427 $MMTCO_2E$); and by 2050, reduce GHG emissions to 80 percent below 1990 levels (approximately 85 $MMTCO_2E$). As discussed in Section, 4.10, *Greenhouse Gas Emissions*, California produced about 452 $MMTCO_2E$ in 2010, thereby meeting the 2010 target due date to reduce GHG emissions to 2000 levels.

Assembly Bill 32 and the California Climate Change Scoping Plan

In 2006, the California legislature passed AB 32 (California Health and Safety Code Division 25.5, Sections 38500 et seq.), also known as the California Global Warming Solutions Act. AB 32 requires ARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.

Pursuant to AB 32, ARB adopted a Scoping Plan in December 2008, outlining measures to meet the 2020 GHG reduction limits. In order to meet the goals of AB 32, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels, about 15 percent from 2008 levels.[5] The Scoping Plan estimates a reduction of 174 $MMTCO_2E$ from the transportation, energy, agriculture, forestry, and high global warming potential sectors (see Table 5.10-1).[6]

ARB has identified an implementation timeline for the GHG reduction strategies in the Scoping Plan.[7] Some measures may require new legislation to implement, some will require subsidies, some have already been developed, and some will require additional effort to evaluate and quantify. Additionally, some emissions reductions strategies may require their own environmental review under CEQA or the National Environmental Policy Act (NEPA).

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[4] California Air Resources Board. 2009. *Clean Car Standards—Pavley, Assembly Bill 1493*. Available: <http://www.arb.ca.gov/cc/ccms/ccms.htm>. Accessed: August 23, 2012.

[5] California Air Resources Board. 2010. *California's Climate Plan Fact Sheet*. Updated January 27. Available: <http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf>. Accessed: August 23, 2012.

[6] California Air Resources Board. 2010. *California's Climate Plan Fact Sheet*. Updated January 27. Available: <http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf>. Accessed: August 23, 2012.

[7] California Air Resources Board. 2008. *Assembly Bill 32: Global Warming Solutions Act*. Available: http://www.arb.ca.gov/cc/ab32/ab32.htm/. Accessed: August 22, 2012.

Table 5.10-1 GHG Reductions from the AB 32 Scoping Plan Sectors

GHG Reduction Measures by Sector	*GHG Reductions ($MMTCO_2E$)*
Transportation Sector	62.3
Electricity and Natural Gas	49.7
Industry	1.4
Landfill Methane Control Measure (Discrete Early Action)	1
Forestry	5
High Global Warming Potential GHGs	20.2
Additional Reductions Needed to Achieve the GHG Cap	34.4
Total Reductions Counted Towards 2020 Target	*174*
Other Recommended Measures	
Government Operations	1–2
Methane Capture at Large Dairies	1
Additional GHG Reduction Measures	
Water	4.8
Green Buildings	26
High Recycling/Zero Waste Commercial Recycling Composting Anaerobic Digestion Extended Producer Responsibility Environmentally Preferable Purchasing	9
Total	*41.8–42.8*

SOURCE: California Air Resources Board. 2008. *California Air Resources Board, Climate Change Scoping Plan* December. Available: <http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf>. Accessed: June 15, 2012.

The AB 32 Scoping Plan also anticipates that local government actions will result in reduced GHG emissions. ARB has identified a GHG reduction target of 15 percent from 2008 levels for local governments themselves and noted that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have the primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions.[8] The Scoping Plan also relies on the requirements of Senate Bill (SB) 375 (discussed below) to align local land use and transportation planning for achieving GHG reductions.

[8] California Air Resources Board. 2008. *Climate Change Scoping Plan*. December. Available: <http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf>. Accessed: August 23, 2012.

The Scoping Plan must be updated every 5 years to evaluate the mix of AB 32 policies to ensure that California is on track to achieve the 2020 GHG reduction goal. In early 2013, ARB initiated activities to update the AB 32 Scoping Plan and a Final Scoping Plan Update is scheduled to be released in 2014. The 2013 AB 32 Scoping Plan update will define ARB's climate change priorities for the next 5 years and lay the groundwork to reach post-2020 goals set forth in EO S-3-05. The update will highlight California's progress towards meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan (2008). According to the ARB, the State is currently on track to meet its 2020 GHG emission reduction goals. To address the State's near-term and longer-term GHG goals, the update will have both a 2020 element and the post-2020 element. The 2020 element will focus on State, regional, and local initiatives that are being implemented now to assist the State in meeting the 2020 goal. The post-2020 element will provide a high-level view of a long-term strategy for meeting the 2050 GHG goals.[9]

Executive Order S-1-07

Executive Order S-1-07, signed by then-governor Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California, at over 40 percent of statewide emissions. The order establishes a goal of reducing the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020. It also directed ARB to determine whether this Low Carbon Fuel Standard could be adopted as a discrete, early-action measure after meeting the mandates in AB 32. ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

Senate Bill 1078 and 107 and Executive Order S-14-08 and S-21-09

California established aggressive renewable energy standards under SB 1078 (Chapter 516, Statutes of 2002) and SB 107 (Chapter 464, Statutes of 2006), which require retail sellers of electricity, including investor-owned utilities and community choice aggregators,[10] to provide at least 20 percent of their electricity supply from renewable sources by 2010. Executive Order S-14-08 (November 2008) expanded the state's Renewable Portfolio Standard to 33 percent of electricity from renewable sources by 2020. In September 2009, then-governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directed ARB to enact regulations to help California meet the Reviewable Portfolio Standard goal of 33 percent renewable energy by 2020.[11]

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[9] ARB, "AB 32 Scoping Plan," July 3, 2013. Available: http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm. Accessed: April 21, 2014

[10] The City and County of San Francisco community choice aggregation program, "CleanPowerSF," was registered in May 2010 and is administered by the San Francisco Public Utilities Commission.

[11] The California Energy Commission. 2006. *Renewables Portfolio Standards (RPS) Proceeding Docket # 11-RPS-01 and 03-RPS-1078*. Available: <http://www.energy.ca.gov/portfolio/>. Accessed August 24, 2012.

Senate Bill 1368

SB 1368 (September 2006) is a companion bill of AB 32 that required the California Public Utilities Commission to establish a GHG emission performance standard for baseload generation from investor-owned utilities. The California Energy Commission was required to establish a similar standard for local publicly owned utilities. These regulations (20 CCR 2900), established in 2007, prohibit utilities from entering into long-term contracts with any baseload power plant that would emit more than the equivalent GHG performance of a typical combined-cycle natural-gas-fired plant. The legislation ensures that all new contracts for electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the Public Utilities Commission and the California Energy Commission.

Senate Bill 375

The Scoping Plan, as mentioned above, also relies on the requirements of Senate Bill 375 (SB 375) to implement the carbon emission reductions anticipated from land use decisions. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and land use and housing allocations. SB 375 requires regional transportation plans developed by each of the State's 18 Metropolitan Planning Organizations (MPOs) to incorporate a "sustainable communities strategy" (SCS) that will achieve GHG emission reduction targets set by ARB. For the Bay Area, the per-capita GHG emission reduction target is a seven percent reduction by 2020 and a 15 percent reduction by 2035 from 2005 levels. The Metropolitan Transportation Commission's (MTC's) 2013 Regional Transportation Plan, *Plan Bay Area*, adopted in July 2013, is the region's first plan subject to SB 375.

Regional/Local

Bay Area Air Quality Management District Climate Protection Program

The Bay Area Air Quality Management District (BAAQMD) is responsible for air quality regulation in the nine-county San Francisco Bay Area Air Basin (SFBAAB). BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the SFBAAB.[12] The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing GHGs and other air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders. The BAAQMD recommends that local agencies adopt a Greenhouse Gas Reduction Strategy consistent with AB 32 goals and that subsequent projects determine the significance of their GHG emissions based on the

[12] Bay Area Air Quality Management District. 2012. *Climate Protection Program*. Available: <http://www.baaqmd.gov/?sc_itemid=83004271-3753-4519-8B09-D85F3FC7AE70>. Accessed August 23, 2012.

degree to which that project complies with a Greenhouse Gas Reduction Strategy.[13] This recommendation is consistent with the approach to analyzing GHG emissions outlined in OPR's CEQA Guidelines, as amended by SB 97.

Bay Area Commuter Benefits Program Policy

In 2012, the Governor of California signed SB 1339 authorizing the BAAQMD and the MTC to jointly adopt a regional commute benefit program. Pursuant to SB 1339, the BAAQMD and MTC developed a Bay Area Commuter Benefits Program to require employers with 50 or more full-time employees in the Bay Area to offer their employees one of the following benefits:

- The option to pay transit or vanpooling expenses with pre-tax dollars, as permitted by federal law;
- A transit or vanpool subsidy to reduce or cover the employees' monthly transit or vanpool costs;
- Free or low-cost bus, shuttle, or vanpool service (operated by or for the employer); or
- Alternative commuter benefit that is as effective as the other options in reducing single-occupant vehicle trips (and/or vehicle emissions).[14,15]

City and County of San Francisco Greenhouse Gas (GHG) Reduction Strategy

At a local level, San Francisco has developed a number of plans and programs to reduce the City's contribution to global climate change. San Francisco's GHG reduction goals, as outlined in the 2008 Greenhouse Gas Reduction ordinance, are as follows: by 2008, determine the City's GHG emissions for the year 1990, the baseline level with reference to which target reductions are set; by 2017, reduce GHG emissions by 25 percent below 1990 levels; by 2025, reduce GHG emissions by 40 percent below 1990 levels; and finally by 2050, reduce GHG emissions by 80 percent below 1990 levels. San Francisco's Greenhouse Gas Reduction Strategy documents the City's actions to pursue cleaner energy, energy conservation, alternative transportation and solid waste policies. As identified in San Francisco's Greenhouse Gas Reduction Strategy, the City has implemented a number of mandatory requirements and incentives that have measurably reduced GHG emissions including, but not limited to, increasing the energy efficiency of new and existing buildings, installation of solar panels on building roofs, implementation of a green building strategy, adoption of a zero waste strategy, a construction and demolition debris recovery ordinance, a solar energy generation subsidy,

[13] Bay Area Air Quality Management District. 2012. *California Environmental Quality Act Air Quality Guidelines*. May. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en>. Accessed: September 25, 2012.

[14] Bay Area Air Quality Management District. 2013. *SB 1339: Bay Area Commuter Benefits Program*. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Commuter%20Benefits%20Program/FactSheet_FAQ_10-7.ashx>. Accessed: February 28, 2014.

[15] Metropolitan Transportation Commission. 2014. *Employers – Bay Area Commuter Benefits Program*. Available: <http://rideshare.511.org/employers/sb_1339.aspx>. Accessed: February 28, 2014.

incorporation of alternative fuel vehicles in the City's transportation fleet (including buses), and a mandatory recycling and composting ordinance. The strategy also identifies 42 specific regulations for new development projects that would reduce a project's GHG emissions.

The Greenhouse Gas Reduction Strategy concludes that San Francisco's policies and programs have resulted in a reduction in GHG emissions below 1990 levels, exceeding statewide AB 32 GHG reduction goals. As reported, San Francisco's communitywide 1990 GHG emissions were approximately 6.2 $MMTCO_2E$. A third-party verification of the City's 2010 communitywide and municipal emissions inventory has confirmed that San Francisco has reduced its GHG emissions to 5.3 $MMTCO_2E$, representing a 14.5 percent reduction in GHG emissions below 1990 levels.[16,17] The reduction is largely a result of reduced GHG emissions from the electricity sector, from 2.0 $MMTCO_2E$ (year 1990) to 1.3 $MMTCO_2E$ (year 2010), and waste sector, from 0.5 $MMTCO_2E$ (year 1990) to 0.2 $MMTCO_2E$ (year 2010).[18]

City Plans, Policies, and Programs

Transit First Policy

In 1973, the City instituted the Transit First Policy, which added Article 8A, Section 8A.115 to the City Charter with the goal of reducing San Francisco's reliance on freeways and meeting transportation needs by emphasizing mass transportation. The Transit First Policy gives priority to public transit investments; adopts street capacity and parking policies to discourage increased automobile traffic; and encourages the use of transit, bicycling, and walking instead of single-occupant vehicles.

San Francisco Sustainability Plan

In July 1997, the Board of Supervisors endorsed the *Sustainability Plan for the City and County of San Francisco*, which establishes sustainable development as a fundamental goal of municipal public policy.

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[16] ICF International. 2012. *Technical Review of the 2010 Community-wide GHG Inventory for City and County of San Francisco.* Memorandum from ICF International to San Francisco Department of the Environment. April 10. Available: <http://www.sfenvironment.org/download/community-greenhouse-gas-inventory-3rd-party-verification-memo>. Accessed: September 27, 2012.

[17] ICF International. 2012. *Technical Review of San Francisco's 2010 Municipal GHG Inventory*, Memorandum from ICF International to San Francisco Department of the Environment. May 8. Available: <http://www.sfenvironment.org/download/third-party-verification-of-san-franciscos-2010-municipal-ghg-inventory>. Accessed: September 27, 2012.

[18] San Francisco Department of Environment (DOE). 2013. *San Francisco Climate Action Strategy, 2013 Update*. Available: <https://workspace.icfi.com/etr/epi/projects/hopesf/Task%202_Screencheck%20Draft%20EIR/02_Screencheck/09_New%20References/4.10_and_5.10_GHG/sfe_cc_ClimateActionStrategyUpdate2013.pdf>. Accessed: May 7, 2014.

Electricity Resource Plan (Revised December 2002)

The City adopted the *Electricity Resource Plan* to help address growing environmental health concerns in San Francisco's southeast community, the site of two power plants. The plan presents a framework for assuring a reliable, affordable, and renewable source of energy for the future of San Francisco. The two power plants, the Hunters Point Power Plant and Potrero Power Plant, were relatively inefficient fossil-fuel based plants and located in a community with high rates of asthma and other environmental issues. The Hunters Point and Potrero Power Plants were closed in 2006 and 2011, respectively.[19]

Climate Action Plan for San Francisco

In February 2002, the San Francisco Board of Supervisors passed the Greenhouse Gas Emissions Reduction Resolution (Number 158-02) that set a goal for the City to reduce GHG emissions to 20 percent below 1990 levels by the year 2012. In September 2004, the San Francisco Department of the Environment and San Francisco Public Utilities Commission published the *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas Emissions*.[20] This climate action plan provides the context of climate change in San Francisco and examines strategies to meet the 20 percent GHG emissions reduction target. Although the Board of Supervisors has not formally committed the City to perform the actions addressed in the plan, and many of the actions require further development and commitment of resources, the plan serves as a blueprint for GHG emissions reductions, and several actions have been implemented or are now in progress.

San Francisco Municipal Transportation Agency's Zero Emissions 2020 Plan

The Zero Emissions 2020 Plan focuses on the purchase of cleaner emission transit buses, including hybrid diesel-electric buses. Under this plan, hybrid buses will replace the oldest diesel buses, some dating back to 1988. The hybrid buses emit 95 percent less particulate matter (soot) than the buses they replace; they produce 40 percent less nitrogen oxides and reduce GHGs by 30 percent.

Zero Waste

In 2004, the City committed to a goal of diverting 75 percent of its waste from landfills by 2010, with the ultimate goal of zero waste by 2020. In 2012, San Francisco successfully diverted 80 percent of discarded material.[21]

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[19] San Francisco Public Utilities Commission. 2011. San Francisco's 2011 Updated Electricity Resource Plan. Available: <http://sfwater.org/Modules/ShowDocument.aspx?documentID=40>. Accessed: August 5, 2014.

[20] San Francisco Department of the Environment and San Francisco Public Utilities Commission. 2004. *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Emissions*. San Francisco, CA.

[21] Recology. 2014. *San Francisco Reaches 80 Percent Landfill Waste Diversion*. Available: <http://www.recologysf.com/index.php/component/content/article/94-recology-news/291-eighty-percent>. Accessed: April 21, 2014.

GoSolarSF

On July 1, 2008, the San Francisco Public Utilities Commission launched its "GoSolarSF" program to San Francisco's businesses and residents, offering incentives in the form of a rebate program that could pay for approximately half the cost of installation of a solar power system and more to those qualifying as low-income residents.

The San Francisco Planning Department and the San Francisco Department of Building Inspection have also developed a streamlining process for solar photovoltaic permits and priority permitting mechanisms for projects pursuing Platinum certification under the Leadership in Energy and Environmental Design (LEED®) Green Building Rating System.

Local Ordinances

San Francisco Planning Code

The *San Francisco Planning Code* (*Planning Code*) reflects the latest smart growth policies and includes electric vehicle refueling stations in City parking garages, bicycle storage facilities for commercial and office buildings, and zoning that is supportive of high-density mixed-use infill development. The City's area plans, including the Rincon Hill Area Plan, Market and Octavia Area Plan, Eastern Neighborhoods Rezoning and Area Plans, Glen Park and Balboa Park Area Plans, Transit Center District Plan and Western SoMa Plan provide transit-oriented development policies that allow for neighborhood-oriented retail services and limit off street parking to accessory parking spaces. At the same time, there is a communitywide focus on ensuring that San Francisco's neighborhoods are "livable," as reflected in the San Francisco Better Streets Plan, which provides streetscape policies throughout the City; the Transit Effectiveness Project, which aims to improve transit service; and the San Francisco Bicycle Plan. All of these plans and projects are intended to promote alternative transportation options for residents and visitors.

Construction and Demolition Debris Recovery Ordinance

In 2006, the City adopted Ordinance No. 27-06, requiring all construction and demolition debris to be transported to a registered facility that can divert a minimum of 65 percent of the material from landfills. This ordinance applies to all construction, demolition, and remodeling projects within the City.

Waste Reduction Ordinances

The City has also passed ordinances to reduce waste from retail and commercial operations. Ordinance 295-06, the Food Waste Reduction Ordinance, prohibits the use of polystyrene foam disposable food serviceware and requires biodegradable/compostable or recyclable food serviceware by restaurants, retail food vendors, City departments, and City contractors. Ordinance 81-07, the Plastic Bag Reduction Ordinance, requires stores located within the City to use compostable plastic, recyclable paper, and/or reusable checkout bags.

Greenhouse Gas Reduction Ordinance

As discussed above, the GHG Reduction Ordinance (adopted in May 2008) establishes GHG emissions targets. The ordinance also specifies requirements for City departments to prepare climate action plans that assess GHG emissions associated with their activities and activities regulated by them, report the results of those assessments to the San Francisco Department of the Environment, and prepare recommendations to reduce emissions. In particular, the San Francisco Planning Department is required to (1) update and amend the City's applicable General Plan elements to include the emissions reduction limits set forth in this ordinance and policies to achieve those targets; (2) consider a project's impact on the City's GHG emissions reduction limits specified in this ordinance as part of its review under CEQA; and (3) work with other City departments to enhance the Transit First Policy to encourage a shift to sustainable modes of transportation, thereby reducing emissions and helping to achieve the targets set forth by the ordinance.

City and County of San Francisco's Green Building Ordinance

On August 4, 2008, San Francisco's Green Building Ordinance (Ordinance No. 180-08) became law for newly constructed residential and commercial buildings and renovations to existing buildings. The ordinance specifically requires newly constructed commercial buildings over 5,000 square feet (sf), residential buildings over 75 feet in height, and renovations on buildings over 25,000 sf to be subject to an unprecedented level of required LEED® Green Building Rating System™ requirements, the most stringent green building requirements in the nation at the time.

In addition, green building standards are required for all newly constructed buildings, regardless of size or occupancy, as well as renovations to building areas greater than 25,000 sf undergoing major structural, mechanical, or electrical upgrades. Cumulative benefits of this ordinance include reducing CO_2 emissions by 60,000 tons, saving 220,000 megawatt-hours of power, saving 100 million gallons of drinking water, reducing waste and stormwater by 90 million gallons, reducing construction and demolition waste by 700 million pounds, increasing the valuations of recycled materials by $200 million, reducing 540,000 automobile trips, and increasing the generation of green power by 37,000 megawatt-hours.[22]

City and County of San Francisco Commuter Benefits Ordinance

The City adopted Ordinance No. 199-08, effective January 19, 2009, that allows commuters to deduct a specified amount per month, pre-tax, for transit and vanpool expenses. These commuter benefits must be offered by any employer with 20 employees or more that operates within the City. To qualify for these benefits, employees must work at least 10 hours per week averaged over a calendar month. Although not required by the ordinance, employers can offer the commuter benefits to employees who work fewer than 10 hours per week averaged over a month.

[22] These findings are contained within the final Green Building Ordinance, signed by the Mayor on August 4, 2008.

City and County of San Francisco Mandatory Recycling and Composting Ordinance

The City adopted Ordinance No. 100-09, effective October 21, 2009, that requires all businesses and residences to compost food scraps and biodegradable products. Businesses and residents are provided with green, blue, and black bins to sort their food and other biodegradable waste, recycling, and trash, respectively. Businesses and residences that do not comply with the ordinance are subject to fines, depending on the level and duration of noncompliance.

The above are just some of the programs that San Francisco implements to reduce communitywide GHG emissions. As discussed above, the Greenhouse Gas Reduction Strategy provides a comprehensive assessment of City policies, programs, and regulations that reduce GHG emissions.

5.10.2 Impacts and Mitigation Measures

Significance Criteria Under CEQA

The Proposed Project and alternatives would result in a significant impact on GHG emissions if it would:

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

Context and Intensity Evaluation Guidelines under NEPA

The analysis considers whether the Proposed Project would exceed the CAA Reporting Limit of 25,000 metric tons of carbon dioxide equivalent ($MTCO_2E$) per year.

Approach to Analysis

GHG emissions and global climate change represent cumulative impacts. GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; the combination of GHG emissions from past, present, and future projects have contributed to global climate change and its associated environmental impacts.

CEQA Guidelines Sections 15064.4 and 15183.5 address the analysis and determination of significant impacts from a proposed project's GHG emissions. CEQA Guidelines Section 15064.4 allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. CEQA Guidelines Section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of greenhouse gases and describes the required contents of such a plan. Consistent with these sections, San Francisco has prepared its own Greenhouse Gas

Reduction Strategy (described above). The BAAQMD has reviewed San Francisco's Greenhouse Gas Reduction Strategy, concluding that "Aggressive GHG reduction targets and comprehensive strategies like San Francisco's help the Bay Area move toward reaching the State's AB 32 goals, and also serve as a model from which other communities can learn."[23]

Consistent with CEQA Guidelines Sections 15064.4 and 15183.5, the GHG analysis below includes a qualitative assessment of GHG emissions that would result from the Proposed Project and an assessment of the Proposed Project's compliance with San Francisco's Greenhouse Gas Reduction Strategy.

Given that the City's local greenhouse gas reduction targets are more aggressive than the State and Region's 2020 GHG reduction targets and consistent with the long-term 2050 reduction targets, the City's Greenhouse Gas Reduction Strategy is consistent with the goals of EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan. Therefore, proposed projects that are consistent with the City's Greenhouse Gas Reduction Strategy would be consistent with the goals of EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan, would not conflict with these plans, and would therefore not exceed San Francisco's applicable GHG threshold of significance.

The following analysis of the Proposed Project's impact on climate change focuses on the Project's contribution to cumulatively significant GHG emissions. Given that the analysis is in a cumulative context, this section does not include an individual project-specific impact statement.

Impact Evaluation

Proposed Project

Impact C-GG-1	**Cumulative Greenhouse Gas Effects**
	CEQA: The Proposed Project would generate greenhouse gas emissions, but not at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)
	NEPA: The Proposed Project would generate greenhouse gas emissions, but not to the level that would exceed the Clean Air Act Reporting Limit of 25,000 metric tons of carbon dioxide equivalent ($MTCO_2E$) per year. (Less than Significant)

Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during construction and operational phases. Direct operational emissions include GHG emissions from new vehicle trips and area sources (natural gas combustion). Indirect

[23] BAAQMD. Letter from J. Roggenkamp, BAAQMD, to B. Wycko, San Francisco Planning Department, October 28, 2010. Available online at: <http://www.sf-planning.org/ftp/files/MEA/GHG-Reduction_Letter.pdf>. Accessed: September 24, 2012.

emissions include emissions from electricity providers; energy required to pump, treat, and convey water; and emissions associated with waste removal, disposal, and landfill operations.

The Proposed Project would increase the activity on site through development of new residential and commercial 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 associated with energy use, water use and wastewater treatment, and solid waste disposal. Construction activities would also result in an increase in GHG emissions.

As discussed above and consistent with the CEQA Guidelines and BAAQMD recommendations for analyzing GHG emissions under CEQA, projects that are consistent with San Francisco's *Strategies to Address Greenhouse Gas Emissions* would result in a less-than-significant GHG impact.

The Proposed Project would be subject to and would comply with GHG reduction measures as shown in Table 5.10-2.

Table 5.10-2 City Greenhouse Gas Regulations Applicable to the Proposed Project and Alternatives

Regulation or Program	***Requirement***
Emergency Ride Home Program	All persons employed in San Francisco are eligible for the emergency ride home program.
Transit Impact Development Fee	Establishes fees for all commercial developments. Fees are paid to the SFMTA to improve local transit services.
Bicycle Parking in Residential Buildings	For buildings containing more than 100 dwelling units, 100 Class 1 spaces plus one Class 1 space for every four dwelling units over 100, excluding senior citizen dwelling units. For dwelling units dedicated to senior citizens or persons with physical disabilities, and/or residential care facilities, one Class I space is required for every 10 units or beds, whichever is applicable.
Parking requirements for San Francisco's Mixed-Use zoning districts	The *Planning Code* has established parking maximums for many of San Francisco's mixed-use zoning districts.
San Francisco Green Building Requirements for Energy Efficiency	Requires Enhanced Commissioning of Building Energy Systems for New Large Commercial Buildings: For new large buildings greater than 10,000 sf, commissioning shall be included in the design and construction to verify that the components meet the owner's or owner representative's project requirements.
San Francisco Green Building Requirements for Energy Efficiency	Commercial buildings greater than 5,000 sf are required to be at a minimum 14% more energy efficient than Title 24 energy efficiency requirements. By 2008 large commercial buildings will be required to have their energy systems commissioned, and by 2010, these large buildings will be required to provide enhanced commissioning in compliance with LEED® Energy and Atmosphere Credit 3. Mid-sized commercial buildings will be required to have their systems commissioned by 2009, with enhanced commissioning by 2011. Under the Green Point Rated system and in compliance with the Green Building Ordinance, all new residential buildings are required to be at a minimum 15% more energy efficient than Title 24 energy efficiency requirements.
San Francisco Green Building Requirements for Stormwater Management	Requires all new development or redevelopment disturbing more than 5,000 sf of ground surface to manage stormwater on-site using low impact design. Projects subject to the Green Building Ordinance Requirements must comply with either LEED® Sustainable Sites Credits 6.1 and 6.2, or with the City's stormwater ordinance and stormwater design guidelines.

Table 5.10-2 City Greenhouse Gas Regulations Applicable to the Proposed Project and Alternatives

Regulation or Program	*Requirement*
San Francisco Green Building Requirements for water efficient landscaping	All new commercial buildings greater than 5,000 sf are required to reduce the amount of potable water used for landscaping by 50%.
San Francisco Green Building Requirements for Water Use Reduction	All new commercial buildings greater than 5,000 sf are required to reduce the amount of potable water used by 20%.
San Francisco Water Efficient Irrigation Ordinance	Projects that include 1,000 sf or more of new or modified landscape are subject to this ordinance, which requires that landscape projects be installed, constructed, operated, and maintained in accordance with rules adopted by the SFPUC that establish a water budget for outdoor water consumption.
Residential Water Conservation Ordinance	Requires all residential properties (existing and new), prior to sale, to upgrade to the following minimum standards: 1. All showerheads have a maximum flow of 2.5 gallons per minute (gpm) 2. All showers have no more than one showerhead per valve 3. All faucets and faucet aerators have a maximum flow rate of 2.2 gpm 4. All Water Closets (toilets) have a maximum rated water consumption of 1.6 gallons per flush (gpf) 5. All urinals have a maximum flow rate of 1.0 gpf 6. All water leaks have been repaired.
San Francisco Green Building Requirements for Renewable Energy	By 2012, all new commercial buildings will be required to provide on-site renewable energy or purchase renewable energy credits pursuant to LEED® Energy and Atmosphere Credits 2 or 6. Credit 2 requires providing at least 2.5% of the buildings energy use from on-site renewable sources. Credit 6 requires providing at least 35% of the building's electricity from renewable energy contracts.
Mandatory Recycling and Composting Ordinance and solid waste	All persons in San Francisco are required to separate their refuse into recyclables, compostables and trash, and place each type of refuse in a separate container designated for disposal of that type of refuse. Pursuant to Section 1304C.0.4 of the Green Building Ordinance, all new construction, renovation and alterations subject to the ordinance are required to provide recycling, composting and trash storage, collection, and loading that is convenient for all users of the building.
San Francisco Green Building Requirements for construction and Demolition Debris Recycling	Projects proposing demolition are required to divert at least 75% of the project's construction and demolition debris to recycling.
Street Tree Planting Requirements for New Construction	*Planning Code* Section 428 requires new construction, significant alterations or relocation of buildings within many of San Francisco's zoning districts to plant a 24-inch box tree for every 20 feet along the property street frontage.
Light Pollution Reduction	Nonresidential projects are required to comply with lighting power requirements in CA Energy Code, CCR Part 6. Requires that lighting be contained within each source. No more than .01 horizontal lumen foot-candles 15 feet beyond site, or meet LEED® credit SSc8.
Construction Site Runoff Pollution Prevention for New Construction	Construction Site Runoff Pollution Prevention requirements depend upon project size, occupancy, and the location in areas served by combined or separate sewer systems. Projects meeting a LEED® standard must prepare an erosion and sediment control plan (LEED® prerequisite SSP1). Other local requirements may apply regardless of whether or not LEED® is applied such as a stormwater soil loss prevention plan or a Stormwater Pollution Prevention Plan (SWPPP).
Low-emitting Adhesives, Sealants, and Caulks	If meeting a LEED® Standard: Adhesives and sealants (VOCs) must meet South Coast Air Quality Management District Rule 1168 and aerosol adhesives must meet Green Seal standard GS-36.

Table 5.10-2 City Greenhouse Gas Regulations Applicable to the Proposed Project and Alternatives

Regulation or Program	*Requirement*
Low-emitting materials	For Small and Medium-sized Residential Buildings—meet GreenPoint Rated designation with a minimum of 75 points. For New High-Rise Residential Buildings—meet LEED® Silver Rating or GreenPoint Rated designation with a minimum of 75 points. If meeting a LEED® Standard: For adhesives and sealants (LEED® credit EQ4.1), paints and coatings (LEED® credit EQ4.2), and carpet systems (LEED® credit EQ4.3), where applicable.
Low-emitting Paints and Coatings	If meeting a LEED® Standard: Architectural paints and coatings must meet Green Seal standard GS-11, anti-corrosive paints meet GC-03, and other coatings meet SCAQMD Rule 1113. (Not applicable for New High Rise residential)
Low-emitting Flooring, including carpet	If meeting a LEED® Standard: Hard surface flooring (vinyl, linoleum, laminate, wood, ceramic, and/or rubber) must be Resilient Floor Covering Institute FloorScore certified; carpet must meet the Carpet and Rug Institute (CRI) Green Label Plus; Carpet cushion must meet CRI Green Label; carpet adhesive must meet LEED® EQc4.1. (Not applicable for New High Rise residential)
Low-emitting Composite Wood	If meeting a LEED® Standard: Composite wood and agrifiber must not contain added urea-formaldehyde resins and must meet applicable CARB Air Toxics Control Measure.
Regulation of Diesel Backup Generators	Requires (among other things): All diesel generators to be registered with the Department of Public Health All new diesel generators must be equipped with the best available air emissions control technology.

In addition to the regulations listed above, the Proposed Project includes the following design features that would further reduce the Project's GHG emissions. The Proposed Project would be built to LEED-ND standards.

Improvements to the existing roadway network would enhance pedestrian mobility throughout the site. These are discussed in Chapter 2, *Project Alternatives and Project Description* and consist of several pedestrian connections that would provide a link to new and existing neighborhood amenities and provide an alternate mode of transportation in the area. Bicycle facilities would be installed at various locations throughout the Project site, and linkages to existing city bike networks would be improved, thereby improving mobility and encouraging the use of an alternative mode of transportation. In addition, street and landscape design and roadway accommodations, including wider sidewalks, better internal connections, and more public pathways, would promote multimodal use of the street network and the least-steep streets would provide key bicycle connections to existing city bicycle networks. As discussed in Chapter 2, *Project Alternatives and Project Description*, several new transit stops are proposed within the Project site on the reconfigured street system.

The regulations listed in Table 5.10-2, as outlined the City's *Strategies to Address Greenhouse Gas Emissions*, have proven effective as San Francisco's GHG emissions have measurably decreased

when compared to 1990 emissions levels, demonstrating that the City has met and exceeded EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan GHG reduction goals for the year 2020. The Proposed Project was determined to be consistent with San Francisco's GHG Reduction Strategy.[24] Adhering to other existing regulations, such as those implemented through AB 32, would continue to reduce the Proposed Project's contribution to climate change. In addition, the Proposed Project's roadway network, new bicycle facilities, and pedestrian connections could facilitate alternative transportation options, thereby reducing GHG emissions that would otherwise occur from vehicular transportation. Therefore, the Proposed Project's GHG emissions would not conflict with State, regional, and local GHG reduction plans and regulations, and the Proposed Project's contribution to GHG emissions would not be cumulatively considerable or generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. Accordingly, the Proposed Project would result in a ***less-than-significant*** impact under CEQA because it would not generate GHGs that would result in a significant impact or conflict with an existing or adopted plan.

CEQ's draft guidance memorandum on consideration of the effects of climate change and GHGs in NEPA documentation identifies the CAA reporting requirement of 25,000 $MTCO_2E$ or more as an indication that greenhouse gas emissions could be considered a potential adverse impact of a federal action but specifies that the reporting requirement should not necessarily be used as a threshold. Nevertheless, in order to compare the project's GHG emissions against the CAA reporting requirement, GHG emissions associated with the Project were calculated using the CalEEMod emissions estimator model. Project emissions are presented in Table 5.10-3. Project GHG emissions would be 7,854 $MTCO_2E$ per year, which would be about 31 percent of the CAA reporting limit of 25,000 $MTCO_2E$ per year. Accordingly, the Proposed Project impact under NEPA would be ***less than significant***.

[24] Greenhouse Gas Analysis: Compliance Checklist. May 9, 2012. This document is on file and available for public review as part of Project Case File No. 2010.0515E.

Table 5.10-3 Annual Inventory of Project GHG Emissions

Source	*Emissions (metric tons CO_2e per year)*
Existing Emissions	
Motor Vehicle Trips	2,783
Energy	1,340
Solid Waste	56
Other Sources (Area Sources, Water/Wastewater)	126
Stationary Sources (Generator)	0
Total Operational GHG Emissions	*4,306*
Project Emissions	
Motor Vehicle Trips	7,448
Energy	4,117
Solid Waste	196
Other Sources (Area Sources, Water/Wastewater)	371
Stationary Sources (Generator)	27
Total Operational GHG Emissions	*12,159*
Net[a] Project Emissions	
Motor Vehicle Trips	4,665
Energy	2,777
Solid Waste	140
Other Sources (Area Sources, Water/Wastewater)	244
Stationary Sources (Generator)	27
Total Net Operational GHG Emissions	*7,854*
Clean Air Act Reporting Limit	25,000

SOURCE: Atkins, CalEEMod modeling (2014)

a. Net emissions are the proposed project emissions minus the existing emissions.

Alternative 1 – Reduced Development Alternative

Impact C-GG-1	**Cumulative Greenhouse Gas Effects** **CEQA: The Reduced Development Alternative would generate greenhouse gas emissions, but not at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)** **NEPA: The Reduced Development would generate greenhouse gas emissions, but not to the level that would exceed the Clean Air Act Reporting Limit of 25,000 metric tons of carbon dioxide equivalent ($MTCO_2E$) per year. (Less than Significant)**

Similar to the Proposed Project, Alternative 1 would include residential development, retail/flex space, community uses, and open space. Alternative 1 would be required to comply with all applicable regulations identified in the City's *Strategies to Address Greenhouse Gas Emissions*, as demonstrated in Appendix 4.10, and was determined to be consistent with San Francisco's GHG Reduction Strategy.[25] Therefore, under CEQA, for the reasons described above for the Proposed Project, Alternative 1 would have a ***less-than-significant*** impact with respect to generating GHG emissions and compliance with applicable climate change plans, policies, and regulations.

GHG emissions associated with the Reduced Development Alternative were calculated using the CalEEMod emissions estimator model. Emissions are presented in Table 5.10-4. Project GHG emissions would be 5,790 $MTCO_2E$ per year, which would be less than 23 percent of the CAA reporting limit of 25,000 $MTCO_2E$ per year.

Accordingly, Alternative 1 would result in a ***less-than-significant*** impact with respect to generating GHG emissions and impacts on climate change under NEPA.

[25] Greenhouse Gas Analysis: Compliance Checklist. May 9, 2012. This document is on file and available for public review as part of Project Case File No. 2010.0515E.

Table 5.10-4 Annual Inventory of Alternative 1 GHG Emissions

Source	*Emissions (metric tons CO_2e per year)*
Existing Emissions	
Motor Vehicle Trips	2,783
Energy	1,340
Solid Waste	56
Other Sources (Area Sources, Water/Wastewater)	126
Stationary Sources (Generator)	0
Total Operational GHG Emissions	*4,306*
Project Emissions	
Motor Vehicle Trips	6,629
Energy	3,000
Solid Waste	143
Other Sources (Area Sources, Water/Wastewater)	296
Stationary Sources (Generator)	27
Total Operational GHG Emissions	*10,096*
Net[a] Project Emissions	
Motor Vehicle Trips	3,846
Energy	1,660
Solid Waste	87
Other Sources (Area Sources, Water/Wastewater)	170
Stationary Sources (Generator)	27
Total Net Operational GHG Emissions	*5,790*
Clean Air Act Reporting Limit	25,000

SOURCE: Atkins, CalEEMod modeling (2014)

a. Net emissions are the proposed project emissions minus the existing emissions.

Alternative 2 – Housing Replacement Alternative

Impact C-GG-1	**Cumulative Greenhouse Gas Effects** **CEQA: The Housing Replacement Alternative would generate greenhouse gas emissions, but not at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)** **NEPA: The Housing Replacement Alternative would generate greenhouse gas emissions, but not to the level that would exceed the Clean Air Act Reporting Limit of 25,000 metric tons of carbon dioxide equivalent ($MTCO_2E$) per year. (No Impact)**

Alternative 2 would result in demolition and redevelopment of the existing structures at the Project site using the same building pattern that currently exists. For Alternative 2, the site plan, total number of housing units, and non-residential uses would be the same as under existing conditions. All new development would be required to comply with current regulations, including updated building codes and the San Francisco Green Building Ordinance. Consequently, development built under Alternative 2 would be more energy efficient than the existing development. This alternative would not result in development of commercial uses.

Alternative 2 would be required to comply with all applicable regulations identified in the City's *Strategies to Address Greenhouse Gas Emissions*, as demonstrated in Appendix 4.10, and was determined to be consistent with San Francisco's GHG Reduction Strategy.[26]

Impacts under CEQA would be ***less than significant*** because Alternative 2 would not generate significant amounts of GHGs or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions.

GHG emissions associated with the Housing Replacement Alternative were calculated using the CalEEMod emissions estimator model. Emissions are presented in Table 5.10-5. Project GHG emissions would be -117 $MTCO_2E$ per year. Buildings constructed under Alternative 2 would be built with a higher level of energy efficiency due to improvements in technology and the mandatory adherence to the San Francisco Green Building Ordinance. Higher energy efficiency would lead to lower energy consumption and GHG emissions. Thus, Alternative 2 would emit less GHGs than the existing operation of the site. Therefore, Alternative 2 would not exceed the CAA reporting limit of 25,000 $MTCO_2E$ per year. There would be ***no impact*** under NEPA.

[26] Greenhouse Gas Analysis: Compliance Checklist. May 9, 2012. This document is on file and available for public review as part of Project Case File No. 2010.0515E.

Table 5.10-5 Annual Inventory of Alternative 2 GHG Emissions

Source	*Emissions (metric tons CO_2e per year)*
Existing Emissions	
Motor Vehicle Trips	2,783
Energy	1,340
Solid Waste	56
Other Sources (Area Sources, Water/Wastewater)	126
Stationary Sources (Generator)	0
Total Operational GHG Emissions	*4,306*
Project Emissions	
Motor Vehicle Trips	2,783
Energy	1,246
Solid Waste	56
Other Sources (Area Sources, Water/Wastewater)	103
Stationary Sources (Generator)	0
Total Operational GHG Emissions	*4,189*
Net[a] Project Emissions	
Motor Vehicle Trips	0
Energy	-94
Solid Waste	0
Other Sources (Area Sources, Water/Wastewater)	-23
Stationary Sources (Generator)	0
Total Net Operational GHG Emissions	*-117*
Clean Air Act Reporting Limit	25,000

SOURCE: Atkins, CalEEMod modeling (2014)

a. Net emissions are the proposed project emissions minus the existing emissions.

Alternative 3 – No Project Alternative

Alternative 3 represents the continuation of existing uses at the Project site; therefore, existing buildings and tenants would remain at the Project site and new buildings and uses would not be constructed. As such, none of the requirements identified in the City's *Strategies to Address Greenhouse Gas Emissions* would apply to this alternative and GHG emissions would not be increased, resulting in ***no impact*** with regard to GHG emissions under both CEQA and NEPA.

5.11 WIND AND SHADOW

5.11.1 Regulatory Framework

Federal

There are no federal regulations related to wind and shadow that are applicable to the Proposed Project.

State

There are no state regulations related to wind and shadow that are applicable to the Proposed Project.

Local

San Francisco General Plan

Please refer to Chapter 3, *Plans and Policies*, for a discussion of relevant plans and their respective applications to the implementation of the Proposed Project and alternatives. Relevant plans and policies are discussed in Chapter 3 and, to the extent any conflicts are identified that could have environmental impacts, such conflicts are discussed in the relevant section of this Draft EIR/EIS.

Wind

Section 148

Planning Code Section 148 establishes two comfort criteria and one hazard criterion for assessing wind impacts of projects in San Francisco. The comfort criteria are based on pedestrian-level wind speeds that include the effects of turbulence and are known as "equivalent wind speeds." Section 148 of the *Planning Code* establishes an equivalent wind speed of 7 mph for seating areas and 11 mph for areas of substantial pedestrian use. 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, then new buildings and additions in these areas must be designed to reduce ambient wind speeds to meet the requirements. Section 148 and Section 249 (c)(9) of the *Planning Code* also establish a hazard criterion, which is an equivalent wind speed of 26 mph for a single full hour, not to be exceeded more than once during the year. New buildings in governed areas cannot exceed this standard.

To provide a comfortable wind environment for people in San Francisco, development projects would be subject to specific comfort criteria. The *Planning Code* outlines these criteria for areas that typically experience wind exceedances, specifically the Downtown Commercial (C-3) District and each of the following special use districts: Folsom and Main, Van Ness Avenue, and South of Market [Sections 249.1(b)(2), 243(c)(9), 263.11(c)]. The Project site is not within a C-3 district or any of the

above listed special use districts. The Project site is currently zoned Residential Mixed Moderate Density District (RM-2) as illustrated in Figure 4.2-2 in Section 4.2, *Land Use and Land Use Planning*, and therefore is not subject to these provisions.

Shadow

Section 295

In 1984, San Francisco voters approved an initiative known as "Proposition K, The Sunlight Ordinance," which was codified in 1985 as *Planning Code* Section 295. *Planning Code* Section 295 prohibits the approval of "any structure that would cast any shade or shadow upon any property under the jurisdiction of, or designated for acquisition by, the Recreation and Park Commission" unless the Planning Commission, with review and comment by the Recreation and Park Commission, has found that the shadows cast by a proposed project would not have an adverse impact on the use of the property. Section 295 does not apply to structures that do not exceed 40 feet in height. The period analyzed is from the first hour after sunrise until the last hour before sunset. This period is known as the "solar day."

On February 7, 1989, pursuant to Proposition K, the Planning Commission and the Recreation and Park Commission adopted a joint resolution adopting criteria for determination of significant shadows in 14 downtown parks. The resolution was described in a February 3, 1989 memorandum (1989 Memorandum) to the Planning Commission and the Recreation and Park Commission regarding "Proposition K – The Sunlight Ordinance." These criteria establish an "absolute cumulative limit" for new shadow allowed on these parks, as well as qualitative criteria for allocating the absolute cumulative limit among individual buildings. The amount of shadow above existing shadow but below the absolute cumulative limit is commonly referred to as the "shadow budget" for these parks. The shadow budget is then allocated to individual projects within the absolute cumulative limit based on qualitative criteria established for each park, which vary by park but may include factors such as the time of day, the time of year, shadow characteristics (size, duration, location), and the public good served by the building casting the shadow. An absolute cumulative limit standard has not been adopted for the Potrero Hill Recreation Center.

The 1989 Memorandum sets forth qualitative criteria to determine when a shadow would be significant, as well as information on how to quantitatively measure shadow impact. Qualitatively, shadow impacts are evaluated based on (1) existing shadow profiles, (2) important times of day, (3) important seasons in the year, (4) location of the new shadow, (5) size and duration of new shadows, and (6) public good served by buildings casting a new shadow. Quantitatively, new shadows are to be measured by the additional annual amount of shadow square foot hours as a percent of TAAS. Where an absolute cumulative limit has not been adopted for a park, the Planning Commission's decision on whether a structure has a significant impact on property under the jurisdiction of the Recreation and Park Department is based on a review of qualitative and quantitative factors.

The 1989 Memorandum set forth different recommendations for permitted additional shadow load based on the size of the park. Parks greater than 2 acres are considered larger parks.

Potrero Hill Recreation Center

The Potrero Hill Recreation Center is 9.54 acres (415,680 square feet), which is considered a "larger park" in the context of the 1989 Memorandum referenced above. Per the 1989 Memorandum, for larger parks that are shadowed less than 20 percent of the time during the year, an additional 1.0 percent of shadow is recommended as permitted if the specific shadow meets the additional qualitative criteria.

The Potrero Hill Recreation Center has 1,546,911,552 square feet hours of Theoretically Available Annual Sunlight ("TAAS"), which is the amount of theoretically available sunlight on the park, annually, if there were no shadows from structures, trees, or other facilities. Under existing conditions, the Potrero Hill Recreation Center is being shaded 10.06 percent of the time and has an existing shadow load of 155,558,367.16 square foot hours.

5.11.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the Proposed Project and its alternatives would result in a significant impact from wind or shadow. The Proposed Project and alternatives would have a significant adverse wind or shadow impact 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.

The thresholds for determining the significance of shadow impacts in San Francisco pursuant to CEQA and *Planning Code* Section 295 are different. Under *Planning Code* Section 295 and the joint Planning Commission and Recreation and Park Commission criteria, any shadow beyond the absolute cumulative limit is considered "significant" in the way that term is used in *Planning Code* Section 295. In contrast, the significance threshold for environmental review addresses a broader array of shadow-related considerations that may include not only quantitative criteria, but also open space usage, time of day and/or time of year, physical layout and facilities affected, the intensity, size, shape, and location of the shadow, and the proportion of open space affected. If the Planning Department determines, based on these factors, that the use and enjoyment of the park or public space would be substantially and adversely affected, then the impact is "significant" in the way that term is used in CEQA. As a result, there are situations under which new shadows that are

considered significant under *Planning Code* Section 295 would not have a significant environmental impact under CEQA. There are also situations under which new shadows that are a significant environmental impact under CEQA would not be considered significant under *Planning Code* Section 295.

Context and Intensity Evaluation Guidelines under NEPA

Wind and shadow are not analyzed under NEPA.

Approach to Analysis

Wind

The Project site is not located in a C-3 or special use district. The Project site is not in an area where wind exceedances are expected and a wind-tunnel analysis is not required. Thus, wind impacts are analyzed qualitatively.

Shadow

CADP has performed technical shadow analysis for the Proposed Project in order to determine potential shadow impacts on the publicly owned open space of Potrero Hill Recreation Center. The Potrero Hill Recreation Center is under the jurisdiction of the Recreation and Park Commission and is subject to *Planning Code* Section 295. Although two other parks, McKinley Square and Jackson Playground, are located within the vicinity of the Project site, these parks would not be within reach of shadows cast by the proposed buildings. Therefore, these parks are not discussed further in this section.

The analysis was conducted based on a "solar year" to provide a sample of representative sun angles throughout the entire calendar year. The solar year is from June 21st through December 20th. The sun angles during the "other" side of the calendar year, or December 21st through June 20th, mirror the solar year sun angles. Since the angles are mirrored, an analysis of the "other" time period is not conducted and, instead, a multiplier is used to put the sample results into calendar year units. Using a multiplier does not change the percentages.

For the purposes of the Section 295 analysis, shadow impacts are calculated based on square foot hours recorded. To ensure a complete and accurate description of the Proposed Project's potential shadow impacts, this analysis identifies the days when the shadow cast by the Proposed Project: (1) would be at its largest size by area, and (2) would result in the overall greatest shadow impact in terms of size and duration (i.e., the maximum net new shadow as measured in shadow foot hours). The "worst day" is the day with the maximum net new shadow.

The model used by CADP to evaluate shadows accounts for topographical conditions as well as shadows cast by existing structures, but it does not account for shadows cast by existing trees. The model produces a spreadsheet that quantifies, in square-foot-hours, the amount of shadow cast by

existing buildings, the amount of net new shadow cast by the Proposed Project, and the remaining amount of sunlight on the subject open space.[1] These data are sampled at 15-minute intervals beginning on the summer solstice and then once a week for half a year until the winter solstice. The shadow calculations serve as the basis for the quantitative discussion of shadow impacts.

Impact Evaluations

Proposed Action

Impact WS-1:	**Wind Effects** **CEQA: The Proposed Project would not alter wind in a manner that substantially affects public areas. (Less than Significant)** **NEPA: This topic is not analyzed under NEPA.**

Wind impacts are generally caused by tall buildings that are substantially higher than the surrounding structures and oriented in a manner such that a large wall catches a prevailing wind, particularly if such a wall includes little or no articulation. Existing buildings on-site are generally two to three stories tall, with typical heights of approximately 24 to 34 feet. Other residential buildings in the Project vicinity are generally two to four stories with typical heights of approximately 25 to 35 feet. Under the Proposed Project, all of the new buildings would be replaced with structures that vary from four to six stories with heights of approximately 40 to 65 feet.

The proposed buildings would not result in a significant impact with respect to wind. Typically, projects less than approximately 80 to 100 feet in height are unlikely to result in substantial adverse effects on ground-level winds such that pedestrians are affected. As illustrated in Figure 2-4 in Chapter 2, *Project Alternatives and Project Description*, the highest three buildings, at a height of 65 feet, would be along 24th Street between Wisconsin Street and Missouri Street. The other proposed buildings would not substantially increase the overall height at the Project site. The Proposed Project's building height would be, in some cases, about 15 to 30 feet taller than neighboring buildings. While the majority of existing development in the Project area consists of two- and three-story buildings, there are some taller structures present, including along Wisconsin Street and 23rd Street, as well as the Starr King Elementary school, all of which are roughly 40 feet in height. Although generally taller than the immediately surrounding two- and three-story structures in the Project vicinity, the Proposed Project is not so substantially greater in height that it would result in adverse effects on ground-level winds. Therefore under CEQA, the Proposed Project does not have

[1] CADP. Shadow Calculations and Diagrams, February 2014. The shadow calculations and diagrams are available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

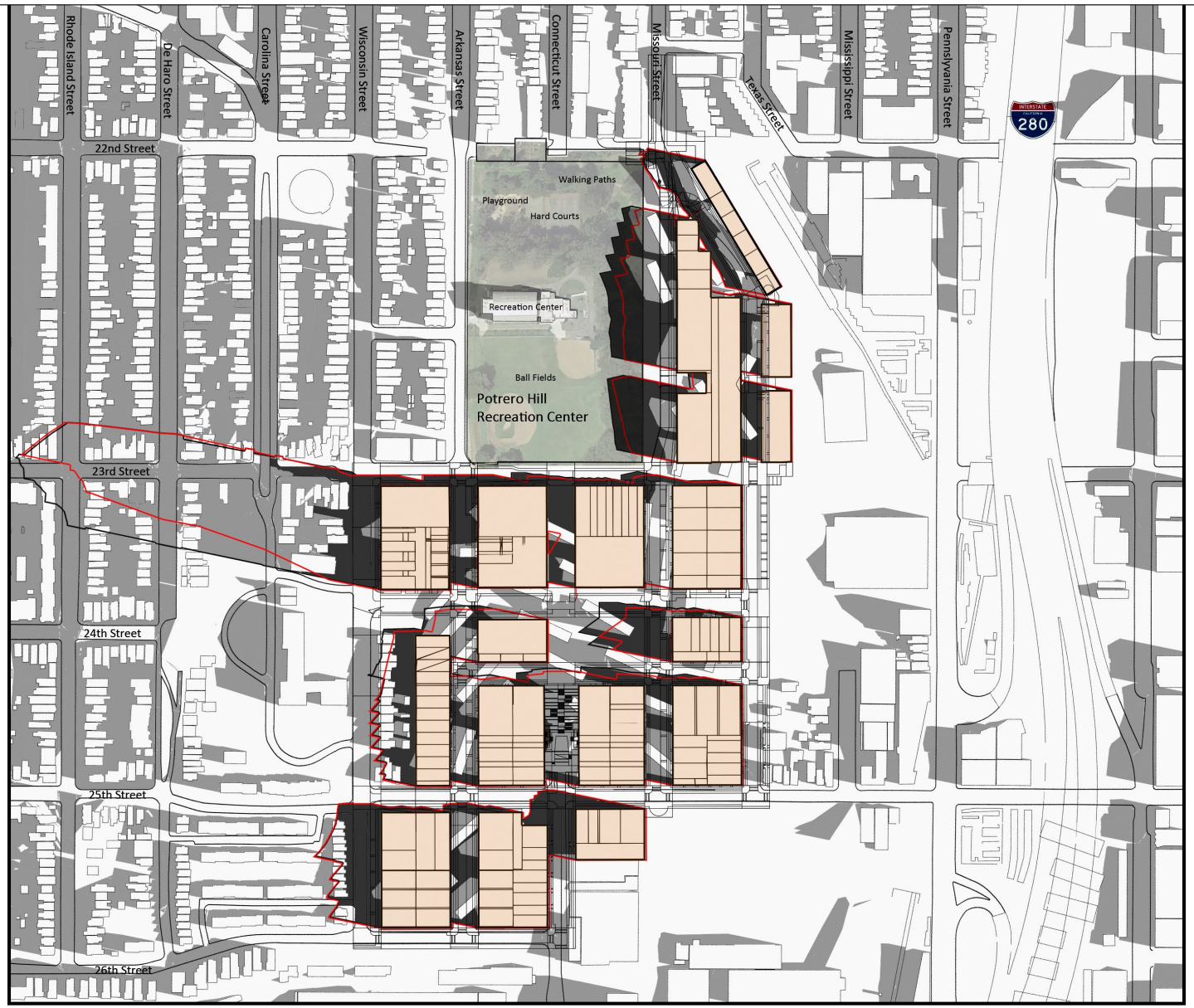
the potential to cause significant changes to the wind environment in pedestrian areas adjacent to or near the Project site and would result in a ***less-than-significant*** wind impact.

Impact WS-2:	**Shadow Effects on Recreation Facilities** **CEQA: The Proposed Project would not result in new shadows in a manner that substantially affects outdoor recreation facilities or other public areas. (Less than Significant)** **NEPA: This topic is not analyzed under NEPA.**

The Proposed Project would cast a shadow on Potrero Hill Recreation Center throughout the year; there are no days without new shadow. The largest shadow cast by area is on December 20th at sunrise +1 hour. The worst shadow day in terms of size and duration is also December 20th. As discussed below, the Proposed Project would increase the shadow load on the Potrero Hill Recreation Center along the southern and eastern boundaries of the park, potentially covering portions of the walking paths and the southern edge of the ball field. New shadows that would be cast by the proposed buildings would occur during the morning hours during the spring and summer months, increasing throughout the day starting in the fall and winter until reaching its maximum on the winter solstice (i.e., December 20th).

The Proposed Project buildings would cast shadows on the walking paths on the northeastern edge of the Potrero Hill Recreation Center in the morning hours during the spring and summer (March 15th and September 27th) from one hour after sunrise to 9:00 a.m. The shadows would retreat from the park by 9:45 a.m. or earlier (Figures 5.11-1 and 5.11-2). The range of times for the first hour after sunrise is 6:46 a.m. (occurs on June 21st) to 8:03 a.m. (occurs on March 15th/September 27th) and the range of times when the shadow is gone from the park is 8:30 a.m. (occurs on June 21st) (Figure 5.11-3) to 9:45 a.m. (occurs on March 15th/September 27th).

In addition to the walking paths, the Proposed Project would also cast a shadow on the ball field of the Potrero Hill Recreation Center in the evening during the fall and winter from October 4th to March 8th. From October 4th to November 8th (February 1st to March 8th), there is a break between the morning and evening shadow with no shadow occurring for 2 hours 45 minutes (November 8th/February 1st) to 7 hours (October 4th/March 8th) during the day. However, the shadow grows longer during these months and by November 15th, a shadow occurs on the park along the southern edge of the ball field throughout the day, or until sunset -1 hour. From November 15th to January 25th, shadows occur on portions of the park throughout the day (Figures 5.11-4 through 5.11-6). A break in the morning and evening shadow occurs once again starting on February 1st and leaves the park altogether in the afternoon starting on March 15th. This shadow would be cast over the walking paths currently shaded by large trees over 30 feet in height and the southern edge of the ball park.



Bridge Housing Potrero Annex
September/March 20 Sunrise +1hr. (7:57am)

Proposed Project Shadow
Reduced Development Alternative Shadow Extent

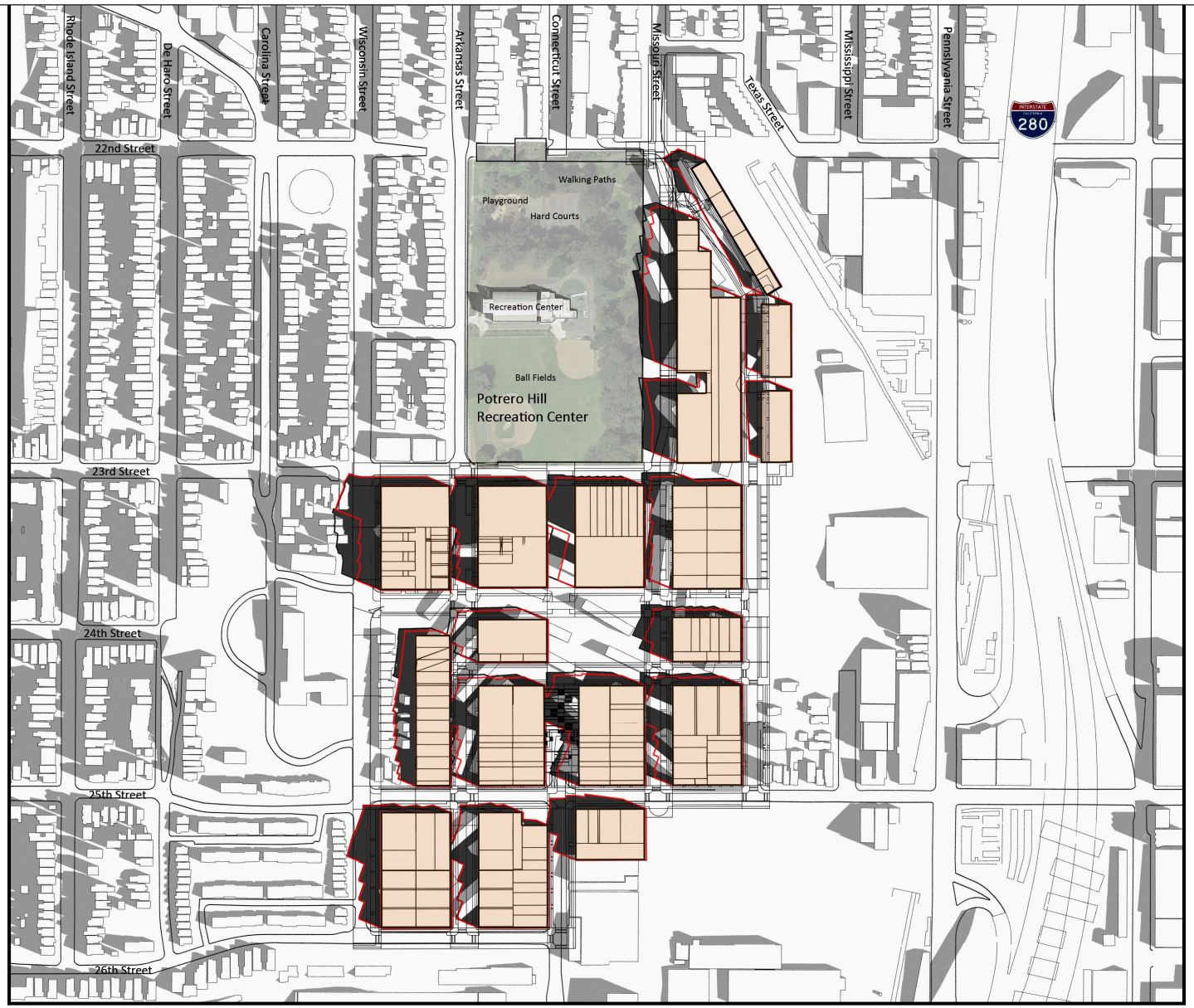
CADP
11.5.2013

NORTH
NOT TO SCALE

SOURCE: CADP LLC, 2013.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

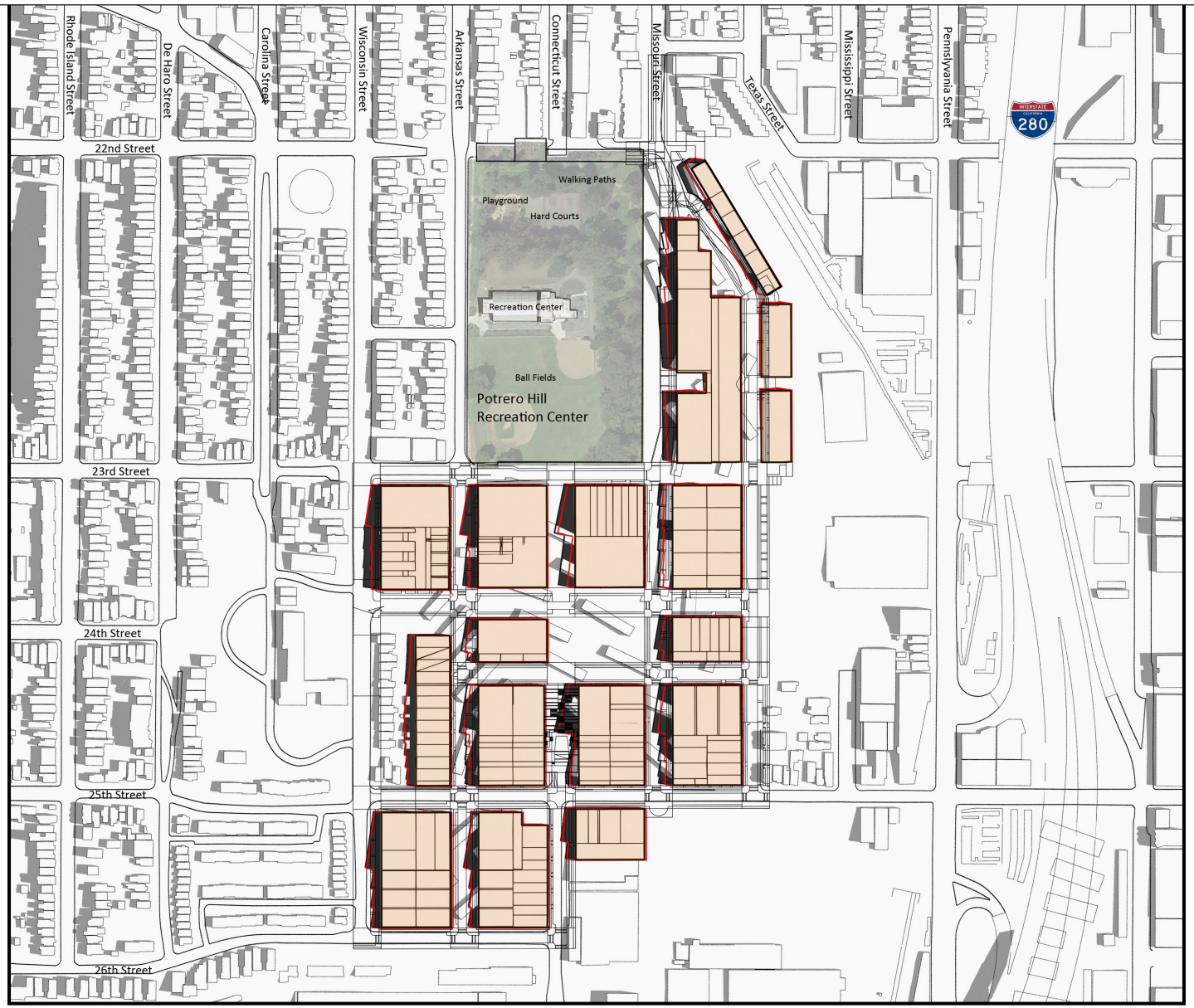
FIGURE 5.11-1: PROJECT SHADOW AT SUNRISE ON SEPTEMBER/MARCH 20TH



SOURCE: CADP LLC, 2013.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

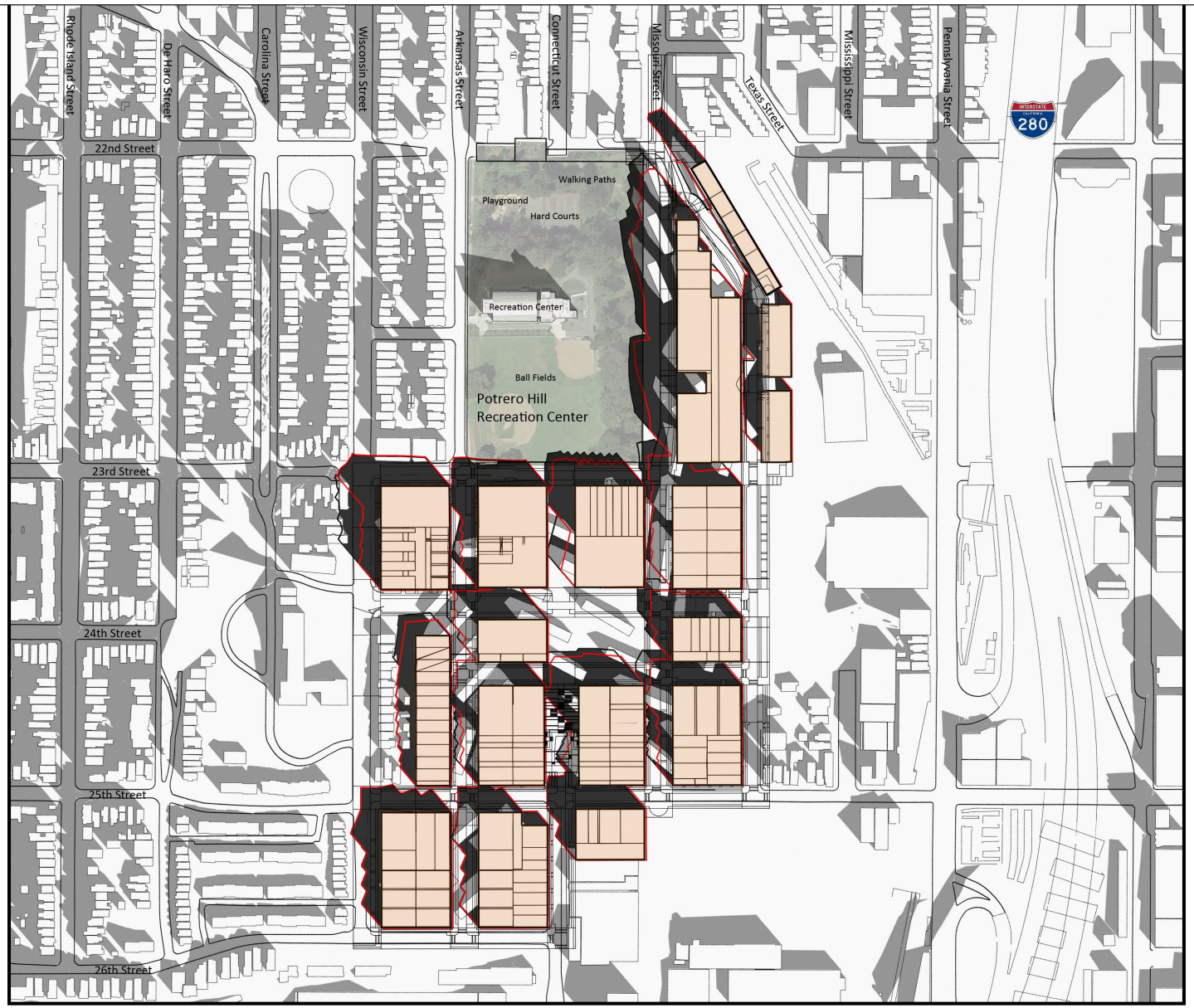
FIGURE 5.11-2: PROJECT SHADOW AT 9:00 AM PDT ON SEPTEMBER/MARCH 20TH



SOURCE: CADP LLC, 2013.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

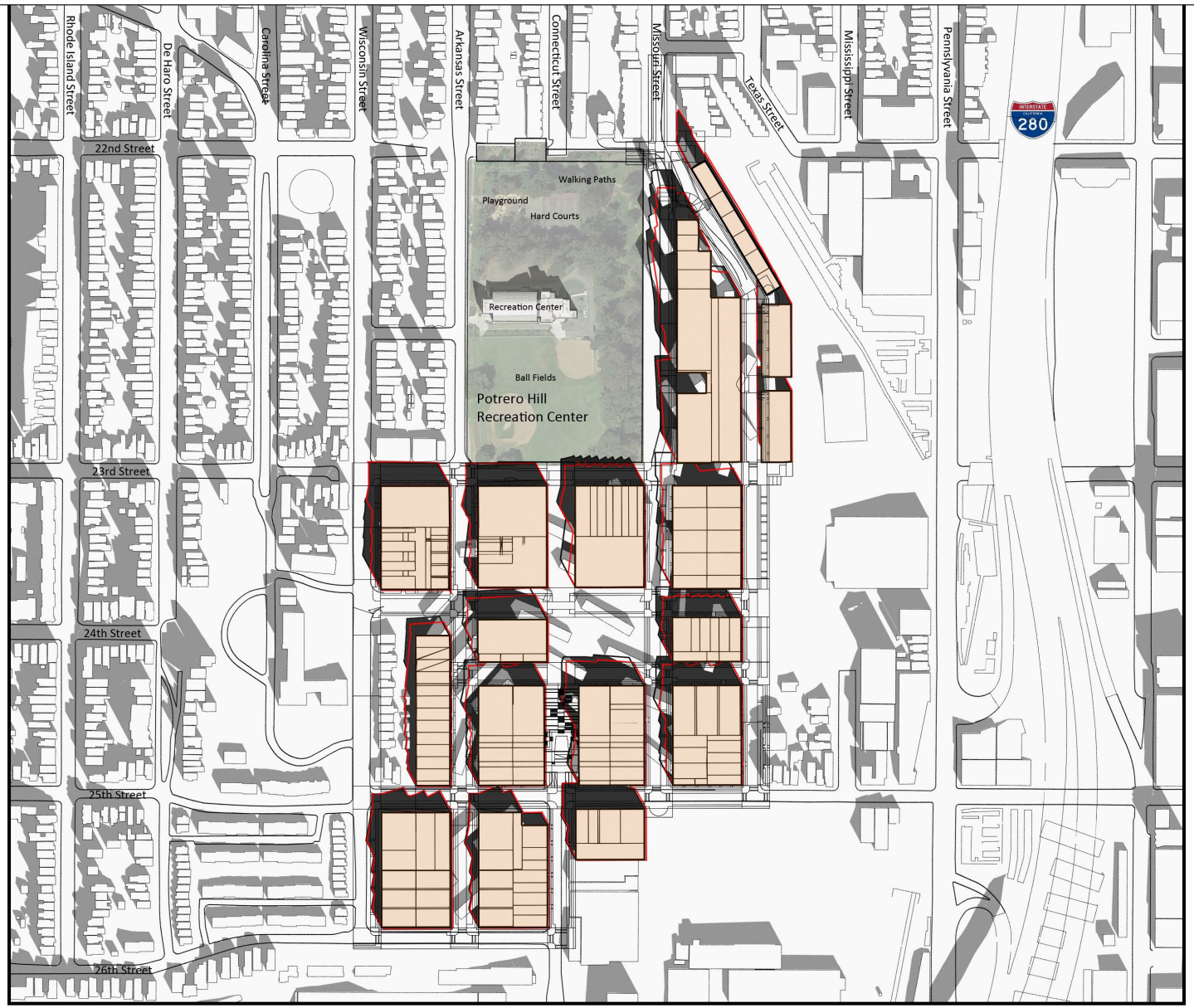
FIGURE 5.11-3: PROJECT SHADOW AT 10:00 AM PDT ON JUNE 21ST



SOURCE: CADP LLC, 2013.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

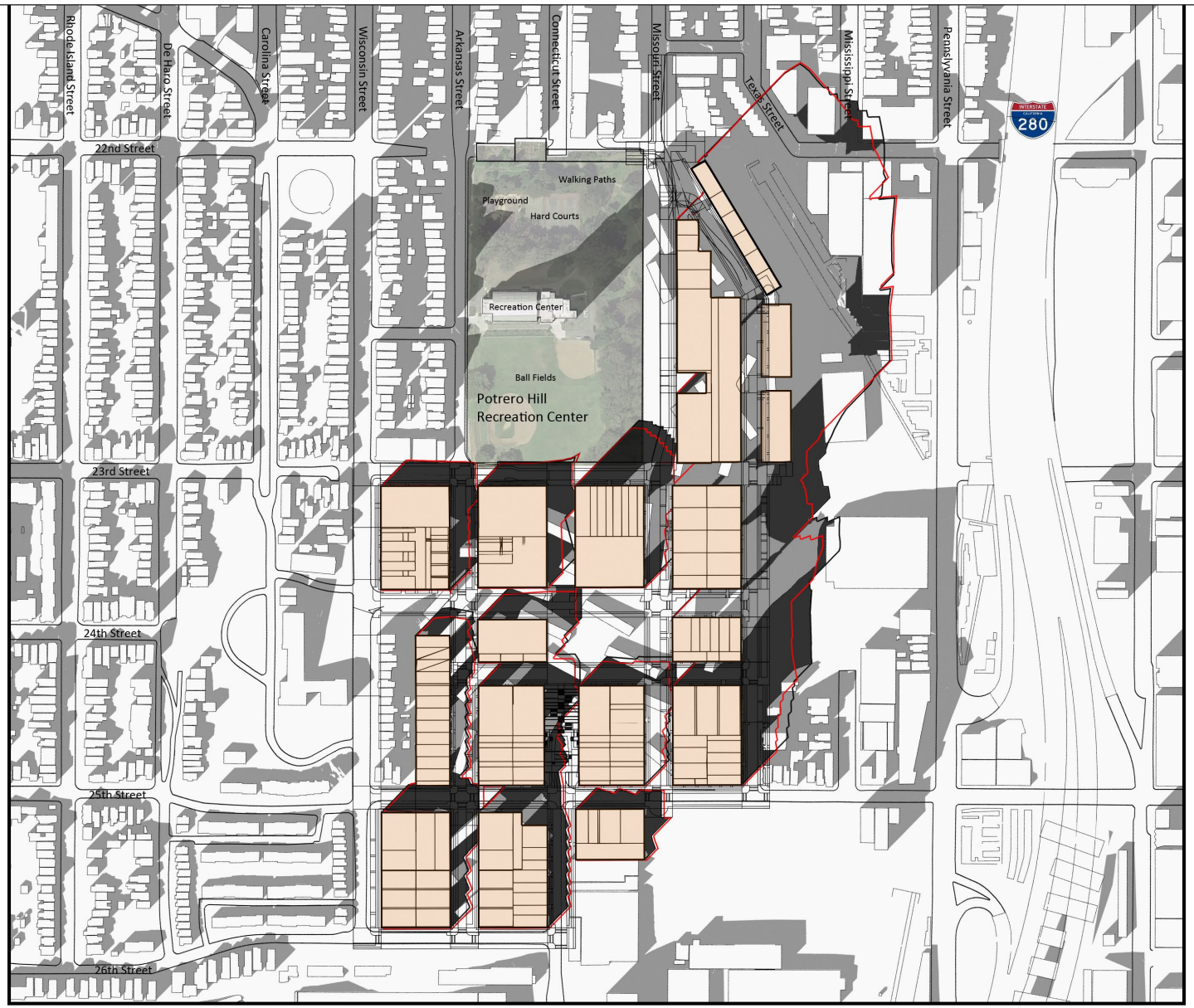
FIGURE 5.11-4: PROJECT SHADOW AT 9:00 AM ON DECEMBER 20TH



SOURCE: CADP LLC, 2013.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.11-5: PROJECT SHADOW AT 10:00 AM ON DECEMBER 20TH



SOURCE: CADP LLC, 2013.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.11-6: PROJECT SHADOW AT 3:00 PM ON DECEMBER 20TH

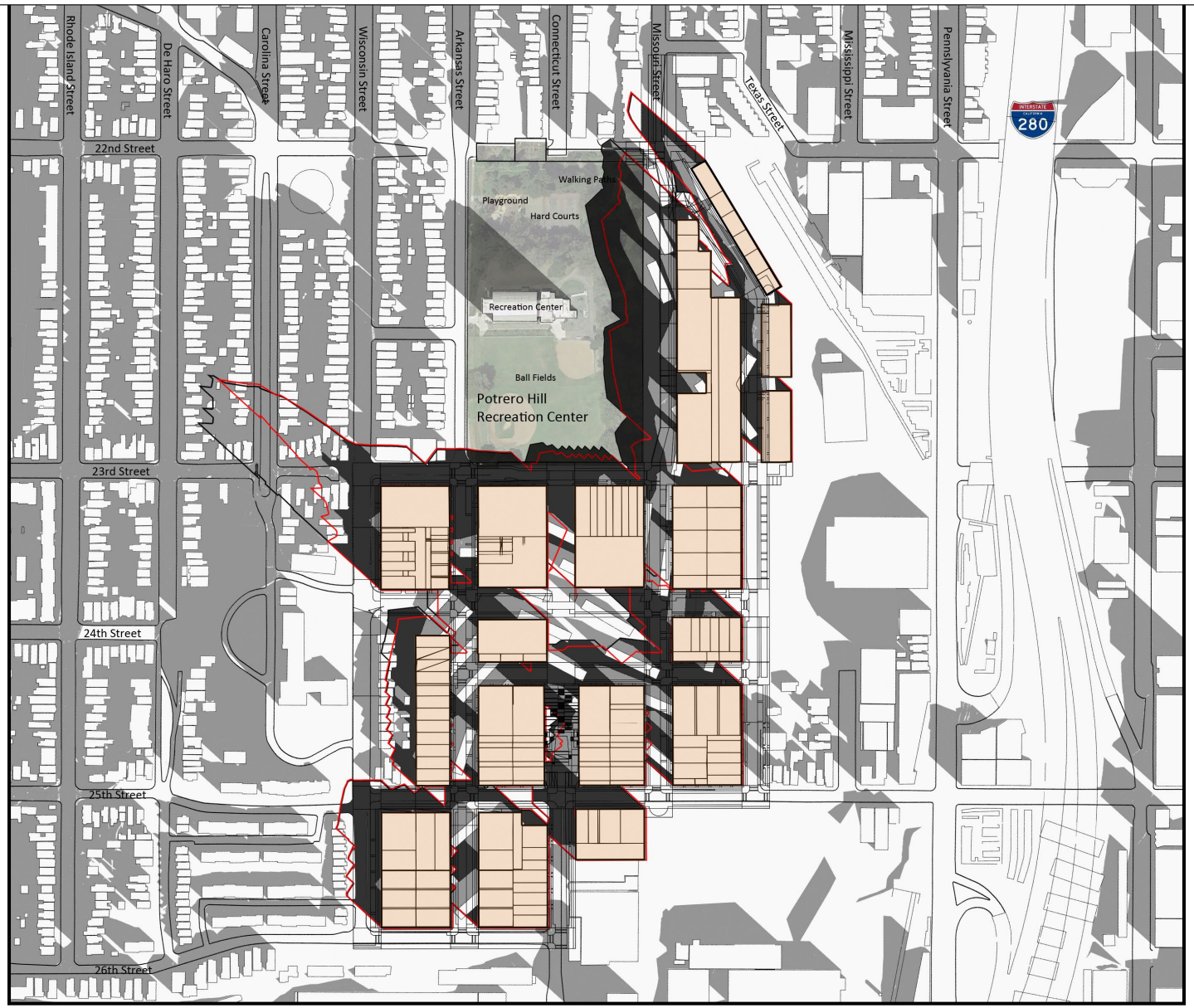
The maximum net new shadow or "worst shadow day" would occur on December 20th. The Proposed Project would cast new shadow on Potrero Hill Recreation Center throughout the day from the first hour after sunrise until the last hour before sunset. On that day, the new shadow load on Potrero Hill Recreation Center would be 82,825.80 square foot hours. The largest new shadow by area would also occur on December 20th at the first hour after sunrise (Figure 5.11-7). At that time, on that day, the new shadow cast by the Proposed Project would be 85,587.16 square foot hours. Therefore, the greatest effect would occur during winter when the days are shortest and outdoor use of the park could be at its lowest rate.

The shadows from the Proposed Project would not reach the playground, tot lot, basketball or tennis courts, or the recreation center building. The potential shadow would not substantially affect the use the walking paths due to the fact these are currently shaded. The ball park is primarily used during the afternoon due to work and school schedules, and during baseball season, which occurs during the spring/summer. Therefore, this area of the park would not be significantly affected because the shadow occurs primarily during winter months and morning hours. Additionally, the Proposed Project would not cast shadows on the Potrero Hill Recreation Center when it is not already shadowed by the existing recreation center structure.

Considering the time of day and the time of year during which the net new shadow would occur and how the affected areas of the park are used, the Proposed Project would not adversely affect the use of Potrero Hill Recreation Center for active or passive recreation based on qualitative criteria.

Currently, Potrero Hill Recreation Center has 1,546,911,552 square feet hours of TAAS. The shadow calculations prepared by CADP show that the Proposed Project would add 13,333,356.54 new square foot hours of shadow on the park. This is a 0.911 percent increase in shadow as a percentage of TAAS. The shadow would shift from being only in the morning during the spring and summer months to morning and afternoon shadows in the fall and winter months.

According to the 1989 Memorandum, parks greater than 2 acres, such as the Potrero Hill Recreation Center, are considered larger parks. Under the 1989 Memorandum for larger parks that are shadowed less than 20 percent of the time during the year, an additional 1.0 percent of shadow is recommended as permitted if the specific shadow meets the additional qualitative criteria. The Proposed Project would add 0.911 percent new shadow and, therefore, the potential impacts of the increased shadow are less than significant based on the quantitative criteria. Based on both quantitative and qualitative criteria under CEQA, the shadow impact of the Proposed Project on Potrero Hill Recreation Center would be considered ***less than significant*** and no mitigation measures are required.



SOURCE: CADP LLC, 2013.

POTRERO HOPE SF MASTER PLAN (CASE NO. 2010.0515E)

FIGURE 5.11-7: PROJECT SHADOW AT SUNRISE ON DECEMBER 20TH

Alternative 1 – Reduced Development Alternative

Impact WS-1:	**Wind Effects** **CEQA: The Reduced Development Alternative would not alter wind in a manner that substantially affects public areas. (Less than Significant)** **NEPA: This topic is not analyzed under NEPA.**

Alternative 1 would retain the same development footprint as the Proposed Project, but the maximum buildings heights would not exceed 40 feet. The Proposed Project's building height would be approximately 5 feet taller than neighboring buildings. Implementation of Alternative 1 is not anticipated to result in substantial changes to wind conditions in the Project vicinity because building heights would remain similar to existing conditions. Therefore under CEQA, Alternative 1 would not have the potential to cause significant changes to the wind environment in pedestrian areas adjacent to or near the Project site and would result in a ***less-than-significant*** wind impact.

Impact WS-2:	**Shadow Effects on Recreation Facilities** **CEQA: The Reduced Development Alternative would not result in new shadows in a manner that substantially affects outdoor recreation facilities or other public areas. (Less than Significant)** **NEPA: This topic is not analyzed under NEPA.**

Alternative 1 would retain the same development footprint as the Proposed Project, but the maximum buildings heights would not exceed 40 feet. Figures 5.11-1 through 5.11-7 illustrate the extent of shadows for Alternative 1.

As noted above, the Potrero Hill Recreation Center has 1,546,911,552 square feet hours of TAAS. Shadows currently exist on the Potrero Hill Recreation Center, predominately in the morning and midday hours, and the existing shadow load for the park is 155,558,367.16 square feet hours annually, which is 10.06 percent of the total TAAS for the Potrero Hill Recreation Center.

Alternative 1 would add 5,535,030.73 new square foot hours of shadow on the park. This is a 0.358 percent increase in shadow as a percentage of TAAS and, therefore, is less than the shadow allocation as outlined in the 1989 Memorandum's quantitative criteria for larger parks.

Under this alternative, the shadows cast over the Potrero Hill Recreation Center walking paths and southern edge of the ball field would occur only in the morning hours during the spring, summer, and early fall. Shadows would shift to the morning and afternoon hours in the late fall and winter, but would never result in an all-day shadow on the park. Under this alternative, the shadows would fall on the walking paths and southern edge of the ball park during the morning and would not reach the playground, tot lot, basketball or tennis courts, or the recreation center building. As

discussed above, the walking paths are currently shaded by trees 30 feet in height and the ball park is generally used during the afternoon. Thus, the new net shadow would not substantially affect the outdoor recreation based on time of day, time of year, and how the affected areas are used. The shadow impact of Alternative 1 on Potrero Hill Recreation Center would be considered ***less than significant*** under CEQA.

Alternative 2 – Housing Replacement Alternative

Impact WS-1:	**Wind Effects** **CEQA: The Housing Replacement Alternative would not alter wind in a manner that substantially affects public areas. (No Impact)** **NEPA: This topic is not analyzed under NEPA.**

Under Alternative 2, the existing housing at the Project site would be demolished and rebuilt in-kind and the existing site plan would be retained. The building heights would remain the same and would not result in substantial changes to wind conditions in the Project vicinity. Therefore under CEQA, Alternative 2 would not have the potential to cause significant changes to the wind environment in pedestrian areas adjacent to or near the Project site and would result in ***no impact***.

Impact WS-2:	**Shadow Effects on Recreation Facilities** **CEQA: The Housing Replacement Alternative would not result in new shadows in a manner that substantially affects outdoor recreation facilities or other public areas. (No Impact)** **NEPA: This topic is not analyzed under NEPA.**

Under Alternative 2, the building heights at the Project site would remain the same and would not result in substantial changes to shadow conditions in the Project vicinity. Therefore under CEQA, Alternative 2 would not have the potential to cause significant changes to the shadows on the Potrero Hill Recreation Center and would result in ***no impact***.

Alternative 3 – No Project Alternative

Under Alternative 3, no new buildings would be constructed and the building heights would not change. Therefore under CEQA, this alternative would not have the potential to cause significant changes to the wind environment in pedestrian areas adjacent to or near the Project site and would result in ***no impact***. Similarly under CEQA, because building height would not change, this alternative would not have the potential to cause significant changes to the existing shadow conditions on the Potrero Hill Recreation Center and would result in ***no impact***.

Cumulative Impacts

The geographic context for cumulative wind and shadow impacts is limited to the area immediately surrounding a specific project.

Impact C-WS-1:	**Wind and Shadow Effects** **CEQA: The Proposed Project and alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not alter wind or shadow in a manner that substantially affects public areas (Less than Significant)** **NEPA: This topic is not analyzed under NEPA.**

This is the natural result of Potrero Hill Recreation Center being located at a higher elevation than, and at least 0.3 miles from, any proposed land use changes identified in the EN EIR. Therefore, no cumulative shadow impacts would occur.

Height limits on the Project site and in the surrounding area are below 80 feet, and any development within this height limit is unlikely to result in substantial adverse effects on ground-level winds such that pedestrians are affected. Therefore, cumulative wind impacts would be less than significant.

Therefore, under CEQA, the Proposed Project, in combination with projects currently proposed in the vicinity, would not substantially alter the wind patterns or shadow load on the Potrero Hill Recreation Center, and cumulative wind and shadow impacts would be considered ***less than significant***.

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5.12 RECREATION

5.12.1 Regulatory Framework

Federal

There are no relevant federal regulations related to Recreation.

State

Quimby Act

The Quimby Act (California Government Code Section 66477) was established by the California Legislature in 1965 to preserve open space and parkland in the rapidly urbanizing areas of the state. The Quimby Act authorizes local governments to establish ordinances requiring developers of new subdivisions to dedicate land for parks, pay an in-lieu fee, or perform a combination of the two. The City has not established a citywide target ratio of parkland to residents, nor has it adopted a Quimby Act ordinance. However, as noted below, the City has adopted requirements for the payment of impact fees to provide parks and recreation facilities in designated areas throughout the city.

Local

San Francisco Park Code

The San Francisco Park Code regulates public use of the city parks, permit requirements, and regulations concerning parks located in the city.

Proposition C and the Recreation and Park Acquisition Policy

In 2000, San Francisco voters approved Proposition C, extending the Open Space Fund that is used to finance acquisitions and capital improvements for the San Francisco Recreation and Parks Department (SFRPD). The legislation created an annual set-aside of two and one-half cents for each one hundred dollars assessed valuation from the property tax levy. The Open Space Fund is funded through Fiscal Year 2030/2031. The legislation stipulates that at least five percent of the revenue raised through the set-aside be allocated to new land acquisition. In 2006, the SFRPD, at the request of the Recreation and Park Commission, published the Recreation and Park Acquisition Policy to provide clear guidelines for the expenditure of acquisition funds under the Recreation and Park Commission's jurisdiction.

The first objective stated in this policy is to align SFRPD acquisition priorities with Map 9 of the City's adopted General Plan Recreation and Open Space Element, which identifies high need areas based on population, density, age, and income. However, the SFRPD ultimately used a separate

map modeled after Map 9 using updated demographic statistics (high residential, senior, and children densities per net acre, and low household incomes relative to the city median household income) from Census 2000 data to determine high and highest priority need areas. In addition, using neighborhood service areas, the SFRPD conducted a gap analysis for the policy report. Ultimately, the SFRPD produced Neighborhood Recreation and Open Space Improvement Priority Plan Maps showing the areas of highest need according to demographic statistics and areas that are also underserved in terms of existing recreational resources.

In 2012, the voter-approved San Francisco Clean and Safe Neighborhood Park Bond gave the SFRPD an additional $195 million to continue capital projects for the renewal and repair of parks, recreation facilities, and open space assets. The 2012 Bond included funding for 15 neighborhood parks, including the Potrero Hill Recreation Center.[1]

While not under the purview of SFRPD, it should be noted that the city also contains several privately-owned public open spaces (POPOS). POPOS include publicly accessible spaces that are typically maintained by the owner of an office building and can consist of plazas, roof gardens, greenhouses, or atriums.

San Francisco Planning Code

The *Planning Code* requires usable open space in conjunction with development projects. As a part of the permitting process, project applicants are required to incorporate certain amounts of open space to serve future project residents and/or employees. The amount of open space is based on a proposed project's use and size as well as the zoning district in which the site is located. P*lanning Code* Section 135 indicates the square footage of open space required for new residential units, which ranges from 36 to 300 square feet (sf) per unit. The requirement is generally higher in single-use residential districts than in mixed-use residential districts. Commonly accessible open space (designed for use jointly by two or more units) is typically permitted at a ratio of 1.33 sf of common open space per square foot of required private open space. Open space is required for nonresidential uses within the Eastern Neighborhoods use districts. The majority of the Proposed Project is located in a Residential Mixed Moderate Density (RM-2) District which requires 80 sf of usable open space per dwelling unit for private open space. Commonly accessible open space in RM-2 Districts requires approximately 1.33 sf of open space for each dwelling unit. The remaining portion of the Project site is zoned P (Public), but would be rezoned to RM-2 under the Proposed Project. The amount of usable open space for non-residential uses that is generally required is between 1 sf for every 50 sf to 1 sf for every 250 sf, depending on the use. The *Planning Code* also requires payment of impact fees in designated areas throughout the city, including Potrero Hill. A percentage of those impact fees are intended to address impacts on open space created by new development.

[1] San Francisco Recreation and Parks. 2014. *2012 Bonds*. Available: http://sfrecpark.org/park-improvements/2012-bond/. Accessed: February 25, 2014.

Other Applicable Plans and Policies

See Chapter 3, *Plans and Policies*, for information on other plans and policies that address recreational facilities and are applicable to the Proposed Project and alternatives.

5.12.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

The Proposed Project and alternatives would have a significant adverse recreation impact if it would:

- 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.

Context and Intensity Evaluation Guidelines under NEPA

For recreation the analysis considers whether the Proposed Project would:

- Exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for parks and recreation.

Approach to Analysis

The following analysis considers the increase in demand for parks and open space associated with the Proposed Project, and whether or not the increased demand could be accommodated by existing facilities and/or new open space provided as part of the Proposed Project. The analysis considers whether an increase in use of existing recreational facilities would result in the substantial physical deterioration or otherwise adverse physical effects on existing recreational facilities (e.g., disturbance of vegetation, accelerated wear on sports facilities and fields, erosion along trails, and an increased potential for increased graffiti and litter) and/or in the need for new or expanded facilities. The analysis of construction impacts associated with the development of proposed new open space, considered as part of the overall Proposed Project, draws on conclusions in other sections of this Draft EIR/EIS.

The information used to assess the impacts on recreational facilities was obtained directly from the SFRPD and available public information. Additionally, the potential contribution of the Proposed Project and alternatives to cumulative impacts is evaluated in the context of existing, proposed, and reasonably foreseeable future development expected.

Although the National Park and Recreation Association (NPRA) formerly called for 10 acres of open space per 1,000 city residents, the NPRA no longer recommends a single absolute "average" of park

acreage per population, in recognition of the fact that it is more relevant that each area plan and program facilities based upon community need. More important than raw acreage is accessibility (location, walking distance) and whether the facility provides needed services to the population in question.

The *San Francisco General Plan* (General Plan) Recreation and Open Space Element recognizes that San Francisco is likely to provide less open space acreage than many communities, given land constraints, high population density, and existing urban development. As noted in the Recreation and Open Space Element of the City General Plan, however, "[g]iven the City's existing development patterns, high population density, and small land mass (28,918 acres), the NPRA standard will not be possible to achieve within the City limits." As noted in Section 4.12, *Recreation*, based on the 2010 Census population, the City of San Francisco had approximately 5.08 acres of open space per 1,000 San Francisco residents. Therefore, this analysis will use this ratio to determine whether implementation of the Proposed Project would substantially decrease this ratio, cause or accelerate substantial physical deterioration of facilities, or require the construction of additional facilities.

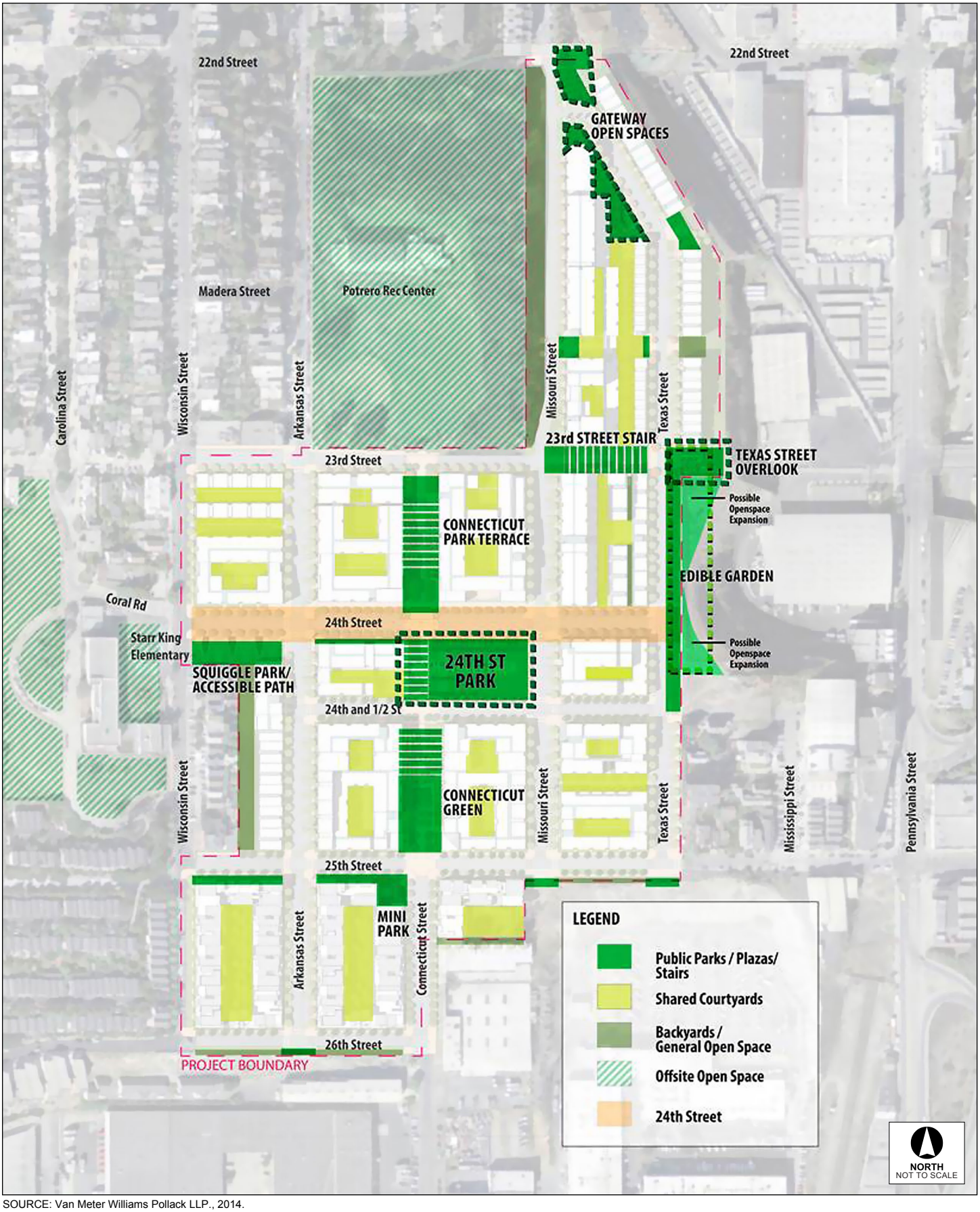
Impact Evaluation

Proposed Action

Impact RE-1	**Effects Due to Increased Use** **CEQA: The Proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration or degradation of the facilities would occur or be accelerated. (Less than Significant)** **NEPA: The Proposed Project would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for parks and recreation. (Less than Significant)**

The Proposed Project would include community facilities and open space throughout the Project site. The Community Center would include; a computer lab, a community meeting room, a family resource center, a senior center, and a preschool and daycare. As shown in Figure 5.12-1, the Community Center on Block G would be located on 24th Street between Arkansas Street and Missouri Street.

The Proposed Project would also incorporate approximately 7.12 acres of public and private open space. Of the 7.12 acres of open space, 3.62 acres would be publically-accessible to the greater Potrero Hill neighborhood. As shown in Figure 5.12-1, the parks would include the 24th Street Park, Connecticut Park Terrace, Squiggle Park, 25th and Connecticut Mini Park, Getaway Open Space, 23rd Street Stair, and Texas Street Overlook/Edible Garden. These spaces would include planted areas, stairs and terraces, a playground and tot lot, community gardens, view point areas,



SOURCE: Van Meter Williams Pollack LLP., 2014.

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FIGURE 5.12-1: PROPOSED RECREATION AND OPEN SPACE

grass play areas, and barbeque and picnic facilities, which would be ADA accessible via a ramp from Wisconsin Street to Arkansas Street, along 24th Street.

In addition, the Proposed Project would create an additional 3.5 acres of private open space that would be included as part of the residential buildings through features such as internal courtyards, and/or balconies. The residential buildings would provide a minimum of 80 sf of usable open space per residential unit as required under *Planning Code* Section 135.

Per *Planning Code* Section 135, open space may be provided as privately-accessible open space (i.e. accessible from a single residence) or as common open space (accessible from multiple residences and/or publically-accessible). If the open space is private, the Proposed Project would require up to 136,000 sf of open space. If the open space is common, the Proposed Project would require up to 180,880 sf of common open space.[2] Private open space would be maintained by the developers of each property. At this time, it is unknown who would maintain public open spaces; however, it is likely that the master owners' association of the Proposed Project would own and maintain publically-accessible common open spaces. Although the design of the Proposed Project seeks to include both private and common open spaces for use by Project residents, it is likely that residents of the Proposed Project would also use the Potrero Hill Recreation Center, adjacent to the Project site to the north and west. The Potrero Hill Recreation Center serves both local and citywide populations. The indoor recreational center includes basketball courts that are used by leagues, and for pick-up games as well as programmed exercise classes for all ages, a community auditorium, and a computer room. The Potrero Hill Recreation Center also has outdoor baseball fields used for practice by leagues citywide, a children's playground, passive recreational areas with paths, frequently used for dog walking, and community-serving tennis courts.

Additional nearby public recreational facilities include Jackson Playground, located approximately five blocks south of the Project site, and McKinley Square Park, located approximately six blocks southeast of the Project site. Given the proximity, it is anticipated that residents of the Proposed Project would utilize these nearby resources in addition to those provided onsite.

To the extent that new residents at the Project site, or their children, joined leagues that practice at the Potrero Hill Recreation Center, the use of these facilities may be somewhat increased. However, the proximity of the Project site to the Potrero Hill Recreation Center would not necessarily result in an increased enrollment in organized athletics. Additionally, some uses, such as; the community auditorium, computer room, senior center, playground, and passive recreation activities offered at the Potrero Hill Recreation Center would be supplemented/duplicated on the Project site.

[2] Private Open Space = 1,700 units × 80 square feet = 136,000 square feet
Common Open Space = 1,700 dwelling units × 80(1.33) square feet = 180,880 square feet

As such, because the increased use of recreation facilities is expected to be spread out among several parks in the area, including the recreational facilities included as part of the Proposed Project, it is not anticipated that the Proposed Project would contribute to the substantial physical deterioration of existing neighborhood parks and recreational facilities.

Thus, the incremental increase in existing park and recreational facility use would be partially offset by the improvements to existing facilities, including proposed improvements to the natural turf fields and dog play area at the Potrero Hill Recreation Center (to begin in mid-2015 under the 2012 Clean and Safe Neighborhood Parks Bond) and native plantings, landscaping, irrigation and construction of a drinking fountain, informational kiosk, and pathway at McKinley Square (to be completed in June 2014 under the 2008 Clean and Safe Neighborhoods Park Bond); and recreational facilities included as part of the Proposed Project.

Further, as stated in Section 4.12, *Recreation*, property in San Francisco that is permanently dedicated to publicly-accessible park and recreational uses totals approximately 4,090 acres, or 5.08 acres per 1,000 San Francisco residents. With a total population in the City and County of San Francisco of 805,235 as of the 2010 Census, the new population growth of 2,596 persons[3] as a result of the Proposed Project would decrease this ratio slightly to approximately 5.06 acres per 1,000 residents. This increase in population would likely generate an increased demand in park use; however, such demand would not be considered substantial given the availability of nearby parks and recreational facilities and the offset by the 7.12 acres of both public and private open space opportunities that would be provided on site.

As discussed above, the Proposed Project would not cause the parks-per-population ratio to change substantially from its current state of 5.08 acres per 1,000 residents. As such, the Proposed Project would not result in a substantial city-wide increase in demand for or use of recreation facilities such that substantial physical deterioration or degradation of existing facilities would occur.

Impacts under CEQA would be ***less than significant*** because the Proposed Project would increase the use of existing neighborhood and regional parks or other recreational facilities, but not to the extent that substantial physical deterioration of the facilities would occur or be accelerated.

Impacts would be ***less than significant*** under NEPA because the Proposed Project would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for parks and recreation.

[3] 1,700 units under the Proposed Project × 2.28 persons per household = 3,876 residents. Therefore, the net increase (3,876 future residents – 1,280 existing residents) in Project site population would be approximately 2,596.

Impact RE-2	**Effects Due to Construction** **CEQA: The Proposed Project would include the construction of recreational facilities; however, construction would be temporary and would not have an adverse physical effect on the environment. (Less than Significant)** **NEPA: This topic is not covered under NEPA.**

As described above, the Proposed Project would include the construction of up to 35,000 sf of community facilities (Community Center on Block G) and 3.62 acres of public open space as shown in Figure 5.12-1. Construction activities associated with the development of the parks and recreational facilities could vary depending on the location and type of work. Sites would be graded, and utilities, hardscape (e.g., concrete, asphalt, stone, walls, sport-court, and play area surfacing), and site furnishings (e.g., benches, picnic tables, drinking fountains, play equipment, fencing, lighting) would be installed. Construction of the Proposed Project is expected to occur in three non-overlapping phases, spanning from 2015 to 2025 or later. Construction of the Community Center on Block G would most likely occur in Phase 2, which is expected to last approximately 48 months. As such, construction of these facilities would be short term in nature. Construction of the Proposed Project would be required to adhere to the San Francisco Building Code (SFBC) and the Department of Building Inspection (DBI) construction standards. Compliance with these regulations would ensure that expansion of recreation facilities would not result in adverse environmental effects. Furthermore, construction impacts associated with the Proposed Project's community facilities and open space are evaluated throughout this document. Therefore, construction of the Proposed Project would not result in an adverse effect on parks, recreational facilities, or open space. Under CEQA, this impact would be regarded as ***less than significant***.

Alternative 1 – Reduced Development Alternative

Impact RE-1	**Effects Due to Increased Use** **CEQA: The Reduced Development Alternative would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration or degradation of the facilities would occur or be accelerated. (Less than Significant)** **NEPA: The Reduced Development Alternative would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for parks and recreation. (Less than Significant)**

Alternative 1 would include the construction of a Community Center on Block G with up to 25,000 sf of community facilities, including a replacement daycare and preschool facilities, a computer lab, community meeting room, family resource center, and a senior center. The Community Center under Alternative 1 would have 10,000 fewer sf compared to the Proposed Project. Alternative 1 would also contain 3.62 acres of public open space, including the parks

identified above under the Proposed Project (see Figure 5.12-1). Open space may be provided as private usable open space or as common open space. An additional 3.5 acres of private open space would be provided. If the open space is private, then Alternative 1 would require up to 102,400 sf of private open space. If the open space is common, then Alternative 1 would require up to 136,192 sf of common open space.[4] Private open space will be maintained by the developers of each property. At this time it is unknown who would maintain public open spaces; however, it is likely that the master owner's association of the Reduced Development Alternative would own and maintain public open spaces.

The net population growth for Alternative 1 would be 1,638 persons.[5] Similar to the Proposed Project, Alternative 1 would include the construction of community facilities and open space, and the addition of 1,638 persons would slightly reduce the parks-to-population ratio of 5.08 acres to 5.06 acres per 1,000 residents. Similar to the Proposed Project, population growth under this alternative would result in an incremental increase when considered in the context of the existing population and would not result in a substantial city-wide increase in demand for or use of recreation facilities such that substantial physical deterioration or degradation of existing facilities would occur. Due to the types of programs offered, it is not expected that all new residents resulting from Alternative 1 would use the Potrero Hill Recreation Center. For example, organized sports such as basketball or baseball would draw from the area-wide (rather than neighborhood) population. As such, the increase in residents directly adjacent to the Project site would not necessarily indicate a commensurate increase in enrollment in these sports.

Impacts under CEQA would be ***less than significant*** because Alternative 1 would increase the use of existing neighborhood and regional parks or other recreational facilities, but not to the extent that substantial physical deterioration of the facilities would occur or be accelerated.

Impacts would be ***less than significant*** under NEPA because Alternative 1 would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for parks and recreation.

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[4] Private Open Space = 1,280 units x 80 square feet = 102,400 square feet
Common Open Space = 1,280 dwelling units x 80(1.33) square feet = 136,192 square feet

[5] 1,280 units under the Proposed Project x 2.28 persons per household = 2,918 residents. Therefore, the net increase (2,918 future residents – 1,280 existing residents) in Project site population would be approximately 1,638.

Impact RE-2	**Effects Due to Construction** **CEQA: The Reduced Development Alternative would include the construction of recreational facilities; however, construction would be temporary and would not have an adverse physical effect on the environment. (Less than Significant)** **NEPA: This topic is not covered under NEPA.**

Construction activities associated with the development of the parks and recreational facilities for Alternative 1 could vary depending on the location and type of work, as described above under the Proposed Project. Construction of the Reduced Development Alternative would occur in three phases on the same schedule as the Proposed Project to minimize disruption to existing residents. As such, construction of these facilities would be short term in nature and would be required to adhere to the SFBC and DBI construction standards. Compliance with these regulations would ensure that expansion of recreation facilities would not result in adverse environmental effects. Furthermore, construction impacts associated with Alternative 1's community facilities and open space are evaluated throughout this document. Therefore, construction of Alternative 1 would not result in an adverse effect on parks, recreational facilities, or open space. Under CEQA, this impact would be ***less than significant***.

Alternative 2 – Housing Replacement Alternative

Impact RE-1	**Effects Due to Increased Use** **CEQA: The Housing Replacement Alternative would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration or degradation of the facilities would occur or be accelerated. (No Impact)** **NEPA: The Housing Replacement Alternative would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for parks and recreation. (No Impact)**

Alternative 2 would replace all 620 existing housing units and would be built on the same footprint as the existing development. As a result, the existing population would remain the same and no new community facilities (i.e., Community Center) or open space would be constructed. Furthermore, since the population would remain the same, there would be no increase in the use of existing recreational facilities in the Project vicinity.

Under CEQA, ***no impact*** would occur because Alternative 2 would not increase the use of existing neighborhood and regional parks or other recreational facilities.

Under NEPA, ***no impact*** would occur because the Proposed Project would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for parks and recreation.

Impact RE-2	**Effects Due to Construction** **CEQA: The Housing Replacement Alternative would not include the construction of recreational facilities that might have an adverse physical impact on the environment. (No Impact)** **NEPA: This topic is not covered under NEPA.**

Alternative 2 would replace all 620 existing housing units and would be built on the same footprint as the existing development. As a result, the existing population would remain the same and no new community facilities (i.e., Community Center) or open space would be constructed. Therefore, there would be ***no impact*** under CEQA.

Alternative 3 – No Project Alternative

Under the No Project Alternative, construction and operation of the Proposed Project would not occur. The Project site would retain the same number of housing units and the on-site population would remain the same. As such, there would be no increase in existing park and recreational facility use which would lead to physical deterioration or degradation. Therefore, there would be ***no impact*** under CEQA.

Under the No Project Alternative, existing conditions would remain the same and no new construction would take place. Construction of recreational facilities would not be included as part of this alternative; accordingly, there would be ***no impact*** under NEPA.

Cumulative Impacts

The geographic context for cumulative recreation impacts is the Eastern Neighborhoods Plan area.

Impact C-RE-1	**Cumulative Impacts to Recreation** **CEQA: The Proposed Project and the alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to recreation. (Less than Significant)** **NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse recreation impacts. (Less than Significant)**

The EN EIR concluded that implementation of the Eastern Neighborhoods Plan would not result in substantial or accelerated deterioration of existing recreational resources or require the construction or expansion of recreational facilities that may have an adverse effect on the environment. As such, cumulative impacts were considered less than significant.

Growth in the Project area and surrounding neighborhood would result in an increased demand for parks and recreation facilities due to the anticipated population growth. However, as stated above,

the City has not established minimum required standards for parks based on population density. Policies and programs currently being implemented by the City, including the Draft Citywide Vision for Open Space, the Update of the Recreation and Open Space Element (ROSE), park acquisitions funded through Proposition C, and the 2012 Clean and Safe Neighborhoods Parks Bond, would serve the growing population in the Project vicinity and adjacent neighborhoods. Together, these efforts establish a variety of methods to achieve the parks, recreation, and open space objectives set forth in the General Plan. These programs would help ensure that adequate parks are provided for future population without deteriorating existing facilities. As discussed above in the project-specific analysis, recreation impacts of the Proposed Project would be considered less than significant. The Proposed Project would incorporate approximately 7.12 acres of public and private open space. Of the 7.12 acres of open space, 3.62 acres would be publically accessible. Alternative 1 would also include 3.62 acres of public open space. With Alternative 2, there would be no increase in the use of existing recreational facilities in the Project vicinity since the population would remain the same. Similarly, with the No Project Alternative 2, the Project site would retain the same number of housing units and the on-site population would remain the same.

Therefore, either the Proposed Project or its alternatives, when considered in combination with full buildout of the EN Plan area, would not have a cumulatively considerable impact on public recreational resources. Thus, the Proposed Project and its alternatives would not result in a cumulatively considerable contribution to significant cumulative impacts to recreational resources.

Cumulative impacts to recreational resources would be ***less than significant*** under CEQA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects in proximity to the Project Site, including growth under the EN Plan, would not result in significant adverse recreation impacts.

Cumulative impacts to recreational resources would be ***less than significant*** under NEPA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects in proximity to the Project Site, including growth under the EN Plan, would not result in significant adverse recreation impacts.

5.13 UTILITIES AND SERVICE SYSTEMS

5.13.1 Regulatory Framework

Federal

Clean Water Act

The Clean Water Act requires states to develop water quality standards and prohibits the discharge of pollutants into navigable waters from a point source unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. These permits are issued by the state's nine Regional Water Quality Control Boards (RWQCBs) under authorization from the federal government. The NPDES permit includes discharge standards, pollutant and effluent restrictions, and standards for the treatment and disposal of wastewater.

Federal Combined Sewer Overflow Control Policy

On April 11, 1994, the U.S. Environmental Protection Agency (USEPA) adopted the Combined Sewer Overflow Control Policy (CSO Control Policy), which became part of the Clean Water Act (CWA) in December 2000. This policy establishes a consistent national approach for controlling discharges from combined sewers. Using the NPDES permit program, the policy initiates a two-phased process with higher priority given to more environmentally sensitive areas. During the first phase, the permittee is required to implement the controls that constitute the technology-based requirements of the CWA and can reduce the frequency of combined sewer overflows (CSOs) and their effects on receiving water quality.

The City is currently implementing these controls as required by the CSO Control Policy. This includes development of a Water Pollution Prevention Program, which focuses on minimizing pollutants entering the City's combined sewer system and addresses pollutants from residential, commercial, industrial, and non-point pollutant sources.

State

National Pollutant Discharge Elimination System (NPDES)

The objective of the NPDES program is to control and reduce discharges of pollutants to water bodies in surface water discharges. Under Section 402 of the CWA, the RWQCBs have been delegated authority by the USEPA to implement and enforce the NPDES program within California. The City is required by federal, state, and local laws to implement programs that reduce the discharge of pollutants to the local storm drain system.

The State Water Resources Control Board (SWRCB) has adopted a statewide NPDES general permit for stormwater discharges associated with construction activities (Construction General Permit;

SWRCB Order No. 99-08-DWQ). To comply with the requirements of the NPDES Construction General Permit, developers are required to submit a site-specific plan called a stormwater pollution prevention plan (SWPPP) to minimize the discharge of pollutants during construction activities that disturb one acre or more of land.

Coverage under the NPDES Construction General Permit is not required for projects in those areas of San Francisco that drain to the combined sewer system (including the Project site);[1] however, all construction sites must implement best management practices (BMPs) to prevent illicit discharge into the combined sewer. For sites served by the combined sewer system, construction stormwater discharges are subject to the requirements of Article 4.1 of the San Francisco Public Works Code, which incorporates and implements the City's NPDES permit and minimum controls described in the federal CSO Control Policy. Generally, the City's requirements include the development of a SWPPP and review by the San Francisco Public Utilities Commission (SFPUC). Projects served by the combined sewer system are not subject to the terms of the NPDES Construction General Permit; however, Section A of the permit describes the requirements for a SWPPP in detail, and the City specifies that this information should be used as a design guide. The San Francisco Public Works Code also requires the use of BMPs during the construction and operational periods.

Porter-Cologne Water Quality Act

The State of California's Porter-Cologne Water Quality Control Act (California Water Code, Sections 13000 et seq.) establishes the basis for water quality regulation within California. The act requires that a "report of waste discharge" be compiled for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface water or groundwater of the state. The San Francisco Bay RWQCB has set water quality objectives for all surface waters in the region concerning bacteria, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity. Water quality objectives for groundwater include standards for bacteria, chemical constituents, radioactivity, tastes and odors, and toxicity. The SWRCB and RWQCBs have permitting and enforcement authority to prevent and control waste discharges that could affect waters of the state through the issuance of NPDES permits and waste discharge requirements (WDRs).

Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code, Section 10631). 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

[1] San Francisco Public Utilities Commission, *San Francisco's Construction Site Runoff Pollution Prevention Procedures* (2010), http://sfwater.org/detail.cfm/MC_ID/14/MSC_ID/118/C_ID/3084 (accessed March 28, 2011).

various categories of customers during normal, dry, and multiple dry years. A water supplier is required to prepare an Urban Water Management Plan (UWMP) to document water supplies available during normal, single dry, and multiple dry water years during a 20-year projection and the existing and projected future water demand during a 20-year projection. The water supplier must update the Urban Water Management Plan every 5 years (by December 31 in years ending in five and zero). The SFPUC's 2010 UWMP was adopted on June 14, 2011.

Senate Bill 610 and Senate Bill 221

The State of California, through the passage of Senate Bill 610, requires that a jurisdiction prepare a Water Supply Assessment (WSA) for development projects that meet certain criteria, including a project that creates demand for 500 or more housing units. The SFPUC prepared a WSA for the Proposed Project (see Appendix 4.13 of this Draft EIR/EIS), as described under Impact UT-3, below.

Department of Health Services

In California, water reclamation is regulated under Title 22 of the California Code of Regulations, Division 4, Sections 60301 et seq. (hereafter referred to as Title 22). Title 22 was promulgated in 1978 by the Department of Health Services to assure protection of public health where water use is involved. Title 22 criteria include water quality standards, as well as treatment processes and operational and treatment reliability requirements. In addition, the SWRCB has adopted Resolution No. 77-1, *Policy with Respect to Water Reclamation in California*. This policy states that the State and Regional Boards will consider and recommend for funding, water reclamation projects that do not impair water rights or beneficial in-stream uses. The Department of Health Services establishes the recycled water uses allowed in the state, and designates the level of treatment (i.e., un-disinfected secondary, disinfected secondary or disinfected tertiary) required for each of these designated uses (Title 22, California Code of Regulations).

California Integrated Waste Management Act of 1989 (AB 939)

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State legislature passed Assembly Bill (AB) 939, the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties in California were required to divert 25 percent of all solid waste to recycling facilities from landfill or transformation facilities by January 1, 1995, and 50 percent by January 1, 2000. The California Integrated Waste Management Board's (CIWMB) Department of Resources Recycling and Recovery (now CalRecycle) is the state department designated to oversee, manage, and track California's 92 million tons of waste generated each year. The City achieved a 77 percent diversion rate for 2008, thereby surpassing the diversion goal established in the 2002 legislation.[2]

[2] BioCycle. 2011. *Zero Waste on San Francisco's Horizon*. July. Available: http://www.biocycle.net/2011/07/18/zero-waste-on-san-franciscos-horizon/.

Solid waste plans are prepared by each jurisdiction to explain how each city's AB 939 plan is integrated with its county plan. The plans must promote, in order of priority: source reduction, recycling and composting, and finally, environmentally safe transformation and land disposal.

California Solid Waste Reuse and Recycling Act of 1991 (AS 1327)

The California Solid Waste Reuse and Recycling Access Act of 1991 (AB 1327) was passed, requiring the CIWMB to develop a model ordinance for adoption by local agencies relating to adequate areas for collecting and loading of recyclable materials in development projects.

Regional

Water Quality Control Plan for the San Francisco Bay Basin

The San Francisco Bay Regional Water Quality Control Board (San Francisco Bay RWQCB) regulates water quality in the San Francisco Bay under the Porter-Cologne Water Quality Control Act through regulatory standards and objectives in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan identifies existing and potential beneficial uses and provides numerical and narrative water quality objectives to protect those uses.

Existing beneficial uses for the San Francisco Bay include: ocean, commercial and sport fishing; estuarine habitat; industrial service supply[3]; fish migration; navigation; preservation of rare and endangered species; water contact recreation; non-contact water recreation; shellfish harvesting; and wildlife habitat. The Basin Plan identifies the following pollutants as causing impairments in San Francisco Bay: chlordane, DDT, diazinon, dieldrin, dioxin compounds, furan compounds, mercury, exotic species, and PCBs. The law requires the development of total maximum daily loads (TMDLs) for each pollutant which cannot be exceeded to preserve the applicable water quality standards and to identify pollution prevention, control, or restoration strategies. The San Francisco Bay RWQCB has developed TMDL reports for various pollutants, and has proposed Basin Plan amendments to TMDLs based on these reports.

Waste Discharge Requirements Program

Under the Porter-Cologne Water Quality Control Act, the San Francisco Bay RWQCB regulates the discharge of waste to waters of the state. All parties proposing to discharge waste that could affect waters of the state must file a report of waste discharge (ROWD) with the appropriate RWQCB. The RWQCB then responds to the ROWD by issuing WDRs in a public hearing, or by waiving WDRs (with or without conditions) for the proposed discharge. Both of the terms "discharge of waste" and "waters of the state" are broadly defined in the Porter-Cologne Water Quality Control Act:

[3] Uses of water for industrial activities that do not depend primarily on water quality include, at a minimum;, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization. San Francisco Bay Regional Water Quality Control Board, *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan), Oakland, CA* (December 31, 2011).

Discharges of waste include discharges of fill or any material resulting from human activity, or any other discharge that may directly or indirectly affect waters of the state. All waters of the United States that are located within California's borders are also waters of the state, but the converse is not true; not all waters of the state are also waters of the United States. Waters of the United States are a subset of waters of the state. As noted, there are no streams or open water bodies located on the Project site and, thus, potential discharges to waters of the state are not an issue for the Proposed Project.

For waters of the United States, a Section 404 permit and a 401 certification are required when an activity would result in fill or discharge directly below the ordinary high-water line; for waters of the state, any activity that would result or may result in a discharge that would directly or indirectly affect those waters or their beneficial uses are subject to WDRs. In practice, most RWQCBs rely on 401 certifications to determine whether WDRs also need to be issued for a Proposed Project. The San Francisco Bay RWQCB employs a combined 401 certification/waiver of WDRs application form to ensure that applicants do not need to file both an ROWD and an application for 401 certification. WDRs for discharges directly to surface waters are also NPDES permits. As noted, WDRs are established for the City's wastewater treatment plant effluent discharges, to which the Project site contributes flow. However, no WDRs apply directly to the Proposed Project.

Local

San Francisco Green Building Ordinance

In 2008, the City adopted the San Francisco Green Building Ordinance (SFGBO) as Chapter 13C, *Green Building Requirements*, of the San Francisco Building Code. The purpose of the SFGBO is to promote the health, safety, and welfare of San Francisco residents, workers, and visitors by minimizing the use and waste of energy, water, and other resources in the construction and operation of the buildings within the City; and by providing a healthy indoor environment. This requires green building practices and LEED certification for new residential and commercial buildings in the city.

For site permits received on or after July 1, 2012, residential development will be required to achieve the following minimum standards:

- New High-Rise Residential (5 or more units and 75 feet or more in height to the highest occupied floor) – 75 GreenPoint Rated (GPR) points or 50 LEED points
- All Other New Residential (1 or more units and less than 75 feet in height to highest occupied floor) – 75 GPR points or LEED Silver.

The SFGBO requires compliance with the applicable LEED performance standards or GreenPoint Rated checklists (which applies mostly to residential buildings) for New Construction, Version 2.2, criteria SS6.1 and SS6.2 for stormwater management, as well as the BMPs and Stormwater Design Guidelines (SDG) of the SFPUC (1304C.0.3). Additionally, for high-rise residential buildings

(1304C.1.3), new group B (Business) and M (Mercantile) occupancy buildings (1304C.2), and new large commercial buildings (1304C.2.2), water efficient landscaping (LEED WE1.1) and water conservation are required (LEED WE3.2).

LEED SS6.1, Stormwater Design: Quantity Control, addresses stormwater management and has been adopted by the San Francisco SDG for combined sewer areas. The intent of this credit is to limit disruption of stormwater runoff by reducing impervious cover, promoting infiltration, reducing or eliminating pollution from stormwater runoff, and eliminating contaminants.

LEED WE1.1 addresses water efficient landscaping. New construction that is required to comply with this credit must submit documentation verifying a minimum of 50 percent reduction in use of potable water for landscaping (compared to the mid-summer baseline case). LEED WE3.2 addresses water use reduction. Permit applicants must submit documentation demonstrating achievement of a minimum 20 percent reduction in the use of potable water. Effective January 1, 2011, the required reduction in use of water is 30 percent (compared to the water use baseline calculated for the building [not including irrigation] after meeting the USEPA Energy Policy Act of 1992 requirements).

The SFGBO also requires that new development provide adequate areas for recycling, composting, and trash storage. Collection and loading, including any chute systems, must be designed for equal convenience for all users to separate those three material streams, and must provide space to accommodate a sufficient quantity and type of containers to be compatible with current methods of collection.

Stormwater Management Ordinance

The San Francisco Stormwater Management Ordinance became effective May 22, 2010. The intent of the Stormwater Management Ordinance is to protect and enhance the water quality in the City and County of San Francisco's sewer system, stormwater collection system and receiving waters pursuant to, and consistent with federal and state laws, lawful standards, and orders applicable to stormwater and urban runoff control, and the City's authority to manage and operate its drainage systems. The Stormwater Management Ordinance is enforced through implementation of the SDG, described under SFGBO, above.

Water System Improvement Program

On October 30, 2008, SFPUC certified the Final Program EIR for the Water System Improvement Program (WSIP), a multiple year, system-wide capital improvements program. Many aspects of the WSIP are rooted in the 2000 Water Supply Master Plan and various water system vulnerability studies. The WSIP investigated the potential options of developing local water resources such as water recycling, groundwater, desalination and improved conservation to meet SFPUC purchase requests or demands.

San Francisco Public Works Code

Under Article 4.1 of the San Francisco Public Works Code, discharges to the combined sewer system from temporary dewatering of construction sites are regulated by the Batch Wastewater Discharge Permit issued by SFPUC. As such, the project applicant must obtain a Batch Wastewater Discharge Permit from the SFPUC before the beginning of groundwater dewatering to the combined sewer system. Specific permit terms and conditions are imposed by SFPUC to maintain SFPUC's compliance with its own Wastewater Discharge Permit issued by the San Francisco Bay RWQCB. Under the Batch Wastewater Discharge Permit, the discharge must meet specific numeric effluent limitations for toxic and conventional pollutants, and monitoring is required to ensure compliance.

San Francisco Housing Code

The intent of Chapter 12A of the *San Francisco Housing Code*, also known as the Residential Water Conservation Ordinance, is to conserve existing water supplies by reducing the overall demand for water in residential buildings by requiring the installation of water conservation devices in all residential buildings, except for tourist hotels and motels, upon the occurrence of specific events such as when the building undergoes major improvements, when there is a meter conversion, when there is a condominium conversion, and when there is a transfer of title.

Ordinance No. 27-06

The City adopted an ordinance (No. 27-06), effective on July 1, 2006, that creates a mandatory program to maximize the recycling of mixed construction and demolition (C&D) debris. The Ordinance requires that mixed C&D debris must be transported off site by a Registered Transporter and taken to a Registered Facility that can process and divert from landfill a minimum of 65 percent of the material generated from construction, demolition or remodeling projects.

Mandatory Recycling and Composting Ordinance

Adopted in 2009, this ordinance amended the San Francisco Environment Code by adding Chapter 19, *Mandatory Recycling and Composting Ordinance*, and amending the San Francisco Public Works Code and the San Francisco Health Code. The purpose of the ordinance is to (1) require all persons located in San Francisco to separate recyclables, compostables, and land-filled trash and participate in recycling and composting programs; (2) provide enforcement mechanisms and penalties for violations; (3) ensure that all properties subscribe to refuse-collection service; and (4) authorize a Department of Public Health inspection fee of $167 per hour.

Zero Waste Goal

The City recovers 77 percent of the materials it discards, bringing it closer to the goal of zero waste by 2020.[4] The City is well on its way to meeting its diversion goals. Ultimately, the City will need to look beyond recycling and composting to get to zero waste, including passing legislation to increase producer and consumer responsibility.

Administrative Bulletin (AB-088)

This Administrative Bulletin provides standards and procedures for local implementation of the California Solid Waste Reuse and Recycling Access Act of 1991, and the related adopted Model Ordinance, which require that local jurisdictions enforce regulations to assure that adequate areas for collecting and loading for recyclable materials are provided in development projects. Under these regulations, cities are mandated to enforce requirements for certain new development project and building alterations as detailed in AB-088.

5.13.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. The Proposed Project and alternatives would have a significant adverse impact on utilities and service systems if it 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;
- Have insufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements;
- Result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or

[4] SF Environment, Zero Waste, http://www.sfenvironment.org/our_programs/overview.html?ssi=3 (accessed May 4, 2011).

- Not comply with federal, state, and local statutes and regulations related to solid waste.

Context and Intensity Evaluation Guidelines under NEPA

For utilities and service systems, the analysis considers whether the Proposed Project would:

Exceed the existing or proposed capacity of municipal utility systems or providers including:

- Water supply;
- Wastewater (and stormwater) conveyance and treatment; or
- Solid waste collection and disposal.

For effects on energy, please see Section 5.19, *Mineral and Energy Resources*.

Approach to Analysis

Impacts on utilities and service systems are considered significant if an increase in demand as a result of the Proposed Project would result in inadequate service and/or increased demand for services that would require construction or expansion of new or altered facilities that themselves could have an adverse physical effect on the environment. Thus, a significant impact would occur if the utilities serving the Project area could not meet Proposed Project demand, or require the construction of new or expanded utilities facilities that would cause significant environmental impacts. The information used to assess the impacts on water, wastewater, and stormwater treatment capacity, water supply, and solid waste disposal capacity was obtained directly from the SFPUC, Recology, and from available public information. To estimate the water demand and wastewater discharge associated with the Proposed Project and its alternatives, a Water Demand and Wastewater Discharge Technical Memorandum (Technical Memorandum) was prepared (see Appendix 4.13). The technical memorandum identifies demand factors from several San Francisco Bay Area planning documents in order to derive water and wastewater projections for the various land uses envisioned for the Proposed Project and its alternatives. Additionally, the Proposed Project's potential contribution to cumulative impacts is evaluated in the context of existing, proposed, and reasonably foreseeable future development expected.

Impact Evaluation

Proposed Project

Impact UT-1	**Effects on Wastewater Conveyance and Treatment** **CEQA: The Proposed Project would not exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board. (Less than Significant)** **NEPA: The Proposed Project would not exceed the existing or proposed capacity of municipal utility systems or providers of wastewater conveyance and treatment. (Less than Significant)**

As discussed above, the City and County require NPDES permits as administered by the San Francisco Bay RWQCB, according to federal regulations for both point source discharges (a municipal or industrial discharge at a specific location or pipe) and nonpoint source discharges (diffuse runoff of water from adjacent land uses) to surface waters of the United States.

The Proposed Project would be required to comply with all applicable wastewater discharge requirements issued by the SWRCB and RWQCB, and the SFGBO. The SFGBO addresses stormwater management by seeking to reduce impervious cover, promote infiltration, and capture and treat 90 percent of the runoff from an average annual rainfall event using acceptable BMPs.

As described in Chapter 2, *Project Alternatives and Project Description*, the Proposed Project could incorporate stormwater management strategies to reduce stormwater discharge, such as: block strategies to determine whether implementation of water re-use and retention strategies are applicable; stormwater irrigation re-use; permeable street opportunities; stormwater cisterns; and rain garden opportunities. Stormwater management strategies are also described in the Design Standards and Guidelines document prepared for the Project.

All water discharged from the Proposed Project, including construction-related wastewater, wastewater from the proposed new housing and facilities, and stormwater runoff, would be subject to NPDES permitting requirements, as administered by the RWQCB and the City of San Francisco. As stated above, coverage under the NPDES Construction General Permit is not required for the Proposed Project since the Project site drains to the combined sewer system. However, all construction sites must implement BMPs to prevent illicit discharge into the combined sewer.

Construction stormwater discharges at the Project site are subject to the requirements of Article 4.1 of the San Francisco Public Works Code, which incorporates and implements the City's NPDES permit and minimum controls described in the federal CSO Control Policy. Prior to issuance of a grading permit, the project applicant would be required to prepare a SWPPP for review by the SFPUC.

Furthermore, because the Project site is served by the City's combined sewer system, stormwater runoff and construction-related surface runoff would be discharged to the Southeast Water Pollution Control Plant (SWPCP) in addition to operational wastewater flows. The Proposed Project would be subject to the requirements of the SFGBO and the City's Stormwater Management Ordinance, which would reduce the volume and pollutant load of stormwater runoff to the combined sewer system. In addition, the construction contractor would be required to implement BMPs to reduce surface runoff to the extent feasible. Although the Proposed Project would not be required to seek coverage under the NPDES Construction General Permit, construction stormwater discharges are subject to the requirements of Article 4.1 of the San Francisco Public Works Code, which incorporates and implements the City's NPDES permit and minimum controls described in the federal CSO Control Policy.

Wastewater flows from residential and retail commercial uses are primarily a factor of indoor water use. Approximately 90 percent of water supplied is discharged as wastewater into the sewer system. Using this ratio, the Proposed Project would generate approximately an additional 0.26 mgd or 180.56 gallons per minute (gpm), based upon the water demand calculated by the SFPUC WSA (see Impact UT-4, below).[5]

The SWPCP treats approximately 67 mgd during dry weather with a total capacity of 150 mgd; thus during dry weather there is adequate capacity for the 0.234 mgd wastewater flows from the Proposed Project.

Regarding wet weather flow, during large storm events that exceed the capacity of the SWPCP, North Point Wet Weather Facility and Bayside Wet Weather Facilities, the City is permitted to discharge into the San Francisco Bay via combined sewer overflow structures.

The Proposed Project would be designed with a stormwater management plan to ensure there are no impacts on the surrounding stormwater collection system. The 0.234 mgd wastewater flows from the project would represent a 0.94 percent of 250 mgd wet weather flows to the SWPCP. This incremental increase would not contribute to a violation of current wastewater treatment and discharge requirements.

No new wastewater collection and treatment facilities would be required to serve the Proposed Project. The Proposed Project would meet wastewater pre-treatment requirements of the SFPUC, as required by the San Francisco Industrial Waste Ordinance.[6] While the Proposed Project would add to sewage flows in the area, it would not cause collection treatment capacity of the sewer system in the City to be exceeded. Under CEQA, impacts are considered ***less than significant*** because the Proposed Project would not exceed wastewater treatment requirements of the RWQCB.

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[5] San Francisco Public Utilities Commission (SFPUC), Water Supply Assessment for the Potrero HOPE SF Master Plan, June 17, 2013.

[6] *San Francisco Public Works Code*, Article 4.1 (amended by Ordinance No. 19-92, January 13, 1992).

The Proposed Project would result in a ***less-than-significant*** impact under NEPA because it would not exceed the existing or proposed capacity of municipal utility systems or providers of wastewater conveyance and treatment.

Impact UT-2	**Effects Related to Construction of New Facilities**
	CEQA: The Proposed Project would not require or result in the construction of new water or wastewater treatment facilities or new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)
	NEPA: This topic is not separately analyzed under NEPA.

As stated in Section 4.13, *Utilities and Service Systems*, approximately 90 percent of water supplied to a residential property is discharged into the City's combined sewer system. The Proposed Project would provide housing for new and current residents; include streets, parks, and landscaping. The Project site currently has 20.1 acres of impervious surfaces and on-site stormwater drains into City's combined sewer system.

Stormwater. As described in Chapter 2, *Project Alternatives and Project Description*, the Proposed Project must implement a stormwater management approach that reduces existing peak stormwater runoff flow rate and total volume by 25 percent for a 2-year, 24-hour design storm. This would be accomplished through adherence to the City's SDG. The Proposed Project would minimize disruption of natural hydrology by implementing Low Impact Design approaches such as reduced impervious cover, re-use of stormwater, or increased infiltration.[7] The Proposed Project's stormwater management regime is further detailed in Chapter 2, *Project Alternatives and Project Description,* and Section 5.17, *Hydrology and Water Quality*.

The Proposed Project would not increase the amount of stormwater runoff from the Project site, and stormwater would continue to be handled by the City's combined sewer collection system. Based on the stormwater features described in Chapter 2, the impact would be ***less than significant*** under CEQA because the proposed project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts.

Wastewater. Based on the analysis conducted for the Technical Memorandum, the Proposed Project would generate approximately 0.234 mgd of wastewater to be treated at SWPCP. Further, as described in Section 4.13, *Utilities and Service Systems*, existing development at the Project site generates approximately 0.07 mgd of wastewater. Therefore, implementation of the Proposed Project would result in a net increase in wastewater generation of approximately 0.164 mgd. The net

[7] City and County of San Francisco, Planning Department, Memo to MEA CEQA Coordinators, regarding CEQA Language – Storm Water Management Ordinance and Stormwater Design Guidelines (November 29, 2010).

increase in wastewater generated by the Proposed Project would represent less than one percent of the available dry-weather capacity at SWPCP and, therefore, would not cause SWPCP to process wastewater flows beyond its permitted capacity. Wastewater generated by the Proposed Project would be conveyed to the SWPCP for secondary treatment before discharge to the Bay. The SWPCP has sufficient available capacity to treat wastewater generated from construction and operation of the Proposed Project within its permitted capacity. Per SFPUC, the Proposed Project's increased residential units and new street layout would require the construction of a modified water distribution and wastewater collection network. The project applicant would be required to identify any system inadequacies that must be addressed. Any needed expansion would be accommodated through the payment of development fees and would be the responsibility of the City to implement. Expansion of the sewer street drainage network would not be anticipated to result in additional significant environmental impacts beyond those discussed in this Draft EIR/EIS. Therefore, the impact would be ***less than significant*** under CEQA because the proposed project would not 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.

Impact UT-3	**Effects on Water Supply** **CEQA: The Proposed Project would have sufficient water supply available to serve the Proposed Project from existing entitlements and resources and would not require the expansion of existing water treatment facilities. (Less than Significant)** **NEPA: The Proposed Project would not exceed the existing or proposed capacity of municipal utility systems or providers of water supply. (Less than Significant)**

Water demand estimates for the Proposed Project are based on analysis presented in the WSA supplied by the SFPUC and included as Appendix 4.13 to this Draft EIR/EIS. As identified in Chapter 2, *Project Alternatives and Project Description*, the Proposed Project would include residential, retail, community, and open space/recreation land uses. Table 5.13-1 summarizes the land uses envisioned for the Proposed Project and the demand factors and resulting water demand calculations associated with each use.

As shown in Table 5.13-1, the Proposed Project would result in a total water demand of approximately 0.26 mgd. This represents a net increase of 0.18 mgd over existing water demand at the Project site.[8] The 0.18 mgd net increase would be a negligible increase compared to the City's overall water demand and SFPUC would have sufficient available supplies to accommodate this increase in demand, as explained further below.

[8] Existing water demand at the Project site is approximately 0.08 mgd ([1,250 people * 60.8 gpcd]/1,000,000).

Table 5.13-1 Proposed Project Water Demand

Use	*Total Use Area*	*Residents/Employees*	*Demand Factor*	*Water Demand (mgd)*
Residential	1,700 du	3,876	60.8 gpcd	0.24
Retail/Flex Space	up to 15,000 sf	34[b]	53.9 ged	0.0018
Community	up to 35,000 sf	—	0.105 gpd/sf	0.0037
Open Space[a]	approximately 7 acres	—	0.05 gpd/sf	0.015
Total				*0.26*

SOURCE: Bridge Housing/Atkins (2013).

mgd = million gallons per day; du = dwelling unit; gpcd = gallons per capita per day; ged = gallons per employee per day; gpd/sf = gallons per day per employee

a. Includes parks, plazas, stairs, hillsides, shared courtyards, and private yards.

b. Association of Bay Area Governments, *1987 Input-Output Model and Economic Multipliers for the San Francisco Bay Region* (March 1995). Multiplier for "Retail Trade" requires 450 square feet (sf) per employee. As such 15,000 sf of proposed retail/450 sf = ~34 employees.

The SFPUC recently adopted the 2010 UWMP, which provides water demand projections for the City and County of San Francisco through the year 2035. These projections are based on Association of Bay Area Governments (ABAG) *Projections 2009* and ABAG *Sustainable Communities Strategy Baseline Update 2010*, which provide projected growth for the city through the year 2035. In coordination with the adoption of the 2010 UWMP, the SFPUC also adopted a resolution affirming that future development in the City and County of San Francisco had been incorporated into the UWMP's water demand projections. However, in 2012, the San Francisco Planning Department updated its Land Use Allocation (LUA 2012) increased the estimated number of new dwelling units and jobs over the previous LUA 2009 projections. Due to the LUA 2012 projections, the SFPUC came to the conclusion that its 2010 UWMP no longer accounts for every project requiring a WSA. Therefore, the Proposed Project is required to prepare a WSA that documents the SFPUC's current and projected water supplies when compared to demands associated with the LUA 2012 projections. In the WSA, the SFPUC concluded that there are adequate water supplies to serve the Proposed Project and cumulative retail water demands during normal years, single dry years, and multiple dry years over a 20-year planning horizon from 2015 through 2035. Additionally, the Planning Department confirmed that the population growth and associated water demand of the Proposed Project was considered in the LUA 2012's projections of future water demand (see Appendix 4.13).[9] The Proposed Project would not result in major expansion of the water supply system and SFPUC would maintain sufficient water supplies to serve the Proposed Project from existing resources. Additionally, SFPUC would be able to accommodate the water demand of the Proposed Project with existing water treatment facilities and ongoing expansion of these facilities as planned in the WSIP.

Under CEQA, this impact would be ***less than significant*** because the Proposed Project would have sufficient water supply available to serve the Project from existing entitlements and resources and would not require new or expanded water supply resources or entitlements.

[9] Paula Kehoe, Director of Water Resources, San Francisco Public Utilities Commission, Letter to Bill Wycko RE: Water Supply Assessment for the Proposed Potrero HOPE SF Project (July 6, 2011) (see Appendix 4.13).

Under NEPA, this impact would be ***less than significant*** because the Proposed Project would not exceed the existing or proposed capacity of municipal utility systems or providers of water supply.

Impact UT-4	**Effects on Solid Waste Collection and Disposal** **CEQA: The Proposed Project would comply with solid waste regulations and would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. (Less than Significant)** **NEPA: The Proposed Project would not exceed the existing or proposed capacity of municipal utility systems or providers of solid waste collection and disposal. (Less than Significant)**

Solid waste from the Project site would be collected and hauled to the transfer station near Candlestick Point, and recycled as feasible. Non-recyclables would be disposed of at the Altamont Landfill in Alameda County. The Altamont Landfill has a permitted peak maximum daily disposal capacity of 11,150 tons per day and accepted 1.06 million tons in 2009, down from 1.31 million tons in 2005. The landfill has an estimated remaining capacity of approximately 45.7 million cubic yards, or 74 percent of its permitted capacity. The estimated closure date of the landfill is 2025.[10] However, the amount of solid waste that San Francisco can deposit at Altamont Landfill is governed by the City's agreement with the landfill operator, and the City is anticipated to reach its current limit between 2013 and 2015. As noted in Section 4.13, *Utilities and Service Systems*, San Francisco is currently participating as a responsible agency in the environmental review process that Yuba County has begun for the *Recology Ostrom Road Green Rail and Permit Amendment Project* and to conduct CEQA review of San Francisco's proposal to enter into one or more new agreements with Recology that could result in the City's solid waste being disposed of at the Ostrom Road Landfill. The ultimate determination with respect to future landfill contracting will be made by the Board of Supervisors on the basis of solid waste planning efforts being undertaken by the City's Department of the Environment.

Although the Proposed Project would incrementally increase total waste generation from the city, the increasing rate of diversion through recycling and other methods would result in a decreasing share of total waste that requires deposal at the landfill. Given this, the solid waste generated by Project construction and operation would not result in the landfill exceeding its permitted capacity, and the Project would result in a less-than-significant solid waste generation impact. The Proposed Project would be subject to the City's Mandatory Recycling and Composting Ordinance, which requires all San Francisco residents and commercial landlords to separate their refuse into recyclables, compostables, and trash, thereby minimizing solid waste disposal and maximizing

[10] California Integrated Waste Management Board, Active Landfill Profiles, Altamont Landfill. Available: <http://www.calrecycle.ca.gov/Profiles/Facility/Landfill/LFProfile2.asp?COID=3&FACID=01-AA-0009>. Accessed: May 27, 2010.

recycling. The Project would also be subject to the City's Construction and Demolition Debris Recovery Ordinance, which requires all construction and demolition debris to be transported to a registered facility that can divert a minimum of 65 percent of the material from landfills.

Impacts under CEQA would be ***less than significant*** because the Proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste. The NEPA impact would be ***less than significant*** because the Proposed Project would not exceed the existing or proposed capacity of municipal utility systems or providers of solid waste collection and disposal.

Alternative 1 – Reduced Development Alternative

Impact UT-1	**Effects on Wastewater Conveyance and Treatment** **CEQA: The Reduced Development Alternative would not exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board. (Less than Significant)** **NEPA: The Reduced Development Alternative would not exceed the existing or proposed capacity of municipal utility systems or providers of wastewater conveyance and treatment. (Less than Significant)**

As described under Impact UT-1 (under Proposed Action), above, all water discharged from the Project site, including construction-related wastewater and stormwater runoff would be subject to NPDES permitting requirements, as administered by the RWQCB and the City. In addition, consistent with the Proposed Project, coverage under the NPDES Construction General Permit is not required for Alternative 1 since the Project site drains to the combined sewer system. However, all construction sites must implement BMPs to prevent illicit discharge into the combined sewer.

Construction stormwater discharges at the Project site are subject to the requirements of Article 4.1 of the San Francisco Public Works Code, which incorporates and implements the City's NPDES permit and minimum controls described in the federal CSO Control Policy. Prior to issuance of a grading permit, the project applicant would be required to prepare a SWPPP for review by the SFPUC. Similar to the Proposed Project, Alternative 1 would prepare and implement BMPs to reduce construction-related runoff. Compliance with all applicable federal, state, and local water quality standards and discharge permits would be required as a condition of project approval. Further, as discussed above under UT-1 (Proposed Action), the incremental increase in wastewater and stormwater flows could be accommodated at the SWPCP. Because Alternative 1 would result in less wastewater and stormwater, the SWPCP could similarly accommodate flows associated with this alternative. Accordingly, Alternative 1 would result in a ***less-than-significant*** impact under CEQA because it would not exceed wastewater treatment requirements of the San Francisco RWQCB.

Alternative 1 would result in a ***less-than-significant*** impact under NEPA impact because it would not exceed the existing or proposed capacity of municipal utility systems or providers of wastewater conveyance and treatment.

Impact UT-2	**Effects Related to Construction of New Facilities** **CEQA: The Reduced Development Alternative would not require or result in the construction of new wastewater treatment facilities or new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)** **NEPA: This topic is not separately analyzed under NEPA.**

As described under Impacts UT-2 and UT-3 under *Proposed Project*, above, stormwater runoff is conveyed from the Project site to the City's combined sewer system and is ultimately treated at SWPCP. Wastewater discharge associated with operation of Alternative 1 was estimated using the same demand factors as the Proposed Project. As described in the Technical Memorandum (included as Appendix 4.13), Alternative 1 would generate approximately 0.18 mgd of wastewater discharge, representing a net increase of approximately 0.11 mgd.[11] The addition of 0.11 mgd of wastewater treatment demand at SWPCP would represent approximately 0.1 percent of SWPCP's permitted average dry weather flow capacity and less than one percent of the available capacity. Alternative 1 would develop the same footprint as the Proposed Project and, therefore, would be subject to all of the stormwater management regulations identified for the Proposed Project, above. Implementation of Alternative 1 would result in a net reduction in peak stormwater runoff volume and a negligible increase in wastewater discharge. As shown in Impact UT-1 under Proposed Project, above, SWPCP would have sufficient capacity to treat combined sewer flows from Alternative 1. As such, similar to the Proposed Project, the CEQA impact would be ***less than significant*** because the alternative would not require the construction of new treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Impact UT-3	**Effects on Water Supply** **CEQA: The Reduced Development Alternative would have sufficient water supplies available to serve the Proposed Project from existing entitlements and resources. (Less than Significant)** **NEPA: The Reduced Development Alternative would not exceed the existing or proposed capacity of municipal utility systems or providers of water supply. (Less than Significant)**

[11] According to Betsey Eagon, SFPUC Wastewater Enterprise, approximately 90 percent of water supplied to a residential project is discharged as wastewater into the sewer system.

As described in the WSA supplied by the SFPUC, Alternative 1 would result in a water demand of approximately 0.2 mgd representing a net increase of 0.12 mgd over existing conditions. The net increase in water demand associated with Alternative 1 would be a negligible increase compared to the City's overall water demand and SFPUC would have sufficient available supplies to accommodate this increase in demand. As such, the existing SFPUC Regional Water System would have sufficient available capacity to serve Alternative 1. Further, as described in Section 4.13, *Utilities and Service Systems*, SFPUC is in the process of completing several water supply projects under the WSIP that will substantially expand Regional Water System capacity to serve the City. Therefore, Alternative 1 would not result in the need to construct new water treatment facilities or expand existing facilities beyond the ongoing improvements identified in WSIP.

The CEQA impact would be ***less than significant*** because the alternative would have sufficient water supply available to serve the project from existing entitlements and resources and would not require new or expanded water supply resources or entitlements.

The NEPA impact would be ***less than significant*** because the alternative would not exceed the existing or proposed capacity of municipal utility systems or providers of water supply.

Impact UT-4	**Effects on Solid Waste Collection and Disposal and Solid Waste Regulations** **CEQA: The Reduced Development Alternative would comply with solid waste regulations and would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. (Less than Significant)** **NEPA: The Reduced Development Alternative would not exceed the existing or proposed capacity of municipal utility systems or providers of solid waste collection and disposal. (Less than Significant)**

Alternative 1 would be subject to the same solid waste regulations and would be served by the same collection and disposal system as described for the Proposed Project, above. Further, Alternative 1 would result in fewer residents at the Project site and, therefore, would generate less solid waste than the Proposed Project.

Therefore, the CEQA impact would be ***less than significant*** because the alternative would be served by a landfill with sufficient permitted capacity to accommodate the solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste.

The NEPA impact would be ***less than significant*** because the alternative would not exceed the existing or proposed capacity of municipal utility systems or providers of solid waste collection and disposal.

Alternative 2 – Housing Replacement Alternative

Impact UT-1	**Effects on Wastewater Conveyance and Treatment** **CEQA: The Housing Replacement Alternative would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. (Less than Significant)** **NEPA: The Housing Replacement Alternative would not exceed the existing or proposed capacity of municipal utility systems or providers of wastewater conveyance and treatment. (Less than Significant)**

As described under Impact UT-1 (under Proposed Project), above, all water discharged from the Project site, including construction-related wastewater and stormwater runoff would be subject to NPDES permitting requirements, as administered by the RWQCB and the City. Similar to the Proposed Project, although Alternative 2 would replace the existing housing, it would nevertheless implement BMPs to reduce construction-related runoff. Compliance with all applicable federal, state, and local water quality standards and discharge permits would be required as a condition of project approval. Further, as discussed above under UT-1 (Proposed Project), the incremental increase in wastewater and stormwater flows could be accommodated at the SWPCP. Because Alternative 2 would result in less wastewater and stormwater, the SWPCP could similarly accommodate flows associated with this alternative.

Therefore, under CEQA, Alternative 2 would result in a ***less-than-significant*** impact because it would not exceed wastewater treatment requirements of the San Francisco Bay RWQCB.

Under NEPA, Alternative 2 would result in a ***less-than-significant*** impact because it would not exceed the existing or proposed capacity of municipal utility systems or providers of wastewater conveyance and treatment.

Impact UT-2	**Effects Related to Construction of New Facilities** **CEQA: The Housing Replacement Alternative would not require or result in the construction of new wastewater treatment facilities or new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (No Impact)** **NEPA: This topic is not separately analyzed under NEPA.**

As described under Impacts UT-2 and UT-3 under Proposed Project, above, stormwater runoff is conveyed from the Project site to the City's combined sewer system and is ultimately treated at SWPCP. Alternative 2 would develop the same footprint as the current housing development but, nevertheless, would be subject to all of the stormwater management regulations identified for the Proposed Project, above. Implementation of Alternative 2 would result in a net reduction in peak stormwater runoff volume and likely a decrease in wastewater discharge due to compliance with

current regulations. As shown in Impact UT-1 under Proposed Project, above, SWPCP would have sufficient capacity to treat combined sewer flows from Alternative 2. As such, similar to the Proposed Project, Alternative 2 would not require construction of new stormwater drainage and wastewater treatment facilities or the expansion of existing facilities and therefore, the CEQA impact would be ***less than significant.***

Impact UT-3	**Effects on Water Supply** **CEQA: The Housing Replacement Alternative would have sufficient water supplies available to serve the Proposed Project from existing entitlements and resources. (No Impact)** **NEPA: The Housing Replacement Alternative would not exceed the existing or proposed capacity of municipal utility systems or providers of water supply. (Less than Significant)**

As described in the Water Demand and Wastewater Discharge Technical Memorandum (included as Appendix 4.13), Alternative 2 would result the same water demand as existing conditions. Alternative 2 would not result in the need to construct new water treatment facilities or expand existing facilities beyond the ongoing improvements identified in WSIP.

Therefore, the CEQA impact would be ***less than significant*** because Alternative 2 would have sufficient water supply available to serve the project from existing entitlements and resources and would not require new or expanded water supply resources or entitlements.

Under NEPA, the impact would be ***less than significant*** because Alternative 2 would not exceed the existing or proposed capacity of municipal utility systems or providers of water supply.

Impact UT-4	**Effects on Solid Waste Collection and Disposal and Solid Waste Regulations** **CEQA: The Housing Replacement Alternative would comply with solid waste regulations and would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. (Less than Significant)** **NEPA: The Housing Replacement Alternative would not exceed the existing or proposed capacity of municipal utility systems or providers of solid waste collection and disposal. (Less than Significant)**

Alternative 2 would be subject to the same solid waste regulations and would be served by the same collection and disposal system as described for the Proposed Project, above. Therefore, similar to the Proposed Project, the CEQA impact would be ***less than significant*** because the alternative would be served by a landfill with sufficient permitted capacity to accommodate the solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste.

Under NEPA, the impact would be ***less than significant*** because Alternative 2 would not exceed the existing or proposed capacity of municipal utility systems or providers of solid waste collection and disposal.

Alternative 3 – No Project Alternative

The Alternative 3 represents the continuation of existing uses at the Project site. Specifically, the existing buildings and tenants would remain at the Project site and no new buildings or uses would be constructed. Under both CEQA and NEPA, there would be ***no impact*** to utilities and service systems associated with the existing Potrero Annex and Potrero Terrace housing development.

Cumulative Impacts

The Proposed Project's and its alternatives' contribution to cumulative utilities and service systems impacts was analyzed in combination with reasonably forseeable projects, such as development anticipated under the Eastern Neighborhood Plan and in relation to anticipated citywide growth estimates that are consistent with local growth projections.

Impact C-UT-1	**Cumulative Impacts on Utilities and Service Systems** **CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to utilities and service systems. (Less than Significant)** **NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse utilities and service systems impacts. (Less than Significant)**

Development under the EN Plan would change development patterns and result in an increase in land use intensity in the Project area. Ultimately, the EN EIR determined that the anticipated increase in development and associated population with the Eastern Neighborhoods would not result in a significant impact to the provision of water, wastewater collection and treatment, and solid waste collection and disposal.

Cumulative projects could increase the demand for utilities in the Project vicinity and would add to cumulative water consumption. However, through a forecasting process, local and regional service providers such as the SFPUC and San Francisco Department of Environment (solid waste) have incorporated the demand associated with these cumulative projects into their future supply projections. The EN EIR identified several local and regional service efforts to ensure impacts under the Plan are less than significant including update of the SFPUC's UWMP as method to estimate future citywide water demand, accommodate the increased residential population and commercial growth, and avoid adverse impacts to the City's Water Supply. Overall, cumulative development would not result in water demand in excess of amounts planned for by SFPUC and cumulative

impacts are less than significant. As discussed above, the Proposed Project and its alternatives would also be adequately served by SFPUC and the Project would not result in a cumulatively considerable contribution to overall water demand in the Eastern Neighborhoods Plan area.

The Proposed Project and cumulative development under the Eastern Neighborhoods Plan could alter the amount of impermeable surface area; however, all cumulative development would be subject to the requirements of the SDG and construction BMPs, similar to the Proposed Project. The SDG ensures that new development disturbing more than 5,000 square feet does not result in a net increase in stormwater runoff; thus, stormwater run-off conditions would not be adversely affected. Therefore, cumulative development overall is less than significant and the Proposed Project would not result in a cumulatively considerable contribution to impacts related to stormwater conveyance capacity.

The City and County of San Francisco currently exceeds statewide goals for reducing solid waste, and is expected to further reduce solid waste volumes in the future. In addition, as discussed in the EN EIR, the San Francisco Department of the Environment implements an integrated waste management plan which helps ensure that future residential and commercial growth result in a decreasing share of total waste diverted to landfill based on the increasing rate of diversion through recycling and other methods. Overall cumulative impacts are less than significant. Further, the Proposed Project would not contribute considerably to significant regional impacts on landfill capacity, because it would comply with City and County of San Francisco requirements to reduce solid waste as would other development projects that would also contribute waste to the City's landfills.

Given that the City's existing service management plans address anticipated growth in the City, and in the region where applicable (e.g., water supply), and that this cumulative growth, including that from the Proposed Project and its alternatives, is accounted for in these plans, the Proposed Project or its alternatives would not be expected to result in a cumulatively considerable contribution to cumulative significant impacts on utility service provision or facilities.

In summary, the impacts under CEQA would be ***less than significant*** because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse utilities and service systems impacts.

The impacts under NEPA would be ***less than significant*** because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse utilities and service systems impacts.

5.14 PUBLIC SERVICES

5.14.1 Regulatory Framework

There are no relevant federal regulations related to public services.

Police

San Francisco Police Code. The *San Francisco Police Code* contains regulations for various types of activities such as automobile use, permitting and licensing, use of ports, and disorderly conduct.

Fire and Emergency Medical Services

State

California Fire Code. State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which include regulations concerning building standards (as also set forth in Title 24 of the California Code of Regulations, the California Building Code), fire protection and notification systems, fire protection devices (such as extinguishers and smoke alarms), high-rise building and childcare facility standards, and fire suppression training. California Fire Code Section 403.2 addresses public safety for both indoor and outdoor gatherings, including emergency vehicle ingress and egress, fire protection, emergency medical services, public assembly areas and the directing of both attendees and vehicles (including the parking of vehicles), vendor and food concession distribution, and the need for the presence of law enforcement and fire and emergency medical services personnel at the event.

Local

San Francisco Fire Code. The *San Francisco Fire Code* was revised in 2013 to regulate and govern 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; to provide for the issuance of permits, inspections, and other San Francisco Fire Department (SFFD) services; and to provide for the assessment and collection of fees for those permits, inspections, and services. The SFFD reviews building plans to ensure that fire and life safety is provided and maintained in the buildings that fall under its jurisdiction. SFFD plan review applies to all of the following occupancy types:

- All assembly occupancies (including restaurants and other gathering places for 50 or more occupants)
- All educational occupancies (including commercial day care facilities)
- All hazardous occupancies (including automobile repair garages, body shops, fuel storage, and emergency generator installation)

- All storage occupancies where potential exists for high-piled storage (*San Francisco Fire Code* Section 112.2, Table 112 A)
- All institutional occupancies
- All high-rise buildings of all occupancies
- Residential occupancies, such as hotels, motels, lodging houses, residential care facilities, apartment houses, small- and large-family day care homes, and R-1 artisan buildings (excluding minor residential repairs such as kitchen and bath remodeling and dry rot repair)
- Certified family-care homes, out-of-home placement facilities, halfway house, drug and/or alcohol rehabilitation facilities
- Tents, awnings, or other fabric enclosures used in connection with any occupancy
- All fire alarm and fire suppression systems

In coordination with the San Francisco Department of Building Inspection, the SFFD conducts plan checks to ensure that all structures, occupancies, and systems outlined above are designed in accordance with the *San Francisco Building Code* prior to the assistance of a building permit.

Schools

There are no applicable regulations for the analysis of impacts on schools.

Libraries

There are no applicable regulations for the analysis of impacts on libraries.

5.14.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

The Proposed Project would have a significant impact related to public services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, [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:
  - > Fire protection
  - > Police protection
  - > Schools
  - > Libraries

Context and Intensity Evaluation Guidelines under NEPA

For public services, the analysis considers whether the Proposed Project would:

- Exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for:
  - > Police services
  - > Fire protection and emergency medical services
  - > Schools
  - > Libraries

Approach to Analysis

Police, Fire, and Emergency Medical Services

Impacts on police protection services are considered significant if an increase in population or development levels as a result of the Proposed Project would result in inadequate staffing levels, increased response times, and/or increased demand for services that would require construction or expansion of new or altered facilities that themselves could have an adverse physical effect on the environment. Thus, a significant impact would occur if the police or fire station serving the Project site could not meet Proposed Project demand, or require the construction of new or expanded facilities that would cause significant environmental impacts. The information used to assess the impacts on these services was obtained from public records. Additionally, the Proposed Project's potential contribution to cumulative impacts is evaluated in the context of existing, proposed, and reasonably foreseeable future development.

Schools

Impacts on schools are considered significant if an increase in population or development levels as a result of the Proposed Project would result in overcrowding and/or increased demand for services requiring the construction or expansion of new or altered facilities that could have an adverse physical environmental effect. Thus, a significant impact would occur if the local SFUSD Schools could not accommodate the additional students expected with the Proposed Project, and would require the construction or expansion of new or expanded school facilities that would cause significant environmental impacts. Additionally, the Proposed Project's potential contribution to cumulative impacts is evaluated in the context of existing, proposed, and reasonably foreseeable future development expected in the SFUSD service area. The information used to assess impacts on schools was obtained from SFUSD and other publicly available sources.

Libraries

Impacts on library services are considered significant if an increase in population or development levels as a result of the Proposed Project would result in an increased demand for library services

that would require new or physically altered library facilities in order to maintain acceptable levels of service, the construction of which could result in substantial adverse environmental effects. Additionally, the Proposed Project's potential contribution to cumulative library impacts is evaluated. The information used to assess impacts on public libraries was obtained from SFPL and publicly available sources.

Impact Evaluation

Proposed Project

Impact PS-1	**Effects on Public Services** **CEQA: The Proposed Project would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services, police protection, schools, and libraries. (Less than Significant)** **NEPA: The Proposed Project would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for police services, fire protection and emergency medical services, schools, or libraries. (Less than Significant)**

Fire and Emergency Medical Services

Based on the existing city population, SFFD has a service ratio of approximately 2.08 fire personnel per 1,000 residents. The Proposed Project would result in a net increase of up to 2,596 residents, which would degrade the existing SFFD service ratio to 2.07 fire personnel per 1,000 residents, with current staffing levels. To maintain the existing service ratio, the SFFD would require an additional five employees. The addition of five new SFFD employees would not represent an increase substantial enough to warrant the construction of a new facility or expansion of the existing station.

In addition, the new buildings, streets, parks, and landscaping would be required to conform to state and local fire codes, including the 2010 California Building and Fire Codes. Requirements for water volume and pressure needed for fire suppression on site, the physical spacing and locations of hydrants, and the fire flow volume and duration vary depending on the specific areas of the Project site. The project applicant would work with the SFFD to determine utility and access requirements for fire protection and emergency services for the Proposed Project during construction and operation.

Emergency services are coordinated by the Mayor's Office of Emergency Services. Under this office, the City maintains an Emergency Operations Plan. The Emergency Operations Plan describes specific response actions that will be taken by the emergency response agencies, and other City departments in their support, in the aftermath of a disaster, and provides for a coordinated

response.[1] Given that SFFD currently serves the Project site, and that the Proposed Project would improve the street network within the Project site, SFFD does not expect that the implementation of the Proposed Project would cause service levels to drop below the current or future standard criteria.[2] In fact, as connectivity would be improved, fire department access would be facilitated.

Police

Impacts on police protection services are considered significant if an increase in population or development levels would result in inadequate staffing levels (as measured by the ability of the SFPD to respond timely to calls) and/or increased demand for services that would require the construction or expansion of new or altered facilities that might have an adverse physical effect on the environment. Currently, the SFPD has no plans for expansion of its Bayview Station, which serves the Project site.

The current police substation at 1090 Connecticut Street would remain on site throughout construction and space would be reserved in the Community Center of the Proposed Project for the substation. It is anticipated that the existing substation would remain in its current location until the building in which it is located is demolished. The substation would be relocated elsewhere on site throughout the remaining redevelopment of the property. If the substation is needed post-development, it is expected that the same number of officers as existing would serve this substation.[3]

The population growth associated with the Proposed Project would be 3,876 residents, a net increase of up to 2,596 residents living at the Project site.[4] As stated in Section 4.14, *Public Services*, the SFPD has an existing officer to population ratio of 2.83 officers per 1,000 residents. The addition of 2,596 residents to the city would decrease the existing officer to population ratio to 2.82 officers per 1,000 residents, assuming no staffing increases by 2030 (full occupancy of the Proposed Project). In order to maintain the existing service ratio, SFPD would require an additional seven officers at the Bayview Station.

According to the SFPD, current staffing levels of the Bayview Station vary from month to month, ranging from 130 to 150 officers.[5] The addition of seven new officers would not represent an increase substantial enough to warrant the construction of a new facility or expansion of the existing station.

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1 City and County of San Francisco, Planning Department, *San Francisco General Plan,* Community Safety Element (adopted April 24, 1997).

2 Barbara Schultheis, Fire Marshall, San Francisco Fire Department, E-mail correspondence with Atkins (March 28, 2011).

3 Charmaine Curtis, Curtis Development & Consulting, electronic communication with Atkins (November 21, 2012).

4 1,700 units under the Proposed Project x 2.28 persons per household = 3,876 residents. Therefore, the net increase (3,876 future residents – 1,280 existing residents) in Project site population would be approximately 2,596.

5 David Hamilton, Housing Sergeant, San Francisco Police Department, telephone communication with Atkins (September 22, 2011).

The SFPD will continue to evaluate their performance based on response times, and when appropriate, will reallocate resources to accommodate needs for services in specific parts of the city, if and when conditions warrant. Furthermore, while the Proposed Project would increase the population at the Project site, it would not result in unplanned population growth. The Proposed Project was considered in the City's Housing Element and in the Association of Bay Area Governments (ABAG) Projections; therefore, this growth has already been factored into SFPD forecasts and the SFPD will increase staffing accordingly.

Schools

The Proposed Project includes new residential development which could generate students who would attend local public schools. Table 5.14-1 summarizes the anticipated number of SFUSD students as a result of the Proposed Project. As shown, the 100 affordable senior units are not expected to include school-aged children, but all other units could generate students. The student generation rates have been calculated by the SFUSD.

Table 5.14-1 Proposed Project SFUSD Enrollment

Type of Unit	*Total Units*	*Student Generation Rate*	*Projected Student Growth*
Affordable Senior Units	Up to 100	0	0
Affordable Family Units	Up to 900	0.68	612
Mixed-Income Units	Up to 700	0.2	140
Total	*Up to 1,700*	—	*742*
Existing Affordable Units	620	0.68	422
Total Net Growth	*1,080*	—	*320*

SOURCE: Nancy Waymack, SFUSD, Executive Director of Policy & Operations, electronic correspondence with Atkins (May 2011).

It is estimated that the Proposed Project would result in up to 742 school-age children who could attend the SFUSD. However, based on the existing number of affordable housing units at the Project site, there could be up to 422 existing students already attending SFUSD schools. As such, the net increase in SFUSD students as a result of the Proposed Project would likely be approximately 320 new students.

SFUSD currently uses a diversity index lottery system to assign students to schools based on a number of factors including parental choice, school capacity, and special program needs.[6] Under the diversity index lottery system, the students generated by the Proposed Project may attend a SFUSD school other than the nearest schools; however, that school would have to have capacity. Thus, the

[6] SFUSD, *History of the Student Assignment Method*, available online at: http://portal.sfusd.edu/apps/departments/educational_placement/HistoryStudentAssignment.pdf, 2011. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0305E.

assumption that all students generated by the Proposed Project would attend the nearest school is a conservative assumption of the impact on the students' default school assignment.

As discussed in Section 4.14, Public Services, Starr King Elementary School (K–5), Daniel Webster Elementary School (K–5), and International Studies Academy (grades 6–12) would serve the Project site. Assuming that SFUSD student generation as a result of the Proposed Project is distributed evenly among the grade levels, the Proposed Project could add approximately 148 elementary school students and 172 middle school and high school students. As shown in Table 5.14-2, Starr King Elementary and Daniel Webster Elementary have a combined remaining capacity for approximately 601 students. Although the Proposed Project could add up to 148 new elementary school students, this increase would be within the existing capacity. In addition, International Studies Academy has a remaining capacity of approximately 373 students. The Proposed Project would add up to 172 new middle school and high school students, which is within capacity.

Table 5.14-2 Schools Near Project Site

Schools	*Remaining Capacity*[a]	*Proposed Project Students*	*Within Capacity?*
K-5: Starr King Elementary and Daniel Webster Elementary	601	148	Yes
6-12: International Studies Academy	373	172	Yes

SOURCE: Nancy Waymack, Executive Director of Policy Operations, e-mail to Atkins, May 27, 2011.
a. Considers existing enrollment.

A significant impact would occur if the population growth associated with the Proposed Project could not be accommodated through existing SFUSD facilities, thereby requiring the construction or expansion of school facilities. However, as shown in Table 5.14-2, above, the additional 320 students that could result from the Proposed Project could be accommodated at any of the three schools serving the Project site. On a larger scale, SFUSD currently has capacity for approximately 58,575 students in existing SFUSD facilities and enrolls approximately 57,105 students.

Libraries

The Branch Library Improvement Program (BLIP) will result in expanded and updated services in each neighborhood currently served by a branch library, plus a brand-new facility in Mission Bay for the growing community in that area (refer to Section 4.14, Public Services, for further information regarding BLIP). The SFPL does not anticipate that these facilities will reach capacity, though expanded demand could necessitate extended public service hours for branch libraries. Currently, 15 branch libraries are open 6 days per week, allowing the library to respond to increased population growth citywide by potentially increasing service hours to 7 days per week. Based on proximity, the Potrero Branch Library would be the library most impacted by the Proposed Project. However, recent renovation and improvement of the Potrero Branch Library as part of BLIP would ensure that this library has sufficient capacity to accommodate the increase in demand associated with the Proposed Project. Further, there are a number of other branch libraries close to the Project

site, including the Mission Branch Library located at 300 Bartlett Street (approximately 1.15 miles to the west) and the Mission Bay Branch Library located at 960 4th Street (approximately 1.20 miles to the north).

The impact would be ***less than significant*** under CEQA because the Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 fire protection, police protection, schools, or libraries.

The impact would be ***less than significant*** under NEPA because the Proposed Project would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for police services, fire protection and emergency medical services, schools, or libraries.

Alternative 1 – Reduced Development Alternative

Impact PS-1	**Effects on Public Services** **CEQA: The Reduced Development Alternative would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection, fire services, schools, and libraries. (Less than Significant)** **NEPA: The Reduced Development Alternative would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for police services, fire protection and emergency medical services, schools, or libraries. (Less than Significant)**

Implementation of Alternative 1 would result in a residential population of approximately 2,918 residents at the Project site; a net increase of approximately 1,638 residents over existing conditions. This small increase in city residents would not result in the need for new or physically expanded governmental facilities, including fire and police stations, schools, or libraries, and any increased demand could be accommodated by existing facilities. Therefore, under CEQA, Alternative 1 would have a ***less-than-significant*** impact associated with police protection, fire and emergency services, schools, and libraries. Under NEPA, the impact of Alternative 1 on public services would be ***less than significant***.

Alternative 2 – Housing Replacement Alternative

Impact PS-1	**Effects on Public Services** **CEQA: The Housing Replacement Alternative would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection, fire services, schools, and libraries. (No Impact)** **NEPA: The Housing Replacement Alternative would not exceed the existing or proposed capacity of public services, resulting in the need for new or expanded facilities for police services, fire protection and emergency medical services, schools, or libraries. (No Impact)**

Alternative 2 would not increase the number of residents at the Project site over existing conditions. Therefore, under CEQA, this alternative would not create additional demand for the public services identified above, resulting in ***no impact***. Under NEPA, there would be ***no impact*** on public services.

Alternative 3 – No Project Alternative

Alternative 3 would not increase the number of residents at the Project site over existing conditions. Therefore, this alternative would not create additional demand for the public services identified above, resulting in ***no impact*** under NEPA and CEQA.

Cumulative Impacts

The geographic context for impacts on public services is consistent with the Eastern Neighborhood Program EIR and consists of the service areas for the applicable service providers.

Impact C-PS-1	**Cumulative Effects on Public Services** **CEQA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to public services. (Less than Significant)** **NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse public services impacts. (Less than Significant)**

The Proposed Project and Alternative 1, when combined with past, present, and reasonably foreseeable future development including growth under the EN Plan, would increase demand for fire protection, police protection, schools, and libraries. As stated above, SFFD and SFPD have indicated that they would be able to serve the increased population at the site when considering the existing and future service demands. Also, both alternatives would require the project applicant to pay development impact fees that would fund staffing and facilities at SFUSD and local libraries.

The EN EIR states that new uses and associated population increases could create additional demand for fire suppression, police services, and emergency medical services in the Eastern Neighborhoods. However, the increases would be incremental, funded largely through project related increases to the City's tax base, and would not likely be substantial in light of the existing demand and capacity for fire suppression, police services, and emergency medical services in the City. Increased population associated with the EN Plan would increase the demand for schools. However, fees collected under SB 50 would be considered to fully mitigate any potential effects associated with additional development that could result from implementation of the Eastern Neighborhoods Rezoning and Community Plans project. Overall, cumulative impacts would be less than significant.

As discussed above in the project-level analysis, the Proposed Project and its Alternatives would also be adequately served by the San Francisco Fire Department, San Francisco Police Department, and SFUSD. The Project would not result in a cumulatively considerable contribution to overall public services demand in the EN Plan area.

Alternative 2 and Alternative 3 would not result in an increase in on-site population. These alternatives would not contribute to cumulative operational demands for police, fire protection, schools, or libraries. There would be ***no impact*** under CEQA.

Under CEQA, cumulative impacts for the Proposed Project and Alternative 1 would be ***less than significant***.

Under NEPA, cumulative impacts for the Proposed Project and Alternative 1 would be ***less than significant***.

5.15 BIOLOGICAL RESOURCES

5.15.1 Regulatory Framework

Biological resources are protected and regulated under federal, state, and local regulations. Endangered and threatened plants and animals are protected under state and federal laws which are enforced by state and federal agencies. Migratory birds are protected under federal law, while birds of prey are protected under state law. The San Francisco Urban Forestry Ordinance promulgates guidelines and regulations related to the treatment of trees in San Francisco. All of these regulations are described in detail, below. To the extent that these regulations correlate with the CEQA Guidelines for impacts on biological resources, those relationships are defined, as appropriate.

Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) protects the fish and wildlife species, and their habitats that have been identified by the United States Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) as threatened or endangered. The term "endangered" refers to species, subspecies, or distinct population segments that are in danger of extinction throughout all or a significant portion of their ranges. The term "threatened" refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

The FESA is administered by USFWS and NMFS. In general, NMFS is responsible for the protection of FESA-listed marine species and anadromous fishes, whereas listed, proposed, and candidate wildlife, plant species, and fish species are under USFWS jurisdiction. "Take"[1] of listed species can be authorized through either the Section 7 consultation process (for actions by federal agencies) or the Section 10 permit process (for actions by non-federal agencies). Federal agency actions include activities located on federal land or that are conducted, funded, or authorized by a federal agency (including issuance of federal permits and licenses).

Under Section 7 of the FESA, the federal agency conducting, funding, or permitting an action (the federal lead agency) must consult with USFWS and/or NMFS, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a proposed project "may affect" a listed species or designated critical habitat, the lead agency is required to prepare a biological assessment evaluating the nature and severity of the expected effect. In response, USFWS issues a biological opinion determining whether (1) the proposed action may either jeopardize the continued existence of one or more listed species (jeopardy finding) or result in the destruction or adverse modification of critical habitat

[1] The federal ESA defines the term "take" as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

(adverse modification finding); or (2) will not jeopardize the continued existence of any listed species (no jeopardy finding) or result in adverse modification of critical habitat (no adverse modification finding).

Critical Habitat

Under the FESA, the Secretary of the Interior (or the Secretary of Commerce, as appropriate) formally designates critical habitat for certain federally listed species and publishes these designations in the *Federal Register*. Critical habitat is not automatically designated for all federally listed species, so many listed species have no formally designated critical habitat.

Critical habitat is defined as the specific areas that are essential to the conservation of a federally listed species, and that may require special management consideration or protection. Critical habitat is determined using the best available scientific information about the physical and biological needs of the species. These needs, or primary constituent elements, include space for individual and population growth and for normal behavior; food, water, light, air, minerals, or other nutritional or physiological needs; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitat that is protected from disturbance or is representative of the historical geographic and ecological distribution of a species. There is no federally designated critical habitat in the Project area.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) (16 USC, Sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

State

California Endangered Species Act

Under the California Endangered Species Act (CESA), the California Department of Fish and Wildlife (CDFW)[2] has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code, Section 2070). CDFW also maintains a list of "candidate species," which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. In addition, CDFW maintains lists of "species of special concern," which serve as watch lists.

CESA prohibits the take of plant and animal species designated by the California Fish and Game Commission as either threatened or endangered in the State of California. "Take" in the context of

[2] The California Department of Fish and Game (CDFG) formally changed its name to the California Department of Fish and Wildlife (CDFW) on January 1, 2013. In this document, references to literature published by CDFW prior to Jan. 1, 2013 are cited as "CDFG." The agency is otherwise referred to by its new name acronym, CDFW.

CESA means to hunt, pursue, kill, or capture a listed species, as well as any other actions that may result in adverse impacts when attempting to take individuals of a listed species. The take prohibitions also apply to candidates for listing under CESA. However, Section 2081 of CESA allows CDFW to authorize exceptions to the state's take prohibition for educational, scientific, or management purposes.

Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present in the Project area and determine whether the proposed project could have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that could affect a candidate species.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed the CDFW to carry out the legislature's intent to "preserve, protect, and enhance endangered plants in this state." NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. CESA expanded on the original NPPA and enhanced legal protection for plants. CESA established threatened and endangered species categories and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, three listing categories for plants are employed in California: rare, threatened, and endangered.

Special-Status Natural Communities

Special-status natural communities are identified as such by the CDFW's Natural Heritage Division and include those communities that are naturally rare and whose extent has been greatly diminished through changes in land use. The California Natural Diversity Database (CNDDB) tracks 135 such natural communities in the same way that it tracks occurrences of special-status species: information is maintained on each site in terms of its location, extent, habitat quality, level of disturbance, and current protection measures. CDFW is mandated to seek the long-term perpetuation of the areas in which these communities occur. While there is no statewide law that requires protection of all special-status natural communities, CEQA requires consideration of the potential impacts of a project on biological resources of statewide or regional significance.

California Fish and Game Code—Sections 3503, 3503.5, 3513

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 of the code prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs. Code Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515

(fish) allow the designation of a species as fully protected. This is a greater level of protection than is afforded by CESA. Except for take related to scientific research, all take of fully protected species is prohibited.

Regional and Local

San Francisco Public Works Code

The City and County of San Francisco's Urban Forestry Ordinance (Article 16 of the Municipal Code) protects San Francisco's street trees, significant trees and landmark trees regardless of species. The three categories of trees protected by the ordinance are defined as follows:

A **street tree** is "any tree growing within the public right-of-way, including unimproved public streets and sidewalks, and any tree growing on land under the jurisdiction of the Department [of Public Works]" as defined in Section 802 of Article 16 of the San Francisco Tree Ordinance. The removal of street trees by persons other than the Department of Public Works is restricted by Section 806b of Article 16, whereby a permit is required for removal.

A **significant tree** is defined in Section 810A of Article 16 as any tree (1) located on property under the jurisdiction of the Department of Public Works or on privately-owned property with any portion of its trunk within 10 feet of the public right-of-way, and (2) that satisfies at least one of the following criteria: *(a)* a diameter at breast height (4.5 feet above grade) in excess of 12 inches, *(b)* a height in excess of 20 feet, or *(c)* a canopy in excess of 15 feet. The removal of significant trees by persons other than the Department of Public Works requires a permit from the Department, according to the process described in Section 806b of Article 16.

A **landmark tree** is any tree that: (1) has been nominated as such by a member of the public, a landowner, the San Francisco Planning Commission, the San Francisco Board of Supervisors, or the Historic Preservation Commission, (2) the Urban Forestry Council (within the San Francisco Department of the Environment) has subsequently recommended as a landmark tree, and (3) is designated a landmark tree by ordinance approved by the Board of Supervisors. According to Section 810 of the ordinance, nominated trees undergoing review are protected according to the same standards as designated landmark trees until the review process is completed.

Permits are required for planting or removing street trees and significant trees, and protection measures are required for these trees if construction work would occur within the trees' drip line.

Standards for Bird-Safe Buildings

The San Francisco Board of Supervisors unanimously approved, and the mayor subsequently signed, legislation amending the *Planning Code* to incorporate bird-safe building standards into the

code. The Planning Commission has also approved Standards for Bird-Safe Buildings.[3] The amendments, reviewed and recommended by the Planning Commission, introduced a new *Planning Code* Section 139, *Standards for Bird-Safe Buildings*.[4] These standards guide the use and types of glass and façade treatments, wind generators and grates, and lighting treatments. The standards impose requirements for bird-safe glazing and lighting in structures or at sites that represent a hazard to birds and provide information on educational and voluntary programs related to bird hazards.

The standards define two types of bird hazards. "Location-related hazards" are buildings located inside of, or within a clear flight path of less than 300 feet from, an Urban Bird Refuge.[5] Such buildings require treatment when new buildings are constructed; additions are made to existing buildings; or existing buildings replace 50 percent or more of the glazing within the "bird collision zone."[6] The standards require implementation of the following treatments for façades facing, or located within, an Urban Bird Refuge:

- No more than 10 percent untreated glazing is allowed on building façades within the bird collision zone.
- Lighting must be shielded, and no uplighting is permitted. No event searchlights are permitted.
- Sites are not permitted to use horizontal access windmills or vertical access wind generators that do not appear solid.

"Feature-related hazards" include building- or structure-related features that are considered potential "bird traps" regardless of location (e.g., glass courtyards, transparent building corners, or clear glass walls on rooftops or balconies). Structures that include these elements must treat 100 percent of these elements in the building with bird-safe glazing.

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[3] San Francisco Planning Department, *Standards for Bird-Safe Buildings*, Adopted July 14, 2011. Available on the internet at: http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards_for_Bird-Safe_Buildings_8-11-11.pdf. Reviewed August 18, 2011.

[4] San Francisco Planning Department, Standards for Bird-Safe Buildings, available online at http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards_for_Bird-Safe_Buildings_8-11-11.pdf, July 2011, accessed March 29, 2013. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[5] An Urban Bird Refuge is defined in the Standards for Bird-Safe Buildings as: any area of open space two acres or larger that is dominated by vegetation, including vegetated landscaping, forest, meadows, grassland, water features, or wetlands; open water; and some green rooftops.

[6] The Bird Collision Zone shall mean the portion of buildings most likely to sustain bird-strikes from local and migrant birds in search of food and shelter and includes the building facade beginning at grade and extending upwards for 60 feet, or glass facades directly adjacent to landscaped roofs 2.0 acres or larger and extending upward 60 feet from the level of the subject roof.

5.15.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

Implementation of the Proposed Project or its alternatives would have a significant effect on biological resources if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The Proposed Project and alternatives would not affect any plant or wildlife species that are listed as threatened or endangered by CDFW pursuant to CESA. In addition, the Proposed Project and alternatives would not affect any species designated by CDFW as a species of special concern requiring assessment pursuant to CEQA Guidelines Section 15380.[7] Therefore, the CESA is not discussed within this Draft EIR/EIS. The Proposed Project and alternatives would not affect any plants of varying rarity[8] as designated by CNPS, including CNPS List 1 or 2 plants, which are considered to meet CEQA Guidelines Section 15380 criteria. Therefore, plants designated by CNPS are also not discussed in the Draft EIR/EIS.

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[7] CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria allow a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., species of concern) would occur. Whether a species is rare, threatened, or endangered can be legally significant because, under CEQA Guidelines Section 15065, an agency must find an impact on be significant if a project would "substantially reduce the number or restrict the range of an endangered, rare, or threatened species." Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

[8] Recent modifications to the CNPS Ranking System include the addition of a new Threat Code extension to listed species (e.g., List 1B.1, List 2.2). A Threat Code extension of 0.1 signifies that a species is seriously endangered in California; 0.2 is fairly endangered in California; and 0.3 is not very endangered in California.

Context and Intensity Evaluation Guidelines under NEPA

For biological resources, the analysis considers whether the Proposed Project or alternatives would:

- Have a substantial adverse effect on special-status species (identified at the federal, state, or local level) or other legally protected species;
- Have a substantial adverse effect on sensitive or critical habitat (identified at the federal, state, or local level);
- Have a substantial adverse effect on wetlands or other waters of the United States subject to jurisdiction under Section 404 of the Clean Water Act;
- Interfere substantially with an existing wildlife corridor;
- Have a substantial adverse effect on locally protected trees; or
- Conflict with an adopted habitat conservation plan.

The Proposed Project and alternatives would not affect any plant or wildlife species that is listed, proposed to be listed or designated as a candidate species to be listed as threatened or endangered by USFWS or NMFS pursuant to the FESA, as amended. In addition, the Project site is not situated within lands designated as critical habitat pursuant to the FESA. The Proposed Project and alternatives would also not affect a water body subject to the Wild and Scenic Rivers Act. Further, the Project site would not support wetlands and, as such, would not be subject to Executive Order 11990 Protection of Wetlands. Since the Proposed Project and alternatives do not propose to discharge dredged or fill materials into any waters of the United States, the Clean Water Act Section 401 and 404 permitting programs are not discussed in this Draft EIR/EIS. Likewise, since no violations of the regulations noted above would occur, they are not discussed further.

Approach to Analysis

Impacts on biological resources are evaluated based on the likelihood that special-status species, sensitive habitats, wildlife corridors, and protected trees are present within the Project site, and the likely effects that construction or operation might have on these resources.

For the purposes of this Draft EIR/EIS, the word "substantial" as used in the significance criteria above is defined by the following three principal components:

- Magnitude and duration of the impact (e.g., substantial/not substantial)
- Uniqueness of the affected resource (rarity)
- Susceptibility of the affected resource to disturbance

Table 4.15-1 in Section 4.15, *Biological Resources*, contains a comprehensive list of special-status species analyzed for their potential to occur on the Project site. Potential impacts of the Proposed Project and alternatives on these resources were identified by first comparing the habitat requirements of those species identified during the above review to the habitat available on and adjacent to the Project site. A determination was then made as to what effect the loss of that potential habitat could have on those species.

Impact Evaluation

Proposed Project

Impact BI-1	**Effects on Special-Status Species** **CEQA: The Proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant)** **NEPA: The Proposed Project would not have a substantial adverse effect on special-status species (identified at the federal, state or local level) or other legally protected species. (Less than Significant)**

As discussed in Section 4.15, *Biological Resources*, the Project site is generally characterized by existing developments and disturbed land. The existing topography of the site is steep and defined by undulating uplands (i.e., land situated high or lying above the level where water flows or where flooding occurs). No drainage features or wetlands occur on the Project site. Vegetation that occurs on the site is typical of highly disturbed urban environments, and consists primarily of nonnative ornamental trees and shrubs as landscaping, and ruderal (weedy) herbaceous vegetation that occurs within public open space interstitial to existing buildings and roads.

The Project site contains a number of anthropogenic-related (human-related) disturbances that have resulted in removal of native or naturalized habitat and ongoing degradation of what little nonnative habitat remains. The site experiences a high volume of vehicular traffic, which imposes adverse disturbances associated with noise and lighting. In addition, the site is regularly used by pedestrians, which has led to encroachment into the limited undeveloped area that remains, in addition to accumulation of litter and use by domestic pets. Adverse spillover effects from existing developments are also evident throughout the Project site, including a high number of nonnative and exotic ornamental plant species and trash. The existing developments and disturbances at the Project site substantially reduce the potential for sensitive biological resources to occur, particularly special-status plant and wildlife species that are permanent residents or migratory visitors to the region.

Due to a lack of natural habitat, past disturbances associated with the construction of the existing housing, increasing competition from invasive nonnative species, and on-going disturbances such as litter and pedestrian traffic, there are likely no candidate, sensitive, or special-status plant or wildlife species that would use the existing habitats within the Project site. Existing multi-family housing developments that date back to 1941 and 1955 have resulted in removal and conversion of native habitat into pavement, hardscape, buildings, lawns, and other nonnative landscaping that is not suitable for special-status plant and wildlife species. Additional discussion is provided below.

Special-Status Plant Species Associated with Serpentine Soils

Several marginal serpentine outcrops are present within disturbed areas that occur on and adjacent to the Project site (Figure 4.15-1 in Section 4.15, *Biological Resources*). Many special-status plant species known from the region have a strong serpentine affinity, including four federally-listed species; however, the Project site has been developed and the serpentine outcrops and soils are degraded such that they have a very low potential to support special-status plant species.[9]

As included in Table 4.15-1, *Special-Status Plant and Wildlife Species Reported in the Vicinity (Approximately Five Miles) of the Potrero Hope SF Master Plan Project Site*, in Section 4.15, *Biological Resources*, 14 special-status plant species associated with serpentine soils have been analyzed for their potential to occur on the Project site. Of these 14 species, nine have a very low potential be present in the Project site (four of which are federally listed as threatened or endangered: the white-rayed pentachaeta [*Pentachaeta bellidiflora*], the Marin western flax [*Hesperolinon congestum*], the Presidio clarkia [*Clarkia franciscana*], and the Presidio manzanita [*Arctostaphylos hookeri ravenii*]). These nine special-status species were determined to have a very low potential to occur on the serpentine outcrops or soils in the Project site due to development and nonnative plant invasion.

As confirmed during the March 3, 2011 general biological survey, existing vegetation found at the outcrop locations consists of maintained landscaping (e.g., ornamental trees, shrubs, and groundcover) and small, periodically mowed areas comprised almost entirely of nonnative, ruderal (weedy) vegetation. All 14 special-status plant species are known to occur in association with other native plant species, which are not present on the Project site. Under CEQA, the Proposed Project would not likely result in a substantial adverse effect on special-status plant species and potential impacts would be considered ***less than significant***.

Under NEPA, the Proposed Project is anticipated to have a ***less-than-significant*** impact on any federally listed plant species or their critical habitat.

Monarch Butterfly Overwintering Sites

Mature gum trees (*Eucalyptus* spp.), such as those present in the Project site and immediate vicinity, are known to provide overwintering habitat during migration for the monarch butterfly (*Danaus plexippus*), which is not listed as federally or state-endangered or threatened. The species is also not designated as a species of special concern by CDFW, although known winter roost sites along the coast of California are considered sensitive and important to the viability of overwintering and migratory populations. Impacts on a known or potential winter roost site for the monarch butterfly would be considered significant.

There are several records reported to the CNDDB of this species within approximately five miles of the Project site, including winter roost sites that are presumed to be extant at Golden Gate Park, the

[9] Atkins. 2011. Site Reconnaissance. March.

Presidio, and Fort Mason. However, there are no records of the trees that occur on or in the immediate vicinity of the Project site (e.g., at the Potrero Hill Recreation Center) as being used for overwintering habitat and roosts by monarchs. Based on the isolation of the site among existing developments and the distance of the site from known occurrences and the San Francisco Bay and Pacific Ocean coastlines, it is unlikely that monarch butterflies would use the existing gum trees on the Project site during migration and for overwintering. Under CEQA, there would be ***less-than-significant*** impacts on monarch butterfly populations associated with the removal of gum trees from the Project site.

Under NEPA, the Proposed Project is anticipated to have a ***less-than-significant*** impact on monarch butterfly populations associated with the removal of gum trees from the Project site.

Special-Status Bat Species

The CNDDB documents records for three special-status bat species within approximately five miles of the Project site: Townsend's big eared bat, western red bat, and hoary bat. None of these bat species are listed as federally or state-endangered or threatened; however, Townsend's big eared bat and western red bat are designated by CDFW as a species of special concern. Hoary bat is secure within California; but factors exist to warrant monitoring of threats to the species population (i.e., there is some presumed threat or somewhat narrow habitat in California). Impacts on special-status bat species or potential roosts would be considered significant.

Townsend's big eared bat typically occurs in caves and abandoned mines, but will occasionally use abandoned buildings for roosting. However, this species is known to be extremely sensitive to human disturbance, particularly near their maternity roosts. Given the level of human activity and absence of caves, abandoned mines, and abandoned buildings at the Project site and immediate vicinity, it is very unlikely that Townsend's big eared bat would occur. Both western red bat and hoary bat are solitary species that roost in the foliage of trees, typically within large open space and outside of urban areas. Further, hoary bats require habitat that occurs in close proximity to open water for foraging. While there are many trees on and adjacent to the Project site, there is no riparian, woodland, or forest edge habitat present, and none of the tree species or habitat types that these bats are typically associated with the site. Based on the high levels of human disturbance and absence of suitable roosting habitat at the Project site, it is unlikely that special-status bat species would occur. Under CEQA, there would be ***less-than-significant*** impacts on special-status bat species. Under NEPA, the Proposed Project is anticipated to have a ***less-than-significant*** impact on special-status bat species.

Conclusion

Under CEQA, impacts would be ***less than significant*** because the Proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species

identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

Under NEPA, impacts would be ***less than significant*** because the Proposed Project would not have a substantial adverse effect on special-status species (identified at the federal, state or local level) or other legally protected species.

Impact BI-2	**Effects on Habitat** **CEQA: The Proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant)** **NEPA: The Proposed Project would not have a substantial adverse effect on sensitive or critical habitat (identified at the federal, state, or local level). (Less than Significant)**

Serpentine Bunchgrass Grassland

As discussed under Impact BI-1, degraded serpentine outcrops and soils are present in limited portions of the Project site; however, these areas do not support serpentine bunchgrass (grasslands). As stated in Section 4.15, *Biological Resources*, the CNDDB contains no records for serpentine bunchgrass grassland or any other sensitive natural communities within the USGS 7.5-minute topographic quadrangles queried for the analysis. Additionally, the areas on and adjacent to the Project site where serpentine outcrops occur are characterized by ornamental landscaping, or are actively maintained ruderal areas dominated by nonnative grasses and forbs and do not support serpentine bunchgrass (grasslands). These areas are typical of a highly disturbed, degraded landscape. As confirmed during the March 3, 2011 general biological survey, the serpentine outcrops do not contain the characteristic plant species assemblages, such as purple needlegrass (*Stipa pulchra*) and foothill needlegrass (*Stipa lepida*), that would categorize them as serpentine bunchgrass grassland habitat. Further, no vernal pools, seeps, salt or brackish water marshes, riparian woodlands, or other sensitive natural communities are present on or adjacent to the Project site. In addition, no critical habitat designated by USFWS overlaps the Project site.

Under CEQA, impacts would be ***less than significant*** because the Proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS.

Under NEPA, impacts would be ***less than significant*** because the Proposed Project would not have a substantial adverse effect on sensitive or critical habitat (identified at the federal, state, or local level).

Impact BI-3	**Effects on Wetlands**
	CEQA: The Proposed Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (No Impact)
	NEPA: The Proposed Project would not have a substantial adverse effect on wetlands or other waters of the U.S. subject to jurisdiction under Section 404 of the Clean Water Act. (No Impact)

Pursuant to Executive Order 11990, projects should minimize the destruction, loss, or degradation of wetlands and preserve and enhance the natural and beneficial values of wetlands. As confirmed during the March 3, 2011 general biological survey and supported by a query of the USFWS' National Wetlands Inventory—Wetlands Mapper, the Project site is not located within wetlands identified on the National Wetlands Inventory. Additionally, wetlands or waters of the United States or of the State do not occur within the Project site.

Under CEQA, construction and operation of the Proposed Project would be consistent with Executive Order 11990 and Section 404 of the Clean Water Act would have ***no impact*** on wetlands or waters.

Under NEPA, construction and operation of the Proposed Project would be consistent with Executive Order 11990 and Section 404 of the Clean Water Act would have ***no impact*** on wetlands or waters.

Impact BI-4	**Effects on Wildlife Movement**
	CEQA: The Proposed Project could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant with Mitigation)
	NEPA: The Proposed Project could interfere substantially with an existing wildlife corridor. (Less than Significant with Mitigation)

Construction

Nesting Migratory Birds and Raptors

The Project site is currently developed and generally does not provide an open corridor for migratory wildlife. However, the presence of trees and shrubs in the Project site could potentially provide nesting habitat for raptors (i.e., birds of prey) such as red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*), among others, in addition to a variety of other resident and migratory songbirds. Tree removal associated with the Proposed Project could result in "take" caused by the direct mortality of adult or young birds, nest destruction, or disturbance resulting in

nest abandonment and/or the loss of reproductive effort. Bird species are protected by both state (California Fish and Game Code Sections 3503 and 3513) and federal (Migratory Bird Treaty Act of 1918) laws. Disruption of nesting birds, resulting in the abandonment of active nests or the loss of active nests through structure removal would be considered significant and would result in adverse effects.

Implementation of Mitigation Measure M-BI-4a, would avoid potentially significant impacts on nesting birds by requiring a preconstruction breeding season survey of the Project site and surrounding area by a qualified biologist during the same calendar year as construction is planned to commence. If the survey required identifies bird species on or adjacent to the Project site, Mitigation Measure M-BI-4b would require the project biologist to consult with CDFW to establish a species-appropriate buffer. Under CEQA, the implementation of Mitigation Measures M-BI-4a and M-BI-4b would reduce this impact to a ***less-than-significant*** level**.**

Under NEPA, the implementation of Mitigation Measures M-BI-4a and M-BI-4b would reduce this impact to a ***less-than-significant*** level because mitigation would avoid an adverse effect on nesting migratory birds and raptors.

> **Mitigation Measure M-BI-4a –Bird Nest Preconstruction Survey.** Given that the presence of mature trees and shrubs on the Project site could potentially provide nesting habitat for raptors and a variety of other migratory birds, tree removal associated with the Proposed Project could result in "take" caused by the direct mortality of adult or young birds, nest destruction, or disturbance of nesting native bird species (including migratory birds and other special-status species) resulting in nest abandonment and/or the loss of reproductive effort. Bird species are protected by both state (California Fish and Game Code Sections 3503 and 3513) and federal (Migratory Bird Treaty Act of 1918) laws. Disruption of nesting birds, resulting in the abandonment of active nests, or the loss of active nests through structure removal would be a potentially significant impact.
>
> The project applicant shall retain a qualified biologist to conduct preconstruction breeding-season surveys (i.e., approximately February 15 through August 31) of the Project site and immediate vicinity with suitable nesting habitat during the same calendar year that construction is planned to begin, in consultation with the City of San Francisco and CDFW.
>
> - If phased construction procedures are planned for the Proposed Project, the results of the above survey shall be valid only for the season when it is conducted.
> - A report shall be submitted to CDFW and the City of San Francisco, following the completion of the bird nesting survey that includes, at a minimum, the following information:
>
> > A description of the methodology including dates of field visits, the names of survey personnel with resumes, and a list of references cited and persons contacted.

> A map showing the location(s) of any bird nests observed on or in the immediate vicinity of the Project site.

If the above survey does not identify any nesting bird species on or in the immediate vicinity of the Project site, no further mitigation would be required. However, should any active bird nests be located on or in the immediate vicinity of the Project site that could be directly or indirectly affected by construction activities, Mitigation Measure M-BI-4b shall be implemented.

Mitigation Measure M-BI-4b – Bird Nest Buffer Zone. The project applicant, in consultation with the City and County of San Francisco and CDFW, shall delay construction in the vicinity of active bird nest sites located on or adjacent to the Project site during the breeding season (approximately February 15 through August 31), while the nest is occupied with adults and/or young. If active nests are identified in the Project site or adjacent areas, a qualified biologist will establish a restricted work zone in consultation with CDFW. The qualified biologist, as determined by the Environmental Review Officer, shall monitor the active nest until the young have fledged, until the biologist determines that the nest is no longer active, or if it is reasonable that construction activities are not disturbing nesting behaviors. The buffer zone shall be delineated by highly visible temporary construction fencing.

Operation

The Project site is currently developed and generally does not provide an open corridor for migratory wildlife. However, as noted in Section 4.15, *Biological Resources*, the Project site is bordered to the immediate north and northwest by the Potrero Hill Recreation Center, which is situated within property that supports open space greater than two acres in size and is considered part of the Urban Bird Refuge complex delineated by the San Francisco Planning Department.[10,11]

As a result, operation of the Proposed Project, and specifically, the introduction of permanent structures (e.g., buildings, reflective features) that are potentially hazardous to birds, could result in an increased risk of mortality to resident and migratory birds potentially flying to and from the adjacent Urban Bird Refuge.

[10] An Urban Bird Refuge includes "open spaces two acres and larger dominated by vegetation, including vegetated landscaping, forest, meadows, grassland, or wetlands, or open water."

[11] City and County of San Francisco Planning Department. Urban Bird Refuge Poster. Available: <http://www.sf-planning.org/ftp/files/publications_reports/library_of_cartography/Urban_Bird_Refuge_Poster.pdf>. Accessed: December 6, 2012.

Bird Strikes and Bird-Safe Buildings

It is estimated that, in North America alone, millions of songbirds are killed as a result of collisions with buildings and other structures each year.[12] Daytime collisions occur most often when birds fail to recognize window glass as a barrier. Regardless of overall height, the ground floor and first few stories of buildings present the greatest hazards to most birds; reflections of attractive ground-level features, such as vegetation, draw birds toward glass surfaces and often result in collisions. Recent increases in glass surfaces used to improve daylight in buildings can be considered a "biologically significant" issue, potentially affecting the viability of local and regional bird populations.[13] Transparent features—especially buildings where birds can see through two glass surfaces to vegetation on the other side—also attract birds and cause collisions. Vegetated areas and bodies of water provide potentially valuable stopover habitat for migratory birds. Open space areas adjacent to developed areas create bird habitats in the vicinity of proposed buildings and other facilities, potentially resulting in higher bird collision risks.

Many collisions are induced by artificial night lighting, particularly from large buildings, which can be especially problematic for migrating songbirds since many are nocturnal migrants.[14] The tendency of birds to move toward lights at night when migrating, and their reluctance to leave the sphere of light influence for hours or days once encountered, has been well documented.[15] It has been suggested that structures located at key points along migratory routes may present a greater hazard than those at other locations.[16] Other research suggests that fatal bird collisions increase as light emissions increase, that weather often plays an important part in increasing the risk of collisions, and that nights with heavy cloud cover and/or precipitation present the conditions most

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[12] Cornell Lab of Ornithology. 2007. *Migration Pathways*. Available: <http://www.birds.cornell.edu/AllAboutBirds/studying/migration/pathways>. Accessed: April 5, 2013. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[13] Ogden, L. E. 1996. *Collision Course: The Hazards of Lighted Structures and Windows to Migrating Birds*. Special Report for the World Wildlife Fund and the Fatal Light Awareness Program. September. Available: www.flap.org. Accessed: April 5, 2013. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[14] Ogden, L. E. 1996. *Collision Course: The Hazards of Lighted Structures and Windows to Migrating Birds*. Special Report for the World Wildlife Fund and the Fatal Light Awareness Program. September. Available: www.flap.org. Accessed: April 5, 2013. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[15] Ogden, L. E. 1996. *Collision Course: The Hazards of Lighted Structures and Windows to Migrating Birds*. Special Report for the World Wildlife Fund and the Fatal Light Awareness Program. September. Available: www.flap.org. Accessed: April 5, 2013. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[16] Ogden, L. E. 1996. *Collision Course: The Hazards of Lighted Structures and Windows to Migrating Birds*. Special Report for the World Wildlife Fund and the Fatal Light Awareness Program. September. Available: www.flap.org. Accessed: April 5, 2013. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

likely to result in high numbers of collisions.[17] The type of light used may affect its influence on the birds: for example, studies have indicated that blinking lights or strobe lights affect birds significantly less than non-blinking lights.[18]

The *Standards for Bird-Safe Buildings* discussed in Section 5.15.1, *Regulatory Context*[19] are based on Section 139 of the *Planning Code* and focus on buildings, both public and private, that create location-specific hazards and building feature-related hazards.

Location-specific hazards apply to buildings in, or within 300 feet of and having a direct line of sight to, an Urban Bird Refuge that includes "open spaces two acres and larger dominated by vegetation, including vegetated landscaping, forest, meadows, grassland, or wetlands, or open water." The Project site is located adjacent to Potrero Hill Recreation Center, an Urban Bird Refuge. As such, the Proposed Project would be required to comply with the treatments for facades facing, or located within, and Urban Bird Refuge as detailed in Section 5.15.1, *Regulatory Context*.

In addition to buildings in and near an Urban Bird Refuge, Section 139 of the *Planning Code* applies Feature-Related Standards to certain building features citywide, including "free-standing glass walls, wind barriers, skywalks, balconies, and greenhouses on rooftops that have unbroken glazed segments 24 square feet and larger in size."

For building feature-related hazards involving new buildings and new additions to existing buildings, the entirety of the hazard must be made bird-safe through such treatments as fritting, netting, permanent stencils, frosted glass, exterior screens, physical grids placed on the exterior of glazing or ultraviolet patterns visible to birds.[20] Vertical elements of the window patterns should be at least one-quarter of an inch wide at a minimum spacing of four inches, or have horizontal elements at least one-eighth of an inch wide at a maximum spacing of two inches, according to the standards.

The standards prescribe the use of a checklist to educate project applicants and their future tenants on potential hazards and applicable treatments. They also exempt residential buildings less than

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[17] Ogden, L. E. 1996. *Collision Course: The Hazards of Lighted Structures and Windows to Migrating Birds*. Special Report for the World Wildlife Fund and the Fatal Light Awareness Program. September. Available: www.flap.org. Accessed: April 5, 2013. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[18] Gauthreaux, S.A., Belser, C.G., Effects of Artificial Night Lighting on Migrating Birds, In: Rich, C. and Longcore, T., *Ecological Consequences of Night Lighting*, Island Press, Covelo, CA, pp. 67-93, 2006. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[19] San Francisco Planning Department, *op. cit.*

[20] San Francisco Planning Department, 2013. Code Section 139: Standards for Bird-Safe Buildings, Adopted July 14, 2011. Available on the internet at: http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards_for_Bird-Safe_Buildings_8-11-11.pdf. Reviewed August 18, 2011.

45 feet in height with limited glass facades. The standards also recommend educational guidelines and voluntary programs.

The Project would have a ***less-than-significant*** impact under CEQA because it would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The Project would have a ***less-than-significant*** impact under NEPA because it would not interfere substantially with an existing wildlife corridor.

Impact BI-5	**Effects on Local Biological Resources**
	CEQA: The Proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (Less than Significant)
	NEPA: The Proposed Project would not have a substantial adverse effect on locally protected trees. (Less than Significant)

Construction

Many large trees grow in the Project site, and construction of the Proposed Project would necessitate tree removal. Under the City's Urban Forestry Ordinance (Article 16 of the Public Works Code), trees designated as protected trees are subject to conditions before removal, including that either the tree be replaced or an in lieu fee paid to the Department of Public Works to support its Urban Forestry Program. A protected tree is a landmark, significant, or street tree.

The tree survey prepared for the Project site categorized trees in accordance with the Urban Forestry Ordinance, as discussed in Section 5.15.1, *Regulatory Context*. According to the tree survey, there are 254 significant trees on the Project site (249 on site, five overhanging into site), and no landmark or street trees.[21,22]

As stated in Chapter 2, *Project Alternatives and Project Description*, the Proposed Project would remove all of the trees on the Project site as part of the re-grading of the site and the realignment of the street rights-of-way. Removal of the on-site trees would require a permit from the Department of Public Works under the Urban Forestry Ordinance, and the permit would include conditions that

[21] GLS Landscape/Architecture, *Tree Disclosure Submittal for Rebuild Potrero* (June 23, 2010). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[22] City and County of San Francisco Planning Department, *Tree Disclosure Statement Form for Rebuild Potrero* (June 28, 2010). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

would govern the replacement planting of trees as part of the Project development. *Planning Code Section 138.1* requires one street tree for every 20 feet of street frontage.[23]

Landscaping on the Project site would consist of street trees, park trees, shrubs, native grasses, and lawn. Trees planted on the Project site would include a mix of evergreen and deciduous, chosen to provide a variety and resiliency to disease, and aid in stormwater management. Shrubs and groundcovers would be chosen to provide an intermediate scale of detail and texture between trees and buildings at parks, streets and residential areas.

Under CEQA, the Proposed Project would be required to comply with the regulations under the Department of Public Works and the Urban Forestry Ordinance, and thus the impact on trees would be ***less than significant***.

The impact would be ***less than significant*** under NEPA because the Proposed Project would not have a substantial adverse effect on any locally protected trees.

Operation

Project operations are not expected to result in the removal of protected trees and, therefore, Project operations would not conflict with the Urban Forestry Ordinance. The impact would be ***less than significant*** under CEQA because the Proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The impact would be ***less than significant*** under NEPA because the Proposed Project would not have a substantial adverse effect on locally protected trees.

Impact BI-6	**Effects Related to Habitat Conservation Plans** **CEQA: The Proposed Project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plans. (No Impact)** **NEPA: The Proposed Project would not conflict with an adopted habitat conservation plan. (No Impact)**

The Project site is located in an urbanized area of San Francisco. No adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan applies to the Proposed Project. Therefore, Project construction and operations would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan and there would be ***no impact*** under CEQA.

[23] BRIDGE Housing. 2014. Potrero HOPE SF Design Standards and Guidelines. Screencheck. May. Prepared by Van Meter Williams Pollack.

For the same reasons, there would be ***no impact*** under NEPA.

Alternative 1 – Reduced Development Alternative

Impact BI-1	**Effects on Special Status Species** **CEQA: The Reduced Development Alternative would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant)** **NEPA: The Reduced Development Alternative would not have a substantial adverse effect on special-status species (identified at the federal, state or local level) or other legally protected species. (Less than Significant)**

Impacts under the Reduced Development Alterative (Alternative 1) would be similar to or less than those identified for the Proposed Project. Due to a lack of natural habitat, past disturbances associated with the construction of the existing housing, increasing competition from invasive nonnative species, and ongoing disturbances such as litter and pedestrian traffic, there are likely no candidate, sensitive, or special-status plant or wildlife species that would use the existing habitats in the Project site. Existing developments have resulted in removal and conversion of native habitat into pavement, hardscape, buildings, lawns, and other nonnative landscaping that is not suitable for special-status plant and wildlife species.

Under CEQA, impacts would be ***less than significant*** because the Alternative 1 would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

Under NEPA, impacts would be ***less than significant*** because Alternative 1 would not have a substantial adverse effect on special-status species (identified at the federal, state or local level) or other legally protected species.

Impact BI-2	**Effects on Habitat**
	CEQA: The Reduced Development Alternative would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant)
	NEPA: The Reduced Development Alternative would not have a substantial adverse effect on sensitive or critical habitat (identified at the federal, state or local level). (Less than Significant)

As stated above for the Proposed Project, degraded serpentine outcrops and soils are present in limited portions of the Project site. Serpentine bunchgrass grassland is a native habitat type that is known to be associated with serpentine substrates and is recognized by CDFW as a sensitive natural community. As confirmed during the March 3, 2011 general biological survey, the serpentine outcrops do not contain the characteristic plant species assemblages, such as purple needlegrass and foothill needlegrass, that would categorize them as serpentine bunchgrass grassland habitat. Further, no vernal pools, seeps, salt or brackish water marshes, riparian woodlands or other sensitive natural communities are present in or adjacent to the Project site. In addition, no critical habitat designated by USFWS overlaps the Project site.

There would be a ***less-than-significant*** impact under CEQA because the alternative would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.

There would be a ***less-than-significant*** impact under NEPA because the alternative would not have a substantial adverse effect on sensitive or critical habitat identified at the federal, state, or local level.

Impact BI-3	**Effects on Wetlands**
	CEQA: The Reduced Development Alternative would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (No Impact)
	NEPA: The Reduced Development Alternative would not have a substantial adverse effect on wetlands or other waters of the United States subject to jurisdiction under Section 404 of the Clean Water Act. (No Impact)

As discussed under the Proposed Project, the March 3, 2011 general biological survey, which is supported by a query of the USFWS's National Wetlands Inventory—Wetlands Mapper, confirmed that the Project site is not located within wetlands identified on the National Wetlands Inventory. Additionally, wetlands or waters of the United States or of the State do not occur in the Project site.

Alternative 1 would have ***no impact*** under CEQA because it would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Similarly, Alternative 1 would have ***no impact*** under NEPA because it would not have a substantial adverse effect on wetlands or other waters of the U.S. subject to jurisdiction under Section 404 of the Clean Water Act.

Impact BI-4	**Effects on Wildlife Movement** **CEQA: The Reduced Development Alternative could interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant with Mitigation)** **NEPA: The Reduced Development Alternative could interfere substantially with an existing wildlife corridor. (Less than Significant with Mitigation)**

The Project site is currently developed and generally does not provide an open corridor for migratory wildlife. Operation of Alterative 1 could result in an increased risk of mortality to resident and migratory birds potentially flying to and from the adjacent Urban Bird Refuge. As required, Alterative 1 would conform to the new building standards of the San Francisco Bird-Safe Standards Ordinance. This would include incorporating the standards discussed previously for the Proposed Project in Impact BI-4 for both location- and feature-related hazards.

With the incorporation of these standards, under CEQA, Alterative 1 would not conflict with the San Francisco Bird-Safe Standards Ordinance and potential impacts on resident and migratory birds potentially flying to and from the adjacent Urban Bird Refuge would be considered ***less than significant.***

Under NEPA, Alternative 1 would have a ***less-than-significant*** impact on resident and migratory birds potentially flying to and from the adjacent Urban Bird Refuge.

In addition, and as addressed for the Proposed Project, the presence of trees and shrubs in the Project site could potentially provide nesting habitat for resident and migratory birds, including raptors that are protected under the federal MBTA and California Fish and Game Code. Tree removal associated with Alterative 1 could result in "take" caused by the direct mortality of adult or young birds, nest destruction, or disturbance activities resulting in nest abandonment and/or the loss of reproductive effort. Disruption of nesting birds that results in the abandonment of active nests or the loss of active nests through structure removal would be a significant impact.

Implementation of Mitigation Measure M-BI-4a would prevent significant impacts on nesting birds by requiring a preconstruction breeding-season survey of the Project site and surrounding area by a

qualified biologist during the same calendar year as construction is planned to commence. If the survey required under Mitigation Measure M-BI-4a identifies bird species on or adjacent to the Project site, Mitigation Measure M-BI-4b directs the Project biologist to consult with CDFW to establish a species-appropriate buffer.

Under CEQA, the implementation of Mitigation Measures M-BI-4a and M-BI-4b would reduce this impact to ***less than significant***.

Under NEPA, Alternative 1 would have a ***less-than-significant*** impact with the implementation of Mitigation Measures M-BI-4a and M-BI-4b.

Impact BI-5	**Effects on Local Biological Resources** **CEQA: The Reduced Development Alternative would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant)** **NEPA: The Reduced Development Alternative would not have a substantial adverse effect on locally protected trees. (Less than Significant)**

Similar to the Proposed Project, Alternative 1 would require tree removal during construction. A total of 254 significant trees were identified by GLS Landscape/Architecture in the Project site (249 on site, five overhanging into site), in their June 23, 2010, Tree Disclosure Submittal. As with the Proposed Project, removal of the on-site trees would require a permit from the Department of Public Works under the Urban Forestry Ordinance, and the permit would include conditions that would govern the replacement planting of trees as part of the Project development. *Planning Code* Section 138.1 requires one street tree for every 20 feet of street frontage.

The impact would be ***less than significant*** under CEQA because the alternative would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The impact would be ***less than significant*** under NEPA because the alternative would not have a substantial adverse effect on locally protected trees.

Impact BI-6	**Effects Related to Habitat Conservation Plans** **CEQA: The Reduced Development Alternative would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plans. (No Impact)** **NEPA: The Reduced Development Alternative would not conflict with an adopted habitat conservation plan. (No Impact)**

As stated for the Proposed Project, the Project site is located in an urbanized area of San Francisco. No adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan applies to Alternative 1. Therefore, Project construction and operations would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan, and there would be ***no impact*** under CEQA. For the same reasons, there would be ***no impact*** under NEPA.

Alternative 2 – Housing Replacement Alternative

Impact BI-1	**Effects on Special-Status Species** **CEQA: The Housing Replacement Alternative would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant)** **NEPA: The Housing Replacement Alternative would not have a substantial adverse effect on special-status species (identified at the federal, state, or local level) or other legally protected species. (Less than Significant)**

Impacts under the Housing Replacement Alternative (Alternative 2) would be less than those identified for the Proposed Project and Alternative 1. Alternative 2 would be constructed within the same building footprint that exists on the Project site today under current conditions; accordingly, construction activities and new developments would be confined and limited to portions of the Project site that contain existing multi-family housing developments and highly disturbed land. Existing developments have resulted in removal and conversion of native habitat into pavement, hardscape, buildings, lawns, and other nonnative landscaping that is not suitable for special-status plant and wildlife species. There are likely no candidate, sensitive, or special-status plant or wildlife species that would use the existing habitats in the Project site.

Under CEQA, impacts would be ***less than significant*** because the Alternative 2 would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

Under NEPA, impacts would be ***less than significant*** because Alternative 2 would not have a substantial adverse effect on special-status species (identified at the federal, state or local level) or other legally protected species.

Impact BI-2	**Effects on Habitat**
	CEQA: The Housing Replacement Alternative would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant)
	NEPA: The Housing Replacement Alternative would not have a substantial adverse effect on sensitive or critical habitat (identified at the federal, state or local level). (Less than Significant)

Alternative 2 would demolish and reconstruct housing on the same building footprint that exists today. As addressed above for the Proposed Project and Alternative 1, degraded serpentine outcrops and soils are present within limited portions of the Project site. Serpentine bunchgrass grassland is a native habitat type that is known to be associated with serpentine substrates and is recognized by CDFW as a sensitive natural community. As confirmed during the March 3, 2011 general biological survey, the serpentine outcrops do not contain the characteristic plant species assemblages, such as purple needlegrass and foothill needlegrass, that would categorize them as serpentine bunchgrass grassland habitat. Further, no vernal pools, seeps, salt or brackish water marshes, riparian woodlands or other sensitive natural communities are present on or adjacent to the Project site. In addition, no critical habitat designated by USFWS overlaps the Project site.

Alternative 2 would have a ***less-than-significant*** impact under CEQA because it would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.

As in the determinations for the Proposed Project and Alterative 1, Alternative 2 would have a ***less-than-significant*** impact under NEPA because it would not have a substantial adverse effect on sensitive or critical habitat (identified at the federal, state, or local level).

Impact BI-3	**Effects on Wetlands**
	CEQA: The Housing Replacement Alternative would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (No Impact)
	NEPA: The Housing Replacement Alternative would not have a substantial adverse effect on wetlands or other waters of the United States. subject to jurisdiction under Section 404 of the Clean Water Act. (No Impact)

As discussed under the Proposed Project, the March 3, 2011 general biological survey, which is supported by a query of the USFWS' National Wetlands Inventory—Wetlands Mapper, confirmed

that the Project site is not located within wetlands identified on the National Wetlands Inventory. Additionally, wetlands or waters of the United States or of the State do not occur in the Project site.

Alternative 2 would have ***no impact*** under CEQA because it would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Alternative 2 would have ***no impact*** under NEPA because it would not have a substantial adverse effect on wetlands or other waters of the United States subject to jurisdiction under Section 404 of the Clean Water Act.

Impact BI-4	**Effects on Wildlife Movement** **CEQA: The Housing Replacement Alternative would not interfere substantially with an existing wildlife corridor. (Less than Significant with Mitigation)** **NEPA: The Housing Replacement Alternative could interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant with Mitigation)**

As described above for the Proposed Project and Alternative 1, the Project site is currently developed and generally does not provide an open corridor for migratory wildlife. Operation of Alternative 2 could result in an increased risk of mortality to resident and migratory birds potentially flying to and from the adjacent Urban Bird Refuge. Alternative 2 would be required to incorporate the new building standards of the San Francisco Bird-Safe Standards Ordinance. This would include incorporating the standards discussed previously for the Proposed Project under Impact BI-4 for both location- and feature-related hazards.

Under CEQA, with the incorporation of these standards, and similar to the determinations for the Proposed Project and Alternative 1, Alternative 2 would not conflict with the San Francisco Bird-Safe Standards Ordinance and potential impacts on resident and migratory birds potentially flying to and from the adjacent Urban Bird Refuge would be considered ***less than significant***.

Under NEPA, Alternative 2 would have a ***less-than-significant*** impact on resident and migratory birds potentially flying to and from the adjacent Urban Bird Refuge.

In addition, and as noted previously for the Proposed Project and Alterative 1, trees and shrubs occur on and in the immediate vicinity of the Project site that could potentially provide nesting habitat for resident and migratory birds, including raptors protected under the federal MBTA and California Fish and Game Code. As with the Proposed Project and Alternative 1, tree removal associated with Alternative 2 could result in direct mortality of adult or young birds, nest

destruction, or disturbance activities resulting in nest abandonment and/or the loss of reproductive effort. Implementing Mitigation Measure M-BI-4a would avoid potentially significant impacts and adverse effects on nesting birds by requiring a preconstruction breeding-season survey of the Project site and immediate vicinity by a qualified biologist during the same calendar year as construction is planned to commence. If the survey required under Mitigation Measure M-BI-4a identifies bird species on or adjacent to the Project site, Mitigation Measure M-BI-4b requires the Project biologist to consult with CDFW to establish a species-appropriate buffer.

Under CEQA, the implementation of Mitigation Measures M-BI-4a and M-BI-4b would reduce this impact to ***less than significant***.

Under NEPA, Alternative 2 would have a ***less-than-significant*** impact with the implementation of Mitigation Measures M-BI-4a and M-BI-4b.

Impact BI-5	**Effects on Local Biological Resources** **CEQA: The Housing Replacement Alternative would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (Less than Significant)** **NEPA: The Housing Replacement Alternative would not have a substantial adverse effect on locally protected trees. (Less than Significant)**

Similar to the Proposed Project and Alternative 1, Alternative 2 would require tree removal during construction, including significant trees (249 on site, five overhanging into site) identified by GLS Landscape/Architecture in their June 23, 2010, Tree Disclosure Submittal. As with the Proposed Project and Alternative 1, Alternative 2 would require removal of the on-site trees, which would require a permit from the Department of Public Works under the Urban Forestry Ordinance. The permit would include conditions that would govern the replacement planting of trees as part of the Project development. *Planning Code* Section 138.1 requires one street tree for every 20 feet of street frontage.

Therefore, under CEQA, the impact would be ***less than significant*** because the alternative would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

As determined for the Proposed Project and Alternative 1, the impact under Alternative 2 would be ***less than significant*** under NEPA because Alternative 2 would not have a substantial adverse effect on locally protected trees.

Impact BI-6	**Effects Related to Habitat Conservation Plans** **CEQA: The Housing Replacement Alternative would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plans. (No Impact)** **NEPA: The Housing Replacement Alternative would not conflict with an adopted habitat conservation plan. (No Impact)**

As described for the Proposed Project and Alternative 1, the Project site is located in an urbanized area of San Francisco. No adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan applies to Alternative 2; therefore, there would be ***no impact*** under CEQA.

For the same reason, there would be ***no impact*** under NEPA.

Alternative 3 – No Project Alternative

Construction activities would not take place under the No Project Alternative and no tree removals or ground disturbance would occur. Therefore, under both CEQA and NEPA, the No Project Alternative would result in ***no impacts*** on candidate, sensitive, or special-status species, including federally listed critical habitat; riparian habitats or sensitive natural communities; federally protected wetlands as defined by Section 404 of the Clean Water Act; movement of native fish or wildlife species or with established wildlife corridors; the San Francisco Urban Forestry Ordinance and Bird-Safe Standards Ordinance; or adopted habitat conservation plans.

Cumulative Impacts

The geographic context for cumulative impacts on special-status species, other legally protected species, and locally protected trees is the Eastern Neighborhoods Plan area.

Impact C-BI-1	**Cumulative Effects on Biological Resources** **CEQA: The Proposed Project and alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to biological resources. (Less than Significant)** **NEPA: The Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse biological resource impacts. (Less than Significant)**

Development under the Eastern Neighborhoods Plan is not expected to combine with impacts of the Proposed Project to result in significant cumulative environmental impacts. This is because the Eastern Neighborhood Plan area is a developed urban environment with little in the way of landscaping or other vegetation. The Eastern Neighborhood Program EIR concludes that impacts to

biological resources would not occur because new construction would consist of housing in heavily built out former industrial neighborhoods and there would be little in the way of loss of vegetation or disturbance of wildlife other than common urban species. Overall cumulative impacts to biological resources are less than significant.

The proposed project or its variants, combined with reasonably foreseeable future projects in the EN Plan area, would result in increased population and development in the project vicinity. The project site is currently developed or completely paved, and street trees surrounding the project site consists of ornamental street trees. Similarly, wildlife species on and in the vicinity of the project site are those that have adapted to the urban environment and are able to co-exist with people and the built environment. The vegetation and wildlife that could occur on and around the project site represent an urban environment rather than a wild land condition. Moreover, as development projects must comply with Federal, State, and local regulations that protect biological resources, there would be no significant project-level impacts on biological resources. For these reasons, the Proposed Project's and project alternative's contribution to cumulative effects on biological resources would not be considerable.

Special-Status Species (including Federally Listed Species and Critical Habitat)

Implementation of the Proposed Project and alternatives would not have a cumulatively considerable contribution to a cumulative impact, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. This includes federally listed species and critical habitat. As discussed previously for the project-level analysis, the Proposed Project and alternatives would not result in any direct or indirect impacts on special-status species, including any endangered, threatened, or rare species known to occur in the region.

Therefore, the impact would be ***less than significant*** under CEQA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on special-status species.

The impact would be ***less than significant*** under NEPA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on special-status species.

Wildlife Movement Corridors and Nursery Sites (including Nesting Birds)

As discussed previously for the project-level analysis, the Project site is within 300 feet of a known Urban Bird Refuge. Operation of the Proposed Project and alternatives (except for the No Project Alternative) could result in an increased risk of mortality to resident and migratory birds potentially flying to and from the adjacent Urban Bird Refuge. Since the establishment of Urban Bird Refuge system and adoption of the San Francisco Bird-Safe Standards Ordinance, projects have been required to incorporate bird-safe building standards to prevent the introduction of bird hazards and

help mitigate the significant cumulative impact on resident and migratory birds. Future projects would also be required to incorporate the San Francisco Bird-Safe Standards Ordinance into design.

The Proposed Project and alternatives (except for the No Project Alternative) would incorporate standards to prevent impacts associated with both location- and feature-related hazards. With the incorporation of these standards, the Proposed Project and alternatives (except for the No Project Alternative) would not conflict with the San Francisco Bird-Safe Standards Ordinance and potential impacts on resident and migratory birds potentially flying to and from the adjacent Urban Bird Refuge would be mitigated.

The impact would be ***less than significant*** under CEQA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on resident and migratory birds using the Urban Bird Refuge system.

The impact would be ***less than significant*** under NEPA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on resident and migratory birds using the Urban Bird Refuge system.

In addition, and as discussed previously for the project-level analysis, trees and shrubs occurring on and in the immediate vicinity of the Project site could potentially provide nesting habitat for resident and migratory birds, including raptors protected under the federal MBTA and California Fish and Game Code. The Proposed Project and alternatives (except for the No Project Alternative) would implement Mitigation Measures M-BI-4a and M-BI-4b to prevent impacts on nesting birds and comply with the MBTA and California Fish and Game Code. Future development is required to avoid impacts on nesting birds that are protected under the MBTA and California Fish and Game Code. Further, future projects would also be conditioned such that impacts on nesting birds are avoided.

The impact would be ***less than significant*** under CEQA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on nesting migratory bird.

The impact would be ***less than significant*** under NEPA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on nesting migratory birds.

Local Policies and Ordinances

The Proposed Project and alternatives would not make a cumulatively considerable impact resulting from conflict with any local policies or ordinances related to biological resources. Future development projects would comply with applicable local policies, such as the San Francisco Urban

Forestry Ordinance and San Francisco Bird-Safe Standards Ordinance, as part of the environmental review and entitlement process prior to approval.

As discussed previously for the project-level analysis, the Proposed Project and alternatives (except for the No Project Alternative) would have the potential to result in a conflict with the San Francisco Urban Forestry Ordinance through the loss of significant trees, which could result in a significant impact. However, the Proposed Project and alternatives (except for the No Project Alternative) would replace all significant trees affected by project implementation in accordance with the San Francisco Urban Forestry Ordinance requirements.

The impact would be ***less than significant*** under CEQA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on trees.

The impact would be ***less than significant*** under NEPA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on trees.

As addressed above for Wildlife Movement Corridors and Nursery Sites, operation of the Proposed Project and alternatives (except for the No Project Alternative) could result in an increased risk of mortality to resident and migratory birds potentially flying to and from an adjacent Urban Bird Refuge. The Proposed Project and alternatives (except for the No Project Alternative) would incorporate standards to prevent impacts associated with both location- and feature-related hazards. With the incorporation of these standards, the Proposed Project and alternatives (except for the No Project Alternative) would not conflict with the San Francisco Bird-Safe Standards Ordinance and potential impacts on resident and migratory birds potentially flying to and from the adjacent Urban Bird Refuge would be mitigated.

The impact would be ***less than significant*** under CEQA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on resident and migratory birds using the Urban Bird Refuge system.

The impact would be ***less than significant*** under NEPA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on resident and migratory birds using the Urban Bird Refuge system.

5.16 GEOLOGY AND SOILS

5.16.1 Regulatory Framework

Federal

Executive Order 12699

Executive Order 12699, Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction, was enacted in 1990 and applies to construction of new buildings owned, leased, constructed, assisted, or regulated by the federal government. The guidelines in this order establish minimum acceptable seismic safety standards, provide evaluation procedures for determining the adequacy of local building codes, and recommend implementation procedures. The compliance provision for this Executive Order is the International Building Code (IBC). The IBC forms the basis for the California and San Francisco Building Codes. The California and San Francisco Building Codes are more stringent concerning soils and seismic safety measures due to the issues and concerns prevalent in the state and San Francisco Bay Area.

State

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act (Public Resources Code Section 2693(c)), adopted in 1990, requires the California Geological Survey (CGS) to create maps delineating zones where data suggest amplified ground shaking, liquefaction, or earthquake-induced landsliding may occur (seismic hazard zones). The act requires responsible agencies to only approve projects within seismic hazard zones following a site-specific investigation to determine if the hazard is present and, if so, upon the inclusion of appropriate mitigations. Section 2697 of the Seismic Hazards Mapping Act mandates that, prior to the approval of a project in a seismic hazard zone, the local jurisdiction (city or county) must require the preparation of a geotechnical report defining and delineating any seismic hazard. As delineated by the CGS, the Project site is not susceptible to liquefaction hazard, but it is in an area that may be susceptible to seismically induced landslides, and, therefore, the provisions of this act would apply.

CGS has published Special Publication 117A, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*, to assist the engineering geologist and/or civil engineer who must investigate the site and recommend mitigation of identified earthquake-related hazards and to promote uniform and effective statewide implementation of the evaluation and mitigation elements of the Seismic Hazards Mapping Act. Under the act, the local permitting authority—in San Francisco, the San Francisco Department of Building Inspection (DBI)—must regulate certain development projects within the mapped hazard zones. For projects in a hazard zone, DBI requires that the geologic and

soils conditions of a project site be investigated and that appropriate mitigation measures, if any, be incorporated into development plans.[1]

The site investigation reports must be reviewed by a certified engineering geologist or registered civil engineer with competence in the field of seismic hazard evaluation and mitigation. DBI would employ a third-party engineering geologist and/or civil engineer to form a Geotechnical Peer Review Committee, which would complete the technical review. After a site investigation report was approved, subsequent site investigation reports would not be required, provided that new geologic information warranting further investigation was not recorded. The San Francisco Building Code (SFBC) requires that the recommendations of the report be incorporated in the building design.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act requires the California State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults.[2] Because the Project site is not within an Alquist-Priolo Earthquake Fault Zone, the provisions of this act are not applicable.

California Building Code

The California Building Code (CBC) is codified in the California Code of Regulations Title 24, Part 2. Most recently revised and adopted in 2010, the 2010 CBC, effective January 1, 2014, is based on the current (2009) IBC.[3] Each jurisdiction in California may adopt its own building code based on the 2010 CBC. Local codes are permitted to be more stringent than the 2010 CBC, but, at a minimum, are required to meet all state standards and enforce the regulations of the 2010 CBC beginning January 1, 2011.

Local

San Francisco Building Code

The SFBC (Municipal Code, Title 17, Chapter 17.04) derives from the adopted 2012 IBC and the 2013 CBC. The full 2013 SFBC consists of the 2012 IBC, as amended by the 2013 CBC, and as further modified by San Francisco amendments designed to be used in conjunction with the 2013 CBC and

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[1] "Mitigation" is defined as those measures that are consistent with established practice and reduce seismic risk to acceptable levels. "Acceptable level" of risk is defined as that level that provides reasonable protection of public safety, although it does not necessarily ensure continued structural integrity and functionality of a building.

[2] Under the Act, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (generally 50 feet).

[3] California Building Standards Commission, 2010 California Building Code, California Code of Regulations, Title 24, Part 2, Volumes 1 and 2 (effective January 1, 2011), http://publicecodes.citation.com/st/ca/st/b200v10/index.htm.

the 2013 California Green Building Standards Code. The SFBC amendments were adopted by the Board of Supervisors became effective January 1, 2014. The SFBC is administered and enforced by the San Francisco DBI, and compliance with all provisions is mandatory for all new development and redevelopment in the city.

Chapter 16 of the SFBC addresses structural design requirements governing seismically resistant construction (Section 1604), including (but not limited to) factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building location and the proposed building design (Section 1613A). Chapter 18 of the SFBC includes (but is not limited to) the requirements for foundation and soil investigations (Section 1803); excavation, grading, and fill (Section 1804); presumptive load-bearing values of soils (Section 1806); and the design of foundation walls, retaining walls and embedded posts and poles (Section 1807); foundations, shallow foundations, and deep foundations (Section 1808, 1809, 1810). Chapter 33 of the SFBC includes (but is not limited to) requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304). Appendix J of the SFBC includes (but is not limited to) grading requirements for the design of excavations and fills (Sections J103 through J107) and for erosion control (Sections J109 and J110).

Compliance with the SFBC is mandatory for development in San Francisco. Throughout the permitting, design, and construction phases of a building project, Planning Department staff, DBI engineers, and DBI building inspectors confirm that the SFBC is being implemented by project architects, engineers, and contractors.

5.16.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. The following impact analysis utilizes criteria to evaluate whether implementation of the Proposed Project or alternatives would result in significant, adverse effects. For geology and soils, the analysis considers whether the Proposed Project or alternatives would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - > Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42.)
  - > Strong seismic ground shaking

- > Seismic-related ground failure, including liquefaction
- > Landslides

- Result in substantial soil erosion or the loss of topsoil
- Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater
- Change substantially the topography or any unique geologic or physical features of the site

Context and Intensity Evaluation Guidelines under NEPA

These thresholds encompass the factors taken into account under NEPA to determine the significance of an action in terms of the context and intensity of its effects. For geology and soils, the analysis considers whether the Proposed Project or alternatives would:

- Result in substantial risk of injury or death due to collapse of structures or damage to infrastructure because of ground failure or groundshaking;
- Result in substantial damage to foundations or other infrastructure due to liquefaction, differential settlement, lateral spreading, expansive soils, corrosive soils, or other adverse engineering properties of soils;
- Destabilize existing geologic conditions or accelerate adverse geologic processes;
- Expose people or structures to substantial threat of injury or damage from slope failure; or
- Cause substantial soil erosion.

Approach to Analysis

For the purposes of CEQA, the approach to the analysis is a comparison of the impacts associated with the Proposed Project to the significance thresholds outlined above. The NEPA analysis relies generally on the same significance thresholds, but the analysis is slightly more specific with regard to the analysis of the intensity of the impact, as described in Chapter 5.1, *Introduction to the Analysis*.

The analysis presented in this section relies on a site-specific geotechnical investigation (Appendix 4.16), which consists of a review of available literature and geologic maps for the Project area, subsurface exploration consisting of seven soil boring and nine test pits, laboratory testing of materials sampled during the field exploration, geotechnical data analysis, and characterization of

soil, bedrock and groundwater conditions at the Project site. In addition, the geotechnical investigation provides preliminary grading and foundation recommendations for the design and construction of the Proposed Project.[4] Design-level geotechnical studies would be completed for each phase of the Proposed Project during development of construction plans. The following analysis is adequate for both CEQA and NEPA, as thresholds are substantially the same.

Impact Evaluation

Proposed Project

Impact GE-1	**Seismic Effects** **CEQA: The Proposed Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic ground-shaking, liquefaction, or lateral spreading. (Less than Significant with Mitigation)** **NEPA: The Proposed Project could result in substantial risk of injury or death due to collapse of structures or damage to infrastructure because of ground failure or groundshaking, or could result in substantial damage to foundations or other infrastructure due to liquefaction, differential settlement, lateral spreading, expansive soils, corrosive soils, or other adverse engineering properties of soils. (Less than Significant with Mitigation)**

Fault Rupture

There are no known active faults crossing the Project site, and the Project site is not located within an Earthquake Special Study Zone. Therefore, fault rupture at the Project site is unlikely and the potential for implementation of the Proposed Project to expose people or structures to adverse effects related to fault rupture is ***less than significant***. Under NEPA, the Proposed Project would have a ***less-than-significant*** impact related to fault rupture.

Groundshaking

Groundshaking is likely to occur at the Project site as a result of earthquakes on one or more regional faults. The Project site could be expected to experience "moderate" to "strong" groundshaking based on a characteristic earthquake M 7.1 on the Rodgers Creek—Northern Hayward fault and a characteristic earthquake M 7.9 on the San Andreas fault, respectively. The severity of groundshaking could damage buildings and infrastructure, and present risks to people.

[4] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA*. July 10, 2009. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

Compliance with Chapter 16 of the SFBC (*Structural Design*), which sets forth the requirements governing seismically resistant construction, and Chapter 18 (*Soils and Foundations*), which requires foundation and soils investigations, would minimize the exposure to risks from seismic activity. Structure designs would be constructed to the highest feasible seismic safety standards, consistent with the requirements of the SFBC, as deemed appropriate by the project engineer and verified by DBI. Compliance with the SFBC, which requires design-level studies and associated recommendations for building construction that are reviewed and approved by DBI during the permitting process, would mitigate potential hazards and would ensure that impacts from groundshaking remain ***less than significant*** under CEQA. Similarly, under NEPA, effects on the Proposed Project related to severe groundshaking would be ***less than significant***.

Liquefaction

The Project site is not located in a Zone of Required Investigation for liquefaction,[5] and the geotechnical investigation did not identify liquefaction as a potential hazard.[6] There would be ***no impact*** under CEQA. There would be ***no impact*** from potential liquefaction on the Proposed Project under NEPA.

Landslides

The CGS Seismic Hazard Zone map of San Francisco (Figure 4.16-2, Seismic Hazard Zones) identifies the Project site as an area that may be susceptible to seismically induced landslides. The Proposed Project would result in the modification of existing slopes and topography to accommodate new development. Such alteration has the potential to change the locations, severity, or likelihood of landslides, compared to existing conditions. This is a ***significant*** impact.

The Seismic Hazards Mapping Act requires that prior to approving a project in an identified seismic hazard zone the local permitting authority (DBI) must prepare a geotechnical report defining and delineating any seismic hazard. Typical engineering methods for mitigating such hazards at the Project site could include, but would not be limited to; regrading existing slopes, constructing new

[5] State of California, Seismic Hazard Zones City and County of San Francisco, Official Map (November 17, 2000), http://gmw.consrv.ca.gov/shmp/download/pdf/ozn_sf.pdf.

[6] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

fill slopes with keyways,[7] and installing appropriate subdrainage and engineered fill, as identified in the geotechnical investigation.[8]

Compliance with the requirements for foundation and soil investigation, foundation design (Chapter 18), stable excavations (Chapter 33), and grading (Appendix J) of the SFBC, as approved by the DBI, would ensure the maximum practicable protection available from soil failures of all types, including landslides, under daily conditions or due to an earthquake, for structures and their associated trenches, temporary slopes, and foundations.

Adherence to the procedures required by the SFBC and the Seismic Hazards Mapping Act and implementation of the recommendations in the geotechnical investigation,[9] included below as Mitigation Measure M-GE-1, would ensure that potentially significant impacts related to landslide hazards would be reduced to ***less than significant with mitigation*** under CEQA.

Similarly, under NEPA, once Mitigation Measure M-GE-1 has been implemented, potential landslide hazards would be ***less than significant.***

> **Mitigation Measure M-GE-1 – Landslide Hazard Mitigation (Proposed Project and Reduced Development Alternative Only).** Prior to issuance of a grading permit for each phase of project development, the recommendations for mitigating potential slope stability hazards outlined in the *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* shall be included in project design.[10] Measures to reduce landslide hazard may include, but would not be limited to, adhering to graded slope and cut/fill guidelines identified in Section 5.5 of the geotechnical report, ongoing inspection and monitoring of cut slopes during construction, proper fill conditioning, placement and compaction, and installation of keyways and subdrains as recommended by the engineer of record.

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[7] A keyway (also known as a shear key) is a trench excavated into the competent soil material so that the new fill placed over the natural slope firmly keys into the existing soil. Placing a drainage pipe within a keyway further improves the stability of the slope by reducing the effect of groundwater fluctuations (Nadgouda, Khsigita, Geotechnical Engineering 101 and more (June 23, 2006), http://kshitija.wordpress.com/2006/06/ (accessed 11/14/2012).

[8] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[9] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[10] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

Impact GE-2	**Erosion Effects**
	CEQA: The Proposed Project Site is susceptible to substantial erosion, however, with mitigation substantial soil erosion or the loss of topsoil would not occur. (Less than Significant with Mitigation)
	NEPA: The Proposed Project Site is susceptible to substantial erosion; however, with mitigation, substantial soil erosion or the loss of topsoil would not occur. (Less than Significant with Mitigation)

The Project site is characterized by steep topography and uneven slopes. In addition, the site currently contains undocumented fill ranging in thickness from 1 to 8 feet. Grading and excavation activities, including cut slopes, associated with site preparation could potentially expose soil to erosion. Furthermore, due to the nature of the bedrock at the Project site, slopes may experience severe erosion if grading is halted by heavy rain and measures are not implemented to stabilize exposed soil. Compliance with Mitigation Measures M-GE-2a through M-GE-2c, described below, would minimize significant impacts on soil erosion from construction of the Proposed Project housing and related site features. Additionally, compliance with the construction best management practices identified in the Stormwater Pollution Prevention Program (refer to Section 4.17, *Hydrology and Water Quality*, for details) and outlined in the geotechnical investigation would ensure that erosion impacts would be minimized and would be consistent with adopted regulations. This impact would be ***less than significant with mitigation***.

Similarly, under NEPA, after implementation of the mitigation measures described below, the impact of the Proposed Project on construction-related erosion would be ***less than significant***.

Mitigation Measure M-GE-2a – Preventative Erosion Control Measures (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative). The construction contractor shall implement preventative measures recommended in the *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA*.[11] Such preventative measures may include placing topsoil strippings over all open space cut and fill slopes immediately following grading and prior to installation of erosion control measures, landscaping and concrete or asphalt-lined drainage facilities on slopes graded to a steepness of 3:1 (horizontal: vertical) or steeper.

Mitigation Measure M-GE-2b – Cut Slopes and Engineered Fill (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative). Prior to construction, existing fill and loose surface soil shall be removed and replaced as engineered

[11] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

fill. Cut slopes that exceed recommended gradient guidelines identified in Section 5.5 of the *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA*, shall be reconstructed as fill slopes.[12] Fill slopes that exceed the recommended gradient guidelines shall be constructed with geogrid reinforcement.

Mitigation Measure M-GE-2c – Erosion Control Measures in Response to Heavy Rains (Proposed Project, Reduced Development Alternative, and Housing Replacement Alternative). In the case that construction activities are halted due to the onset of heavy rains, before work is stopped, a positive gradient away from the slopes shall be provided to carry the surface runoff away from the slopes to areas where erosion can be controlled.

Impact GE-3	**Effects on Unstable Geologic Units** **CEQA: The Proposed Project could be located on a geologic unit or soil that is unstable or that would become unstable as a result of the Proposed Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. (Less than Significant with Mitigation)** **NEPA: The Proposed Project could destabilize existing geologic conditions or accelerate adverse geologic processes. (Less than Significant with Mitigation)**

The Project site is characterized by steep slopes with underlying serpentine bedrock, which pose a landslide hazard under existing conditions, which could be exacerbated by site preparation to accommodate the Proposed Project, as noted in Impact GE-1. Implementation of Mitigation Measure M-GE-1 would address potential slope stability issues related to landslides.

The City and County of San Francisco Hazard Zones map indicates that liquefaction is unlikely at the Project site. Therefore, the potential for the Proposed Project to result in lateral spreading, a result of liquefaction, is unlikely.[13]

Existing fills on the Project site have not been constructed and documented in a manner that is consistent with current standards for engineered fill. Development of new structures on fill materials that are not properly stabilized could affect the stability of foundations and overlying structures, which could result in damage that could pose a risk to occupants.

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[12] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[13] Lateral spreading is a failure within weaker soil material, which causes the soil mass to move toward a free face or down a gentle slope due to liquefaction. Because the site has a low susceptibility to liquefaction, lateral spreading is unlikely, as reported in the geotechnical report. ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16).

Some proposed building pads at the Project site could also be entirely in cut or traversed by a cut/fill transition. Variations in the physical characteristics of the soil or bedrock where these pads are located could affect structures placed on top of them, if not properly accounted for in design and construction. For locations where site preparation would include cuts and fills, fills deeper than 10 feet would be likely to undergo settlement during placement, and would continue to settle for a period of time following mass grading.

Further, the clayey soils on steeper natural slopes at the site are subject to soil creep. Modifications to the site to construct the Proposed Project could alter those characteristics, which could make affected locations susceptible to soil creep, if not properly mitigated.

However, the potential for adverse impacts from soil creep can be minimized by application of standard engineering methods, including a combination of benching[14] through the surficial soil during fill placement, soil compaction, foundation selection and structure setbacks recommended in the geotechnical investigation (Appendix 4.16), which are set forth in Mitigation Measure M-GE-3, below.

In addition, final foundation plans would be submitted to the project engineer to ensure compliance with the requirements of the SFBC, specifically those outlined in Chapters 16, 18, 33, and Appendix J, prior to submittal to DBI. Adherence to the SFBC would ensure the maximum practicable protection from seismic hazards in the design and construction of buildings and associated subgrade features such as foundations on the Project site. Consequently, under CEQA, the impact of the Proposed Project would be ***less than significant with mitigation*** regarding the potentially adverse effects of unstable soils or geologic units.

Under NEPA, with implementation of Mitigation Measure M-GE-3, below, effects related to unstable soil or geologic units would be ***less than significant.***

Mitigation Measure M-GE-3 – Unstable Soils and Slopes (Proposed Project and Reduced Development Alternative Only).

(a) Prior to approval of 40-scale grading plans, upper and lower bound settlement estimates and specific corrective procedures for the site to address settlement of deep fills, including a quantitative analysis of the grading scope, shall be provided consistent with the recommendations in the *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA*.[15] Remedial grading shall be performed to reduce differential fill thickness to no more than 10 feet across an individual building

[14] Essentially cutting one or more "steps" into the slope for stabilization.

[15] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

pad, and a remedial grading plan shall be prepared that identifies areas where additional over excavation would be necessary to reduce differential fill thickness.

(b) Prior to construction, existing fill and loose surface soil shall be removed and replaced as engineered fill. In addition, the construction contractor shall implement preventative measures recommended by the geotechnical investigation.

(c) Prior to approval of 40-scale grading plans, project applicant shall incorporate recommendations identified in the geotechnical investigation to address soil creep in grading and design plans.[16] Such measures could include, but would not be limited to, benching through superficial soil during fill placement, soil compaction, foundation selection, and structure setbacks, or equally effective measures or combination thereof.

Impact GE-4	**Effects from Expansive Soils**
	CEQA: The Proposed Project would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property. (Less than Significant with Mitigation)
	NEPA: This topic is not covered under NEPA.

Geotechnical investigation and laboratory testing of the soil beneath the Project site found highly expansive colluvial soils and slope wash beneath the existing fill placed along Connecticut Street. Therefore, new development under the Proposed Project could be exposed to expansive soil hazards, which could cause damage to structures, foundations, buried utilities, and could require increased maintenance. The geotechnical investigation provides several recommendations to minimize the potential for building damage due to the presence of expansive soils.[17] These recommendations are incorporated into Mitigation Measure M-GE-4, described below. Consequently, this impact would be ***less than significant with mitigation***.

Mitigation Measure M-GE-4 – Expansive Soils (Proposed Project and Reduced Development Alternative Only). If final construction plans expose identified expansive colluvial soil and slope at or near the final design grades, corrective grading shall be required to reduce the potential impacts from soil swell. Furthermore, building damage due to volume changes associated with expansive soils can be reduced by the following: selectively

[16] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[17] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

placing the higher on-site expansive materials in the deeper fill areas (generally at depths below 10 feet of finished grades), or placing these higher expansive on-site materials outside of areas of the proposed structures and site improvements (such as landscape acres); performing proper moisture conditioning and compaction of fill materials within selected ranges to reduce their swell potential; and using deep foundations, structurally reinforced "rigid" mats, or post-tensioned slabs designed to resist the uplift pressures and deflections associated with the soil expansion.

Impact GE-5	**Effects on Septic Tanks** **CEQA: The Proposed Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. (No Impact)** **NEPA: This topic is not covered under NEPA.**

Wastewater generated by the Proposed Project would be conveyed to the Southeast Water Pollution Control Plant (SWPCP), operated by the San Francisco Public Utilities Commission. The Proposed Project would not require the use of septic tanks or alternative wastewater; and, therefore, would have ***no impact*** related to soils incapable of supporting septic tank or alternative wastewater disposal. For further detail regarding the City's wastewater conveyance and treatment system refer to Sections 4.13 and 5.13, *Utilities and Service Systems*, of this Draft EIR/EIS.

Impact GE-6	**Effects on Topography** **CEQA: The Proposed Project would not substantially change the topography or any unique geologic or physical features of the Project site. (Less than Significant)** **NEPA: This topic is not covered under NEPA.**

The Project site is characterized by steep slopes and several rock outcroppings. When Potrero Terrace and Potrero Annex housing developments were originally developed, a substantial amount of excavation, fill, and grading was performed to establish building foundations and the road network that serves the Project site. As such, the existing topography of the Project site is significantly modified from its original natural, undeveloped state.

Implementation of the Proposed Project would result in demolition of Potrero Terrace and Potrero Annex and construction of a new housing development at a higher density and substantially altered footprint. In addition, the Proposed Project would reconfigure the onsite street network in order to better integrate the Proposed Project with the surrounding area. Construction of the new buildings and features under the Proposed Project would require substantial earthwork, and would, therefore,

alter the existing topography and site design. However, the existing Project site contains highly modified topography and lacks unique topographic geologic features. While implementation of the Proposed Project would result in an incremental change to the previously altered site topography, it would not be substantial and would have a minimal effect on topography and geologic features compared to existing conditions. Therefore, under CEQA this impact would be ***less than significant***.

Alternative 1 – Reduced Development Alternative

Alternative 1 would have fewer residential units and non-residential space, but it would retain the same development footprint as the Proposed Project.

Impact GE-1	**Seismic Effects** **CEQA: The Reduced Development Alternative could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: ruptures of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides. (Less than Significant with Mitigation [Landslide Hazard Only])** **NEPA: The Reduced Development Alternative could result in substantial risk of injury or death due to collapse of structures or damage to infrastructure because of ground failure or groundshaking, nor would it result in substantial damage to foundations or other infrastructure due to liquefaction, differential settlement, lateral spreading, expansive soils, corrosive soils, or other adverse engineering properties of soils. (Less than Significant with Mitigation [Landslide Hazard Only])**

Seismic hazards would pose a risk to development under this alternative. All new construction would be required to comply with applicable regulations and standards concerning seismic safety, as described under the Proposed Project. Because the footprint for Alternative 1 is the same as the Proposed Project, the potential impacts related to landslide hazards would be the same, and could be reduced to a less-than-significant level. Under CEQA With implementation of Mitigation Measure M-GE-1, impacts would be ***less than significant.***

Under NEPA, after implementation of Mitigation Measure M-GE-1, impacts of Alternative 1 would be ***less than significant*** related to fault rupture, groundshaking, liquefaction, and landslides.

Impact GE-2	**Erosion Effects**
	CEQA: The Reduced Development Alternative could result in short-term, construction-related soil erosion. (Less than Significant with Mitigation)
	NEPA: The Reduced Development Alternative could result in substantial soil erosion or the loss of topsoil. (Less than Significant with Mitigation)

Grading and excavation activities associated with site preparation, including cut slopes, could potentially expose soil to erosion. The magnitude of this impact would be the same as the Proposed Project because the disturbance footprint would be identical. Compliance with Mitigation Measure M-GE-2 would minimize potentially significant impacts on soil erosion from construction of this alternative. Additionally, compliance with the construction best management practices identified in the Stormwater Pollution Prevention Program (refer to Section 4.17, *Hydrology and Water Quality*, for details) and outlined in the geotechnical investigation would ensure that erosion impacts would be minimized and would be consistent with adopted regulations. Under CEQA, with implementation of Mitigation Measures M-GE-2a through M-GE-2c, this impact would be ***less than significant***.

Under NEPA, after implementation of Mitigation Measures M-GE-2a through M-GE-2c, the impact of Alternative 1 on soil erosion would be ***less than significant***.

Impact GE-3	**Effects on Unstable Geologic Units**
	CEQA: The Reduced Development Alternative could be located on a geologic unit or soil that is unstable or that would become unstable as a result of the Proposed Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. (Less than Significant with Mitigation)
	NEPA: The Reduced Development Alternative could destabilize existing geologic conditions or accelerate adverse geologic processes. (Less than Significant with Mitigation)

The footprint of Alternative 1 would be the same as the Proposed Project. Thus, this alternative would be susceptible to the same problems concerning underlying fill, cut/fill slopes, and soil creep integrity as the Proposed Project. Development of new structures on fill materials that are not properly stabilized could affect the stability of foundations and overlying structures, which could result in damage that could pose a risk to occupants. This would be a potentially significant impact. In order to reduce the potential for adverse settlement and stability issues site preparation and construction would be required to comply with Mitigation Measure M-GE-3, described above, which would reduce impacts to a ***less-than-significant*** level.

In addition, final foundation plans would be submitted to the project engineer to ensure compliance with the requirements of the SFBC, specifically those outlined in Chapters 16, 18, 33, and

Appendix J, prior to submittal to DBI. Under CEQA, with implementation of Mitigation Measure M-GE-3, the impact of Alternative 1 would be ***less than significant*** regarding the potentially adverse effects of unstable soils or geologic units.

Under NEPA, with implementation of Mitigation Measure M-GE-3, the impact of Alternative 1 related to the destabilization of existing geologic conditions or acceleration of adverse geologic processes would be ***less than significant***.

Impact GE-4	**Effects on Expansive Soils** **CEQA: The Reduced Development Alternative could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property. (Less than Significant with Mitigation)** **NEPA: This topic is not covered under NEPA.**

The disturbance footprint of Alternative 1 would be identical to the Proposed Project, and, thus, could be exposed to expansive soil hazards, which could cause damage to structures, foundations, buried utilities, and could require increased maintenance. In order to reduce significant impacts related to expansive soils, development under this alternative would need to adhere to construction requirement included in Mitigation Measure M-GE-4. The geotechnical investigation provides several recommendations to minimize the potential for building damage due to the presence of expansive soils. These recommendations are incorporated into Mitigation Measure M-GE-4. Consequently, under CEQA, this impact would be ***less than significant with mitigation***.

Impact GE-5	**Effects on Septic Tanks** **CEQA: The Reduced Development Alternative would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. (No Impact)** **NEPA: This topic is not covered under NEPA.**

Alternative 1 would not require the use of septic tanks or alternative wastewater disposal because wastewater flows would be conveyed to the SWPCP, and there would be ***no impact***.

Impact GE-6	**Effects on Topography** **CEQA: The Reduced Development Alternative (Alternative 1) would not substantially change the topography or any unique geologic or physical features of the Project site. (Less than Significant)** **NEPA: This topic is not covered under NEPA.**

The extent of topographic alteration under Alternative 1 would be as described for the Proposed Project because the disturbance footprint would be identical. Implementation of this alternative would result in an incremental change to the previously altered site topography, which would not be substantial, and a minimal effect on unique geologic features compared to existing conditions. Therefore, this impact would be ***less than significant***.

Alternative 2 – Housing Replacement Alternative

Under Alternative 2, all existing housing units at the Project site would be demolished and rebuilt using the same building pattern that currently exists. The existing site plan and street pattern at the Project site would be retained.

Impact GE-1	**Seismic Effects** **CEQA: The Housing Replacement Alternative would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: ruptures of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides. (Less than Significant)** **NEPA: The Housing Replacement Alternative would not result in substantial risk of injury or death due to collapse of structures or damage to infrastructure because of ground failure or groundshaking, nor would it result in substantial damage to foundations or other infrastructure due to liquefaction, differential settlement, lateral spreading, expansive soils, corrosive soils, or other adverse engineering properties of soils. (Less than Significant)**

Compliance with Chapter 16 of the SFBC (*Structural Design*), which sets forth the requirements governing seismically resistant construction, and Chapter 18 (*Soils and Foundations*), which requires foundation and soils investigations, would minimize the exposure to risks from seismic activity. Structure designs would be constructed to the highest feasible seismic safety standards, consistent with the requirements of the SFBC, as deemed appropriate by the project engineer and verified by DBI. Compliance with the SFBC, which requires design-level studies and associated recommendations for building construction that are reviewed and approved by DBI during the permitting process, would mitigate potential hazards and would ensure that impacts from groundshaking would be ***less than significant*** for this alternative.

With regard to landslide hazard, replacement housing could be vulnerable to seismically induced landslide hazard. However, this is an existing condition. The Replacement Housing Alternative does not propose any actions that would alter existing topography through grading or cuts and fills such

that the likelihood or magnitude of effects would change, as would occur with the Proposed Project. As such, impacts would remain ***less than significant*** for this alternative under CEQA.

Under NEPA, Alternative 2 would have ***less than significant*** impacts related to fault rupture groundshaking, liquefaction, and landslides.

Impact GE-2	**Erosion Effects** **CEQA: The Housing Replacement Alternative would not result in substantial soil erosion or the loss of topsoil. (Less than Significant with Mitigation)** **NEPA: The Housing Replacement Alternative would not result in substantial soil erosion. (Less than Significant with Mitigation)**

Impacts associated with ground disturbance such as erosion during construction would be minimal with this alternative. Alternative 2 would be constructed on the existing building footprints. New foundations would be installed that would require some soils excavation and disturbance. Compliance with Mitigation Measures M-GE-2a through M-GE-2c, which would also apply to this alternative, would minimize potentially significant impacts on soil erosion from construction of Alternative 2 housing and related site features. Additionally, compliance with the construction best management practices identified in the Stormwater Pollution Prevention Program (refer to Section 4.17, *Hydrology and Water Quality*, for details) and outlined in the geotechnical investigation would ensure that erosion impacts would be minimized and would be consistent with adopted regulations. Under CEQA, this impact would be ***less than significant with mitigation***.

Under NEPA, after implementation of Mitigation Measures M-GE-2a through M-GE-2c, Alternative 2 would have a ***less-than-significant*** impact on soil erosion.

Impact GE-3	**Effects on Unstable Geologic Units** **CEQA: The Housing Replacement Alternative could be located on geologic unit or soil that is unstable, but it would not affect underlying soil conditions that could change these characteristics. (Less than Significant)** **NEPA: The Housing Replacement Alternative would not destabilize existing geologic conditions or accelerate adverse geologic processes. (Less than Significant)**

Replacement housing could be subject to underlying soil constraints and potential hazards from unstable slopes, as would occur with the Proposed Project and Alternative 1, but because site preparation would be minimal, it would not significantly alter the soil characteristics. New foundations would be installed that would require some soils excavation and disturbance. The replacement structures would need to be designed to account for any existing, known underlying soil conditions to ensure compliance with applicable regulations and standards. The results of

geotechnical investigations would be used to determine the appropriate structural design of building foundations and structures, as required by the SFBC. Under CEQA, impacts would be ***less than significant***.

Under NEPA, Alternative 2 would have a ***less-than-significant*** impact related to the destabilization of existing geologic conditions or accelerate adverse geologic processes.

Impact GE-4	**Effects on Expansive Soils** **CEQA: The Housing Replacement Alternative would not be susceptible to expansive soil hazards. (No Impact)** **NEPA: This topic is not covered under NEPA.**

Highly expansive colluvial soil and slope wash is present beneath the fill along Connecticut Street. Alternative 2 would involve the demolition and reconstruction of new housing in locations where housing is already present, which would not affect or be affected by expansive soils along Connecticut Street. There would be ***no impact***.

Impact GE-5	**Effects on Septic Tanks** **CEQA: The Housing Replacement Alternative would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. (No Impact)** **NEPA: This topic is not covered under NEPA.**

Alternative 2 would not require the use of septic tanks or alternative wastewater disposal because wastewater flows would be conveyed to the SWPCP, and there would be ***no impact***.

Impact GE-6	**Effects on Topography** **CEQA: The Housing Replacement Alternative would not alter topography or any unique geologic or physical features of the Project site. (Less than Significant)** **NEPA: This topic is not covered under NEPA.**

Construction of the new buildings and features under Alternative 2 would require some alteration of the existing topography and site design to accommodate new building foundations and infrastructure, although this alternative would construct replacement structures on the footprints of existing structures and slope modifications would be less than under the Proposed Project. As noted, the existing Project site contains highly modified topography and lacks unique topographic geologic features. While implementation of Alternative 2 would result in an incremental change to

the previously altered site topography, it would not be substantial and would have a minimal effect on topography and geologic features compared to existing conditions. Therefore, under CEQA, this impact would be ***less than significant***.

Alternative 3 – No Project Alternative

The existing units were constructed in two phases: the first, Potrero Terrace, was constructed in 1941; the second, Potrero Annex, was constructed in 1955. Earthwork with engineered cuts and fills was likely undertaken, along with the construction of concrete retaining walls, to create the terraced building pads and parking areas.[18]

Under this alternative, existing buildings and tenants would remain at the Project site, and no new buildings or uses would be constructed. There would be ***no impact*** related to exposure to substantial adverse seismic risks (GE-1), construction erosion (Impact GE-2), soil constraints, and slope hazards (Impacts GE-3 and GE-4), or topographic alteration (Impact GE-6). Wastewater would continue to be disposed to the SWPCP, and there would be ***no impact*** related to alternative wastewater systems (Impact GE-5) under CEQA. Under NEPA, Alternative 3 would have ***no impact*** related to construction erosion, soil constraints and slope hazards, topographic alteration, or septic tanks or alternative wastewater systems.

Cumulative Impacts

Geology and soil-related impacts are typically site specific and depend on the local geologic and soil conditions. The geographic context for the cumulative geologic and seismic impacts includes the Project area.

Impact C-GE-1	**Cumulative Geology and Soils Effects**
	CEQA: The Proposed Project and Reduced Development Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse geologic impacts. (Less than Significant)
	NEPA: The Proposed Project and Reduced Development Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts on geology and soils. (Less than Significant)

The entire Bay Area is situated within a seismically active region with a wide range of geologic and soil conditions. These conditions can vary widely within a short distance, making the cumulative context for potential impacts resulting from exposing people and structures to related risks one that

[18] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009) (see Appendix 4.16).

is more localized, or even site-specific. Potential cumulative geology and seismic effects, such as groundshaking and soil suitability, do not extend far beyond a project's boundaries, because such geological impacts are typically confined to discrete spatial locations and do not combine to create an extensive cumulative impact. Additionally, individual projects within San Francisco must comply with seismic design regulations in the SFBC and are required to conduct site-specific geotechnical investigations. Erosion control measures must also be implemented. The Proposed Project and Alternative 1 would result in ground disturbance that could increase erosion potential, alter topography, or place structures where they could be susceptible to seismic, soils, or slope hazards. However, the Project's contribution would not be cumulatively considerable, and no mitigation measures are required to mitigate a cumulative impact. Thus, the Proposed Project and Alternative 1 would not result in any significant cumulative impacts. Cumulative impacts would be ***less than significant***. For the purposes of NEPA, the Proposed Project and Alternative 1 would result in ***less-than-significant*** cumulative impacts.

Impact C-GE-2	**Cumulative Geology and Soils Effects**
	CEQA: The Housing Replacement Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse geologic impacts. (Less than Significant)
	NEPA: The Housing Replacement Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant impacts on geology and soils. (Less than Significant)

Alternative 2 would involve some soil disturbance for removal of existing foundations and infrastructure and replacement of building foundations and would not result in any ground-disturbing activities that would cause erosion or slope stability problems. Mitigation and compliance with applicable regulations would ensure that there would be no significant soil erosion during construction. The physical characteristics of underlying soils would be unaffected by this alternative. Replacement housing could be subject to strong groundshaking, and it would be required to comply with applicable SFBC requirements for construction and design. However, as described for the Proposed Project and Alternative 1, such impacts are not cumulatively considerable. Under CEQA, there would be no significant cumulative geology and soils impacts with Alternative 2. Cumulative impacts would be ***less than significant***. Similarly, under NEPA, Alternative 2 would have a ***less-than-significant*** cumulative impact.

Impact C-GE-3	**Cumulative Geology and Soils Effects**
	CEQA: The No Project Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impact related to geology and soils. (Less than Significant)
	NEPA: The No Project Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse cumulative impact related to geology and soils. (Less than Significant)

Alternative 3 would result in continued operation of existing uses at the Project site. No new buildings would be constructed and residents would continue to reside in existing structures. Alternative 3 would not result in any significant project-level geology and soils impacts because the Project would not be constructed and conditions would not change relative to existing conditions. Alternative 3 would not result in a cumulatively considerable contribution to a cumulative impact. Under CEQA, cumulative impacts would be ***less than significant***. Alternative 3 would also result in ***less than significant*** cumulative impacts under NEPA.

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5.17 HYDROLOGY AND WATER QUALITY

5.17.1 Regulatory Framework

Federal

Flood Disaster Protection Act

The Flood Disaster Protection Act prohibits federal financial assistance for buildings located in Special Flood Hazard Areas (SFHAs) within communities not participating in the National Flood Insurance Program. Section 102(a) mandates the purchase of flood insurance for buildings located in SFHA's, as a condition of approval for federal financial assistance. Flood insurance protection is mandatory for acquisition, construction, reconstruction, repair and improvement activities. Flood insurance is not required for routine maintenance or for "small loans." Formula grant allocations to states are also not subject to the mandatory, statutory flood insurance requirements.

Safe Drinking Water Act

The U.S. Environmental Protection Agency's (USEPA's) Sole Source Aquifer Program was established under Section 1424(e) of the Safe Drinking Water Act. The Sole Source Aquifer program allows for USEPA environmental review of any project that is financially assisted by federal grants or federal loan guarantees and is to be implemented in designated sole source aquifer areas. The Project site is not located in a designated sole source aquifer area.[1]

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) implements the National Flood Insurance Program and publishes Flood Insurance Rate Maps (FIRMs) identifying areas subject to inundation from flooding, most often from a flood having a one percent chance of occurrence in a given year (also known as a "base flood" or "100-year flood"). FEMA refers to the portion of the floodplain or coastal area that is at risk from floods of this magnitude as a Special Flood Hazard Areas.

Clean Water Act

The Clean Water Act (CWA) regulates discharges of pollutants into waters of the United States (not including groundwater) and waters of the State of California. It requires each state to adopt water quality standards for receiving water bodies and to have those standards approved by USEPA.

CWA Section 402 (National Pollutant Discharge Elimination System)

Section 402 of the CWA regulates discharges of pollutants to surface water. The National Pollutant Discharge Elimination System (NPDES) program requires all industrial facilities and municipalities

[1] USEPA, Region 9, Sole-Source Aquifer Information, http://www.epa.gov/region9/water/groundwater/ssa.html, (accessed December 3, 2012).

of a certain size that discharge pollutants into waters of the United States to obtain a permit. Stormwater discharges into the San Francisco Bay region are commonly controlled through general and individual NPDES permits, which are adopted by the State Water Resources Control Board (State Water Board) (general permits) or San Francisco Bay Regional Water Quality Control Board (SFRWQCB) (individual permits), and are administered by the SFRWQCB. Section 402(q) (Combined Sewer Overflows [CSOs]) addresses CSO Control Policy, and is discusses in more depth below.

CWA Section 303(d) (Total Maximum Daily Loads)

Section 303(d) of the CWA established the total maximum daily load (TMDL) process to guide the application of state water quality standards. In order to identify candidate water bodies for TMDL analysis, a list of water quality–impaired segments is generated by the State Water Board. These stream or river segments are impaired by the presence of pollutants, such as sediment, and are more sensitive to disturbance because of this impairment.

Federal Combined Sewer Overflow Control Policy

In 1994, USEPA adopted the Combined Sewer Overflow Control Policy (CSO Control Policy), which became part of the CWA in December 2000. This policy establishes a consistent national approach for controlling discharges from combined sewers to the nation's waters. Using the NPDES permit program, the permittee is required to implement the following nine minimum controls that constitute the technology-based requirements of the CWA and can reduce the frequency of CSOs and their effects on receiving water quality:

1. Conduct proper operation and regular maintenance programs for the combined sewer system and CSO outfalls;
2. Maximize the use of the collection system for storage;
3. Review and modify pretreatment programs to ensure that CSO impacts are minimized;
4. Maximize flow to the treatment plant for treatment;
5. Prohibit CSOs during dry weather;
6. Control solids and floatable materials in CSOs;
7. Develop and implement pollution prevention programs that focus on contaminant reduction activities;
8. Notify the public; and
9. Monitor to effectively characterize CSO impacts and the efficacy of CSO controls.

The City is currently implementing these controls as required by this first phase of the CSO Control Policy. This includes development of a Water Pollution Prevention Program that focuses on minimizing pollutants entering the city's combined sewer system and addresses pollutants from residential, commercial, industrial, and nonpoint pollutant sources.

During the second phase, the permittee is required to continue implementation of the nine minimum controls, properly operate and maintain the completed CSO controls in accordance with

the operational plan, and implement the post-construction monitoring program. In conformance with the CSO Control Policy, the City has developed a long-term control plan to select CSO controls to comply with water quality criteria and to protect the beneficial uses of the receiving waters. The plan uses the presumptive approach for the protection of water quality. In accordance with the CSO Control Policy, this approach must meet one of these criteria:

- An average of four CSO events per year;
- Elimination or capture no less than 85 percent by volume of the combined sewage collected in the combined sewer system during precipitation events on a system-wide average basis; or
- Removal of the mass of any contaminant causing water quality impairment that would be otherwise removed by eliminating or capturing the flow as specified above.

The CSO Control Policy requires that any CSOs that occur after implementation of the nine minimum control measures should receive a minimum of primary clarification (removal of floatables and settleable solids), solids and floatable disposal, and disinfection (if necessary to meet water quality standards and protect the beneficial uses of the receiving water). The San Francisco Wastewater Control Program exceeds the specifications of the presumptive approach because 100 percent of the combined sewer flows are captured and treated rather than the required 85 percent. As defined in the CSO Control Policy, San Francisco has no remaining untreated overflow events because the overflows that occur in San Francisco currently receive the equivalent of primary treatment within the storage/transport boxes, consisting of removal of floatables and settleable solids.

CSOs are regulated by the SFRWQCB. In accordance with the Long-Term Control Plan required under the City's NPDES Wastewater Discharge Permit, San Francisco Public Utilities Commission (SFPUC) designed its combined sewer system based on historical rainfall to achieve the long-term average goal of only one CSO event per year along the southeast sector of the city. This wet weather performance criteria (no more than one CSO per year) is a long-term average and is not used to determine compliance or non-compliance with the wastewater operations NPDES permit/WDR. This is because some years are wetter than others and may contribute more flow to the treatment system than anticipated and designed. However, the SFPUC is also required to optimize the operation of its system to minimize overflows and maximize pollutant removal. No CSO events are untreated because all discharges receive at least primary treatment in the storage and transport system.[2]

The City is currently in full compliance with the CSO Control Policy. In 1997, the City completed construction of a 20-year, $1.6 billion Wastewater Master Plan that included extensive storage,

[2] California Regional Water Quality Control Board, San Francisco Bay Region (2008), Order No. R2-2008-0007 and NPDES No. CA0037664, Waste Discharge Requirements for the City and County of San Francisco Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities and Wastewater Collection System (adopted January 30, 2008).

transport and treatment upgrades to the combined sewer system that meet approved design criteria for overall protection of beneficial uses. Operation and implementation of these facilities satisfies the CSO Control Policy, including maximizing use of the system during wet weather.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is the principal law governing water quality in California. The State Water Board and RWQCBs have permitting and enforcement authority to prevent and control waste discharges that could affect waters of the state through the issuance of NPDES permits and WDRs. The Project site is located in the San Francisco Bay Basin and subject to regulatory requirements of the SFRWQCB.

San Francisco Bay Water Quality Control Plan (Basin Plan)

San Francisco Bay waters are under the jurisdiction of the SFRWQCB, which establishes regulatory standards and objectives for water quality in the Bay in the *Water Quality Control Plan for the San Francisco Bay Basin*, commonly referred to as the Basin Plan.[3] The Basin Plan identifies existing and potential beneficial uses for surface waters and provides numerical and narrative water quality objectives designed to protect those uses. The preparation and adoption of water quality control plans is required by the California Water Code (Section 13240) and supported by the federal CWA. Because beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, the Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control. Adoption or revision of surface water standards is subject to the approval of the USEPA.

Total Maximum Daily Loads

As described above, under Section 303(d) of the CWA, states must present the USEPA with a list of "impaired water bodies," defined as those water bodies that do not meet water quality standards. The SFRWQCB has listed the Central Bay portion of the San Francisco Bay, as well as Crissy Field Beach, Islais Creek, and Mission Creek as impaired water bodies[4] and, as required by the CWA, requires the development of TMDLs to improve water quality of impaired water bodies. The first step of the TMDL process is development of a TMDL report describing the water quality problem

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[3] San Francisco Bay Regional Water Quality Control Board (RWQCB), *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), www.swrcb.ca.gov/rwqcb2/water_issues/programs/planningtmdls/basinplan/web/docs/BP_all_chapters.pdf, December 31, 2010. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[4] San Francisco Bay Regional Water Quality Control Board, 2008-2010 *CWA 303(d) List of Water Quality Segments Requiring TMDLs*, approved by the United States Environmental Protection Agency on November 12, 2010. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

addressed, detailing the pollutant sources, and outlining the solutions. An implementation plan, included in the TMDL report, describes how and when pollution prevention, control, or restoration activities will be accomplished and who will be responsible for these actions. The final step of the TMDL process is adopting and amending the Basin Plan to legally establish the TMDL and to specify regulatory requirements for compliance. As part of a Basin Plan amendment, waste load allocations are specified for entities that have permitted discharges.

TMDLs for polychlorinated biphenyls (PCBs) and mercury in San Francisco Bay have been approved by the USEPA and officially incorporated into the Basin Plan. The SFRWQCB also adopted the San Francisco Bay Watershed Permit (Order No. R2-2007-0077) addressing mercury discharges from municipal and industrial wastewater dischargers.[5] In accordance with this permit, the mercury allocation for the Southeast Water Pollution Control Plant (SWPCP) is 2.1 kilograms per year by 2017 and 1.6 kilograms per year by 2027, reduced from an estimated annual load of 2.7 kilograms per year in 2003. The permit also establishes an allocation of 0.3 kilograms per year of PCBs for the SWPCP.

NPDES Waste Discharge Regulations

As discussed above, Federal Regulations, Section 402 of the federal CWA establishes the NPDES program to protect water quality of receiving waters. The NPDES program requires all facilities that discharge pollutants into waters of the United States to obtain a permit. The permit provides two levels of control: technology-based limits and water-quality-based limits to control discharge of pollutants for the protection of water quality. Technology-based limits are based on the ability of dischargers in the same category to treat wastewater, while water quality-based limits are required if technology-based limits are not sufficient to provide protection of the water body. Water quality-based effluent limitations required to meet water quality criteria in the receiving water are based on criteria specified in the National Toxics Rule, the California Toxics Rule, and the Basin Plan. NPDES permits must also incorporate TMDL wasteload allocations when they are developed.

The regulations initially focused on municipal and industrial wastewater discharges in 1972, followed by stormwater discharge regulations, which became effective in November 1990. NPDES permits for wastewater and industrial discharges specify discharge prohibitions and effluent limitations and also include other provisions (such as monitoring and reporting programs) deemed necessary to protect water quality. In California, the State Water Board and the RWQCBs implement and enforce the NPDES program.

[5] Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Mercury Watershed Permit, Municipal and Industrial Wastewater Dischargers, Order No. R2-2007-0077,* adopted November 1, 2007. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case No. 2010.0515E.

Permit (Construction General Stormwater Permit) (State Water Board Order No. 2009-09-DWQ)

The State Water Board permits all regulated construction activities under NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Order No. 2009-0009-DWQ, NPDES No. CAR000002), adopted September 2, 2009. Construction activities subject to the NPDES Construction General Permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least one acre of total land area.

Prior to beginning any construction activities, the permit applicant must obtain coverage under the General Construction Permit by preparing and submitting a Notice of Intent (NOI) and appropriate fee to the State Water Board. Additionally, coverage does not occur until an adequate Stormwater Pollution Prevention Plan (SWPPP) has been prepared.

Regional and Local

San Francisco Public Utilities Commission's Stormwater Management Ordinance

On May 22, 2010, the SFPUC enacted the Stormwater Management Ordinance to improve San Francisco's environment by reducing stormwater runoff and runoff pollution in areas of new development and redevelopment through compliance with the *Stormwater Design Guidelines*. The *Stormwater Design Guidelines* detail the engineering, planning, and regulatory framework for designing new infrastructure in a manner that reduces or eliminates pollutants commonly found in urban runoff.[6] Compliance with the SFPUC's Stormwater Management Ordinance requires all developments or redevelopments disturbing 5,000 square feet or more of ground surface to:[7]

- Capture and treat the rainfall from a design storm of 0.75 inch using acceptable best management practices (BMPs)
- Complete a Stormwater Control Plan (SCP) demonstrating how the project will capture and treat rainfall from the 0.75-inch design storm

In combined sewer areas under SFPUC jurisdiction, applicants must reduce the flow rate and volume of stormwater going into the combined system by achieving Leadership in Energy and Environmental Design (LEED) Sustainable Sites (SS) Credit 6.1, "Stormwater Design: Quantity Control." LEED SS Credit 6.1 states that for sites where the existing imperviousness is greater than 50 percent, the project must "implement a stormwater management plan that results in a 25 percent decrease in the volume of stormwater runoff from the two-year 24-hour design storm."[8] The intent

[6] San Francisco Public Utilities Commission. 2009. *San Francisco Stormwater Design Guidelines*. Available: <http://sfwater.org/mto_main.cfm/MC_ID/14/MSC_ID/361/MTO_ID/543>. Accessed: March 28, 2011. Page 1.

[7] SFPUC. 2009. *San Francisco Stormwater Design Guidelines.* Available: <http://www.sfwater.org/modules/showdocument.aspx?documentid=2779>. Accessed: May 22, 2014.

[8] U.S. Green Building Council. 2009. *LEED Reference Guide for Green Building Design and Construction*. Page 91.

of LEED SS Credit 6.1 is to limit disruption of natural water hydrology by reducing impervious cover, increasing on-site infiltration, reducing or eliminating pollution from stormwater runoff.[9]

The *Stormwater Design Guidelines* encourage the use of low impact design strategies (LID) to comply with stormwater management requirements. LID applies decentralized site strategies to manage the quantity and quality of stormwater runoff and includes BMPs such as cisterns, green roofs, bioretention basins and planters, permeable pavement, and infiltration trenches.

The SCP must include an operations and maintenance plan that identifies responsible parties, funding sources, maintenance activities, and schedules for all BMPs. SFPUC staff members are currently developing additional guidance for achieving LEED SS Credit 6.1 in combined sewer areas.

San Francisco Public Works Code

In compliance with the NPDES Municipal Permit, Article 4.1 (Section 123) of the San Francisco Public Works Code, the City requires that all dischargers comply with all federal and state orders issued to the City, including all of the City's NPDES permits. The Public Works Code also prohibits the discharge of hazardous waste (including stormwater runoff) and other pollutants that would violate the City's federal and state discharge permits. Specific provisions of Article 4.1 that apply to construction activities are described below.

Construction Requirements for Areas Served by the Combined Sewer System

For construction sites served by the combined sewer system, the City requires the project applicant to develop and implement a SWPPP, which includes an erosion and sediment control plan, and to comply with the City's Construction Site Water Pollution Prevention Program, to reduce the impacts of construction site runoff. The SWPPP must be submitted to SFPUC before construction begins. SFPUC conducts periodic inspections to ensure compliance with the SWPPP. Article 4.1 of the San Francisco Public Works Code also regulates the quantity and quality of wastewater discharges (such as dewatering from construction sites) to the combined sewer system.

Dewatering Discharges to the Combined Sewer System

Under Article 4.1 of the San Francisco Public Works Code, discharges to the combined sewer system from temporary dewatering of construction sites are regulated by the Batch Wastewater Discharge Permit issued by SFPUC. As such, the project applicant must obtain a Batch Wastewater Discharge Permit from the SFPUC before the beginning of groundwater dewatering to the combined sewer system. Specific permit terms and conditions are imposed by SFPUC to maintain SFPUC's compliance with its own Wastewater Discharge Permit issued by the SFRWQCB. Under the Batch

[9] U.S. Green Building Council, Green Building Design and Construction. 2009. *LEED Reference Guide for Green Building Design and Construction, For the Design, Construction and Major Renovation of Commercial and Institutional Buildings Including Core and Shell and K-12 School Projects*. Page 91.

Wastewater Discharge Permit, the discharge must meet specific numeric effluent limitations for toxic and conventional pollutants, and monitoring is required to ensure compliance.

5.17.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. The following impact analysis utilizes criteria to evaluate whether implementation of the Proposed Project or alternatives would result in significant, adverse effects. For hydrology and water quality, the analysis considers whether the Proposed Project or alternatives would:

- Violate any water quality standards or waste discharge requirements
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on or off site
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, a special flood hazard area, or locate a critical action within a 500-year floodplain or coastal high hazard area
- Place within a 100-year flood hazard area, special flood hazard area, 500-year floodplain, or coastal high hazard area, structures that would impede or redirect flood flows
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam
- Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow

Context and Intensity Evaluation Guidelines under NEPA

These thresholds encompass the factors taken into account under NEPA to determine the significance of an action in terms of the context and intensity of its effects. For hydrology and water quality, the analysis considers whether the Proposed Project or alternatives would:

- Result in depletion or degradation of surface water quality (such as through violation of existing or proposed water quality standards);
- Result in depletion of groundwater volume or degradation of groundwater quality;
- Modify drainage patterns, resulting in on-site or off-site impacts; or
- Locate occupied structures where there are potential risks associated with flooding.

Approach to Analysis

The analysis presented in this section relies on site-specific project information, including a geotechnical investigation (see Appendix 4.16). In addition, various guidance documents from the City of San Francisco and regulatory agencies were used to evaluate whether impacts would be significant. Where appropriate, specific regulations are applied to the analysis to illustrate how compliance would reduce the potential for physical environmental impacts.

Impact Evaluation

Proposed Project

Impact HY-1	**Effects on Water Quality Standards** **CEQA: The Proposed Project would not violate any water quality standards or waste discharge requirements. (Less than Significant)** **NEPA: The Proposed Project would not result in depletion or degradation of surface water quality (such as through violation of existing or proposed water quality standards). (Less than Significant)**

Construction

Construction of the Proposed Project would include demolition of buildings and infrastructure, excavation, grading, trenching for new utilities infrastructure, soil compaction of development areas for foundation construction, and movement of fill materials. Construction would occur over a 10-year period. During construction periods that involve earthmoving, erosion could occur if proper BMPs are not implemented. As described in *Regulatory Context* above, a General Construction Permit is required for one or more acre of land disturbance. The General Construction Permit requires the project applicant to develop and implement a SWPPP, which includes an erosion and sediment control plan to reduce the impacts of construction-site runoff. The SWPPP must be submitted to the State Water Board to obtain the General Construction Permit, and to SFPUC to be in compliance with the City's Construction Site Water Pollution Prevention Program, before

construction begins. SFPUC conducts periodic inspections to ensure compliance with the SWPPP. Article 4.1 of the San Francisco Public Works Code also regulates the quantity and quality of wastewater discharges (such as dewatering from construction sites) to the combined sewer system. Because runoff from construction sites must be managed in accordance with a SWPPP, which would be within the City's authority to monitor and enforce, pollutants in construction-generated stormwater would be controlled to the extent required by regulation, thus ensuring Basin Plan water quality objectives would not be violated.

Although the geotechnical investigation did not encounter groundwater in either exploratory borings or test pits up to 16.5 feet deep, in the event that dewatering were necessary during excavations for foundations and other subgrade features (the depth of which would be determined during design-level engineering), such activities would be regulated by the Batch Wastewater Discharge Permit issued by the SFPUC. The anticipated depth of excavation is 42.5 feet, although excavation may be deeper, depending on the locations of subdrains and other utilities. Excavation at this depth will likely require groundwater dewatering.

Operation

As discussed in Chapter 2, *Project Alternatives and Project Description*, the Proposed Project would include measures to reduce stormwater flows and amounts to ensure compliance with the City's Stormwater Management Ordinance (see Impact HY-4, below, for additional information). Compliance with all applicable federal, state, and local water quality standards and discharge permits would be required as a condition of Project approval.

Therefore, under CEQA, the Proposed Project would not violate any water quality standards or discharge requirements, and impacts would be ***less than significant***.

Under NEPA, the Proposed Project would have a ***less-than-significant*** impact on water quality standards and discharge requirements.

Impact HY-2	**Effects on Groundwater**
	CEQA: The Proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Less than Significant)
	NEPA: The Proposed Project would not result in depletion of groundwater volume or degradation of groundwater quality. (Less than Significant)

Local groundwater is not currently used at the site and is not proposed as a water supply source for the Project site. Existing SFPUC supplies would be used to meet Project water demand (see Impact HY-4). Further, groundwater would not be used for any construction activities such as dust control or irrigation of vegetated erosion-control features. The Project site is not within a USEPA-

designated soil source aquifer zone and, therefore would not result in depletion of a sole source aquifer.

The anticipated depth of excavation is 42.5 feet, although excavation may be deeper, depending on the locations of subdrains and other utilities. Excavation at this depth will likely require groundwater dewatering. If construction dewatering is required during excavation, it would be temporary and limited in volume. Additionally, as described in the above Regulatory Context, any groundwater encountered during Project construction would be subject to the Batch Wastewater Discharge Permit issued by the SFPUC before the beginning of dewatering to the combined sewer system.

The existing Project site is highly developed and as a result, most of the site is characterized by impervious surfaces including rooftops, sidewalks, parking lots, and streets. The Proposed Project would result in a 19 percent increase in impervious surface area.[10] However, as discussed in Chapter 2, *Project Alternatives and Project Description*, and in the Stormwater Management Ordinance, above, the Proposed Project would implement stormwater management strategies, including but not limited to permeable streets, stormwater cisterns, rain gardens, and vegetated swales. These stormwater management features are engineered to promote higher rates of groundwater infiltration than existing open space between buildings. In accordance with the Stormwater Design Guidelines, for sites with existing imperviousness of greater than 50 percent, stormwater runoff rate and volume shall be decreased by 25 percent from the predevelopment conditions for a two-year 24-hour design storm. Existing percentage of impervious surface area at the Project site is 53.2 percent and therefore site stormwater management design would be subject to this requirement. With the incorporation of these stormwater management strategies and LID approach, the Proposed Project would maintain or increase the amount of groundwater recharge at the Project site over existing conditions. Therefore, under CEQA, groundwater resources and recharge would not be substantially degraded or depleted and the Proposed Project would have a ***less-than-significant*** impact on groundwater.

Under NEPA, the Proposed Project would have a ***less-than-significant*** impact on groundwater resources.

[10] Pre-Project Conditions: 20.1 acres of impervious surfaces and 17.7 acres of pervious surfaces (53.2 percent impervious). Post-Project Conditions: 27.42 acres of impervious surfaces and 10.38 acres of pervious surfaces (72.5 percent impervious).

Impact HY-3	**Effects on Drainage**
	CEQA: The Proposed Project would not substantially alter the existing drainage pattern of the Project site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation onsite or offsite. (Less than Significant)
	NEPA: The Proposed Project would modify drainage patterns, but not in a manner that would result in on-site or off-site impacts. (Less than Significant)

There are no streams or rivers on the Project site or in the surrounding area. Therefore, the Project would not alter surface water flows in a manner that would cause siltation or erosion.

However, construction of the Proposed Project would include excavation, grading, trenching for new utilities infrastructure, soil compaction for foundation construction, and movement of fill materials. All of these activities have the potential to expose soil to effects of water or wind erosion and siltation. Sediment carried in stormwater runoff from the Project site could be conveyed to the combined sewer system, which ultimately discharges to San Francisco Bay, and could increase sediment loads in the Bay.

As explained in Impact HY-1, the project applicant would be required to develop and implement a SWPPP, which includes an erosion and sediment control plan, and to comply with the City's Construction Site Water Pollution Prevention Program, to reduce the impacts of construction site runoff. The erosion and sediment control plan would include BMPs such as the protection of all storm drain and catch basin inlets, daily site cleanings, and the use of tarps to cover stockpiles of dirt and gravel kept on site. Following construction, when the site has been redeveloped with new urban uses, there would be little or no soil exposed to wind or water erosion.

Compliance with the City's Construction Site Water Pollution Prevention Program and implementation of a SWPPP would be required as a condition of Project approval. This would reduce potential impacts associated with construction-generated erosion and sedimentation to a ***less-than-significant*** level under CEQA

Similarly, under NEPA, the Proposed Project would have a ***less-than-significant*** impact on erosion and siltation on- or off-site.

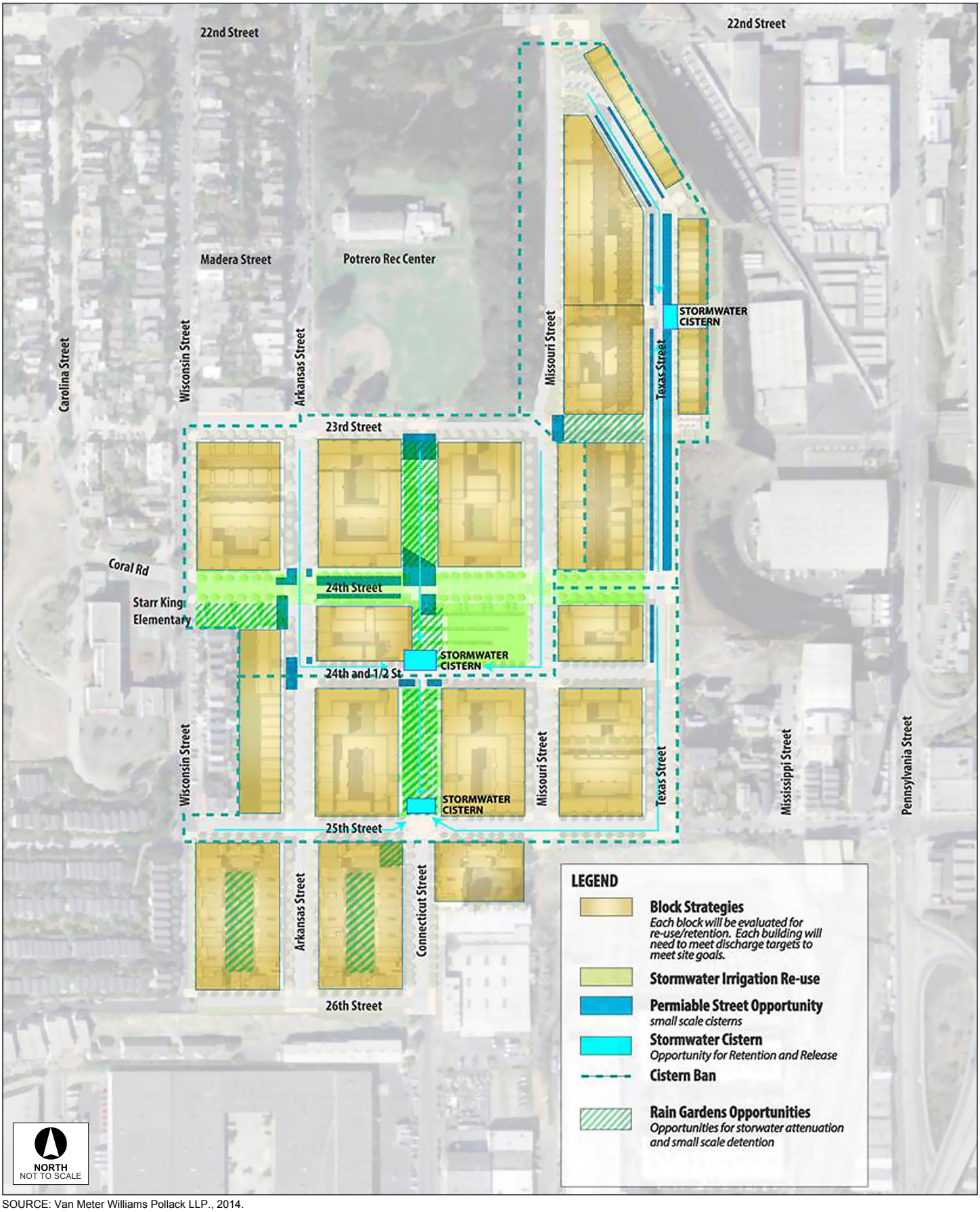
Impact HY-4	**Effects on Stormwater Capacity**
	CEQA: The Proposed Project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality. (Less than Significant)
	NEPA: This topic is not covered under NEPA.

As described under Impact HY-2, the Project site is mostly covered by existing buildings, roadways, and parking lots. All of the stormwater runoff from impervious surfaces at the Project site drains into the local combined sewer system. The Proposed Project would redevelop the site, resulting in changes in drainage and runoff patterns from new or modified surfaces that would generate stormwater runoff.

According to the SFPUC's Stormwater Management Ordinance, if the project disturbs greater than 5,000 square feet of land due to the demolition of housing and roads, the City is required to implement BMPs (i.e., LID measures) to capture and treat rainfall. These measures will help improve drainage patterns within and around the Project site. As identified in Chapter 2, *Project Alternatives and Project Description*, and in Figure 5.17-1, the Proposed Project may include the following stormwater management strategies: These strategies are outlined in the *Design Standards and Guidelines* (Design Guidelines) document prepared for the Proposed Project.

- **Block Strategies**—Each block would be evaluated to determine whether implementation of water re-use and retention strategies are applicable and each building would need to meet discharge targets to meet site goals
- **Stormwater Irrigation Re-Use**—Opportunity for re-use of stormwater to irrigate along the 24th and Connecticut Streets
- **Permeable Street Opportunity**—Small-scale cisterns
- **Stormwater Cisterns**—Opportunity for retention and release
- **Rain Gardens and Vegetated Swales Opportunities**—Opportunities for stormwater attenuation and small-scale detention

The Project would implement and install appropriate stormwater management systems that retain runoff on site, promote stormwater reuse, and limit discharges before entering the combined sewer collection system. In addition, as discussed in Chapter 2, *Project Alternatives and Project Description*, the Proposed Project would incorporate stormwater management strategies, such as rain gardens and stormwater cisterns. Implementation of these features would result in a 25 percent decrease in stormwater runoff from the two-year 24 hour design storm over existing conditions. This on-site stormwater drain system would temporarily store runoff before discharge to the combined sewer system. Figure 5.17-1 illustrates the proposed locations of the storm drain system. Through the development of the stormwater management system, the Proposed Project would not create or contribute runoff water that would exceed the capacity of the existing combined sewer system.



SOURCE: Van Meter Williams Pollack LLP., 2014.

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FIGURE 5.17-1: PRELIMINARY STORMWATER MANAGEMENT FEATURES

Additional information about storm system infrastructure is presented in Impact UT-2 in Section 5.13, *Utilities and Service Systems*.

Additionally, the stormwater reduction requirements described above would also limit the amount of polluted effluent discharged to the city's combined sewer system, thereby ensuring that the Proposed Project does not degrade water quality. The incorporation of the stormwater management strategies described in Chapter 2, *Project Alternatives and Project Description*, and the factors described above would reduce impacts associated with the quantity and quality of runoff from the Project site to a ***less-than-significant*** level.

Impact HY-5	**Flooding Effects on Occupied Structures** **CEQA: The Proposed Project would not place any buildings or structures within a designated 100-year flood hazard area, a special flood hazard area, or locate a critical action within a 500-year floodplain or coastal high hazard area. (No Impact)** **NEPA: The Proposed Project would not locate occupied structures where there are potential risks associated with flooding. (No Impact)**

The Project site is not within a 100-year flood hazard area, a special flood hazard area, a 500-year floodplain, or coastal high hazard area.[11] Therefore, under CEQA, implementation of the Proposed Project would not place housing in a flood zone; therefore, ***no impact*** would occur. The Proposed Project would result in ***no impact*** under NEPA because it would not locate occupied structures where there are potential risks associated with flooding.

Impact HY-6	**Effects from Seiche, Tsunami, Mudflow, Levee or Dam Failure** **CEQA: The Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow, or flooding as a result of the failure of a levee or dam. (No Impact)** **NEPA: This topic is not covered under NEPA.**

As discussed in Section 4.17, *Hydrology and Water Quality*, the Project site is not susceptible to seiche or tsunami due to its inland location (approximately 1 mile from the San Francisco Bay) and elevation of approximately 40 to 265 feet above mean sea level. The Project site is not within a dam failure inundation area, and there are no levees near the Project site.[12] Mudflows typically occur on steep slopes where vegetation is not sufficient to prevent rapid erosion; most commonly in arid and

[11] Federal Emergency Management Agency, Preliminary Flood Insurance Rate Maps (September 2007), http://sfgsa.org/Modules/ShowImage.aspx?imageid=2672 (accessed December 5, 2012).

[12] Association of Bay Area Governments, Flooding Maps and Information (as of August 2011), http://www.abag.ca.gov/floods. Dam Failure Inundation Hazard Map for San Francisco.

semiarid regions. The Project site is located on the south slope of Potrero Hill, downslope from the Potrero Hill Recreation Center. The south slope of Potrero Hill is landscaped, vegetated, or developed. Therefore, mudflow would not pose a risk to the site because the physical conditions required for a mudflow are not present. Therefore, under CEQA, ***no impact*** would occur.

Alternative 1 – Reduced Development Alternative

Impact HY-1	**Effects on Water Quality Standards** **CEQA: The Reduced Development Alternative would not violate any water quality standards or waste discharge requirements. (Less than Significant)** **NEPA: The Reduced Development Alternative would not result in depletion or degradation of surface water quality (such as through violation of existing or proposed water quality standards). (Less than Significant)**

Construction

Construction of Alternative 1 would be substantially similar to construction under the Proposed Project. As under the Proposed Project, the project applicant would be required to develop and implement a SWPPP, which includes an erosion and sediment control plan, and to comply with the City's Construction Site Water Pollution Prevention Program, to reduce the impacts of construction site runoff.

As with the Proposed Project, if dewatering were necessary during construction, such activities would be regulated by the Batch Wastewater Discharge Permit issued by the SFPUC. Alternative 1 would also be subject to Article 4.1 of the San Francisco Public Works Code, as explained above under the Proposed Project.

Operation

As under the Proposed Project, Alternative 1 would include features to reduce stormwater flows and amounts to ensure compliance with the City's Stormwater Management Ordinance (see Impact HY-4 under Proposed Project for additional information). Compliance with all applicable federal, state, and local water quality standards and discharge permits would be required as a condition of Project approval.

Therefore, under CEQA, Alternative 1 would not violate any water quality standards or discharge requirements, and impacts would be ***less than significant***.

Under NEPA, Alternative 1 would have a ***less-than-significant*** impact on water quality standards and discharge requirements.

Impact HY-2	**Effects on Groundwater** **CEQA: The Reduced Development Alternative would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Less than Significant)** **NEPA: The Reduced Development Alternative would not result in depletion of groundwater volume or degradation of groundwater quality. (Less than Significant)**

As discussed in Impact- HY-2 for the Proposed Project, groundwater is not currently used at the Project site and would not be used for construction. Refer to Impact HY-2, Proposed Project, for discussion of the existing setting and dewatering.

Similar to the Proposed Project, Alternative 1 would be required to include stormwater management strategies. Thus, similar to the Proposed Project, groundwater recharge would not be substantially obstructed or otherwise adversely affected. Alternative 1 would have a ***less-than-significant*** impact on groundwater.

Under NEPA, Alternative 1 would have a ***less-than-significant*** impact on groundwater resources.

Impact HY-3	**Effects on Drainage** **CEQA: The Reduced Development Alternative would not substantially alter the existing drainage pattern of the Project site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation onsite or offsite. (Less than Significant)** **NEPA: The Reduced Development Alternative would modify drainage patterns, but not in a manner that would result in on-site or off-site impacts. (Less than Significant)**

Refer to HY-3, Proposed Project, above, for the discussion of the impact on surface water flows from siltation or erosion.

Construction of Alternative 1 would be similar to the Proposed Project and compliance with the City's Construction Site Water Pollution Prevention Program and implementation of a SWPPP would be required as conditions of Project approval. Therefore, impacts would be ***less than significant*** under CEQA.

Under NEPA, Alternative 1 would have a ***less than significant*** impact on erosion and siltation on- or off-site.

Impact HY-4	**Effects on Stormwater Capacity**
	CEQA: The Reduced Development Alternative would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality. (Less than Significant)
	NEPA: This topic is not separately covered under NEPA.

Similarly to the Proposed Project, Alternative 1 would be required to comply with the City's Stormwater Management Ordinance resulting in a 25 percent reduction in stormwater runoff. To achieve this, Alternative 1 would stormwater management strategies that are substantially similar to the Proposed Project and impacts associated with stormwater runoff would be ***less than significant***.

Impact HY-5	**Flooding Effects on Occupied Structures**
	CEQA: The Reduced Development Alternative would not place any buildings or structures within a designated 100-year flood hazard area, a special flood hazard area, or locate a critical action within a 500-year floodplain or coastal high hazard area. (No Impact)
	NEPA: The Reduced Development Alternative would not locate occupied structures where there are potential risks associated with flooding. (No Impact)

Alternative 1 would have impacts similar to those of the Proposed Project. Refer to Impact HY-5, Proposed Project, for the analysis discussion.

Impact HY-6	**Effects from Seiche, Tsunami, Mudflow, Levee or Dam Failure**
	CEQA: The Reduced Development Alternative would not expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow, or flooding as a result of the failure of a levee or dam. (No Impact)
	NEPA: This topic is not covered under NEPA.

Alternative 1 would have s impacts similar to those of the Proposed Project. Refer to the Impact HY-6, Proposed Project, for the analysis discussion.

Alternative 2 – Housing Replacement Alternative

Impact HY-1	**Effects on Water Quality Standards** **CEQA: The Housing Replacement Alternative would not violate any water quality standards or waste discharge requirements. (No Impact)** **NEPA: The Housing Replacement Alternative would not result in depletion or degradation of surface water quality (such as through violation of existing or proposed water quality standards). (No Impact)**

This alternative would be limited to demolition of existing structures and construction of new housing. Little or no ground disturbance would occur, and there would be no discharges of surface water, storm water, or groundwater to the combined sewer system. As a result, under CEQA, there would be ***no impact***. Under NEPA, Alternative 2 would have a ***no impact*** on water quality standards and discharge requirements.

Impact HY-2	**Effects on Groundwater** **CEQA: The Housing Replacement Alternative would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (No Impact)** **NEPA: The Housing Replacement Alternative would not result in depletion of groundwater volume or degradation of groundwater quality. (No Impact)**

Local groundwater is not currently used at the site and is not proposed as a water supply source for this alternative. Existing SFPUC supplies would be used to meet replacement housing water demand (see Impact HY-4, under Proposed Project). No groundwater dewatering would be necessary, and there would be no change in recharge potential because there would be no change in impervious surfaces. Therefore, under CEQA, there would be ***no impact***. Alternative 2 would have ***no impact*** on groundwater resources under NEPA.

Impact HY-3	**Effects on Drainage** **CEQA: The Housing Replacement Alternative would not substantially alter the existing drainage pattern of the Project site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on or off site. (No Impact)** **NEPA: The Housing Replacement Alternative would modify drainage patterns, but not in a manner that would result in on-site or off-site impacts. (No Impact)**

There are no streams or rivers on the Project site or in the surrounding area. This alternative is limited to demolition of existing structures and construction of new housing. Therefore, Alternative

2 would not alter surface water flows in a manner that would cause siltation or erosion, nor would it involve construction on exposed soils that could be a source of silt or sediment in stormwater runoff discharged to the combined sewer system. Therefore, under CEQA, there would be ***no impact***. Under NEPA, Alternative 2 would have a ***no impact*** on erosion and siltation on- or off-site.

Impact HY-4	**Effects on Stormwater Capacity** **CEQA: The Housing Replacement Alternative would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality. (No Impact)** **NEPA: This topic is not covered under NEPA.**

The Project site is mostly covered by existing buildings, roadways, and parking lots. All of the stormwater runoff from impervious surfaces at the Project site drains into the local combined sewer system. Alternative 2 would involve demolition of existing structures and construction of new housing. This would not alter stormwater runoff patterns or generate stormwater runoff compared to existing conditions. Therefore, there would be ***no impact*** on storm drainage system capacity or pollutant loads.

Impact HY-5	**Flooding Effects on Occupied Structures** **CEQA: The Housing Replacement Alternative would not place any buildings or structures within a designated 100-year flood hazard area, a special flood hazard area, or locate a critical action within a 500-year floodplain or coastal high hazard area. (No Impact)** **NEPA: The Housing Replacement Alternative would not locate occupied structures where there are potential risks associated with flooding. (No Impact)**

Alternative 2 would have impacts similar to those of the Proposed Project. Refer to Impact HY-5, Proposed Project, for the analysis discussion.

Impact HY-6	**Effects from Seiche, Tsunami, Mudflow, Levee or Dam Failure** **CEQA: The Housing Replacement Alternative (Alternative 2) would not expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow, or flooding as a result of the failure of a levee or dam. (No Impact)** **NEPA: This topic is not covered under NEPA.**

Alternative 2 would have impacts similar to those of the Proposed Project. Refer to Impact HY-6, Proposed Project, for the analysis discussion.

Alternative 3 – No Project Alternative

Under Alternative 3, there would be no new development or changes to site drainage. Under existing conditions there are no issues related to hydrology or water quality at the Project site or downstream of the Project site. Therefore, under CEQA and NEPA, continuing to use the Project site as currently designed would result in ***no impact*** related to stormwater flows, surface water quality, groundwater quantity and quality, changes in drainage patterns, or flood hazards.

Cumulative Impacts

The cumulative context for impacts associated with hydrology and water quality is based on the local watersheds. Therefore, all projects located within a watershed could contribute to a cumulative impact.

Impact C-HY-1	**Cumulative Hydrology and Water Quality Effects** **CEQA: The Proposed Project and Reduced Development Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to hydrology and water quality. (Less than Significant)** **NEPA: The Proposed Project and Reduced Development Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant impacts to hydrology or water quality. (Less than Significant)**

Drainage Patterns

No natural surface water bodies or streams remain in the local watersheds, with the exception of the San Francisco Bay. No cumulative impacts from development within the watersheds are anticipated because the San Francisco Bay is not directly hydrologically connected to the watersheds, and most runoff passes through a stormwater collection system. Therefore, neither the Proposed Project nor Reduced Development Alterative would contribute to potentially significant cumulative impacts.

Stormwater Runoff

Cumulative development has the potential to generate additional pollutant loading in stormwater runoff during construction and occupancy of those projects. For locations discharging to the combined sewer system, development must implement the City's Construction Site Water Pollution Prevention Program and provisions of the Stormwater Management Ordinance to ensure stormwater runoff does not create or contribute runoff water that would exceed the capacity of the existing stormwater drainage system. In addition, those projects would be required to adhere to Stormwater Design Guidelines, which detail the engineering, planning, and regulatory framework for designing new infrastructure in a manner that reduces or eliminates pollutants commonly found in urban runoff. The Proposed Project and Reduced Development Alternative would be similarly conditioned to comply with those requirements, and, therefore, would not contribute considerably

to cumulative stormwater impacts. All development within the watersheds would be conditioned to comply with these requirements. Therefore, no cumulative stormwater impacts are anticipated.

Because the Proposed Project and Reduced Development Alternative would not result in any significant drainage or runoff-related effects and, therefore, would not combine with other projects to create a cumulative impact. Under CEQA, cumulative impacts would be less than significant. Similarly, under NEPA, cumulative impacts would be less than significant

Impact C-HY-2	**Cumulative Hydrology and Water Quality Effects** **CEQA: The Housing Replacement Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to hydrology and water quality. (Less than Significant)** **NEPA: The Housing Replacement Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant impacts to hydrology or water quality. (Less than Significant)**

Alternative 2 consists of demolition and construction of new housing only. This would not result in any changes in stormwater flows or drainage patterns that could affect combined sewer system capacity or contribute pollutants to runoff entering the combined sewer system that would combine with development elsewhere in the area served by the combined sewer system. There would be no hydrology and water quality-related effects as a result of this alternative; therefore, there would be no cumulative impact. Cumulative impacts under CEQA would be ***less than significant***. Similarly, under NEPA, cumulative impacts would be ***less than significant***.

Impact C-HY-3	**Cumulative Hydrology and Water Quality Effects** **CEQA: The No Project Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to hydrology and water quality. (Less than Significant)** **NEPA: The No Project Alternative, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant impacts to hydrology or water quality. (Less than Significant)**

Under Alternative 3, there would be no new development or changes to site drainage and, therefore, this alternative would not contribute to any cumulative impacts related to stormwater flows, surface water quality, groundwater quantity and quality, changes in drainage patterns, or flood hazards. Therefore, under CEQA, cumulative impacts would be ***less than significant***. Similarly, under NEPA, cumulative impacts would be ***less than significant***.

5.18 HAZARDS AND HAZARDOUS MATERIALS

5.18.1 Regulatory Framework

Federal

U.S. Department of Housing and Urban Development Environmental Requirements

U.S. Department of Housing and Urban Development (HUD) *Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities* (24 Code of Federal Regulations [CFR], Part 58.5(i)(2)(i) state that all sites "… being proposed for use in HUD programs must be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property." Under this regulation, the environmental review of multifamily housing units must include the evaluation of previous uses of the site or other evidence of contamination on or near the site, in order to ensure that the occupants of the proposed site are not adversely affected by any of the aforementioned hazards.

HUD Environmental Standards also specify that particular attention should be given to any proposed site on or in the general proximity of such areas as dumps, landfills, industrial sites, or other locations that contain, or may have contained, hazardous wastes (24 CFR 58.5(i)(2)(iii). The project applicant is required to use current techniques by qualified professionals to conduct further investigations as necessary. The potential for occupants of the Proposed Project and alternatives to be exposed to contaminants or other hazards is included within the impact analysis.

There are no federal regulations that require public housing agencies to investigate asbestos hazards, but HUD directs that projects that would involve demolition of structures or construction activities that have the potential to release asbestos (e.g., building materials containing asbestos) must adhere to the federal Clean Air Act (42 U.S.C. Section 7401 et seq.). Section 112 of the Clean Air Act established National Emission Standards for Hazardous Air Pollutants (NESHAP), and federal regulations implementing those standards are contained in 40 CFR Part 61, Subpart M. The Bay Area Air Quality Management District (BAAQMD) is responsible for compliance with NESHAP (see below). The project applicant is required to use current techniques by qualified professionals to conduct further investigations and remediate asbestos hazards as necessary. The potential for occupants of the Proposed Project and alternatives to be exposed to asbestos hazards is included within the impact analysis.

HUD also is responsible for complying with federal laws pertaining to lead-based paint (LBP) (Residential Lead-Based Paint Hazard Reduction Act [42 U.S.C. Sections 3535(d), 4821, and 4851]). Regulations implementing this law are set forth in 24 CFR Part 35, Subparts B through R, which

address testing and hazard removal in residential housing. The project applicant is required to use current techniques by qualified professionals to conduct further investigations and remediate LBP hazards as necessary. The potential for occupants of the Proposed Project and alternatives to be exposed to LBP hazards is included within the impact analysis.

HUD regulations require calculation of an acceptable separation distance (ASD) for HUD-funded projects in the vicinity of specific, stationary, hazardous operations that store, handle, or process hazardous substances (24 CFR 51(c)). Application of ASD can be modified or eliminated if barrier is constructed surrounding the hazard, on the Project site, or between the potential hazard and the Project site.

Resource Conservation and Recovery Act

The federal Resource Conservation and Recovery Act (RCRA [42 U.S.C. Sections 6901 et seq.]) regulates handling and tracking of hazardous waste from generation to disposal. Under RCRA, hazardous waste generators must comply with regulations concerning record keeping and reporting, waste storage, proper treatment and disposal, and the use of a manifest system.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA [15 U.S.C. Sections 2601 et seq.]) regulates the use and management of polychlorinated biphenyls (PCBs) in electrical equipment and sets forth detailed safeguards to be followed during the disposal of such items (40 CFR Section 761). In addition, the U.S. Environmental Protection Agency (USEPA) monitors and regulates hazardous materials used in structural and building components and their effects on human health.

State

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

In January 1996, the California Environmental Protection Agency (Cal/EPA) adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program [California Code of Regulations (CCR) Title 27, Division 1]). The program implements six elements: Hazardous Materials Release Response Plans and Inventories; California Accidental Release Prevention Program; Underground Storage Tank Program; Aboveground Petroleum Storage Act Program; Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs; and California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements. The program is implemented at the local level. The Certified Unified Program Agency (CUPA) is the local agency that is responsible for the implementation of the Unified Program.[1] The San Francisco Department

[1] California Environmental Protection Agency, Unified Program home page, http://www.calepa.ca.gov/CUPA/ (accessed March 16, 2011).

of Public Health (SFDPH) is the designated CUPA for all businesses operating in the City of San Francisco.

Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) oversees the cleanup of sites where hazardous substances have been released pursuant to the California Health and Safety Code, Division 20, Chapter 6.8. If remediation activities are required at the Project site, the Proposed Project would complete the following analysis: an assessment of air impacts and health impacts associated with the excavation activities; identification of any applicable local standards which may be exceeded by the excavation activities, including dust levels and noise; identification of transportation impacts from the removal or remedial activities; and classification of the risk of upset should be there an accident at the Site.

In California, DTSC administers the federal RCRA program. California's Hazardous Waste Control Act (HWCA [California Health and Safety Code Sections 25100 et seq.]) is similar to, but more stringent than, the federal RCRA program. The HWCA provides authority for DTSC to regulate the transportation and disposal of hazardous wastes, and establishes standards for hazardous waste facilities.

Fluorescent light ballasts and old electrical equipment may contain PCBs, and if so, they are regulated as hazardous waste and must be transported and disposed of as hazardous waste. DTSC has classified PCBs as a hazardous waste when concentrations exceed five parts per million (ppm) in liquids or 50 ppm in non-liquids. The federal TSCA establishes procedures and standards for cleanup of PCB releases.

Cal/OSHA

The California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) has primary responsibility for developing and enforcing standards for safe workplaces and work practices in California in accordance with regulations specified in CCR Title 8. The Cal/OSHA workplace regulations have been promulgated over time and are effective in reducing potential risks to workers to the extent required by law. Such measures include reducing the amount of time a worker might be exposed to a hazardous material and the use of personal protective equipment, along with training programs.

Asbestos abatement contractors must follow state regulations contained in CCR Title 8 where there is asbestos-related work involving 100 square feet or more of asbestos containing material. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. The owner of the property where abatement is to occur must have a Hazardous Waste Generator Number assigned by and registered with the Department of Health Services. The contractor and hauler of the material is required to file a Hazardous Waste Manifest which details the hauling of the material from the site and the disposal of it. Section 19827.5 of the California

Health and Safety Code requires that local agencies (such as the San Francisco Department of Building Inspection [DBI]) not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations.

Cal/OSHA standards also establish a maximum safe exposure level for types of construction work where lead exposure may occur, including demolition of structures where LBP is present; removal or encapsulation of materials containing lead; and new construction, alteration, repair, or renovation of structures with materials containing lead. Inspection, testing, and removing lead-containing building materials must be performed by State-certified contractors who are required to comply with applicable health and safety and hazardous materials regulations. Typically, building materials with LBP attached are not considered hazardous waste unless the paint is chemically or physically removed from the building debris. HUD has developed guidelines for the evaluation and control of LBP hazards, as noted above

Transportation of Hazardous Materials

Hazardous materials that could be excavated from construction or demolition activities at the Project site may require off-site transportation for disposal and/or treatment. Transportation and disposal of soil that is classified as hazardous waste would be subject to applicable federal and state regulations. The DOT regulates the transportation of hazardous materials, including contaminated soil, between states. The California Highway Patrol (CHP) and Caltrans are the state agencies with primary responsibility for enforcing federal and state regulations related to transportation within California. These agencies respond to transportation emergencies related to hazardous materials (including contaminated soil). Together, these agencies determine the container types to be used and grant licenses to hazardous waste haulers for hazardous waste transportation on public roads.

Regional

Naturally Occurring Asbestos

Asbestos[2] is regulated both as a hazardous air pollutant and as a potential worker safety hazard. The California Air Resources Board (ARB) has adopted an asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations. The ATCM protects public health and the environment by requiring the use of best available dust mitigation measures to prevent off-site migration of asbestos-containing dust from road construction and maintenance activities, construction and grading operations, and quarrying and surface mining operations in areas of ultramafic rock,[3] serpentine,[4] or asbestos, where naturally occurring asbestos (NOA) is present.

[2] Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California.

[3] Ultramafic rocks are formed in high temperature environments well below the surface of the earth.

In accordance with federal requirements, BAAQMD has adopted regulations to control emissions of NOA from construction, grading, and other operations to the lowest achievable rates using best available control technology. The project applicant must notify the BAAQMD air pollution control officer 14 days before disturbing serpentine, ultramafic rock, or naturally occurring asbestos, and must submit notification on the next business day upon discovering the materials identified above. Implementation of dust control measures and submittal of an Asbestos Dust Mitigation Plan (ADMP) are required within 14 days.

Where more than one acre would be disturbed, the applicant must also submit an ADMP to BAAQMD for approval before beginning to grade or disturb the soil. BAAQMD may grant an exemption from the requirement for the ADMP based on geological information submitted for a site or may require the applicant to take additional measures to assess for the presence of naturally occurring asbestos in determining whether an exemption may be granted. The ADMP must incorporate measures to control all potential emission sources. The types of dust control measures for sites greater than one acre include:

- Limiting vehicle speeds to less than 15 miles per hour
- Wetting areas before and after disturbance to prevent visible emissions from crossing project boundaries
- Managing stockpiles to prevent emissions
- "Track-out" prevention measures such washing down equipment and truck wheel washing on the Project site before movement to a paved roadway
- Sweeping or vacuums filtered with high-efficiency particulate air
- Stabilizing disturbed surfaces after project construction

The ADMP must also include an asbestos air monitoring plan if residences, business, hospitals, and other receptors are located within 0.25 mile of any boundary of an area to be disturbed. The provisions of the approved ADMP must be implemented for the entire duration of the Proposed Project. The project applicant must report results of air monitoring, geological evaluation of the site, and the results of bulk sampling, as requested by the BAAQMD air pollution control officer.

Bay Area Air Quality Management District

California Health and Safety Code Section 19827.5 requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement.

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[4] Serpentine is a naturally occurring group of minerals that can be formed when ultramafic rocks are metamorphosed during uplift to the earth's surface. This rock type is commonly associated with ultramafic rock along faults such as the San Andreas fault. Small amounts of chrysotile asbestos, a fibrous form of serpentine minerals are common in serpentine rocks.

Demolition of existing buildings and structures would be subject to BAAQMD Regulation 11, Rule 2 (Asbestos Demolition, Renovation, and Manufacturing). BAAQMD Regulation 11, Rule 2, is intended to limit asbestos emissions from demolition or renovation of structures and the associated disturbance of asbestos-containing waste material generated or handled during these activities. All asbestos-containing material found on the site must be removed prior to demolition or renovation activity in accordance with BAAQMD Regulation 11, Rule 2, including specific requirements for surveying, notification, removal, and disposal of material containing asbestos.

The BAAQMD must be notified 10 days in advance of any proposed demolition or abatement work. Notification includes the names and addresses of operations and persons responsible; description and location of the structure to be demolished or altered, including size, age, and prior use, and the approximate amount of friable asbestos; scheduled starting and completion dates of demolition or abatement; nature of planned work and methods to be employed; procedures to be employed to meet BAAQMD requirements; and the name and location of the waste disposal site to be used.

The BAAQMD randomly inspects asbestos removal operations. In addition, the BAAQMD will inspect any removal operation when a complaint has been received. Pursuant to California law, DBI would not issue the required building permit until the applicant has complied with the notice and abatement requirements described above.

Local

San Francisco Building Code: Asbestos-Containing Materials

San Francisco Building Code Section 3426 (Asbestos Information and Notice) requires the seller of any non-residential building, except a nonresidential building for which a building permit to erect the structure was filed with the DBI on or after January 1, 1979, must disclose to the buyer, prior to transfer of title, what efforts, if any, the seller has made to determine if the building contains asbestos-containing construction materials and provide documentation of those efforts. Section 3426.3 requires that any person filing an application for a building permit to perform work in an apartment house or residential hotel that includes asbestos-related work must adhere to specific noticing requirements.

San Francisco Building Code: Lead-Based Paint

Work that could result in the disturbance of LBP must comply with *San Francisco Building Code* Section 3425 (Work Practices for Lead-Based Paint on pre-1979 Buildings and Steel Structures). Section 3425.3 establishes that all paint on the exterior of any pre-1979 building or any steel structure shall be presumed to be LBP. Any person seeking to rebut this presumption must establish through LBP testing, or other means satisfactory to the DBI that the paint in question is not LBP. Absent evidence that no LBP is present, where there is any work that may disturb or remove LBP on the

exterior of any building built prior to December 31, 1978, Section 3425 requires specific LBP abatement work standards and notification, and identifies prohibited work methods and penalties.

Section 3425 applies to the interior of residential buildings, hotels, and child care centers. The regulation contains performance standards, including establishment of containment barriers, at least as effective at protecting human health and the environment as those in the HUD Guidelines (the most recent *Guidelines for Evaluation and Control of Lead-Based Paint Hazards*) and identifies prohibited practices that may not be used in disturbances or removal of LBP. Any person performing work subject to the ordinance shall, to the maximum extent possible, protect the ground from contamination during exterior work; protect floors and other horizontal surfaces from work debris during interior work; and make all reasonable efforts to prevent migration of lead paint contaminants beyond containment barriers during the course of the work. Cleanup standards require the removal of visible work debris, including the use of a High Efficiency Particulate Air Filter (HEPA) vacuum following interior work. The ordinance also includes notification and signage requirements. Prior to the commencement of work, the responsible party must provide written notice to the director of the San Francisco DBI indicating the address and location of the Proposed Project; the scope of work, including specific location; methods and tools to be used; the approximate age of the structure; anticipated job start and completion dates for the work; whether the building is residential or nonresidential, owner-occupied or rental property; the dates by which the responsible party has or will fulfill any tenant or adjacent property notification requirements; and the name, address, telephone number, and pager number of the party who will perform the work. Further notice requirements include signage when containment is required, requirements for signage when containment is required, notice to occupants, availability of pamphlet related to protection from lead in the home, and Early Commencement of Work (Requested by Tenant). Section 3425 contains provisions regarding inspection and sampling for compliance by the DBI and enforcement, and describes penalties for noncompliance with the requirements of the ordinance.

San Francisco Health Code: Contaminated Soil and Groundwater

San Francisco Health Code Article 22A (Maher Ordinance) requires compliance with SFDPH's Hazardous Materials Unified Program Agency (HMUPA) regulations and allows the SFDPH to inspect any site or facility where hazardous wastes are stored, handled, processed, or disposed. Hazardous wastes would be disclosed in the Hazardous Materials Certificate of Registration for that facility. The Proposed Project is a residential housing project that would not involve the routine use of hazardous materials or generation of hazardous waste that would be subject to HMUPA regulations.

All projects disturbing more than 50 cubic yards of soil in areas with known or suspected soil contamination are subject to the Maher Ordinance. For projects disturbing less than 50 cubic yards of soil, SFDPH has the authority to require compliance with the ordinance. The Maher Ordinance requires the project applicant to retain the services of a qualified professional to prepare a Phase I

Environmental Site Assessment (Phase I ESA) that meets the requirements of Health Code Section 22.A6. The Phase I ESA would determine the potential for site contamination and level of exposure risk associated with the Proposed Project. Based on that information, the project applicant may be required to conduct soil and/or groundwater sampling and analysis. Where such analysis reveals the presence of hazardous substances in excess of state or federal standards, the project applicant is required to submit a site mitigation plan (SMP) to the SFDPH Site Assessment & Mitigation Program (SAM) or other appropriate state or federal agency(ies), and to remediate any site contamination in accordance with an approved SMP prior to the issuance of any building permit. Block X is in the Maher zone; and thus, subject to comply with the Maher Ordinance.

San Francisco Health Code Article 22B, Construction Dust Control Ordinance (Dust Ordinance) requires stringent controls to minimize dust emissions. The Dust Ordinance was adopted in July 2008 and requires that all site preparation work, demolition, or other construction activities within the city comply with specific dust control measures. For projects over 0.5 acre, such as the Proposed Project, the Dust Control Ordinance requires that the project applicant submit a Dust Control Plan (DCP) for approval by the SFDPH prior to issuance of a building permit by DBI. The Project would be required to develop and submit a DCP in accordance with Article 22B to the SFDPH.[5]

San Francisco Emergency Response Plan

The City has an Emergency Response Plan (ERP) that was developed to ensure allocation and coordination of resources in the event of an emergency in the City and County of San Francisco (CCSF). The ERP describes at a high level what the City's actions will be during an emergency response. This plan describes the role of the Emergency Operations Center (EOC) and the coordination that occurs between the EOC, City departments, and other response agencies. Finally, this plan describes how the EOC serves as the focal point between federal, state, and local governments in times of disaster.[6]

5.18.2 Impacts and Mitigation Measures

Significance Criteria under CEQA

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. The following impact analysis utilizes criteria

[5] City and County of San Francisco Department of Public Health, Occupational and Environmental Health, Potrero Terrace and Potrero Annex Redevelopment, Letter from Rajiv Bhatia (January 5, 2011) (see Appendix 3.19). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[6] City and County of San Francisco, *Emergency Response Plan, an Element of the CCSF Emergency Management Program* (April 2008). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

to evaluate whether implementation of the Proposed Project or alternatives would result in significant, adverse effects. For hazards and hazardous materials, the analysis considers whether the Proposed Project or alternatives would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving fires.

Context and Intensity Evaluation Guidelines under NEPA

These thresholds encompass the factors taken into account under NEPA to determine the significance of an action in terms of the context and intensity of its effects. For hazards and hazardous materials, the analysis considers whether the Proposed Project or alternatives would:

- Locate an occupied structure on filled land that contains toxic chemicals or radioactive materials at concentrations that would result in exposures above USEPA acceptable risk levels;
- Locate occupied structures on or near a site which could pose potential environmental hazards, such as dumps, landfills, or industrial locations that might contain hazardous wastes;
- Result in the likely release of hazardous substances that creates a human health or environmental hazard;
- Result in a human health or environmental hazard through the use or disposal of hazardous substances;
- Be located in an airport runway clear zone; or
- Be located at less than the acceptable separation distance from a fire or explosive hazard.

Approach to Analysis

The analysis presented in this section relies on a site-specific Phase I ESA and Limited Asbestos and Lead Paint Sampling Report (hereinafter referred to as Project Phase I) prepared by SCS Engineers for Potrero Terrace and Potrero Annex, and Phase I Site Assessment Report 1101 Connecticut Street

(hereinafter referred to as Block X Phase I) prepared by LEE Incorporated.[7,8] The Phase I ESAs included a site reconnaissance; topography, geology, soils, hydrogeology, and water quality surveys; a site vicinity reconnaissance; a historic site and land use review; aerially deposited lead; limited asbestos and lead paint sampling and analysis; and data evaluation. In addition, relevant correspondence between the DPH and project applicant are referenced in the analysis in order to illustrate the necessary steps to achieve a less-than-significant physical environmental impact related to hazards and hazardous materials.

The closest public airport is San Francisco International Airport (SFO), located approximately 9.3 miles south of the Project site. The Project site is not located within the SFO land use plan or within SFO's map of height restrictions, in accordance with Federal Aviation Administration Part 77, Objects Affecting Navigable Airspace. There are no private airstrips within 2 miles of the Project site. This impact is not further discussed below.

Impact Evaluation

Proposed Project

Impact HZ-1	**Effects Related to Hazardous Materials Emissions or Disposal** **CEQA: The Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Less than Significant)** **NEPA: The Proposed Project would not result in a human health or environmental hazard through the use or disposal of hazardous substances. (Less than Significant)**

Wherever hazardous materials are used or stored, there is the potential for human exposure, and, under certain conditions, potential releases to the environment. In each situation, the potential hazards and the risks they would pose to people or the environment would depend on what materials would be used, where the materials would be used and stored, how they would be used, and who would use them. The routes through which these individuals could be exposed include inhalation, ingestion, dermal (skin and eye) contact, and other accidents.

Construction of the Proposed Project would involve a substantial use of heavy equipment containing fuels and other hazardous products, along with extensive amounts of concrete products,

[7] SCS Engineers, *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling, Potrero Terrace and Potrero Annex Redevelopment* (August 7, 2009). (See Appendix 4.18) This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[8] LEE Incorporated. Phase I Environmental Site Assessment, 1101 Connecticut Street (April 8, 2013). (See Appendix 4.18) This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

construction materials, and architectural finish items. These hazardous materials and vehicles would remain on-site during the several-year period of construction activities. Accidental releases of hazardous materials during construction activities could result in releases of hazardous materials into the air, or could impact soil and/or groundwater quality, which could result in adverse health effects to construction workers, the public, and the environment. However, the project applicant's contractors would be required to comply with mandatory workplace hazardous materials regulations (Cal/OSHA), all of which would be specified in the construction contracts. As noted above, these workplace regulations are effective in reducing potential risks to workers. In addition, the construction contractor would be required to implement a Stormwater Pollution Prevention Plan (SWPPP), as described in Impact HY-1 in Sections 4.17 and 5.17, *Hydrology and Water Quality*. The SWPPP requires an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced, storing chemicals in watertight containers or in a storage shed (completely enclosed), with appropriate secondary containment to prevent any spillage or leakage, implementing procedures that effectively address hazardous and nonhazardous spills, developing a spill response and implementation element of the SWPPP prior to commencement of construction activities; good housekeeping for vehicle storage and maintenance to prevent oil, grease, or fuel to leak in to the ground, storm drains, or surface waters. Compliance with mandatory hazardous materials regulations and SWPPP requirements would ensure that potential releases from the transport and use or disposal of hazardous materials during project construction activities would be reduced to a ***less-than-significant*** level.

After construction, the Proposed Project would include residential units, open space areas, retail uses, and neighborhood services, which would use relatively small quantities of hazardous materials for routine purposes, such as cleaners, disinfectants, and lawn care chemicals. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. Most of these materials are consumed through use, resulting in relatively little waste. Programs are in place in San Francisco to provide opportunities for residents to dispose of household hazardous waste. Businesses are required by law to ensure employee safety by identifying hazardous materials in the workplace, providing safety information to workers who handle hazardous materials, and adequately training workers. Businesses that routinely use or handle hazardous materials, such as dry cleaning chemicals are regulated by agencies including the City and County of San Francisco and the California Environmental Protection Agency. In addition, businesses must comply with applicable hazardous waste regulations.

The Project site is a residential development that does not provide a network for the movement of goods such as hazardous materials and wastes. While hazardous materials and wastes are transported routinely on major roadways (U.S. Highway 101, Interstate 280, and local arterials), there are no aspects of the Proposed Project that would change the nature and frequency of transport because it would not create a new roadway or expand capacity on an existing or planned roadway along which hazardous materials could be transported.

The impact would be ***less than significant*** under CEQA because the Proposed Project would not create a significant hazard through routine transport, use, disposal, handling or emission of hazardous materials.

Under NEPA, impacts are considered ***less than significant*** because the Project would not result in human health or environmental hazard through the use or disposal of hazardous substances**.**

Impact HZ-2	**Effects Related to Release of Hazardous Materials** **CEQA: The Proposed Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)** **NEPA: The Proposed Project could result in the release of hazardous substances that creates a human health or environmental hazard. (Less than Significant with Mitigation)**

Lead-Based Paint in Buildings and Structures

Potrero Terrace and Potrero Annex

The Proposed Project would demolish the existing buildings on the Potrero Terrace and Potrero Annex properties. Lead paint may be found in buildings constructed prior to 1978 and proposed for demolition. The existing buildings were constructed in two phases in 1941 and 1955, and thus, the buildings may contain lead paint.[9] Results of testing at 40 locations completed during the Project Phase I indicated that paint on some interior and exterior walls and metal surfaces at the Project site contain HUD-defined LBPs with lead concentrations greater than 600 milligrams per kilogram (mg/kg).[10] According to Cal/OSHA guidelines, coatings or materials containing lead at concentrations equal to or exceeding 600 mg/kg may cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. Demolition must be conducted in compliance with Section 3425 of the *San Francisco Building Code*, Work Practices for Lead-Based Paint on Pre-1979 Buildings and Steel Structures. Where there is any work that may disturb or remove interior or exterior LBP on pre-1979 buildings, structures and properties and on steel structures use work practices that minimize or eliminate the risk of lead contamination of the environment.

Section 3425 contains performance standards, including establishment of containment barriers, and identifies prohibited practices that may not be used in disturbance or removal of LBP. Any person performing work subject to Section 3425 shall make all reasonable efforts to prevent migration of

[9] The Phase I ESA reviewed building records and noted that lead-based paint abatement had been performed in several units on Connecticut Street, Wisconsin Street, and 25th Street in 1994.

[10] SCS Engineers, *Phase I Environmental Site Assessment and Limited Asbestos and Lead Paint Sampling* (August 7, 2009) (See Appendix 4.18). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

lead paint contaminants beyond containment barriers during the course of the work, and any person performing regulated work shall make all reasonable efforts to remove all visible lead paint contaminants from all regulated areas of the property prior to completion of the work.

Section 3425 also includes notification requirements, contents of notice, and requirements for Project site signs. Prior to commencement of exterior work that disturbs or removes 100 or more square feet or 100 or more linear feet of LBP in total, the responsible party must provide the Director of DBI with written notice that describes the address and location of the Proposed Project; the scope and specific location of the work; whether the responsible party has reason to know or presume that LBP is present; the methods and tools for paint disturbance and/or removal; the approximate age of the structure; anticipated job start and completion dates for the work; whether the building is residential or nonresidential; whether the building is owner-occupied or a rental property; the approximate number of dwelling units, if any; the dates by which the responsible party has or will fulfill any tenant or adjacent property notification requirements; and the name, address, telephone number, and pager number of the party who will perform the work. Further notice requirements include a Post Sign notifying the public of restricted access to work area, a Notice to Residential Occupants, Availability of Pamphlet related to protection from lead in the home, and Early Commencement of Work (by Owner, Requested by Tenant), and Notice of Lead Contaminated Dust or Soil, if applicable. Section 3425 contains provisions regarding inspection and sampling for compliance by DBI, and enforcement, and describes penalties for non-compliance with the requirements of the ordinance.

Block X

There are no buildings or structures on Block X. Therefore, there is low risk of workers being exposed to airborne hazards through demolition of buildings containing LBP. However, previous buildings on Block X could have contained LBP. Soil contamination on Block X is discussed further below.

Lead in Soil

Potrero Terrace and Potrero Annex

There is a potential for elevated concentrations of lead in the soil around buildings due to the historic use of LBP. Lead may have leached from the exterior of the structure as the paint weathered and aged. The scraping and sanding of LBP during maintenance and repainting of the exteriors of existing buildings, if performed prior to LBP regulations or improperly, may also have contributed to the lead content of the soil in the immediate vicinity. Soil with lead levels of 80 mg/kg or more represents a potential hazard to children. During demolition of structures and soil disturbance during grading for reconstruction, lead in soil could become airborne and pose a human health or environmental risk if proper precautions are not taken. This would be a significant impact.

Block X

The Block X Phase I states that LBP could occur in the shallow soil around the concrete foundation of the former building. During earthmoving activities in areas around the concrete foundations, the workers could be exposed to LBP residues in the soil without the implementation of measures to minimize the potential risks associated with LBP. Per the Maher Ordinance[11] and as described under Mitigation Measure M-HZ-2.1, below, before issuance of a grading and building permit for the Project site a soil characterization work plan for each phase of project development must be conducted and submitted to the DPH SAM to identify lead, chromium, and other contaminants in the soil.

If hazardous materials are identified in the unpaved areas of the Project site, implementation of Mitigation Measures M-HZ-2.1, M-HZ-2.2, M-HZ-2.3, and M-HZ-2.4 would ensure that the proper remediation and disposal procedures are followed. Potential impacts due to the disturbance of LBP, on painted surfaces and in the soil, during construction activities would be ***less than significant with mitigation*** under CEQA.

Under NEPA, implementation of the Mitigation Measures M-HZ-2.1, M-HZ-2.2, M-HZ-2.3, and M-HZ-2.4 would reduce the Proposed Project's potential for release of hazardous substances that could create a human health or environmental hazard from the release of LBP. Therefore, impacts on human health and the environment would be ***less than significant with mitigation.***

> **Mitigation Measure M-HZ-2.1 – Voluntary Remedial Action Program (VRAP) Applications and Work Plans.** Prior to each phase of development, the project applicant shall submit a VRAP application to the San Francisco DPH SAM.
>
> - Each VRAP application shall include a Sampling and Analysis Report (SAR) work plan. The work plan shall be submitted sufficiently in advance of planning sampling to allow time for work plan approval, SAR preparation, submittal to and approval by DPH SAM. The work plan submittal timeframe should also be of sufficient duration for subsequent preparation and approval of a Site Mitigation Plan following acceptance of the SAR. The SAR work plan for each phase shall address the following:
>
> > Description of the Proposed Project phase including number and location of buildings, building configuration, and the depths of excavation
> > Figures showing proposed building and other feature locations, lateral and vertical extent of excavation
> > Samples shall be collected prior to grading but may be collected after building demolition

[11] The Maher Ordinance requires San Francisco Department of Public Health oversight for the characterization and mitigation of hazardous substances in soil and groundwater in designated areas zoned for industrial uses, sites with industrial uses or underground storage tanks, sites with historic bay fill, sites in close proximity to freeways or underground storage tanks.

- > Sampling shall be performed to the depth of any project excavation
- > If groundwater is encountered, a grab sample shall be collected and analyzed
- > Samples shall be analyzed for TPH gasoline through motor oil ranges, California 17 metals, and asbestos
- > Include figures showing the proposed number and locations of samples and listing the depths of samples to be collected and analyzed
- > Sample locations shall be around the existing buildings plus additional random sample locations
- > A SAR shall be submitted to DPH SAM describing the sampling procedures and results. The SAR shall include a summary and tables of the analyses and figures showing sample locations with sample depths.

Mitigation Measure M-HZ-2.2 – Site Mitigation Plan (SMP). If DPH SAM's review of the SAR for a project phase indicates a Site Management Plan (SMP) is warranted, an SMP shall be submitted to DPH SAM no less than six weeks prior to beginning construction grading and excavation work for that phase. The SMP shall be approved by DPH SAM prior to beginning construction field work for that phase, and shall be implemented by the project applicant. The SMP for each phase shall consist of the following:

- Proposed Project description—building locations, configurations, and maximum proposed lateral and vertical extent of excavation. Figures shall show Proposed Project features and lateral and vertical extent of excavation.
- Cleanup levels for petroleum hydrocarbons, associated chemicals, asbestos, and/or metals shall be proposed to DPH SAM if elevated concentrations are reported in the SAR.
- Soils that meet or exceed the California Total Threshold Limit Concentration (TTLC) listed in the CCR 22 66261 for lead (1,000 mg/kg) shall be removed, transported, and handled as Class I hazardous waste. Soils containing less than 1,000 mg/kg lead but more than 200 mg/kg may be reused on-site if placed beneath buildings. If those soils are reused, soils containing between 200 mg/kg and 80 mg/kg lead shall be placed under buildings, sidewalks, roadways, other paved or concrete-capped areas, or covered by two feet of clean fill over which a visual barrier such as brightly colored plastic fencing netting or fabric shall be placed. Mixing or grading of soils to reduce surface lead or other chemical concentrations is prohibited.
- Confirmation sample collection following implementation of soil remedial measures and excavation. Confirmation sample locations shall be provided on a figure. DPH SAM shall be notified in writing if confirmation sample analytical results exceed the cleanup criteria. The written communication shall include sample locations and the analytical results. Additional excavation shall be performed, or other mitigating measures acceptable to DPH SAM implemented, if confirmation samples exceed the residential cleanup guidelines.
- The SMP shall identify options for handling contaminated soils, including storage of soils on plastic sheeting and covering with sheeting when soil is not actively being added or removed from a stockpile.

- Frequency of soil stockpile sampling.
- All soil samples shall be analyzed for at least lead metal plus other chemicals detected above the environmental screening level (ESL) as reported in the SAR.
- Contractor/developer shall receive written concurrence from DPH SAM prior to re-using soils that exceed the cleanup limits.
- Identify the proposed soil transporter and disposal locations.
- Contingency Plan that describes the procedures for controlling, containing, remediating, testing, and disposing of any unexpected contaminated soil, water, or other material.
- Stormwater control and noise control protocols as applicable.
- A SMP completion report shall be prepared and submitted to DPH SAM following SMP implementation. The report shall include documentation of the work performed. The SMP completion report shall include: figures showing the final lateral and vertical extent of the excavation; the finished grade and the location of reused soils relative to proposed buildings and hardscape; a summary of the analytical results for the confirmation and stockpile samples plus copies of the laboratory reports; copies of bills of lading and manifests for hazardous waste transport and disposal.

Mitigation Measure M-HZ-2.3 – Dust Control Plan and Worker Health and Safety Plan. A Dust Control Plan (DCP) shall be submitted to DPH SAM that complies with Health Code Article 22B (Demolition and Construction Dust Control) not less than two weeks prior to beginning construction field work for any phase. A site-specific worker Health and Safety Plan shall also be submitted not less than two weeks prior to construction field work for any phase.

Mitigation Measure M-HZ-2.4 – Underground Storage Tanks. Should an underground storage tank (UST) be encountered, work shall be suspended and the construction contractor shall notify the owner/project applicant. The site owner/sponsor shall notify the DPH and proposed response actions. The UST shall be removed under permit from the HMUPA and the SFFD. All related documentation shall be provided to DPH SAM.

Potential Effects of Implementing a Soil Mitigation Plan

Implementing the SMP could involve on-site excavation and soil movement, which have the potential to result in hazardous materials impacts, primarily from dust emissions, stormwater runoff, direct contact with contaminants, and off-site transport. Workers directly engaged in a soil sampling and cleanup activities would face the greatest potential for exposure to hazards. Because the Proposed Project would be developed in phases (see Chapter 2, *Project Alternatives and Project Description*), some existing residences may remain occupied while other portions of the site are being cleaned up. However, the risks to on-site residences and the public, in general, would be substantially less than would occur for construction workers, because all of these potential pathways for hazardous materials releases would be controlled through implementation of the DPH SAM-approved work plans and health and safety plans before any cleanup work can proceed for each phase.

Potential adverse impacts of site remediation, if any, would also be mitigated by legally required safety and hazardous waste handling and transportation precautions. For hazardous waste workers, OSHA regulations mandate an initial 40-hour training course and subsequent annual training review. Additionally, site-specific training would be required for some construction workers. These measures, along with application of DPH SAM-approved cleanup standards, would serve to protect human health and the environment during site remediation, thus minimizing potential adverse effects associated with remediation. Moreover, the major hazards-related effects of environmental cleanup associated with any remediation, if necessary, would be beneficial over the long term. Remediation, or equally effective management, of contaminated soils would substantially reduce risks to the public and would also reduce the potential for operational activities such as subsurface repairs and maintenance in the event of any future excavation at the site. Consequently, implementation of the SMP would not result in any substantial hazardous materials release impacts, and the indirect effects would be less than significant.

Asbestos-Containing Materials

Potrero Terrace and Potrero Annex

Asbestos was extensively used as a fireproofing and insulating agent in building construction materials before such uses were banned in the 1970s. Asbestos fibers only pose a health risk when they are disturbed and become airborne through such activities as building renovation or demolition. Potrero Terrace and Potrero Annex were both developed prior to the USEPA ban on the use asbestos-containing materials (ACMs) in building construction and, therefore, the presence of ACMs is likely. The asbestos evaluation conducted as part of the Project Phase I indicates that several of the material samples taken from existing buildings on the Project site contain asbestos. The presence of these hazardous materials in existing buildings and the potential for release of asbestos fibers into the environment would constitute a potentially significant impact for potential health risks to workers and nearby residents.

Compliance with established state and local regulations pertaining to the safe removal, handling, and disposal of ACMs would reduce the risk of accidental exposure during construction activities. As described in the *Regulatory Setting*, above, Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos.

Demolition of existing buildings and structures would be subject to BAAQMD Regulation 11, Rule 2 (Asbestos Demolition, Renovation, and Manufacturing). Projects that comply with Regulation 11, Rule 2, would ensure that asbestos-containing materials would be disposed of appropriately and safely. The BAAQMD has determined by complying with BAAQMD Regulation 11, Rule 2,

demolition activity would not result in airborne emissions of ACM that would result in a significant impact.[12] Therefore, additional mitigation is not required for ACM.

The BAAQMD must be notified prior to demolition or abatement activities in accordance with the above mentioned state regulation. Refer also to Mitigation Measure MM-AQ-3 in Section 5.9, *Air Quality*, of this Draft EIR/EIS.

With regard to worker safety during demolition activities, the local OSHA must be notified of asbestos abatement activities. Adherence to the procedural requirements for asbestos abatement contractors contained in state regulations 8CCR1529 and 8CCR341.6 through 341.14 would ensure safe working environment for construction workers.

Block X

There are currently no buildings or structures on Block X. Soil contamination associated with hazardous materials from previous buildings is discussed above.

Asbestos in Soil

Potrero Terrace and Potrero Annex

There is a potential for friable asbestos in the soil around buildings due to the historic use of ACM in buildings. Maintenance and repair of existing buildings, if performed improperly, may have resulted in asbestos fibers in the soil in the immediate vicinity. During demolition of structures and soil disturbance during grading for reconstruction, friable asbestos from ACM in soil could become airborne and pose a human health or environmental risk if proper precautions are not taken. This would be a potentially significant impact.

Block X

There are currently no buildings or structures on Block X. Soil contamination associated with ACM from previous buildings is discussed above.

As described under Mitigation Measure M-HZ-2.1, above, before issuance of a grading permit for the Project site, a soil characterization work plan for each phase of project development must be conducted and submitted to the DPH SAM to identify asbestos in soil. If asbestos is identified in the unpaved areas of the Project site, implementation of Mitigation Measures M-HZ-2.2, M-HZ-2.3, and M-HZ-2.4 would ensure that the proper remediation and disposal procedures are followed. Potential impacts due to the disturbance of asbestos, if any, in the soil, during construction activities would be ***less than significant with mitigation***.

[12] Bay Area Air Quality Management District (BAAQMD), *California Environmental Quality Act Air Quality Guidelines* (May 2011), Section 8.3.2. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

Naturally Occurring Asbestos

Potrero Terrace and Potrero Annex

Serpentine bedrock is present on existing cut slopes and in sporadic outcroppings within and immediately adjacent to the site. The most extensive areas of serpentine outcrops occur as linear features on the south side of 26th Street, on the west side of Wisconsin Street south of Carolina Street, along 23rd Street, and along Texas Street. Serpentine bedrock is also in underlying materials at a minimum depth of 2.5 feet below ground surface and at maximum depths of 11 to 15 feet in the area of fill along Connecticut Street.[13] Laboratory analysis indicates that the serpentine bedrock at the Project site contains a naturally occurring asbestos (NOA) mineral, chrysotile, as a result of the weathering of serpentine found within the underlying Franciscan bedrock. During grading in areas potentially containing naturally occurring asbestos, airborne asbestos could be released to the environment via air emissions. These emissions could result from the initial disturbance of previously undisturbed serpentine rock, and from handling and/or spreading previously disturbed serpentine rock fragments. Construction workers would be the most susceptible to potential risks. However, existing and future on-site and adjacent off-site populations (residents, tenants, visitors, and workers) could also be exposed to airborne asbestos if proper precautions were not fully implemented.

Block X

The Block X Phase I states that the geologic information indicates the site is underlain by the Franciscan Complex and serpentinite containing variable amounts of NOA. Serpentinite with NOA could be encountered during trenching and excavation, and other earthmoving activities below sediments that mantle the Franciscan Complex bedrock. However, serpentine outcrops of friable serpentinite were not noted on site. Encountering serpentine during earthmoving activities could pose a human health or environmental risk if proper precautions are not taken. This would be a ***potentially significant*** impact.

NOA is a potential health hazard. If large amounts are inhaled or swallowed over many years, it increases the risk that a person may develop cancer or other health problems. To minimize these risks, construction activities disturbing less than one acre of rock containing naturally occurring asbestos where serpentine rock is present would be required under BAAQMD regulations to implement specific dust mitigation before construction begins, and each measure must be maintained throughout the duration of construction. For construction activities disturbing one acre or greater of rock containing naturally occurring asbestos, BAAQMD requires construction contractors to prepare an ADMP, specifying measures that would be taken to ensure that no visible dust crosses the property boundary during construction. The ADMP must be submitted to and

[13] ENGEO Incorporated, *Geotechnical Exploration: Potrero Annex and Terrace Redevelopment San Francisco, CA* (July 10, 2009), Figure 5 (see Appendix 3.17). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

approved by the BAAQMD prior to the beginning of construction, and the site operator must ensure the implementation of all specified dust control measures throughout the construction project.

Dust control measures would include: applying water during and after grading activities; covering stockpiles and truckloads; "track-out" prevention measures such as wheel washing stations at exits from the grading areas; placing final cover materials over any exposed naturally occurring asbestos at the end of the grading activities. In addition, depending on the location of the grading activity, it is possible that the BAAQMD may require air monitoring to determine if there is off-site migration of asbestos dust during construction activities, and may also require that activities temporarily shut down if the monitors detect specified levels of airborne asbestos.

In addition, the San Francisco Health Code Article 22B requires contractors to control dust (regardless of whether the construction activity is in an area with the potential for naturally occurring asbestos). Some of the dust control measures can include: controlling potential sources of emissions; implementing general dust control methods for traffic, grading, crushing, trenching and excavation, loading, stockpiles, foundation work, and post-construction stabilization of disturbed areas; demolition emissions control methods, monitoring and records, including corrective actions to control visible dust during active construction and times when no work is occurring. In addition, under the ordinance, projects over 0.5 acre in size are required to submit a DCP to SFDPH for approval. As indicated in Mitigation Measure M-HZ-2.2, a DCP must be submitted to DPH SAM in conjunction with the Site Mitigation Plan for remediating soils that may contain asbestos.

Compliance with San Francisco Health Code Article 22B and implementation of Mitigation Measure M-HZ-2.2 would reduce the risk of an inadvertent release of NOA that could pose a human health or environmental risk. Therefore, impacts related to the release of NOA would remain ***less than significant with mitigation***.

The impact is considered ***less than significant with mitigation*** under CEQA because the Proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The potential impact from accidental release is considered ***less than significant with mitigation*** under NEPA because the Proposed Project would not result in the likely release of hazardous substances that creates a human health or environmental hazard.

Impact HZ-3	**Effects of Hazardous Materials on Schools**
	CEQA: The Proposed Project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. (Less than Significant with Mitigation)
	NEPA: This topic is not covered under NEPA.

The Starr King Elementary School is adjacent to the west side of the Project site. Demolition of existing structures containing LBP or asbestos, and site preparation in areas containing NOA have the potential to release dust containing these hazardous materials if measures are not in place to control the dust emissions. As explained in Impact HZ-2, there is a comprehensive regulatory compliance mechanism in place for controlling potential airborne emissions of NOA, LBP, and ACMs, and the City would require testing and remediation of soils around buildings to be demolished if lead, asbestos, or hazardous materials derived from building materials are present (Mitigation Measures M-HZ-2.1 through M-HZ-2.4). Implementation of regulatory requirements and these mitigation measures would reduce the potential for hazardous materials emissions to be emitted within 0.25 mile of a school during construction/demolition activities, and no additional mitigation would be necessary. Residential uses would not involve the use of acutely hazardous materials or be a source of hazardous emissions or waste. Therefore, under CEQA, impacts related to the emission or handling of hazardous materials/wastes in the vicinity of schools would be ***less than significant with mitigation***.

Impact HZ-4	**Effects Related to Hazardous Materials Sites**
	CEQA: The Proposed Project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. (No Impact)
	NEPA: The Proposed Project would not locate an occupied structure on filled land that contains toxic chemicals or radioactive materials at concentrations that would result in exposures above U.S. EPA acceptable risk levels, nor would it locate occupied structures on or near a site which could pose potential environmental hazards, such as dumps, landfills, or industrial locations that might contain hazardous wastes. (No Impact)

Potrero Terrace and Potrero Annex

According to the Project Phase I, the Project site is not listed as a hazardous materials/wastes site. Additionally, the Project Phase I observed no obvious indications of the generation of hazardous wastes during the site reconnaissance. The review of historic land uses determined that the Project site was most likely undeveloped land before the construction of multifamily residential buildings in 1941. As identified in description of off-site facilities above, there are 145 sites within a 1-mile radius of the Project site listed in various federal, state, and tribal databases. The Project Phase I

determined that it is unlikely that any of the surrounding hazardous materials/wastes sites could contribute to a recognized environmental condition on the Project site.

Block X

The Block X Phase I found that the site is not listed as a hazardous materials/wastes site. In addition, the Block X Phase I observed no obvious indications of the generation of hazardous wastes during the site reconnaissance. As discussed in Section 4.18, *Hazards and Hazardous Materials*, there are 111 sites within a 1-mile radius of the Project site listed in various federal, state, and tribal databases. The Block X Phase I found that it is unlikely that any of the surrounding hazardous materials/wastes sites could contribute to a recognized environmental condition on the Project site.

No impact would result under CEQA because the Proposed Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

The impact would be ***no impact*** under NEPA because the Proposed Project is not located on an occupied structure on filled land that contains toxic chemicals or radioactive materials at concentrations that would result in exposures above USEPA acceptable risk levels, nor would it locate occupied structures on or near a site which could pose potential environmental hazards, such as dumps, landfills, or industrial locations that might contain hazardous wastes.

Impact HZ-5	**Effects on Emergency/Evacuation Plans** **CEQA: The Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)** **NEPA: This topic is not covered under NEPA.**

The San Francisco ERP was developed to ensure allocation of and coordination of resources in the event of an emergency in San Francisco.[14] Implementation of the Proposed Project would not interfere with existing emergency operations plans. During construction of the Proposed Project, the San Francisco Fire Department (SFFD) and the San Francisco Police Department (SFPD) would be notified by the project applicant of all temporary changes to site access, including lane closures and detours. All on-site construction workers would be provided with a health and safety plan, which would include emergency contacts and evacuation plans. The current emergency operations and evacuation plans would continue to be maintained during construction, and existing routes and procedures would be maintained. Accordingly, under CEQA, this impact would be ***less than significant*** during construction.

[14] City and County of San Francisco, *Emergency Response Plan* (April 2008). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

During operation, occupants of the Proposed Project would contribute incrementally to congestion if an emergency evacuation of the area was required. The SFFD Plan Check Section and DBI would review the building permits for the proposed buildings to ensure that appropriate evacuation plans and emergency access, including equipment access, are in compliance with the *San Francisco Fire Code* and the SFBC.[15,16] The existing streets provide access for emergency responders and egress for residents and workers. The Proposed Project would improve the street network within the Project site, and SFFD does not expect that the implementation of the Proposed Project should cause service levels to drop below the current or future standard criteria.[17] As such, under CEQA, operation of the Proposed Project would have a ***less-than-significant*** impact on implementation of the ERP.

Impact HZ-6	**Effects Related to Hazardous Fires**
	CEQA: The Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving fires. (Less than Significant)
	NEPA: The Proposed Project would be located at an acceptable separation distance from a fire or explosive hazards. (No Impact)

The Project site is located in an urbanized area that lacks the urban-wildland interface that tends to place new developments at risk in undeveloped areas of California, and the Project site is not located in an area subject to the threat of wildland fires.[18]

San Francisco ensures fire safety and emergency accessibility within new and existing developments through provisions of its Building and Fire Codes. The Proposed Project would conform to these standards, which may include development of an emergency procedure manual and an exit drill plan for the proposed development. Because the Proposed Project could result in buildings as tall as eight stories, construction of these proposed buildings would include required fire protection systems and procedures to be followed in case of fire or other emergencies, as required by Section 12.202(e)(1) of the *San Francisco Fire Code* for buildings that are more than 75 feet tall. Potential fire hazards (including those associated with hydrant water pressure and blocking of emergency access points) would be addressed during the permit review process. Conformance with these standards would ensure appropriate life safety protections for new and modified structures. Consequently, under CEQA, the Proposed Project would have a ***less-than-significant*** impact related to fire hazards.

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[15] San Francisco Fire Department, Plan Check, Division of Fire Protection and Investigation, http://www.sf-fire.org/index.aspx?page=1012 (accessed March 18, 2011).

[16] San Francisco Department of Building Inspection, Plan Review Services, http://www.sfdbi.org/index.aspx?page=235 (accessed March 18, 2011).

[17] Barbara Schultheis, Fire Marshall, San Francisco Fire Department, E-mail correspondence with Atkins (March 28, 2011) (see Appendix 4.15). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[18] Association of Bay Area Governments, Wildland Urban Interface Fire Threat Map for San Francisco, http://www.abag.ca.gov/bayarea/eqmaps/wildfire (accessed March 18, 2011).

Siting of HUD-Funded Projects at an Acceptable Separation Distance from Hazards

According to the State of California's GeoTracker database, there is a DTSC cleanup site at 890 Pennsylvania Avenue.[19] The site at 890 Pennsylvania Avenue (ID# 38400002) contains an above-ground storage tank.[20,21] No other facilities' hazardous operations were noted. This facility at 890 Pennsylvania Avenue is located approximately 600 linear feet east of the Project site's closest border. In accordance with 24 CFR 51(c), an ASD must be established for blast overpressure from explosive materials and thermal radiation from flammable materials. According to the HUD ASD Electronic Assessment Tool, the ASD for thermal radiation for people is 540.74 feet and for buildings is 105.81 feet.[22] The ASD is less than the distance between the site and the tank. Therefore, under NEPA, the Proposed Project would have a ***no impact*** because it is located at an acceptable separation distance from a fire or explosive hazard.

Alternative 1 – Reduced Development Alternative

Impact HZ-1	**Effects Related to Hazardous Materials Emissions or Disposal** **CEQA: The Reduced Development Alternative would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Less than Significant)** **NEPA: The Reduced Development Alternative would not result in a human health or environmental hazard through the use or disposal of hazardous substances. (Less than Significant)**

Identical to the Proposed Project, construction of the Reduced Development Alternative (Alternative 1) would involve use of heavy equipment containing fuels and other hazardous products that would remain on site during the several-year period of construction activities. Compliance with mandatory hazardous materials regulations and SWPPP requirements, as described in Impact HZ-1 for the Proposed Project, would ensure that potential releases from the transport and use or disposal of hazardous materials during Project construction activities would be reduced to a ***less-than-significant*** level.

During operation of the proposed facilities, the residential, retail, and neighborhood services land uses in Alternative 1 would involve the use of relatively small quantities of hazardous materials for

[19] Gallon size was not available for the tanks. To be conservative in the analysis, 5,000 gallons is the assumed tank size.

[20] Pers Comm. Flannery, Eugene. San Francisco Major's Office of Housing. February 20, 2014.

[21] California Regional Water Boards. 2014. GeoTracker. Available: http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=1101+Connecticut+Street+San+Francisco+#5332. Accessed: March 3, 2014.

[22] U.S. Department of Housing and Urban Development. 2014. Acceptable Separation Distance (ASD) Electronic Assessment Tool. Available: http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/environment/asdcalculator. Accessed: March 3, 2014.

routine purposes, such as cleaners, disinfectants, and lawn care chemicals. Potential impacts are identical as described for the Proposed Project.

The impact would be ***less than significant*** under CEQA because the Reduced Development Alternative would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

The impact would be ***less than significant*** under NEPA because the Reduced Development Alternative would not result in a human health or environmental hazard through the use or disposal of hazardous substances.

Impact HZ-2	**Effects Related to Release of Hazardous Materials** **CEQA: The Reduced Development Alternative could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)** **NEPA: The Reduced Development Alternative could result in the release of hazardous substances that creates a human health or environmental hazard. (Less than Significant with Mitigation)**

The footprint of Alternative 1 would be the same as the Proposed Project and would involve demolition of existing structures. Therefore, the impacts associated with Alternative 1 would be identical to the Proposed Project, ***less than significant with mitigation*** under both CEQA and NEPA. Refer to Proposed Project, Impact HZ-2 for the impact analysis discussion.

Impact HZ-3	**Effects of Hazardous Materials on Schools** **CEQA: The Reduced Development Alternative could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. (Less than Significant with Mitigation)** **NEPA: This topic is not covered under NEPA.**

The footprint of Alternative 1 is within the study area for the Phase I ESAs for the Proposed Project. As with the Proposed Project, demolition of existing structures containing LBP or ACM, and site preparation in areas containing NOA or lead or asbestos in soils from buildings have the potential to release dust containing these hazardous materials if measures are not in place to control the dust emissions. As explained in the Proposed Project, Impact HZ-2, there is a comprehensive regulatory compliance mechanism in place for controlling potential airborne emissions of NOA, LBP, and ACM. Therefore, Alternative 1 impacts related to the emission or handling of hazardous materials/wastes in the vicinity of schools would be identical to the Proposed Project, ***less than***

significant with mitigation under CEQA. Refer to Proposed Project, Impact HZ -3, for the impact analysis discussion.

Impact HZ-4	**Effects Related to Hazardous Materials Sites** **CEQA: The Reduced Development Alternative would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. (No Impact)** **NEPA: The Reduced Development Alternative would not locate an occupied structure on filled land that contains toxic chemicals or radioactive materials at concentrations that would result in exposures above U.S. EPA acceptable risk levels, nor would it locate occupied structures on or near a site which could pose potential environmental hazards, such as dumps, landfills, or industrial locations that might contain hazardous wastes. (No Impact)**

Refer to Proposed Project, Impact HZ-4, for the impact analysis discussion for impacts related to the potential to create a significant hazard to the public or the environment due to site location.

The footprint of the Alternative 1 is within the study area for the Phase I ESAs for the Proposed Project. Identical to the Proposed Project, under CEQA, there would be ***no impact*** related to the potential to create a significant hazard to the public or the environment due to site location for Alternative 1. As for the Proposed Project, Alternative 1 Impact HZ-4, under NEPA, would result in a ***no impact.***

Impact HZ-5	**Effects on Emergency/Evacuation Plans** **CEQA: The Reduced Development Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)** **NEPA: This topic is not covered under NEPA.**

Construction activities for Alternative 1 would be similar to the Proposed Project. Therefore, the potential impacts on the emergency evacuation plan would be the identical to the Proposed Project. The impact would be ***less than significant*** under CEQA. Refer to Proposed Project, Impact HZ-5, for the impact analysis discussion.

Operation of Alternative 1 would be similar to the Proposed Project, and thus; potential impacts on the emergency evacuation plan would be similar to the Proposed Project. The impact would be ***less than significant*** under CEQA. Refer to Proposed Project, Impact HZ-5, for the impact analysis discussion.

Impact HZ-6	**Effects Related to Hazardous Fires** **CEQA: The Reduced Development Alternative would not expose people or structures to a significant risk of loss, injury or death involving fires. (Less than Significant)** **NEPA: The Reduced Development Alternative would be located at an acceptable separation distance from a fire or explosive hazards. (No Impact)**

Impacts of Alternative 1 would be the same as the Proposed Project. Alternative 1 would have a ***less-than-significant*** impact related to fire hazards. Refer to the Proposed Project, Impact HZ-6, for the impact analysis for the potential to expose people or structures to a significant risk of loss, injury or death involving fires.

Under NEPA, Alternative 1 would have a ***no impact*** because it is located at an acceptable separation distance from a fire or explosive hazard. Refer to the Proposed Project, Impact HZ-6, for the impact analysis related to acceptable separation distance from hazards.

Alternative 2 – Replacement Housing Alternative

Impact HZ-1	**Effects Related to Hazardous Materials Emissions or Disposal** **CEQA: The Housing Replacement Alternative would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Less than Significant)** **NEPA: The Housing Replacement Alternative could create a significant hazard through routine transport, use, disposal, handling or emission of hazardous materials. (Less than Significant)**

Construction of the Replacement Housing Alternative (Alternative 2) would involve use of heavy equipment containing fuels and other hazardous products, along with extensive amounts of concrete products, construction materials, and architectural finish items. These hazardous materials and vehicles would remain on site during the several-year period of construction activities. Compliance with mandatory hazardous materials regulations and SWPPP requirements, as described in Impact HZ-1 for the Proposed Project, would ensure that potential releases from the transport and use or disposal of hazardous materials during Project construction activities would be reduced to a ***less-than-significant*** level.

Alternative 2 would not involve new uses involving use of hazardous materials. Therefore, under CEQA, impacts with regard to hazardous materials transport, use and disposal would be ***less than significant***.

Under NEPA, impacts are considered ***less than significant*** because the Project would not result in human health of environmental hazard through the use or disposal of hazardous substances**.**

Impact HZ-2	**Effects Related to Release of Hazardous Materials**
	CEQA: The Housing Replacement Alternative could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)
	NEPA: The Housing Replacement Alternative could result in the release of hazardous substances that creates a human health or environmental hazard. (Less than Significant with Mitigation)

Alternative 2 would involve demolition of structures, identical to the Proposed Project, but it would not involve grading. Therefore, only the LBP and ACM impacts, associated regulatory requirements and mitigation would be identical to the Proposed Project. Refer to Proposed Project, Impact HZ-2, for the impact analysis discussion.

Naturally Occurring Asbestos

No grading would be involved with Alternative 2. Therefore, there would be no direct NOA impacts. However, if testing as required under Mitigation Measure M-HZ-2.1 indicate asbestos is present in soil (regardless of origin), identical to the Proposed Project, compliance with San Francisco Health Code Article 22B and implementation of Mitigation Measure M-HZ-2.2 would reduce the risk of an inadvertent release of NOA that could pose a human health or environmental risk.

Therefore, under CEQA, impacts related to the release of NOA would remain ***less than significant with mitigation***.

Under NEPA, Alternative 2 impacts related to the release of hazardous substances that creates a human health or environment hazard would be ***less than significant with mitigation***.

Impact HZ-3	**Effects of Hazardous Materials on Schools**
	CEQA: The Housing Replacement Alternative could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. (Less than Significant with Mitigation)
	NEPA: This topic is not covered under NEPA.

Demolition of existing structures containing LBP or ACM, and site preparation in areas containing NOA or lead or asbestos in soils from buildings have the potential to release dust containing these hazardous materials if measures are not in place to control the dust emissions. As explained in Impact HZ-2, there is a comprehensive regulatory compliance mechanism in place for controlling potential airborne emissions of NOA, LBP, and ACM. Implementation of regulatory requirements and Mitigation Measures M-HZ-2.1 through M-HZ-2.4 would reduce the potential for hazardous

materials emissions to be emitted within 0.25 mile of a school, and no additional mitigation would be necessary. Therefore, under CEQA, impacts related to the emission or handling of hazardous materials/wastes in the vicinity of schools would be ***less than significant with mitigation***.

Impact HZ-4	**Effects Related to Hazardous Materials Sites** **CEQA: The Housing Replacement Alternative would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. (No Impact)** **NEPA: The Housing Replacement Alternative would not locate an occupied structure on filled land that contains toxic chemicals or radioactive materials at concentrations that would result in exposures above U.S. EPA acceptable risk levels, nor would it locate occupied structures on or near a site which could pose potential environmental hazards, such as dumps, landfills, or industrial locations that might contain hazardous wastes. (No Impact)**

Refer to Proposed Project, Impact HZ-4, for the impact analysis discussion for impacts related to the potential to create a significant hazard to the public or the environment due to site location. Alternative 2 would create ***no impact*** under both CEQA and NEPA.

Impact HZ-5	**Effects on Emergency/Evacuation Plans** **CEQA: The Housing Replacement Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)** **NEPA: This topic is not covered under NEPA.**

Construction of Alternative 2 would not interfere with existing emergency operations plans. Similar to the Proposed Project, the current emergency operations and evacuation plans would continue to be maintained during construction, and existing routes and procedure would be maintained. Alternative 2 would not increase trips on local roadways. The existing streets would continue to provide access for emergency responders and egress for residents and workers. As such, under CEQA, Alternative 2 would have a ***less-than-significant*** impact on implementation of emergency response plan.

Impact HZ-6	**Effects Related to Hazardous Fires** **CEQA: The Housing Replacement Alternative would not expose people or structures to a significant risk of loss, injury or death involving fires. (Less than Significant)** **NEPA: The Housing Replacement Alternative would be located at an acceptable separation distance from a fire or explosive hazards. (No Impact)**

Refer to Proposed Project, Impact HZ-6, for the impact analysis discussion for impacts related to the potential to expose people or structures to a significant risk or loss, injury or death involving fires. Alternative 2 would have a ***less-than-significant*** impact under CEQA and ***no impact*** under NEPA.

Alternative 3 – No Project Alternative

Under the No Project Alternative, there would be no demolition or construction that could generate airborne emissions of LBP, ACM, or NOA or disturb soils containing hazardous materials. In the absence of construction, hazardous materials-related incidents such as fuel leaks from heavy equipment would not occur, and there would be no change in hazardous materials use or storage on-site. Therefore, ***no impact*** would occur under CEQA.

Similarly, under NEPA, the No Project Alternative would have ***no impact***.

Cumulative Impacts

Impacts associated with hazardous materials tend to be site specific, related to isolated incidents, and subject to specific regulations and/or mitigation measures. Therefore, these impacts are not likely to combine or become cumulatively considerable except under unusual circumstances.

Impact C-HZ-1	**Cumulative Hazards and Hazardous Materials Effects** **CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to hazards and hazardous materials. (Less than Significant)** **NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative hazards or hazardous materials impacts. (Less than Significant)**

Routine Hazardous Materials Use

Cumulative projects involving demolition and reconstruction would involve the routine use of hazardous materials, primarily in heavy equipment. The Proposed Project and the alternatives would incrementally contribute to this impact, although the impact would not be cumulatively considerable as impacts were determined to be less than significant in the project-level analysis.

Although foreseeable development associated with the Eastern Neighborhoods Plan could have potentially unique hazardous materials considerations during construction, all such existing and potential users would comply with the range of federal, state, and local statutes and regulations applicable to the use, transport and disposal of hazardous materials, and would be required to comply with existing and future programs of enforcement by the appropriate regulatory agencies, which are described in the *Regulatory Setting*. Compliance with these federal, state, and local laws and regulations pertaining to hazardous materials management, which have been promulgated over time and are proven effective in reducing risks, would be sufficient to minimize health and safety risks associated with cumulative development. In addition, stringent federal and state regulatory requirements also apply to the common carriers that would handle the delivery and transport of hazardous materials to and from locations where hazardous materials are used in cumulative development. While these regulations do not eliminate the potential for accidents and resulting spills, they would reduce the frequency of possible occurrences and would limit the number of people that could be exposed. Overall cumulative construction impacts would be ***less than significant***.

Soil and Groundwater Contamination

For the projects in the Eastern Neighborhoods Plan area that would involve the development or redevelopment of an existing site where soil or groundwater contamination may have occurred, the potential exists for release of hazardous materials during construction and/or remediation of those sites. For individuals not involved in construction activities, the greatest potential source of exposure to contaminants would be airborne emissions, primarily through construction-generated dust. Other potential pathways, such as direct contact with contaminated soils or groundwater, would not pose as great a risk to the public because such exposure scenarios would typically be confined to the construction zones. Assuming that site-specific risk management controls are implemented and compliance with applicable laws and regulations pertaining to site cleanup and hazardous materials management is achieved at all other locations, soil or water contamination in the identified geographic context would not result in significant cumulative impacts. Exposure to soil and groundwater contamination, inadvertent spills, etc. are all localized impacts that are not expected to combine with other incidents to create a cumulative impact for the same population or environment. Moreover, an individual who is near the construction zone of one source would not likely be exposed to maximum levels off-site from another source. Further, implementation of applicable hazardous materials management laws and regulations adopted at the federal, state, and local levels, which are explained in the *Regulatory Setting* and are enforced and monitored by SFDPH, would ensure impacts remain minimal.

The Proposed Project and the alternatives will require soil testing around building exteriors to determine whether remediation is necessary for lead or asbestos. This would be site-specific and remediation, if any, would be limited in extent. Mitigation measures have been identified to reduce the site-specific impact, and, therefore, off-site effects would not occur (including schools within 0.25

mile) and would not combine with effects elsewhere. Cumulative soil and groundwater contamination impacts would be ***less than significant***.

Hazardous Materials in Buildings and Naturally Occurring Asbestos

It is expected that demolition to accommodate redevelopment of other cumulative projects would result in the need to remove and dispose of items such as LBP and ACM. In addition, there are locations within the cumulative context where NOA could be disturbed during construction. However, such impacts are site-specific, would not be additive, and identical to the Proposed Project, must be managed in accordance with an established regulatory process to reduce risks to people and the environment. Cumulative impacts would be ***less than significant***.

Other Impact Considerations

Cumulative development would result in increased traffic. Emergency provider response times could be significantly impacted due to congestion at intersections, particularly for those projects that are farther away from fire and police stations. It is possible that emergency access to these sites could be impacted, but the SFFD and SFPD would require that these projects ensure that adequate emergency access to/from the sites is maintained. During the design review process of the projects, the City would require appropriate measures to ensure that emergency access is not impeded and that the developments include adequate emergency access to each development. While these other projects may result in changes to local roadways in terms of traffic volumes or design, the Proposed Project's and Alternative 1's circulation network changes would be limited to on-site improvements and would not affect off-site roadways such that emergency response would be affected. Therefore, these alternatives would have a less than cumulatively considerable contribution, and the cumulative impact would be ***less than significant***.

The impact would be ***less than significant*** under CEQA because the Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative hazards or hazardous materials impacts.

The impact would be ***less than significant*** under NEPA because the Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative hazards or hazardous materials impacts.

5.19 MINERAL AND ENERGY RESOURCES

5.19.1 Regulatory Framework

Federal

National Energy Conservation Policy Act

The National Energy Conservation Policy Act serves as the underlying authority for federal energy management goals and requirements. Signed into law in 1978, it has been regularly updated and amended by subsequent laws and regulations. This act is the foundation of most federal energy requirements.

State

California Green Building Standards Code

The 2010 California Green Building Standards Code, as specified in Title 24, Part 11, of the California Code of Regulations, specifies building standards to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. The provisions of this code apply to the planning, design, operation, construction, replacement, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout California.

Building Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the California Code of Regulations, were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The California Energy Commission adopted an update in 2008, and these standards became effective on January 1, 2010. California's building energy efficiency standards (along with those for energy-efficient appliances) have saved more than $56 billion in electricity and natural gas costs since 1978, and it is estimated that the standards will save an additional $23 billion by 2013.[1]

[1] California Energy Commission. *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*. Available: http://www.energy.ca.gov/title24/. Accessed: May 4, 2011.

Senate Bill 1078 and 107 and Executive Order S-14-08 and S-21-09

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, then-governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Portfolio Standard to 33 percent renewable power by 2020. In September 2009, then-governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the ARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020.

Local

Sustainability Plan for City and County San Francisco

The Sustainability Plan for City and County San Francisco, adopted in 1997, contains a set of general goals and specific objectives and actions for San Francisco to ensure that the city's current energy needs are met without sacrificing the ability of future generations to meet their own needs. The major energy goals expressed in the plan are to reduce overall power use by maximizing energy efficiency; to maintain an energy supply based on renewable, environmentally sound resources; to eliminate climate-changing and ozone-depleting emissions and toxic contaminants associated with energy production and use; and to base energy decisions on the goal of creating a sustainable society.

GoSolarSF

On July 1, 2008, the San Francisco Public Utilities Commission launched its "GoSolarSF" program to San Francisco's businesses and residents, offering incentives in the form of a rebate program that could pay for approximately half the cost of installation of a solar power system and more to those qualifying as low-income residents.

The San Francisco Planning Department and the San Francisco Department of Building Inspection have also developed a streamlining process for solar photovoltaic permits and priority permitting mechanisms for projects pursuing LEED Gold certification.

San Francisco Green Building Code

The CCSF Green Building Code is Chapter 13C of the San Francisco Building Code. The purpose of the Green Building Code is to promote the health, safety and welfare of San Francisco residents, workers, and visitors by minimizing the use and waste of energy, water and other resources in the construction and operation of the CCSF's building stock and by providing a healthy indoor environment. Under the Green Building Code, residential buildings over 75 feet in height, newly constructed commercial buildings over 5,000 square feet (sf), new first time build outs of commercial

interiors that are over 25,000 sf, and major alterations of over 25,000 sf in all buildings are subject to an unprecedented level of required LEED Green Building Rating System™ certifications. High-rise residential projects and large commercial projects (greater than 25,000 sf or a high-rise) are required to achieve LEED Silver certification, and achieve a 50 percent reduction in the use of potable water for landscaping and 30 percent reduction in water use. Effective January 1, 2012, large commercial projects must achieve LEED Gold certification and comply with LEED requirements for provision of on-site renewable energy. This ordinance combines the mandatory elements of the 2010 California Green Building Standards Code with stricter local requirements. Cumulative benefits of this ordinance include reducing CO_2 emissions by 60,000 tons, saving 220,000 megawatt-hours of power, saving 100 million gallons of drinking water, reducing waste and stormwater by 90 million gallons, reducing construction and demolition waste by 700 million pounds, increasing the valuations of recycled materials by $200 million, reducing 540,000 automobile trips, and increasing generation of green power by 37,000 megawatt-hours.[2]

5.19.2 Impacts and Mitigation Measures

Significance Thresholds under CEQA

The threshold for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the State CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. The Proposed Project would result in a significant impact related to mineral and energy resources if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan
- Encourage activities that result in the use of large amounts of fuel, water, or energy, or use these resources in a wasteful manner

Context and Intensity Evaluation Guidelines under NEPA

HUD guidance states that opportunities for energy efficiency should be considered when evaluating environmental effects. The specific criterion used to evaluate the Proposed Project's impact on energy resources is as follows:

- Incorporate insufficient energy efficiency measures or result in energy consumption requiring a significant increase in energy production for the energy provider.

[2] These findings are contained within the final Green Building Ordinance, signed by the Mayor on August 4, 2008.

Approach to Analysis

For the purposes of CEQA and NEPA, the approach to the analysis is a comparison of the impacts associated with the Proposed Project to the significance thresholds outlined above.

Impact Evaluation

Proposed Action

Impact ME-1	**Effects on Known Mineral Resources** **CEQA: The Proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. (No Impact)** **NEPA: This topic is not covered under NEPA.**

The Proposed Project is located in the Potrero Hill neighborhood, in a highly urbanized part of the city. As described in Section 4.19, *Mineral and Energy Resources*, all land in the city is classified as Mineral Resource Zone 4 (MRZ-4) by the California Division of Mines and Geology (CDMG). This designation indicates that there is inadequate information available for assignment to any other MRZ and thus the Project site is not a designated area of significant mineral resources. Further, The Environmental Protection Element of the City's General Plan states that mineral resources are not found in the city to any appreciable extent. Therefore, under CEQA, given the lack of mineral resources at the Project site, implementation of the Proposed Project would have ***no impact*** on availability of a known mineral resource.

Impact ME-2	**Effects on Mineral Resource Recovery Sites** **CEQA: The Proposed Project would not result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. (No Impact)** **NEPA: This topic is not covered under NEPA.**

As described in ME-1, above, there are no known significant mineral resources at the Project site or in the city in general. Due to the lack of such resources, minerals are not within the scope of the City's General Plan, Environmental Protection Element. Therefore, under CEQA, the Proposed Project would have ***no impact*** on a locally important mineral resource recovery site.

Impact ME-3	**Effects on Natural Resource Consumption**
	CEQA: The Proposed Project would not encourage activities that would result in the use of large amounts of fuel, water, energy, or other resources in a wasteful manner. (Less than Significant)
	NEPA: The Proposed Project would incorporate sufficient energy efficiency measures and would not result in energy consumption requiring a significant increase in energy production for the energy provider. (Less than Significant)

Construction of the Proposed Project would occur in three phases from 2015 to 2025 or longer. Construction activities would include abatement and demolition, site preparation and earthwork/grading, new infrastructure construction, and building construction; using typical equipment associated with these activities. Construction of the Proposed Project would be subject to various mitigation measures and City policies and ordinances, such as controls on equipment exhaust, renewable and locally sourced materials, and recycling and reduction of construction debris. Refer to Section 5.9, *Air Quality*, and Section 5.13, *Utilities and Service Systems*, of this document for further information regarding these measures. The above mentioned mitigation measures and City policies and ordinances would also serve to ensure that construction of the Proposed Project is conducted in a fuel-, energy-, and resource-efficient manner.

Under the Proposed Project, the Project site would be developed with up to 1,700 new housing units, parking, up to 15,000 sf of retail/flex space, and up to 35,000 sf of community space. As described in the Regulatory Setting, above, the Proposed Project would comply with Title 24 of the California Code of Regulations and the City's Green Building Code both of which require achievement of various levels of energy efficiency in building design and operation. In addition, as described in Sections 4.10 and 5.10, *Greenhouse Gas Emissions*, the Proposed Project as a whole would be built to LEED-ND standards. Further, the Project site is served by the San Francisco Municipal Railway (Muni) system, and the Proposed Project would relocate/consolidate existing bus stops and create new transit stops along the reconfigured street system. Residents, employees, and visitors would be able to access the Project site via the City's public transit system, thereby reducing transportation-related fuel demand.

Therefore, the Proposed Project would result in a ***less-than-significant*** impact under CEQA because the project would not encourage activities that result in the use of large amounts of fuel, water, or energy, or use these resources in a wasteful manner.

Therefore, the energy demand associated with the Proposed Project would result in a ***less-than-significant*** impact under NEPA because it would incorporate sufficient energy efficiency measures and would not result in energy consumption requiring a significant increase in energy production for the energy provider.

Alternative 1 – Reduced Development Alternative

Impact ME-1	**Effects on Known Mineral Resources** **CEQA: The Reduced Development Alternative would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. (No Impact)** **NEPA: This topic is not covered under NEPA.**

As described in the ME-1 impact analysis for the Proposed Project, above, there are no significant, known, mineral resource deposits in the city. Therefore under CEQA, implementation of Alternative 1, similar to the Proposed Project, would have ***no impact*** on the availability of a known mineral resource.

Impact ME-2	**Effects on Mineral Resource Recovery Sites** **CEQA: The Reduced Development Alternative would not result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. (No Impact)** **NEPA: This topic is not covered under NEPA.**

As described in ME-1, above, the there are no significant mineral resources at the Project site, or in the city in general. Due to the lack of such resources, minerals are not within the scope of the City's General Plan, Environmental Protection Element. Therefore, under CEQA, implementation of Alternative 1 would have ***no impact*** on a locally important mineral resource recovery site.

Impact ME-3	**Effects on Natural Resource Consumption** **CEQA: The Reduced Development Alternative would not encourage activities that would result in the use of large amounts of fuel, water, energy, or other resources in a wasteful manner. (Less than Significant)** **NEPA: The Reduced Development Alternative would incorporate sufficient energy efficiency measures and would not result in energy consumption requiring a significant increase in energy production for the energy provider. (Less than Significant)**

Construction of Alternative 1 would occur in three phases and on the same schedule as the Proposed Project. Construction activities, equipment, and mitigations would be similar to those described under ME-1, above. However, because Alternative 1 would limit building heights to 40 feet, fewer residential units would be constructed, and there would be an associated minor reduction in construction materials and equipment use compared to the Proposed Project.

Due to the reduced number of residential units and square footage of the community space, Alternative 1 would accommodate fewer residents and visitors than the Proposed Project. This

reduction in occupants would result in minor reductions in energy and water demand when compared with the Proposed Project (the reduction in water demand is described in Section 5.13, *Utilities and Service Systems*). Alternative 1 would be subject to the same efficient building standards as described for the Proposed Project in ME-1, above.

Therefore, Alternative 1 would result in a ***less-than-significant*** impact under CEQA because the project would not encourage activities that result in the use of large amounts of fuel, water, or energy, or use these resources in a wasteful manner.

Therefore, the energy demand associated with Alternative 1 would result in a ***less-than-significant*** impact under NEPA because it would incorporate sufficient energy efficiency measures and would not result in energy consumption requiring a significant increase in energy production for the energy provider.

Alternative 2 – Housing Replacement Alternative

Impact ME-1	**Effects on Known Mineral Resources** **CEQA: The Housing Replacement Alternative would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. (No Impact)** **NEPA: This topic is not covered under NEPA.**

As described in ME-1, above, there are no significant known mineral resource deposits in the city. Therefore, implementation of Alternative 2, similar to the Proposed Project and Alternative 1, would have ***no impact*** on the availability of a known mineral resource.

Impact ME-2	**Effects on Mineral Resource Recovery Sites** **CEQA: The Housing Replacement Alternative would not result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. (No Impact)** **NEPA: This topic is not covered under NEPA.**

As described in ME-1, above, the there are no known significant mineral resources at the Project site, or in the city in general. Due to the lack of such resources, minerals are not within the scope of the City's General Plan, Environmental Protection Element. Therefore, under CEQA, implementation of the Alternative 2 would have ***no impact*** on a locally important mineral resource recovery site.

Impact ME-3	**Effects on Natural Resource Consumption**
	CEQA: The Housing Replacement Alternative would not encourage activities that would result in the use of large amounts of fuel, water, energy, or other resources in a wasteful manner. (Less than Significant)
	NEPA: The Housing Replacement Alternative would incorporate sufficient energy efficiency measures and would not result in energy consumption requiring a significant increase in energy production for the energy provider. (Less than Significant)

Implementation of Alternative 2 would result in a 1:1 replacement of the existing housing units, pre-school, child day care center, and parking facilities on the Project site using the same building pattern the currently exists. Alternative 2 would result in the demolition and construction of 620 housing units as compared to 1,700 under the Proposed Project, and 1,280 under Alternative 1. Therefore, construction of Alternative 2 would require fewer building materials and less overall construction activity than the Proposed Project or Alternative 1.

Similar to the Proposed Project and Alternative 1, Alternative 2 would be subject to applicable State and local regulations pertaining to energy and water efficient building design. This alternative would result in the lowest development density and occupation in comparison to the previous two alternatives, implementation of Alternative 2 would also not encourage activities that would result in the wasteful use of renewable and non-renewable resources.

Therefore, Alternative 2 would result in a ***less-than-significant*** impact under CEQA because the project would not encourage activities that result in the use of large amounts of fuel, water, or energy, or use these resources in a wasteful manner.

Therefore, the energy demand associated with Alternative 2 would result in a ***less-than-significant*** impact under NEPA because it would incorporate sufficient energy efficiency measures and would not result in energy consumption requiring a significant increase in energy production for the energy provider.

Alternative 3 – No Project Alternative

As described in ME-1, above, there are no significant, known, mineral resource deposits in the city. Therefore, the continuation of uses, buildings, and infrastructure at the Project site would have ***no impact*** on the availability of a known mineral resource under CEQA. Alternative 3 would have a ***less-than-significant*** impact on mineral resources under NEPA.

As described in ME-2, above, there are no known significant mineral resources at the Project site, or in the city in general. Due to the lack of such resources, minerals are not within the scope of the City's General Plan, Environmental Protection Element. Therefore, the continuation of uses, buildings, and infrastructure at the Project site would have ***no impact*** on a locally important mineral

resource recovery site. Under NEPA, Alternative 3 would have ***no impact*** on locally important mineral resources.

Alternative 3 would result in the continued use of the existing Potrero Terrace and Potrero Annex affordable housing developments. As such, there would be no demolition or construction associated with this alternative. Although Alternative 3 would result in lower short-term energy and natural resource demands than the previous three alternatives due to the lack of construction, the existing development on the Project site was constructed over 50 years ago, and, therefore, lacks the energy and water efficiencies that would be designed into the three build alternatives. On the balance, continued use of existing development at the Project site would not result in the wasteful consumption of fuel, water, energy, or the resources, resulting in a ***less-than-significant*** impact. Under NEPA, Alternative 3 would have ***no impact*** on energy resources.

Cumulative Impacts

The context for consideration of cumulative mineral and energy resource impacts is the entire City of San Francisco. Cumulative impacts occur when significant impacts from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area.

Impact C-ME-1	**Cumulative Effects on Minerals and Energy** **CEQA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse cumulative mineral and energy impacts. (No Impact)** **NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant adverse cumulative energy impact. (No Impact)**

The Proposed Project is located in the Potrero Hill neighborhood, in a highly urbanized part of the city. As described in Section 4.19, *Mineral and Energy Resources*, all land in the city is classified as Mineral Resource Zone 4 (MRZ-4) by the CDMG. This designation indicates that there is inadequate information available for assignment to any other MRZ and thus the Project site is not a designated area of significant mineral resources. Further, The Environmental Protection Element of the City's General Plan states that mineral resources are not found in the city to any appreciable extent.

The Proposed Project and its alternatives would develop the site to be more energy- and water-efficient. Because the existing site is over 50 years old, the Proposed Project and its alternatives would result in a new development that would demand less energy than existing buildings.

Therefore, cumulative impacts related to wasteful use of energy resources would be ***less than significant*** under NEPA because the Proposed Project or its alternatives, in combination with other

past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative energy impacts.

Cumulative impacts would be ***less than significant*** under CEQA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative mineral and energy impacts.

5.20 AGRICULTURAL AND FOREST RESOURCES

5.20.1 Regulatory Framework

Federal

Farmland Protection Policy Act

The Natural Resources Conservation Service (NCRS) is the agency primarily responsible for implementing the Federal Farmland Protection Act (FFPA). The purpose of the FFPA is to minimize federal contributions to the conversion of farmland to nonagricultural uses by ensuring that federal programs are administered in a manner compatible with state government, local government, and private programs designed to protect farmland.

NRCS administers the FFPA, which is a voluntary program that provides funds to help purchase development rights to keep productive farmland in agricultural uses. The program provides matching funds to state, local, or tribal government entities and nongovernmental organizations with existing farmland protection programs to purchase conservation easements. Participating landowners agree not to convert the land to nonagricultural use and retain all rights to the property for future agriculture. A minimum 30-year term is required for conservation easements, and priority is given to applications with perpetual easements. NRCS provides up to 50 percent of the fair market value of the easement.

State

The California Land Conservation Act of 1965

The California Land Conservation Act of 1965, also known as the Williamson Act[1], is a voluntary tax incentive program for preserving agricultural land and open space. A 10-year contract is entered into by the county and the property owner. The county places restrictions on the use of the land, thereby guaranteeing that it will remain as agricultural use or open space. In return, the property owner is guaranteed that the property will be taxed according to the income it can generate from agriculture or other compatible uses, instead of its full market value.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program provides an analysis of agricultural land use and land use changes throughout California. The program provides agricultural use conversion information for decision makers to use in their planning for present and future uses of California's

[1] California Department of Conservation, *Williamson Act Maps, Division of Land Resource Protection*, available online: <ftp://ftp.consrv.ca.gov/pub/dlrp/wa/>, accessed May 14, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

agricultural land resources. This program includes preparation of bi-annual "Important Farmland Maps" that designate Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance.

5.20.2 Impacts and Mitigation Measures

Significance Thresholds under CEQA

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. The Proposed Project and its alternatives would have a significant impact on agricultural and forest resources if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526);
- Result in the loss of forest land or conversion of forest land to nonforest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forest land to nonforest use.

Context and Intensity Evaluation Guidelines under NEPA

The FFPA discourages federal activities that would convert farmland to nonagricultural purposes. Prime and important farmland includes all land that is defined as prime, unique, or farmlands of statewide or local importance. In addition, HUD guidance states that the suitability of soils for farmland or forestry use should be considered when evaluating environmental effects. The specific criteria used to evaluate the Proposed Project's effect on agricultural resources are:

- Contribute to the unnecessary conversion of prime and important farmland to nonagricultural uses; and
- Significantly affect soils that may be better suited for natural resource management activities such as farming or forestry.

Approach to Analysis

This analysis of agricultural and forest resources is based on information from the California Department of Conservation's Farmland Mapping and Monitoring Program and the federal FFPA. In determining whether impacts on forest resources, including timberland, are significant

environmental effects, this analysis relies on information compiled by the California Department of Forestry and Fire Protection.

Impact Evaluation

Proposed Project

Impact AG-1	**Effects on Farmland and Forestry** **CEQA: The Proposed Project would not (a) convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; (b) conflict with existing zoning for agricultural use, or a Williamson Act contract; (c) conflict with existing zoning for or cause rezoning of forest land or timberland; (d) result in the loss of forest land or conversion of forest land to nonforest use; or (e) involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forest land to nonforest use. (No Impact)** **NEPA: The Proposed Project would not contribute to the unnecessary conversion of prime or important farmland to nonagricultural uses or significantly affect soils that may be better suited for natural resource management activities such as farming or forestry. (No Impact)**

The Proposed Project is located in a highly urbanized area of San Francisco. The Farmland Mapping and Monitoring Program identifies the Project site as "Urban and Built-Up Land." Since the Proposed Project does not contain agricultural uses and is not zoned for agriculture, implementation of the Proposed Project would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use.

The Project site is zoned RM-2 and is not zoned for agriculture. Under the Proposed Project, the site would obtain a *Planning Code* amendment to allow a portion of the site to be rezoned from P to RM-2; approval of a Special Use District (SUD) to allow the transfer of densities across newly created lots and to allow more retail uses; and approval of height and bulk map amendments to accommodate the increased heights. However, the site would not be rezoned to a designation that would allow agricultural uses. Further, implementation of the Proposed Project would not conflict with existing zoning for agricultural land uses or a Williamson Act contract because no such zoning or Williamson Act contracts exist on or around the Project site.

Since no forest lands are identified in San Francisco (as defined in Public Resources Code [PRC] Section 12220(g)), the Project site is not considered "forest land." Therefore, the Proposed Project would not result in conflicts with existing zoning for, or cause rezoning of, forest land. Additionally, there is no timberland (as defined by PRC Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)) in the Project area. Therefore, implementation of the Proposed Project would not result in conflicts with existing zoning for, or cause rezoning of, forest land or timberland.

As stated above, the Project site does not contain forest land, as defined by PRC Section 12220(g). Accordingly, implementation of the Proposed Project would not result in the loss of forest land or conversion of forest land to nonforest use.

There would be ***no impact*** under CEQA because the Proposed Project would not (a) convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; (b) conflict with existing zoning for agricultural use, or a Williamson Act contract; (c) conflict with existing zoning for or cause rezoning of forest land or timberland; (d) result in the loss of forest land or conversion of forest land to nonforest use; or (e) involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forest land to nonforest use.

Likewise, there would be ***no impact*** under NEPA because the proposed project would not contribute to the unnecessary conversion of prime or important farmland to nonagricultural uses or significantly affect soils that may be better suited for natural resource management activities such as farming or forestry.

Alternative 1 – Reduced Development Alternative

Impact AG-1	**Effects on Farmland and Forestry** **CEQA: The Reduced Development Alternative would not (a) convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; (b) conflict with existing zoning for agricultural use, or a Williamson Act contract; (c) conflict with existing zoning for or cause rezoning of forest land or timberland; (d) result in the loss of forest land or conversion of forest land to nonforest use; or (e) involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forest land to nonforest use. (No Impact)** **NEPA: The Reduced Development Alternative would not contribute to the unnecessary conversion of prime or important farmland to nonagricultural uses or significantly affect soils that may be better suited for natural resource management activities such as farming or forestry. (No Impact)**

Like the Proposed Project, Alternative 1 would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use and would not conflict with existing zoning for agricultural land uses or a Williamson Act contract because no such zoning or Williamson Act contracts exist on or around the Project site. In addition, the Project site does not support farmland or forest land and, therefore, would not result in the conversion of farmland to nonfarmland or conversion of forest land to nonforest use.

There would be ***no impact*** under CEQA because Alternative 1 would not (a) convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; (b) conflict with existing zoning for agricultural use, or a Williamson Act contract; (c) conflict with existing zoning for or cause

rezoning of forest land or timberland; (d) result in the loss of forest land or conversion of forest land to nonforest use; or (e) involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forest land to nonforest use.

Likewise, there would be ***no impact*** under NEPA because Alternative 1 would not contribute to the unnecessary conversion of prime or important farmland to nonagricultural uses or significantly affect soils that may be better suited for natural resource management activities such as farming or forestry.

Alternative 2 – Housing Replacement Alternative

Impact AG-1	**Effects on Farmland and Forestry** **CEQA: The Housing Replacement Alternative would not (a) convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; (b) conflict with existing zoning for agricultural use, or a Williamson Act contract; (c) conflict with existing zoning for or cause rezoning of forest land or timberland; (d) result in the loss of forest land or conversion of forest land to nonforest use; or (e) involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forest land to nonforest use. (No Impact)** **NEPA: The Housing Replacement Alternative would not contribute to the unnecessary conversion of prime or important farmland to nonagricultural uses or significantly affect soils that may be better suited for natural resource management activities such as farming or forestry. (No Impact)**

Like the Proposed Project, Alternative 2 would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use and would not conflict with existing zoning for agricultural land uses or a Williamson Act contract because no such zoning or Williamson Act contracts exist on or around the Project site. In addition, the Project site does not support farmland or forest land and, therefore, the Proposed Project would not result in the conversion of farmland to nonfarmland or conversion of forest land to nonforest use.

There would be ***no impact*** under CEQA because Alternative 2 would not (a) convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; (b) conflict with existing zoning for agricultural use, or a Williamson Act contract; (c) conflict with existing zoning for or cause rezoning of forest land or timberland; (d) result in the loss of forest land or conversion of forest land to nonforest use; or (e) involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forest land to nonforest use.

Likewise, there would be ***no impact*** under NEPA because Alternative 2 would not contribute to the unnecessary conversion of prime or important farmland to nonagricultural uses or significantly affect

soils that may be better suited for natural resource management activities such as farming or forestry.

Alternative 3 – No Project Alternative

Under Alternative 3, no construction would occur. Since the Project site is located in a highly urban area that does not contain agricultural uses and is not zoned for agriculture uses, no impacts would occur under this alternative.

As stated above, no construction would occur under this alternative. Furthermore, the Project area is not considered "forest land," as defined by PRC Section 12220(g) and there is no timberland (as defined by PRC Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).

There would be ***no impact*** under CEQA because Alternative 3 would not (a) convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; (b) conflict with existing zoning for agricultural use, or a Williamson Act contract; (c) conflict with existing zoning for or cause rezoning of forest land or timberland; (d) result in the loss of forest land or conversion of forest land to nonforest use; or (e) involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forest land to nonforest use.

Likewise, there would be ***no impact*** under NEPA because Alternative 3 would not contribute to the unnecessary conversion of prime or important farmland to nonagricultural uses or significantly affect soils that may be better suited for natural resource management activities such as farming or forestry.

Cumulative Impacts

The geographic context for cumulative agricultural resources impacts is the entire City of San Francisco. Cumulative impacts occur when significant impacts from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area.

Impact C-AG-1	**Cumulative Effects to Agricultural and Forestry Resources** **CEQA and NEPA: The Proposed Project and its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to agricultural or forest resources. (No Impact)**

The city is highly developed with urban uses and is therefore not agricultural in nature. The entire city is identified as Urban and Built-Up Land by the Department of Conservation and does not

contain any important farmland.[2] No forest land is identified within the City of San Francisco (as defined by Public Resources Code (PRC) Section 12220(g)). The Proposed Project and its alternatives, combined with other proposed cumulative projects, would have no impact on agricultural and forest resources; and thus would not create or contribute to cumulative impacts on agricultural or forest resources.

Therefore, there would be ***no impact*** under CEQA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative agricultural resource or forestry impacts.

Also, there would be ***no impact*** under NEPA because the Proposed Project or its alternatives, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative agricultural resource or forestry impacts.

[2] California Department of Conservation (DOC), Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Important Farmland in California (2006, map published January 2009), http://www.conservation.ca.gov/dlrp/fmmp/overview/Documents/fmmp2006_08_11.pdf (accessed June 25, 2012).

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CHAPTER 6 Other CEQA/NEPA Considerations

6.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines requires a brief description of any possible significant effects that were determined not to be significant and were, therefore, not analyzed in Chapter 5, *Environmental Consequences*. All CEQA and National Environmental Policy Act (NEPA) topics are fully reviewed in this Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS).

6.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

In accordance with Section 21061 of CEQA and with Sections 15126(b) and 15126.2(b) of the CEQA Guidelines, the purpose of this section is to identify environmental impacts that cannot be eliminated or reduced to less-than-significant levels by implementation of mitigation measures included in the Proposed Project or identified in Chapters 4 and 5.

The Proposed Project, Alternative 1, Alternative 2, and Alternative 3 with mitigation, would result in the following significant, unavoidable project-level and cumulative impacts. The mitigation measures would reduce the significant impacts, but not to a less-than-significant level.

Proposed Project

Exceed Transit Capacity Threshold. The Proposed Project would increase ridership on the Muni 10 Townsend line, which would result in an exceedance of Muni's 85 percent capacity utilization threshold. (TR-4a)

Construction-Related Traffic Impacts. The Proposed Project would involve extensive construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures. (TR-14a)

Cumulative Intersection Impacts. The Proposed Project would result in a cumulatively considerable contribution to delay exceedances at four intersections: #3—Pennsylvania Avenue/SB I-280 Off-Ramp, #4—25th Street/Indiana Street/NB I-280 On-Ramp, #12—Cesar Chavez Street/Vermont Street, and #13—Cesar Chavez Street/US 101 Off-Ramp. (C-TR-1b)

Cumulative Transit Capacity Impacts. The Proposed Project would result in a cumulatively considerable contribution to capacity utilization exceedances on the 10 Townsend and 48 Quintara-24th Street Muni lines. (C-TR-4a)

Cumulative Muni Screenline Impacts. The Proposed Project would result in a cumulatively considerable contribution to capacity utilization exceedances on Muni Southeast screenline. (C-TR-5a)

Substantial Permanent Increase in Ambient Noise. The Proposed Project would cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Proposed Project. (NO-3)

Violation of Air Quality Standard. The Proposed Project would violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (AQ-2)

Cumulative Air Quality Impacts. The Proposed Project, in combination with other past, present, and reasonably foreseeable future projects, would result in a significant cumulative impact related to air quality. (C-AQ-1)

Alternative 1 – Reduced Development Alternative

Exceed Transit Capacity Threshold. Alternative 1 would increase ridership on the Muni 10 Townsend line, which would result in an exceedance of Muni's 85 percent capacity utilization threshold. (TR-4a)

Construction-Related Traffic Impacts. Alternative 1 would involve extensive construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures. (TR-14a)

Cumulative Intersection Impacts. Alternative 1 would result in a cumulatively considerable contribution to delay exceedances at four intersections: #3—Pennsylvania Avenue/SB I-280 Off-Ramp, #4—25th Street/Indiana Street/NB I-280 On-Ramp, #12—Cesar Chavez Street/Vermont Street, and #13—Cesar Chavez Street/US 101 Off-Ramp. (C-TR-1b)

Cumulative Transit Capacity Impacts. Alternative 1 would result in a cumulatively considerable contribution to capacity utilization exceedances on the 10 Townsend and 48 Quintara–24th Street Muni lines. (C-TR-4a)

Cumulative Muni Screenline Impacts. Alternative 1 would result in a cumulatively considerable contribution to capacity utilization exceedances on Muni Southeast screenline. (C-TR-5a)

Substantial Permanent Increase in Ambient Noise. Alternative 1 would cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Proposed Project. (NO-3)

Violation of Air Quality Standard. Alternative 1 would violate an air quality standard, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (AQ-2)

Cumulative Air Quality Impacts. Alternative 1, in combination with other past, present, and reasonably foreseeable future projects, would result in a significant cumulative impact related to air quality. (C-AQ-1)

Alternative 2 – Housing Replacement Alternative

Construction-Related Traffic Impacts. Alternative 2 would involve extensive construction over several years that could result in the following temporary conditions: street closures and detours, rerouting of Muni lines and bus stops, and sidewalk closures. (TR-14a)

Alternative 3 – No Project Alternative

Seismic Effects. The No Project Alternative would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: ruptures of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.

6.3 GROWTH INDUCEMENT

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss "the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth…. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

Direct Growth

Growth can be induced directly through the construction of substantial new housing to attract additional population.

Indirect Growth

Growth can also be induced indirectly by creating substantial new employment opportunities that attract employees to the area, in turn stimulating demand for additional housing or public services to serve the added workforce, or by extending to a previously unserved area infrastructure needed to support residential or economic growth, such as roads or essential utility services. Growth inducement analysis under CEQA considers the ways in which proposed projects could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.[1] Projects that are traditionally or most commonly considered growth inducing are those that would remove obstacles to population growth, such as

[1] CEQA Guidelines, Section 15126.2(d).

the extension of roadways and/or public utilities service and/or infrastructure to previously underserved areas.

Growth inducement may lead to adverse environmental impacts if the induced growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected and thus would lead to adverse physical effects that might not occur otherwise. Local land use plans provide for land use development patterns and growth policies that encourage orderly urban development supported by adequate urban public services such as water supply, roadway infrastructure, sewer services, and solid waste services. A project that would induce "disorderly" growth (i.e., growth that would conflict with the local land use plans) could indirectly cause additional adverse environmental impacts and other public services impacts, such as increased demand for public services, increased traffic and noise, degradation of air or water quality, or conversion of agricultural and open space land to urban uses.

The San Francisco HOPE SF Program, a partnership between the San Francisco Mayor's Office of Housing and Community Development (MOHCD) and the San Francisco Housing Authority (SFHA), proposes to redevelop the Potrero housing developments as a part of its program to revitalize distressed public housing developments in San Francisco. Built in two phases in 1941 and 1955, the Potrero site comprises two of the oldest public housing developments in San Francisco, Potrero Terrace and Potrero Annex. Together, these public housing developments house a population of approximately 1,280 people. The following discusses the growth inducement under the Proposed Project and its alternatives.

Proposed Project. The Proposed Project would increase the number of dwelling units on the site from 620 to approximately 1,700, an increase of approximately 1,080 residential units. The final number of units is dependent on the unit mix. Of the new units, 620 would be replacement public housing dwelling units, on a one-for-one basis, that would remain affordable housing, subsidized by the SFHA, but under management by and the ownership of the project applicant or related entities.[2] Of the additional approximately 1,080 units, approximately 450 units would be affordable housing while approximately 630 units would be market rate housing. Up to 15,000 square feet (sf) of ground-floor, neighborhood-serving retail or flex space[3] would be developed along 24th Street between Arkansas Street and Missouri Street and at the corner of 25th Street and Connecticut Street.

The Proposed Project would include a Community Center and open space throughout the Project site. The Community Center, which would include daycare and preschool facilities, would be located on 24th Street between Arkansas Street and Missouri Street and would be up to 35,000 sf in

[2] This Draft EIR/EIS states throughout that there are 620 units at the Project site. Due to a change in the use of units (i.e., formerly residential units being used for daycare), there are currently 606 units available for occupancy at the Project site. The analysis in this Draft EIR/EIS assumes that 620 residential units are present.

[3] Areas defined as flex space would ideally be used for retail and commercial uses. If demand is low for retail and commercial uses, flex space would also allow active live/work use.

size. The Proposed Project would include approximately 1,055 off-street parking spaces, primarily as underground or structured parking garages, with 45 of these being handicap accessible and approximately 600 unmetered on-street parking spaces.

As a result of the Proposed Project, population on the Project site would have a net increase of up to 2,596 residents[4] and up to 72 employees.[5] As shown in Table 4.4-2 in Section 4.4, *Socioeconomics and Community*, the household population in San Francisco is expected to increase from 780,971 residents in 2010 to 913,000 residents in 2030,[6] for a net increase of approximately 132,000 household residents. As such, the residential component of the Proposed Project would be approximately 2 percent of the projected total household population growth from 2010 to 2030. This increase in the household population is within the Association of Bay Area Governments' (ABAG) forecasts for the and would not represent a significant amount of unplanned growth in relation to the rest of the city.

New residential units at the Project site would help to address citywide need for housing in which job growth and in-migration exceed the supply of new housing. Future development under the Proposed Project would result in up to approximately 1,700 dwelling units, a net increase of 1,080 units over existing conditions. With the new housing construction, the Proposed Project would increase the city's overall housing stock. However, implementation of the Proposed Project would not represent a significant growth in housing in the context of the city as a whole, which is projected to have an increase of 54,889 households between 2010 and 2030.[7] The Proposed Project would represent approximately 2 percent of the projected household growth by 2030.

The Project site also includes building management, daycare center providers, and a Family Resource Center. Currently, there are approximately 15 people employed at the Project site for these uses. The Proposed Project would continue these services during construction and operation; therefore, these jobs would not be lost as a result of the Proposed Project. The Proposed Project would employ approximately 72 individuals.[8] The employment generated by this alternative would result in a net increase of approximately 72 employees, which could result in a corresponding demand for approximately 72 new housing units, assuming that each employee would have its own household and move into the city rather than commute from adjacent jurisdictions. However, this demand would not be substantial in context of citywide housing growth over the next 20 years.

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[4] 1,700 units under the Proposed Project x 2.28 persons per household = 3,876 residents. Therefore, the net increase (3,876 future residents – 1,280 existing residents) in project site population would be approximately 2,596.

[5] Van Meter Williams Pollack. 2011. *Potrero Master Plan Employee Projections*. San Francisco, CA. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

[6] Please note that although construction is expected to last until 2025, as discussed in Chapter 2, *Project Description and Alternatives*, full occupancy of the Proposed Project is not expected until a few years after. As such, this analysis uses 2030 as the buildout year.

[7] ABAG Projections (2009).

[8] Van Meter Williams Pollack. 2011. *Potrero Master Plan Employee Projections*. San Francisco, CA.

The Proposed Project is located in an urban area that is already served by the city's municipal infrastructure and public services. The Proposed Project would not directly or indirectly induce new development that would result in the expansion of municipal infrastructure or public services not already under construction or included with the Proposed Project. Furthermore, the Proposed Project would not result in development of new public services that would accommodate significant further growth. For these reasons, the Proposed Project would not be considered to result in significant growth-inducing impacts.

Reduced Development Alternative (Alternative 1). Similar to the Proposed Project, Alternative 1 would replace all 620 existing housing units; incorporate additional affordable housing and market-rate homes into the community; and add amenities such as open space, retail opportunities, and neighborhood services. Including the 620 public housing units, Alternative 1 would build up to 1,280 homes, new vehicle connections, new pedestrian connections, a new circulation concept, and new transit stops.

As a result of Alternative 1, population in the Project site would have a net increase up to 1,638 residents[9] and up to 72 employees.[10] The residential component of this alternative would be approximately 1.2 percent of the projected total household population growth from 2010 to 2030. This increase in the household population is within the ABAG forecasts for the city and would not represent a significant amount of unplanned growth in relation to the rest of the city.

New residential units at the Project site would help to address citywide need for housing in which job growth and in-migration exceed the supply of new housing. Future development under Alternative 1 would result in up to approximately 1,280 dwelling units, a net increase of 660 units over existing conditions. This would represent approximately 1.2 percent of the projected household growth between 2010 and 2030. In addition, Alternative 1 would employ approximately 72 individuals. The employment generated by this alternative would result in a net increase of approximately 72 employees, which could result in a corresponding demand for approximately 72 new housing units, assuming that each employee would have its own household and move into the city rather than commute from adjacent jurisdictions. However, similar to the Proposed Project, this demand would not be substantial in context of citywide housing growth over the next 20 years.

Similar to the Proposed Project, Alternative 1 is located in an urban area that is already serviced by the city's municipal infrastructure and public services and would not directly or indirectly induce new development that would result in the expansion of municipal infrastructure or public services

[9] 1,280 units under the Reduced Development Alternative x 2.28 persons per household = 2,918 residents. Therefore, the net increase (2,918 future residents – 1,200 existing residents) in project site population would be approximately 1,718.

[10] Van Meter Williams Pollack, Potrero Master Plan Employee Projections, San Francisco, CA (2011). This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2010.0515E.

not already under construction or included with the Proposed Project. This alternative would not result in development of new public services that would accommodate significant further growth. For these reasons, Alternative 1 would not be considered to result in significant growth-inducing impacts.

Housing Replacement Alternative (Alternative 2) and No Project Alternative (Alternative 3). Alternative 2 would demolish the existing 620 affordable housing units and construct 620 replacement units in the same development pattern as existing conditions. Alternative 3 would leave the Project site as-is. Therefore, neither alternative would increase the existing population either directly (with the construction of additional housing units) or indirectly (with the introduction of new jobs). In addition, these alternatives would not require new infrastructure or public services that could induce further population growth. As such, Alternatives 2 and 3 would not result in growth-inducing impacts.

6.4 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

In accordance with Section 21100(b)(2)(B) of CEQA, and Section 15126.2(c) of the CEQA Guidelines, an EIR must identify any significant irreversible environmental changes that could result from implementation of the Proposed Project. This may include current or future uses of nonrenewable resources, and secondary or growth-inducing impacts that commit future uses of nonrenewable 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.

Similarly, NEPA requires that an environmental analysis include identification of "…any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented" (42 USC §4332). Such irreversible and irretrievable commitments are related to the use of nonrenewable resources and the effects that this use could have on future generations.

In general, such irreversible commitments include resources such as energy consumed and construction materials used in construction of a proposed project, as well as the energy and natural resources (notably water) that would be required to sustain a project and its inhabitants or occupants over the usable life of the project.

Implementation of the Proposed Action, Alternative 1, and Alternative 2 would result in the irreversible and irretrievable commitment of energy and material resources during project construction and maintenance, including the following:

- Construction materials, including soils, rocks, lumber, concrete, sand, gravel, asphalt, masonry, metals, and water

- Land area committed to new project facilities
- Energy expended in the form of electricity, natural gas, gasoline, diesel fuel, and oil for equipment and transportation vehicles that would be needed for project construction, operation, and maintenance

The use of these nonrenewable resources is expected to account for only a small portion of the region's resources and would not affect the availability of these resources for other needs within the region. Construction activities would not result in inefficient use of energy or natural resources. Construction contractors selected would use best available engineering techniques, construction and design practices, and equipment operating procedures. Long-term operation of the Proposed Action, Alternative 1, and Alternative 2 would not result in substantial long-term consumption of energy and natural resources.

CEQA further requires consideration of potential energy impacts of a Proposed Project (PRC Section 2100(b)(3)). Appendix F of the CEQA Guidelines outlines issues related to energy conservation and includes potential project description considerations, types of impacts applicable to energy use, and potential mitigation measures to reduce wasteful, inefficient, and unnecessary consumption of energy. According to CEQA, the goal of energy conservation implies wise and efficient use of energy, which can be accomplished by reducing energy consumption (e.g., natural gas and oil) and increasing reliance on renewable energy sources. HUD environmental review requirements also require discussion of energy requirements and conservation.

Energy used during Project demolition, construction, and operation would be expended primarily in the form of fossil fuels, such as natural gas, gasoline, and diesel fuel. The Proposed Action and alternatives would comply with California Code of Regulations Title 24 standards and the City's Building Code Requirements for Construction Projects and, as such, it would not use energy in a wasteful, inefficient, or unnecessary manner. Resources consumed during demolition, construction, and operation would include concrete, gravel, lumber, asphalt, masonry, metals, and water. The Proposed Project and alternatives would also irreversibly use water and solid waste landfill resources.

The Proposed Action and Alternative 1 would intensify development in the Project area consistent with development in San Francisco's urban environment. Although not irreversible, the effects of this development would be difficult to change in the short-run. The Proposed Action and Alternative 1 would not involve a large commitment of nonrenewable resources relative to supply, nor would it consume any of those resources wastefully. Alternative 2 would not increase the level of development at the site, but would require construction and the use of nonrenewable resources. Nonetheless, similar to the Proposed Action, this alternative would not use a significant amount of resources compared to the existing supply. Alternative 3 would not involve construction or increased operation; therefore, this alternative would not result in irreversible impacts.

6.5 RELATIONSHIP BETWEEN SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

NEPA requires consideration of the relationship between short-term uses of the environment and long-term productivity associated with federal actions (42 USC §4332). This comparison is generally interpreted to recognize that a short-term (temporary) use of the environment may enable the advancement of long-term community needs. For example, construction of a school would negatively affect traffic and air quality in the short-term, but would fulfill a long-term community need to provide adequate educational facilities for its residents. A community might be willing to accept this trade-off.

Within the context of this Draft EIS/EIR, "short-term" refers to the construction period, while "long-term" refers to the operational life of the project and beyond.

Project construction would result in short-term construction-related effects such as interference with local traffic and circulation, and increased air pollution emissions, increased ambient noise levels, dust generation, and disturbance of wildlife. Construction of the Proposed Project is anticipated to last approximately 10 years, from 2015 to 2025, or longer. As such, construction-related effects would be temporary, occurring only during construction, and are not expected to alter the long-term productivity of the Project site and its adjacent uses.

Implementation of the Proposed Project and Alternative 1 would result in negative and beneficial long-term effects. Long-term negative effects include increased air pollution emissions, noise, traffic, and changes in visual resources. Long-term beneficial effects include assisting in the long-term productivity of the site by improving economic benefits to the city, adding affordable housing units, adding to the city's general housing stock, and providing improved vehicular, transit, and pedestrian connections throughout the site. The majority of long-term negative effects would be reduced through the implementation of mitigation measures, as described throughout this Draft EIR/EIS. The beneficial effects would contribute to the long-term productivity of the community by providing economic benefits, improving and providing affordable housing, increasing the city's housing stock, and providing transportation improvements. Therefore, the long-term beneficial effects of the Proposed Project and Alternative 1 would outweigh its potentially significant short-term physical impacts on the environment.

Alternative 2 would not add to the city's housing stock or provide further economic benefits, but would generally increase the visual quality of the site. Alternative 3 would not result in any direct impacts on the environment since no construction would occur and operation would not increase. However, long-term effects such as deterioration of the existing housing stock and continued isolation from the surrounding neighborhood contribute to negative economic and visual effects to those residing at the Project site and in the surrounding neighborhood.

6.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Sections 21002 and 21081 of CEQA requires lead agencies to adopt feasible mitigation measures or feasible environmentally superior alternatives in order to substantially lessen or avoid otherwise significant adverse environmental effects, unless specific social or other conditions make such mitigation measures or alternatives infeasible. CEQA also requires that an environmentally superior alternative be identified among the alternatives analyzed. In general, the environmentally superior alternative is the project that avoids or substantially lessens some or all of the significant and unavoidable impacts of the proposed project (CEQA Guidelines Section 15126.6).

On the basis of comparing the extent to which the alternatives reduce or avoid the significant impacts of the Proposed Project, Alternative 3 would be the environmentally superior alternative. Since no development would occur at the Project site, there would be no new construction or operational impacts. If it is determined that the "no project" alternative would be the environmentally superior alternative, then the EIR/EIS shall also identify an environmentally superior alternative among the other project alternatives.

As previously discussed, Alternative 1 would result in 420 fewer units than the Proposed Project. As illustrated above, both the Proposed Project and Alternative 1 would result in the same number significant and unavoidable impacts. However, Alternative 2 would only result in one significant and unavoidable impact. Although impacts under Alternative 1 would be less severe than the under the Proposed Project, Alternative 2 would result in the fewest significant impacts. For this reason, Alternative 2 is considered the Environmentally Superior Alternative.

6.7 OTHER FEDERAL LAWS/EXECUTIVE ORDERS

HUD stipulates that specific statutory requirements of federal laws and authorities, and other requirements discussed in 24 Code of Federal Regulations (CFR) 58.5 and 58.6, be analyzed under NEPA. These federal laws and authorities are analyzed in each applicable section of Chapter 5, *Environmental Consequences*. They are presented together in this section for ease of reference.

6.7.1 Flood Disaster Protection Act—24 CFR 58.6(a)

As stated in Section 5.17, *Hydrology and Water Quality*, the Project site is not within a floodplain.[11] The Proposed Project would comply with the Flood Disaster Protection Act.

[11] Federal Emergency Management Agency, Preliminary Flood Insurance Rate Map, City and County of San Francisco, California, Panel 120A, September 21, 2007, available on the Internet at http://sfgsa.org/index.aspx?page=828, accessed February 27, 2014; San Francisco Interim Citywide Floodplain Map, Final Draft, July 2008, available on the internet at: http://sfgsa.org/Modules/ShowDocument.aspx?documentid=1761. Accessed February 27, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

6.7.2 Coastal Barrier Resources Act/Coastal Barrier Improvements Act—24 CFR 58.6(c)

The Coastal Barrier Resources Act of the United States (Public Law 97-348), enacted October 18, 1982, designated various undeveloped coastal barriers, depicted by a set of maps adopted by law, for inclusion in the John H. Chafee Coastal Barrier Resources System (CBRS). Designated areas were made ineligible for direct or indirect federal national security, navigability, and energy exploration. CBRS areas extend along the coasts of the Atlantic Ocean and the Gulf of Mexico, Puerto Rico, the U.S. Virgin Islands, and the Great Lakes, and consist of 857 units. There are no Coastal Barrier Resources in California.[12]

6.7.3 Airport Runway Clear Zone or Clear Zone Disclosure—24 CFR 58.6(d)

As described in Section 4.18, *Hazards and Hazardous Materials*, the Project site is not within an Airport Runway Clear Zone.[13]

6.7.4 Wetland Protection—Executive Order 11990

Executive Order 11990, Protection of Wetlands, applies to any action proposed for construction in a wetland. It requires that new construction in wetlands be avoided wherever there is a practicable alternative.

As described in Section 5.15, *Biological Resources*, under Impact BI-3, wetlands or waters of the United States or of the State do not occur within the Project site.[14]

6.7.5 Coastal Zone Management Act, 1972, 207(c) and (d)

The Coastal Management Zone applies to any proposed activity affecting areas covered by an approved coastal zone management plan. It requires that projects be consistent with coastal zone program.

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[12] United States Fish & Wildlife Service. *Coastal Barrier Resource System.* available Online: http://www.fws.gov/cbra/Act/index.html#CBRS, accessed February 27, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[13] City/County Association of Governments of San Mateo County, *Comprehensive Land Use Compatibility Plan for the Environs of San Francisco International Airport*, available online: http://www.ccag.ca.gov/pdf/plans-reports/2012/Consolidated_CCAG_ALUCP_10-29-12.pdf, October 2012. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[14] U.S. Fish and Wildlife Service. Publication date (found in metadata). National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/Data/Mapper.html. Accessed February 27, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

The San Francisco Bay Conservation and Development Commission (BCDC) has permit authority over San Francisco Bay and lands located within 100 feet of the Bay shoreline. BCDC's San Francisco Bay Plan is the Coastal Zone Management Program for the San Francisco Bay Segment of the California Coastal Zone Management Program, pursuant to the Federal Coastal Zone Management Act (CZMA).[15] Under the CZMA, projects requiring federal approval or funding must, to the maximum extent practicable, be consistent with a state's coastal management program if the project would affect the coastal zone.

The Project site is located more than 100 feet from the Bay shoreline, and therefore is not within BCDC jurisdiction, and no formal finding of consistency with the San Francisco Bay Plan is required.

6.7.6 Historic Preservation Act—36 CFR 800

Section 106 of the Historic Preservation Act enacted under 36 CFR 800 requires that the determinations made regarding each listed statute, executive order, or regulation be recorded and appropriate source documentation provided.

Compliance with Section 106 is described in Section 5.6, *Cultural and Paleontological Resources*. Applicable consultations and responses are included in Appendix 4.6.

6.7.7 Floodplain Management—Executive Order 11988; 24 CFR 55

The Flood Disaster Protection Act of 1973 (Public Law 93-291) and implementing regulations—the National Flood Insurance Program (44 CFR 59–79) and Executive Order 11988 (24 CFR 55)—require avoidance of direct or indirect support of floodplain development wherever there is a practicable alternative.

As stated in Section 5.17, *Hydrology and Water Quality*, the Proposed Project is not within a floodplain.[16] The Proposed Project would comply with Executive Order 11988.

6.7.8 Sole Source Aquifers—40 CFR 149

Sole source aquifer regulations enacted as 40 CFR 149 apply to federally assisted projects that may contaminate an aquifer designated by the U.S. Environmental Protection Agency (USEPA) as the

[15] San Francisco Bay Conservation and Development Commission. San Francisco Bay Plan. Adopted in 1968. Reprinted in January 2007. http://www.bcdc.ca.gov/laws_plans/plans/sfbay_plan.shtml. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

[16] Federal Emergency Management Agency, Preliminary Flood Insurance Rate Map, City and County of San Francisco, California, Panel 120A, September 21, 2007, available on the Internet at http://sfgsa.org/index.aspx?page=828, accessed February 27, 2014; San Francisco Interim Citywide Floodplain Map, Final Draft, July 2008, available on the internet at: http://sfgsa.org/Modules/ShowDocument.aspx?documentid=1761. Accessed February 27, 2014. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2010.0515E.

sole source of drinking water for a community. It also prohibits financial assistance of projects which USEPA determines may contaminate a designated sole source aquifer.

As stated in Section 5.17, *Hydrology and Water Quality*, the Proposed Project is not served by a USEPA-designated sole-source aquifer watershed.[17]

6.7.9 Endangered Species Act—50 CFR 402

The Proposed Project's compliance with the Endangered Species Act is documented in Section 5.15, *Biological Resources*, under Impacts BI-1 and BI-2.

6.7.10 Wild and Scenic Rivers—16 U.S. Code 1271.7(b),(c)

Sections 7 (b), (c) apply to rivers designated under the Wild and Scenic Rivers Act and proposed activities affecting rivers on the nationwide inventory of potential wild, scenic and recreational rivers. It requires assurance that federal actions do not foreclose designation under the Wild and Scenic Rivers Act.

The National Wild and Scenic Rivers System protects rivers designated for their wild, scenic, or recreational values. As stated in Section 5.15, *Biological Resources*, the city does not contain wild or scenic rivers.[18]

6.7.11 Clean Air Act—40 CFR 6, 40 CFR 51, and 40 CFR 93

Clean Air Act, Sections 176(c) and (d), and 40 CFR 6, 51, 93 apply to all federal actions. Federal actions must conform to the State Implementation Plan.

As stated in Section 5.9, *Air Quality*, the Proposed Project would comply with the Clean Air Act through the implementation of multiple mitigation measures.

6.7.12 Farmland Protection Policy Act—7 CFR 658

The Farmland Protection Policy Act (7 CFR 658) applies to any federally assisted action that encourages the conversion of prime, unique, state/locally important farmlands. Compliance requires that the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses be minimized.

The Farmland Protection Policy Act discourages federal activities that would convert farmland to nonagricultural purposes. Prime and important farmland includes all land that is defined as prime,

[17] USEPA, Region 9, Sole-Source Aquifer Information, http://www.epa.gov/region9/water/groundwater/ssa.html, (accessed December 3, 2012).

[18] United States Forest Service. *National Wild and Scenic Rivers System: September 2009* (Map), United States Department of Agriculture, available online: http://www.rivers.gov/maps/conus-150.pdf, accessed February 27, 2014.

unique, or farmlands of statewide or local importance. As stated in Section 5.20, *Agricultural and Forest Resources*, the Project site is not designated as prime or important farmland according to the California Farmland Mapping and Monitoring Program.[19]

6.7.13 Environmental Justice—Executive Order 12898

Executive Order 12898 states that federal agencies shall identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

The Proposed Project's compliance with Executive Order 12898 is documented in Section 5.5, *Environmental Justice*.

6.7.14 Noise Abatement and Control—24 CFR 51B

24 CFR 51 B applies to HUD requirements related to noise and contains standards for exterior noise levels along with policies for approving HUD-supported or -assisted housing projects in high noise areas. The requirements establish three zones: an acceptable zone where all projects could be approved, a normally unacceptable zone where mitigation measures would be required and where each project would have to be individually evaluated for approval or denial, and an unacceptable zone in which projects would not as a rule be approved. HUD's regulations also require that recipients of Community Development Block Grant or HOME funds take into consideration the noise criteria and standards in the environmental review process and consider ameliorative actions when noise-sensitive land developments are proposed in noise-exposed areas.[20]

The project's compliance with exterior noise levels requirements are described in Section 5.8, *Noise*, under Impact NO-1. The Proposed Project would meet HUD standards.

6.7.15 Explosive and Flammable Operations—24 CFR 51C

Explosive and Flammable Operations regulations enacted as 24 CFR 51C state that HUD will not approve an application for assistance for a proposed project located at less than the acceptable separation distance (ASD) from a hazard unless appropriate mitigation measures are implemented or are already in place.

As stated in Section 5.18, *Hazards and Hazardous Materials*, according to the State of California's GeoTracker database, there is a Department of Toxic Substances Control (DTSC) cleanup site at 890

[19] California Department of Conservation (DOC). *San Francisco Bay Area Important Farmland*, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Important Farmland in California (2010, map published July 2013), ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/regional/2010/bay_area_fmmp2010.pdf (accessed February 27, 2014).

[20] HUD, Noise Abatement and Control, 24 CFR, Part 51, Subpart B.

Pennsylvania Avenue.[21] The site at 890 Pennsylvania Avenue (ID# 38400002) contains an above-ground storage tank.[22,23] No other facilities or hazardous operations were noted. This facility is located approximately 600 linear feet east of the Project site's closest border. In accordance with 24 CFR 51(c), an ASD must be established for blast overpressure from explosive materials and thermal radiation from flammable materials. According to the HUD ASD Electronic Assessment Tool, the ASD for thermal radiation for people is 540.74 feet and for buildings is 105.81 feet.[24] The ASD is less than the distance between the site and the tank.

6.7.16 Toxic Chemicals and Radioactive Materials 24 CFR 58.5(i)(2)

Regulations enacted as 24 CFR 58.5 (i)(2) apply to all actions and require minimization of impacts of environmental hazards on HUD-assisted activities: chemical and radioactive material, activities of flammable or explosive nature, aircraft hazards.

[21] Gallon size was not available for the tanks. To be conservative in the analysis, 5,000 gallons is the assumed tank size.

[22] Pers Commm. Flannery, Eugene. San Francisco Major's Office of Housing. February 20, 2014.

[23] California Regional Water Boards. 2014. GeoTracker. Available: <http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=1101+Connecticut+Street+San+Francisco+#5332>. Accessed: March 3, 2014.

[24] U.S. Department of Housing and Urban Development. 2014. Acceptable Separation Distance (ASD) Electronic Assessment Tool. Available: <http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/environment/asdcalculator>. Accessed: March 3, 2014.

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CHAPTER 7 **Report Preparers**

7.1 AGENCIES

7.1.1 San Francisco Planning Department

Rachel Schuett, Environmental Coordinator

Nannie Turrell, Senior Environmental Planner

Joy Navarrete, Senior Environmental Planner

Mat Snyder, Citywide Planning, Design Guidelines, Entitlements and Approvals

Randall Dean, Archaeologist

Richard Sucre, Historic Preservation

Matt Weintraub, Historic Preservation

Rachel Schuett, Shadow Analysis Technical Specialist

Kevin Guy, Planning Code Section 295 Compliance

Jessica Range, Air Quality/GHG Technical Specialist

Brett Bollinger, Transportation Coordinator

Susan Mickelson, Transportation, Senior Review

Robb Kapla, Staff Counsel

7.1.2 City and County of San Francisco Mayor's Office of Housing and Community Development

Eugene Flannery, Environmental Compliance Manager

7.1.3 San Francisco Recreation and Park Department

Stacey Bradley, Department Liaison and Lead Technical Reviewer

Samantha Dolgoff, Technical Reviewer

7.2 CONSULTANTS

7.2.1 EIR/EIS Preparation

ICF International

Erin Efner, Senior Project Manager

Jasmin Mejia, Deputy Project Manager

Torrey Edell, Biologist

Jillian Burns, Environmental Planner

Kirsten Chapman, Environmental Planner

Cory Matsui, Air Quality Specialist

Shannon Hatcher, Air Quality Specialist

Stephanie Monzon, Technical Editor

Kristen Lundstrom, Technical Editor

Debora Bartley, Technical Editor

Barbara Wolf, Technical Editor

Tim Messick, Graphic Specialist

Jenelle Mountain-Castro, Publications Specialist

Deborah Jew, Publication Specialist

Corrine Ortega, Publications Specialist

Atkins

Erin Efner, Senior Project Manager

Kimberly Comacho, Deputy Project Manager

Kirsten Chapman, Environmental Analyst

Alice Tackett, Senior Scientist

Chris Shields, Noise Specialist

Matthew Berke, Environmental Analyst

Heather Dubois, Air Quality Specialist

Richard Brandi, Architectural Historian

7.2.2 Subconsultants

CDM Smith (Transportation)

Bhanu P. Kala, PE, TE, Project Manager

CADP (Shadow)

Adam Noble

ENGEO Incorporated

Brian Flaherty, CEG

Donald E. Bruggers, GE

SCS Engineers

Daniel E. Johnson, Vice President

Ryan T. Marcos, CAC, Project Manager

Cristobal A. Ramirez, Staff Professional

LEE Incorporated

Ellen LEE, P.E., Principal

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