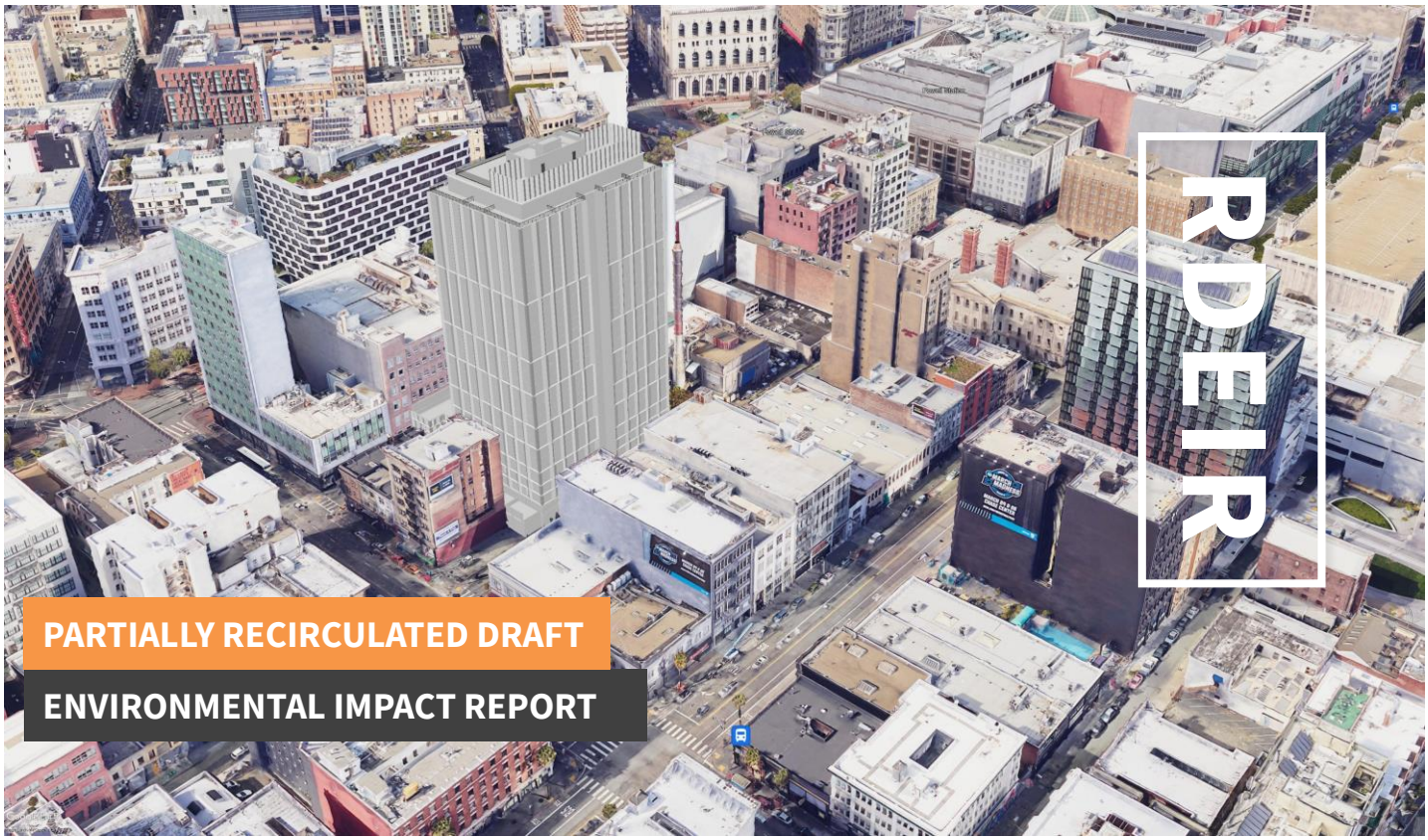

469 Stevenson Street Project

San Francisco Planning
Case No. **2017-014833ENV**
State Clearinghouse No. 2019100093

Partially Recirculated Draft EIR	*Partially Recirculated Draft EIR Publication Date:*	November 2, 2022	*Written comments should be sent to:* **Jenny Delumo** 49 South Van Ness Ave, Suite 1400 San Francisco, CA 94103 or CPC.469Stevenson @sfgov.org
	Partially Recirculated Draft EIR Public Hearing Date:	December 8, 2022	
	Partially Recirculated Draft EIR Public Comment Period:	November 2, 2022–December 19, 2022	

San Francisco Planning

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Acronyms and Abbreviations

=	equal to
<	less than
>	greater than
AB	Administrative Bulletin
ABAG	Association of Bay Area Governments
ACS	American Community Survey
ADU	Accessory Dwelling Unit
AMI	Area Median Income
BART	Bay Area Rapid Transit
Bay Area	San Francisco Bay Area
bgs	below ground surface
board of supervisors	San Francisco Board of Supervisors
building department	San Francisco Department of Building Inspection
C-3-G	Downtown-General
California Register	California Register of Historic Places
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CHHESS	Cultural History, Housing and Economic Sustainability Strategies
City	City and County of San Francisco
dB(A)	A-weighted decibel
DPR	California Department of Parks & Recreation
DSM	deep soil mixed
EDRT	Engineering Design Review Team
EIR	environmental impact report
ERO	Environmental Review Officer
FAR	floor area ratio
FTA	Federal Transit Administration
geotechnical consultant	Langan Engineering and Environmental Services, Inc
GHG	greenhouse gas
gsf	gross square feet
HCO	Hotel Unit Conversion Ordinance
HPC	San Francisco Historic Preservation Commission
HRE	Historic Resource Evaluation
HRER	Historic Resource Evaluation Response
in/sec	inches per second
km	kilometer
LS	less than significant
LSM	less than significant with mitigation
M	Moment magnitude
MM	Modified Mercalli
MOHCD	Mayor's Office of Housing and Community Development
Muni	San Francisco Municipal Railway
National Register	National Register of Historic Places
NEHRPA	National Earthquake Hazards Reduction Program

NHL	National Historic Landmark
NI	no impact
NOP	notice of preparation
OCII	San Francisco Office of Community Investment
old mint	The old U.S. Mint building
PDR	Production, Distribution, Repair
PG&E	Pacific Gas and Electric Company
planning code	San Francisco Planning Code
planning commission	San Francisco Planning Commission
planning department	San Francisco Planning Department
PPV	Peak particle velocity
PRC	Public Resources Code
proposed project	469 Stevenson Street Project
recirculated draft EIR	Partially Recirculated Draft Environmental Impact Report
RHNA	regional housing needs allocation
ROG	reactive organic gases
RTC	Response to Comments
SB	Senate Bill
SCB	Solomon Cordwell Buenz
Secretary's Standards	Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Restoring, and Reconstructing Historic Buildings
sf	square feet
SFPUC	San Francisco Public Utilities Commission
SoMa	South of Market
SRO	Single-Room Occupancy
SU	significant and unavoidable
TDM	transportation demand management
TNC	transportation network company
UN	United Nations
U.S.	United States
USGS	U.S. Geologic Survey
VMT	vehicle-miles-traveled

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CHAPTER S
SUMMARY

This chapter includes a reprint of the summary chapter of the previously circulated draft environmental impact report (EIR) and incorporates the text revisions that were initiated by planning department staff in the previous response to comments document (RTC) and minor clarifications and changes to the project design. Design changes include changes made in response to the San Francisco Planning Commission's (planning commission) request for the proposed project to provide additional open space and listing the community benefits that are part of the proposed project. Additional detail is also provided regarding the foundation types required to construct the proposed project. New text is shown in double underline and deleted text is shown in ~~strikethrough~~. Any text that has not changed from what was presented in the previously circulated draft EIR is presented as clean text.

S.1 Introduction

In accordance with Public Resources Code (PRC) section 21092.1 and section 15088.5 of the Guidelines for implementation of the California Environmental Quality Act (CEQA), the San Francisco Planning Department (planning department) has prepared this Partially Recirculated Draft Environmental Impact Report (recirculated draft EIR) for the proposed 469 Stevenson Street Project (proposed project). The previously circulated draft EIR (State Clearinghouse No. 2019100093) for the proposed project, which includes the previously circulated initial study, was circulated from March 12, 2020, to May 11, 2020, the previous RTC was published on May 26, 2021, and the previous final EIR was certified by the planning commission on July 29, 2021.

On October 26, 2021, the San Francisco Board of Supervisors (board of supervisors) granted an appeal of the planning commission's certification of the previous final EIR. On December 14, 2021, the board of supervisors adopted findings in support of its decision to grant the appeal. The board of supervisors reversed the EIR certification by the planning commission and remanded the previous final EIR to the planning department to undertake further environmental review of the project's potential impacts related to historic resources, potential geotechnical impacts resulting from construction of the project, potential physical impacts resulting from gentrification and displacement of local residents, and potential feasible mitigation measures and alternatives to address significant impacts in those impact areas. The board of supervisors' findings state that "as to all other topics studied in the [previous] final EIR, that document complies with CEQA; is adequate, accurate and objective; is sufficient as an informational document; its conclusions are correct; and it reflects the independent judgment of the City [and County of San Francisco]." Thus, this recirculated draft EIR does not include any resource sections of the previously circulated initial study or previously circulated draft EIR not specifically identified for further analysis by the board's findings.

At the board of supervisors' direction, this recirculated draft EIR provides additional analysis and evidence related to the proposed project's potential for physical impacts resulting from gentrification and displacement (see section 3.A, population and housing), historic resource impacts (see section 3.B, cultural resources), and potential geotechnical impacts (see section 3.C, geology and soils). Additional reports and expert opinion to

support the analysis provided in this recirculated draft EIR are included as appendices, with the appendix numbering continued from the previously circulated draft EIR.

This chapter provides a summary of the topics and issues addressed in this recirculated draft EIR prepared for the proposed project. Following the synopsis of the proposed project, a summary table presents the environmental impacts of the proposed project related to population and housing, cultural resources, and geology and soils, and any mitigation measures identified to reduce or lessen identified significant impacts.

Following the summary table is a description of the alternatives to the proposed project and tables that compare the characteristics and environmental impacts of those alternatives with those of the proposed project. This chapter concludes with a summary of environmental issues to be resolved and areas of known controversy, which has been updated to reflect the board of supervisors' findings in support of its decision to grant the appeal of the previous final EIR certification.

~~This chapter provides an overview of the topics and issues addressed in the draft environmental impact report (EIR) prepared for the 469 Stevenson Street Project (proposed project). Following the synopsis of the proposed project, a summary table presents the environmental impacts of the proposed project identified in the EIR by topic and the mitigation measures identified to reduce or lessen significant impacts. Significant impacts identified in the initial study prepared for the proposed project are listed in a separate summary table, along with the mitigation measures that would reduce them to less-than-significant levels. Following these summary tables is a description of the alternatives to the proposed project that are addressed in this EIR and tables that compare the characteristics and environmental impacts of those alternatives with those of the proposed project as well as other project alternatives. The chapter concludes with a summary of environmental issues to be resolved and areas of known controversy.~~

~~The San Francisco Planning Department (planning department) is the lead agency responsible for preparing this EIR in compliance with the California Environmental Quality Act (CEQA). This is a focused EIR. It discloses the impacts of the proposed project on air quality, wind, and shadow to the public and decision-makers. All other potential environmental impacts of the proposed project, as analyzed under CEQA, are adequately addressed in the initial study for this project (Appendix A).~~

S.2 Project Synopsis

The project site is a through lot located at 469 Stevenson Street in the South of Market (SoMa) neighborhood of San Francisco. The project site is approximately 28,790 square feet (0.66-acre) and currently developed as a public surface parking lot with 176 parking spaces.

The project sponsor, ~~BUILD~~ 469 Stevenson Property Owner LLC, is proposing to demolish the existing surface parking lot and construct a new 27-story mixed-use residential building that is approximately 274 feet tall (with an additional ~~10~~ 16 feet for ~~rooftop mechanical equipment~~ the rooftop mechanical penthouse and 20 feet for the elevator overrun that would be used to access the roof deck). The proposed project would total approximately 535,000[1] gross square feet (gsf) and include 495 dwelling units, approximately 4,000 square feet of commercial retail use on the ground floor, and approximately 30,000 square feet of private and common open space. The proposed 495 dwelling units consisting of approximately 192 studios, ~~33 junior one-bedroom units, 116~~ 149 one-

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

bedroom units, 96 two-bedroom units, 50 three-bedroom units, and 8 five-bedroom units would be available to rent. The proposed project would use the Individually Requested State Density Bonus Program[2] and provide affordable housing units onsite.

The proposed project would provide three below grade parking levels with ~~178~~ 166 residential parking spaces, as well as 12 car-share parking spaces, 200 class 1[3] bicycle spaces, and two service delivery loading spaces. Additionally, one onsite loading space would be located on the street level. Twenty-seven class 2[4] bicycle parking spaces would be placed along the sidewalk on Jessie Street.

The proposed project would excavate 55,850 cubic yards of soil at the project site to a depth of 55 feet below ground surface (bgs). The results of the 2022 preliminary geotechnical report [5] indicate, on a preliminary basis, that either a mat foundation or a deep foundation system is feasible for the proposed project pending additional field investigation and analysis. The chosen foundation would comply with the requirements of the San Francisco Building Code, the San Francisco Department of Building Inspection's (building department) Administrative Bulletins (AB)-082 and AB-111. The design-level geotechnical report and its review by the geotechnical member(s) of the Engineering Design Review Team (EDRT) assigned to the proposed project by the building department will confirm the adequacy of the chosen foundation system used to construct the building. ~~The proposed project is anticipated to be constructed on a mat foundation and no~~ Should the design-level geotechnical report or building department determine that a mat foundation is not feasible, a deep foundation system using drilled cast-in-place piers (i.e., drilled shafts) would be used. No pile driving or piers is proposed or required for the mat foundation system or a deep foundation system. Project construction would span approximately 36 months.

S.3 Summary of Impacts and Mitigation Measures

The planning department published a Notice of Preparation (NOP) of an EIR and initial study on October 2, 2019, announcing its intent to prepare and distribute a focused EIR (the NOP and previously circulated initial study are presented in Appendix A of ~~this~~ the previously circulated draft EIR). ~~The initial study found that the proposed project would have potentially significant impacts in the areas of air quality, wind, and shadow. It also found that the proposed project's impacts on other environmental topics (land use and planning, population and housing, cultural resources, tribal cultural resources, transportation and circulation, odors, greenhouse gas emissions, recreation, utilities and services systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral resources, energy resources, agriculture and forestry resources, and wildfire) would either be less than significant or less than significant with mitigation or that the proposed project would have no impact. Thus, the topics analyzed in this the previously circulated EIR are air quality, wind, and shadow. All impacts of the proposed project and associated mitigation measures identified in this the previously circulated EIR are summarized in Table S-1. These impacts are listed in the same order as they appear in the text of Chapter 4, Environmental Setting and Impacts, of this EIR.~~

[2] City of San Francisco Planning Department, Individually Requested State Density Bonus Program, Informational and Supplemental Application Packet. https://sfplanning.org/sites/default/files/forms/IndividuallyRequestedState_SupplementalApplication.pdf. Accessed September 18, 2019.
[3] Class 1 bicycle parking spaces are spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, non-residential occupants, and employees.
[4] Class 2 bicycle parking spaces are bicycle racks located in a publicly-accessible, highly visible location intended for transient or short-term use by visitors, guests, and patrons to the building or use.
[5] Langan Engineering and Environmental Services, Inc. 2022. Preliminary Geotechnical Study- 469 Stevenson Street. June 30, 2022.

~~Since publication of the NOP and initial study, the project sponsor has made changes to the project description. These changes are described in Chapter 2, Project Description, and have been incorporated into the analysis of the proposed project's impacts in Chapter 4, Environmental Setting and Impacts, herein, to evaluate potential impacts to air quality, wind, and shadow. Chapter 4 also includes an analysis of the physical environmental impacts of the revised project description for those topics that were evaluated in the initial study. That analysis finds that the changes made to the project description would not result in any new or substantially more severe significant environmental impacts or necessitate implementation of additional or considerably different mitigation measures than those identified in the initial study. The effects of the revised project description would be substantially the same as those reported in the initial study. All mitigation measures identified in the initial study and summarized in Table S-2 would still be required for the revised project that is presented and evaluated in this EIR.~~ As discussed above, the previously circulated draft EIR for the proposed project was certified by the planning commission on July 29, 2021. Certification of the previous final EIR was overturned on appeal to the board of supervisors on October 26, 2021. In response to the board of supervisor's direction in their findings on the appeal, this recirculated draft EIR provides additional analysis related to the project's potential impacts resulting from gentrification and displacement (see section 3.A, population and housing), historic resource impacts (see section 3.B, cultural resources), and potential geotechnical impacts (see section 3.C, geology and soils).

The proposed project and any associated mitigation measures identified in this recirculated draft EIR are summarized in Table S-1. These impacts are listed in the same order as they appear in the text of chapter 3, Environmental Impact Analysis, of this recirculated draft EIR.

All mitigation measures identified in the previously circulated initial study and the previously circulated draft EIR would still be required for the proposed project and are provided in the previously circulated draft EIR.

For the topics evaluated in ~~the~~ this recirculated draft EIR, the levels of significance of impacts before and after implementation of applicable mitigation measures are identified as follows:

- No Impact. No adverse physical changes (or impacts) to the environment are expected.
- Less than Significant. Impact that would not exceed the defined significance criteria or would be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations.
- Less than Significant with Mitigation. Impact that is reduced to a less-than-significant level through implementation of the identified mitigation measures.
- Significant and Unavoidable with Mitigation. ~~An adverse physical environmental impact that would exceed the defined significance criteria but could be reduced through compliance with existing local, state, and federal laws and regulations and/or implementation of feasible mitigation measures. The impact cannot be reduced to a less-than-significant level.~~ Impact that exceeds the defined significance criteria and cannot be reduced to less-than-significant levels through compliance with existing local, state, and federal laws and regulations and/or implementation of all feasible mitigation measures.

- Significant and Unavoidable. ~~An adverse physical environmental impact that exceeds the defined significance criteria and cannot be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations. There are no feasible mitigation measures to reduce the impact.~~ Impact that exceeds the defined significance criteria and cannot be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations and for which there are no feasible mitigation measures.

S.3.1 Summary Tables

Table S-1 summarizes all environmental impacts and mitigation measures identified in ~~the~~ this recirculated draft EIR for the proposed project. ~~For a complete description of potential impacts and recommended mitigation measures, please refer to the topical sections in Chapter 4 of the EIR. Table S-2 summarizes the significant environmental impacts of the proposed project and mitigation measures for the topics evaluated in the initial study. Both~~ The table~~s~~ is arranged in four columns: 1) environmental impact, 2) level of significance before mitigation (if applicable), 3) mitigation measures (if applicable), and 4) level of significance after mitigation (if applicable).

Table S-1 Summary of Impacts of the Proposed Project Identified in the Recirculated Draft EIR

Environmental Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation
Population and Housing			
Impact PH-2: The proposed project would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing.	LTS	None required.	NA
Impact C-PH-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to displacement.	LTS	None required.	NA
Cultural Resources			
Impact CR-1: The proposed project would not cause a substantial adverse change in the significance of a historical resource as	LTS	None required.	NA

Environmental Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation
defined in CEQA Guidelines section 15064.5.			
Impact CR-2: Demolition of the existing surface parking lot and construction of the proposed project could result in a significant impact to adjacent historical resources.	S	Mitigation Measure M-CR-2: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction. Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific Pre-construction Survey and Vibration Management and Monitoring Plan to the Environmental Review Officer (ERO) or the ERO's designee for approval. The plan shall identify all feasible means to avoid damage to potentially affected buildings which includes all building and structures at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47- 55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station. The project sponsor shall ensure that the following requirements of the Pre-Construction Survey and Vibration Management and Monitoring Plan are included in contract specifications, as necessary. • *Pre-construction Survey.* Prior to the start of any ground-disturbing activity, the project sponsor shall engage a consultant to undertake a pre-construction survey of potentially affected buildings at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station. The project sponsor shall engage a qualified historic preservation professional and a structural engineer or other professional with similar qualifications to undertake a pre-construction survey of potentially affected historic buildings. The pre-construction survey shall include descriptions and photographs of all identified historic buildings at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station including all facades, roofs, and details of the character-defining features that could be damaged during construction, and shall document existing damage, such as cracks and loose or damaged features (as allowed by property owners). The report shall also include pre-construction drawings that record the pre-construction condition of the buildings and identify cracks and other features to be monitored during construction. The qualified historic preservation professional shall be the lead author of the pre-construction survey. The pre-construction	LTS

Environmental Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation
		survey shall be submitted to the ERO for review and approval prior to the start of vibration-generating construction activity. • *Vibration Management and Monitoring Plan.* The project sponsor shall undertake a monitoring plan to avoid or reduce project-related construction vibration damage to all identified historic buildings at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station and to ensure that any such damage is documented and repaired consistent with the secretary of the interior's standards. Prior to issuance of any demolition or building permit, the project sponsor shall submit the Plan to the ERO for review and approval. The Vibration Management and Monitoring Plan shall include, at a minimum, the following components, as applicable: • *Maximum Vibration Level.* Based on the anticipated construction and condition of the affected buildings and/or structures on adjacent properties, a qualified acoustical/vibration consultant in coordination with a structural engineer (or professional with similar qualifications) and a qualified historic preservation professional, shall establish a maximum vibration level that shall not be exceeded at each building/structure on adjacent properties, based on existing conditions, character-defining features, soil conditions, and anticipated construction practices (common standards are a peak particle velocity [PPV] of 0.25 inch per second for historic and some old buildings). • *Vibration-generating Equipment.* The plan shall identify all vibration-generating equipment to be used during construction (including, but not limited to site preparation, clearing, demolition, excavation, shoring, foundation installation, and building construction). • *Alternative Construction Equipment and Techniques.* The plan shall identify potential alternative equipment and techniques that could be implemented if construction vibration levels are observed in excess of the established standard (e.g., smaller, lighter equipment could be used in some cases).	

Environmental Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation
		• *Construction Best Practices.* The plan shall incorporate construction best practices that outline all feasible means to protect and avoid damage to adjacent historical resources, including, but not necessarily limited to: identifying buffer distances to be maintained based on vibration levels and site constraints between the operation of vibration-generating construction equipment and the potentially affected building and/or structure to avoid damage to the extent possible; staging of equipment and materials and circulation plans that are incorporated into construction documents to minimize impacts to adjacent historical resources; and the installation of physical protection at the boundary of the project site where historical resources are directly adjacent. ○ *Vibration Monitoring.* The plan shall identify the method and equipment for vibration monitoring to ensure that construction vibration levels do not exceed the established standards identified in the plan. ○ Should construction vibration levels be observed in excess of the standards established in the plan, the contractor(s) shall halt construction and put alternative construction techniques identified in the plan into practice, to the extent feasible. ○ The qualified historic preservation professional and structural engineer shall inspect each affected building and/or structure (as allowed by property owners) in the event the construction activities exceed the vibration levels identified in the plan. ○ The structural engineer and historic preservation professional shall submit monthly reports to the ERO during vibration-inducing activity periods that identify and summarize any vibration level exceedances and describe the actions taken to reduce vibration. ○ If vibration has damaged nearby buildings and/or structures, the historic preservation consultant shall immediately notify the ERO and prepare a damage report documenting the features of the building and/or structure that has been damaged. ○ Following incorporation of the alternative construction techniques and/or planning	

Environmental Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation
		department review of the damage report, vibration monitoring shall recommence to ensure that vibration levels at each affected building and/or structure on adjacent properties are not exceeded. • *Periodic Inspections.* The plan shall identify the intervals and parties responsible for periodic inspections. The qualified historic preservation professional and/or structural engineer shall conduct regular periodic inspections of each affected building and/or structure within 20 feet of the project site (as allowed by property owners) during vibration-generating construction activity on the project site. The plan will specify how often inspections shall occur. • *Repair Damage.* The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their pre-construction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site consistent with the Secretary of the Interior's Standards in consultation with the qualified historic preservation professional and planning department preservation staff. • *Vibration Monitoring Results Report.* After construction is complete the project sponsor shall submit to the ERO a final report from the qualified historic preservation professional and structural engineer. The report shall include, at a minimum, collected monitoring records, building and/or structure condition summaries, descriptions of all instances of vibration level exceedance, identification of damage incurred due to vibration, and corrective actions taken to restore damaged buildings and structures. The ERO shall review and approve the Vibration Monitoring Results Report.	
Impact C-CR-1: The proposed project, in combination with cumulative projects, would not result in demolition and/or alteration of historical resources, as	LTS	None required.	NA

Environmental Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation
defined in CEQA Guidelines Section 15064.5.			
Geology and Soils			
Impact GE-1: The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismically related ground failure, liquefaction, or landslides.	LTS	None required.	NA
Impact GE-3: The proposed project would not be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.	LTS	None required.	NA
Impact GE-4: The proposed project would not result in a substantial risk of loss, injury, or death related to expansive soils as defined in Table 18-1-B of the Uniform Building Code.	LTS	None required.	NA
Impact C-GE-1: The proposed project, in combination with cumulative projects, would not result in a significant	NI	None required.	NI

Environmental Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation
cumulative impact related to geology and soils.			

Notes:
NI No impact
LTS Less than significant or negligible impact; no mitigation required
S Significant
SU Significant and unavoidable adverse impact, no feasible mitigation
SUM Significant and unavoidable adverse impact, after mitigation
NA Not applicable

S.4 Summary of Alternatives

In addition to the proposed project, this recirculated draft EIR analyzes the environmental impacts of three alternatives that were determined to represent a reasonable range of alternatives to the proposed project. There have been no changes to the description of the three alternatives presented in the previously circulated draft EIR. However, based on comments received on the previously circulated draft EIR and previous RTC, Alternative B is referred to in this recirculated draft EIR as the "Alternative B: Reduced Density Alternative (Planning Code-Compliant)." The analysis included in this recirculated draft EIR has been updated to reflect the potential impacts of the alternatives as they relate to population and housing, cultural resources, and geology and soils. The three alternatives are as follows:

- Alternative A: No Project Alternative. The No Project Alternative is based on what would reasonably be expected to occur on the project site if the proposed project is not approved, in accordance with CEQA Guidelines section 15126.6(e). The No Project Alternative assumes that physical conditions on the project site would remain the same.
- Alternative B: Reduced Density Alternative (Planning Code-Compliant). The purpose of the Reduced Density Alternative (Planning Code-Compliant) is to consider a project that would lessen the significant and unavoidable shadow impact on Mint Plaza that would occur from construction of the proposed project. ~~Reduced Density~~ This Alternative would redevelop the project site with a new mixed-use residential project, similar to the proposed project, but would construct a shorter and less dense building than under the proposed project and would include fewer basement levels.
- Alternative C: No Residential Parking, Tower Only. The purpose of the No Residential Parking, Tower Only Alternative is to propose a project that would lessen the significant air quality, noise, archeological and tribal cultural resources impacts of the proposed project associated with the grading and excavation needed to build the three below-grade levels for parking and loading spaces. This alternative would redevelop the project site with a new mixed-use residential project, similar to the proposed project, but would include only one basement level (as opposed to the three basement levels included in the proposed project). This alternative would result in a taller building, but with 28 fewer units than under the proposed project by slightly changing the design to eliminate the podium height massing along the four corners and relocate that square footage to the top of the building creating a streamlined single tower.

Pursuant to CEQA Guidelines Section 15126.6(e)(2), if the no project alternative is the environmentally superior alternative, then an EIR is required to identify another environmentally superior alternative from among the alternatives evaluated. The proposed project would result in significant impacts in the areas of cultural resources, tribal cultural resources, noise, and air quality which would be mitigated to a less-than-significant level with implementation of the identified mitigation measures in the previously circulated draft EIR. Additionally, the proposed project would result in a significant and unavoidable project-level shadow impact and a significant and unavoidable cumulative shadow impact.

The Reduced Density Alternative (Planning Code-Compliant) is identified as the environmentally superior alternative. This alternative would require implementation of the same mitigation measures as the proposed project to reduce impacts related to cultural resources, tribal cultural resources, noise, and air quality. However, the potential for impacts would be similar to or reduced compared with those of the proposed project because of the reduced amount of excavation and earth movement, shorter construction duration, and fewer residentials units constructed. The Reduced Density Alternative (Planning Code-Compliant) would be 114 feet shorter than

the proposed project and would not cast net new shadow on UN Plaza and would cast less net new shadow on Mint Plaza. The Reduced Density Alternative (Planning Code-Compliant) would not result in a significant and unavoidable project-level or cumulative shadow impact. ~~The Reduced Density Alternative~~ This alternative could also feasibly attain most of the project sponsor objectives.

Table ~~S-3~~ S-2 presents a summary of the characteristics of the proposed project, the No Project Alternative, the Reduced Density Alternative (Planning Code-Compliant), and the No Residential Parking, Tower Only Alternative. Table ~~S-4~~ S-3 presents the potential significant environmental impacts of the proposed project analyzed in this recirculated draft EIR as compared to the project alternatives (i.e., population and housing, cultural resources, and geology and soils).

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Table ~~S-3~~ S-2 Characteristics of the Proposed Project and Project Alternatives

Project Component	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Density Alternative (Planning Code-Compliant)	Alternative C: No Residential Parking, Tower Only Alternative
Building Heights	274 feet (with an additional ~~10~~ 16 feet for ~~rooftop mechanical equipment~~ the rooftop mechanical penthouse and 20 feet for the elevator overrun that would be used to access the roof deck)	--	160 feet (with an additional 10 feet for rooftop mechanical equipment)	284 feet (with an additional 10 feet for rooftop mechanical equipment)
No. of Stories	27 stories 3 below grade levels	--	17 stories 2 below grade level	28 stories 1 below grade level
Total No. Units	495	--	346	467
Studio	192	--	42	0
~~Junior one-bedroom~~	~~33~~	~~--~~	~~0~~	~~0~~
1 Bedroom	~~116~~ 149	--	204	349
2 Bedroom	96	--	64	60
3 Bedroom	50	--	36	58
5 Bedroom	8	--	0	0
Square Footage by Use (square feet [sf])	475,000 sf residential; 4,000 sf commercial retail	28,790 sf surface parking lot	~~259,110~~ 272,967 sf residential; 6,357 sf commercial retail	~~343,813~~ 469,181 sf residential; 3,651 sf of commercial retail
Total gross square feet (gsf)	535,000 gsf	28,790 gsf	~~338,629~~ 279,324 gsf	~~479,957~~ 472,832 gsf

Project Component	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Density Alternative (Planning Code-Compliant)	Alternative C: No Residential Parking, Tower Only Alternative
Open Space	~~11,000~~ 16,000 sf common residential open space; 14,000 sf private residential open space:	--	16,423 sf common residential open space; 252 sf private residential open space	16,756 sf common residential open space; 5,937 sf of private residential open space
Onsite Vehicular Parking & Loading	1 off-street loading and 2 service vehicle parking; ~~178~~ 166 residential vehicular parking spaces; ~~3~~ 12 car-share spaces; 56,000 sf	176 public vehicular parking spaces; 28,790 sf	2 off-street loading and 2 service vehicle parking; 150 residential vehicular parking spaces; 2 car-share spaces; 57,000 sf	1 off-street loading and 2 service vehicle parking; 2 accessible parking; No car-share parking
Bicycle Parking	200 class 1 27 class 2	None	192 class 1 23 class 2	193 class 1 25 class 2
Entitlements	Conditional Use Authorization; Individually Requested State Density Bonus	None	Conditional Use Authorization	Conditional Use Authorization; Individually Requested State Density Bonus
Excavation Depth	55 feet below grade; 55,850 cubic yards	None	35 feet; 37,600 cubic yards	10 feet; 10,740 cubic yards

Notes:
All numbers rounded to the nearest thousand or hundred thousand.
Common residential open space = solariums, podium terraces/balconies, common areas.

Table ~~S-4~~ S-3 Comparison of Significant Impacts of the Proposed Project to Impacts of the Alternatives

Impact Statement	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Density Alternative (Planning Code-Compliant)	Alternative C: No Residential Parking, Tower Only Alternative
Population and Housing				
Impact PH-2: The proposed project would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing.	LS	LS	LS ≡	LS ≡
Impact C-PH-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to displacement.	LS	LS	LS ≡	LS ≡
Cultural Resources				
Impact CR-1: The proposed project would not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines section 15064.5.	LS	NI	LS =/<	LS =/>
Impact CR-2: Demolition of the existing surface parking lot and construction of the proposed project could result in a significant impact to adjacent historic resources.	LSM	NI	LSM ≡	LSM ≡
Impact C-CR-1: The proposed project, in combination with cumulative projects, would not result in demolition and/or alteration of historical resources, as defined in CEQA Guidelines section 15064.5.	LS	NI	LS =/<	LS =/>
Geology and Soils				
Impact GE-1: The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismically related ground failure, liquefaction, or landslides.	LS	NI	LS ≡	LS ≡
Impact GE-3: The proposed project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or	LS	NI	LS ≡	LS ≡

Impact Statement	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Density Alternative (Planning Code-Compliant)	Alternative C: No Residential Parking, Tower Only Alternative
offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.				
Impact GE-4: The proposed project would not result in a substantial risk of loss, injury, or death related to expansive soils as defined in Table 18-1-B of the Uniform Building Code.	LS	NI	LS ≡	LS ≡
Impact C-GE-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to geology and soils.	NI	NI	NI	NI

Notes:

NI (no impact); LS (less than significant); LSM (less than significant with mitigation); SU (significant and unavoidable, no feasible mitigation measures available) = (equal to); < (less than); > (greater than)

S.5 Areas of Known Controversy

On August 22, 2018, the project sponsor filed an application for the proposed project with the planning department for CEQA review. Table S-4 identifies the dates of the major CEQA milestones in the environmental review process for the proposed project.

Table S-4 CEQA Procedural Background

Milestone	Date
NOP of the previously circulated draft EIR and availability of the previously circulated initial study	October 2, 2019
Scoping period for the previously circulated draft EIR	October 3, 2019, through November 1, 2019
Publication of the previously circulated draft EIR and beginning of public comment period	March 11, 2020
Public hearing on the previously circulated draft EIR at the planning commission	April 16, 2020
Close of public comment period on the previously circulated draft EIR	May 11, 2020
Publication of the previous RTC document	May 26, 2021
Previous final EIR certification hearing at the planning commission	July 29, 2021
Appeal of the previous final EIR at the board of supervisors	October 26,2021
Board of supervisors adopt findings on the decision to reverse the planning commission's certification of the previous final EIR	December 14, 2021

The planning department prepared an initial study checklist and published a NOP for an EIR on October 2, 2019, thereby announcing its intent to prepare and distribute a focused EIR (the NOP and previously circulated initial study checklist are presented as Appendix A to ~~this~~ the previously circulated draft EIR). Publication of the NOP and previously circulated initial study checklist initiated a 30-day public review and comment period that began on October 3, 2019 and ended on November 1, 2019. Individuals and agencies that received these notices included owners of properties within 300 feet of the project site and potentially interested parties, and responsible agencies, including regional and state agencies. Five written communications were received during the public review period. Four of the five comments requested additional information, such as the project sponsor's email address and requests for a hard copy of the previously circulated initial study document. The planning department provided such requested information to the respective commenters. The fifth comment received noted a concern with vehicular circulation to and from the project site and inquired if the proposed project would implement limitations on the use of vehicles during the morning and afternoon rush hours. Information regarding project site circulation is provided in Section E.5, Transportation and Circulation, of the previously circulated initial study (Appendix A of the previously circulated draft EIR). As disclosed in the previously circulated initial study of the previously circulated draft EIR, impacts related to transportation and circulation would be less than significant. Potential areas of controversy include the potential effects of the proposed project related to air quality, wind, shadow, and transportation and circulation. Public comments related to these potential areas of controversy were addressed in the previous RTC.

The previously circulated draft EIR was published on March 11, 2020 and circulated for an extended 61-day public review and comment period, ending on May 11, 2020. During the 61-day public review and comment period, the planning department received written comments from individuals, non-governmental organizations, and public agencies, as well as oral testimony from planning commissioners and members of the public during a virtual public hearing on the previously circulated draft EIR held on April 16, 2020. Comments on the previously circulated draft EIR included concerns about the design and location of the proposed project and its impacts related to transportation and circulation, geology and soils, surrounding historic and cultural districts, shadow on Mint Plaza, wind impacts on the SoMa Youth and Family Zone Special Use District, and the proposed project alternatives, among other concerns. The planning department also received several comments requesting an analysis of the proposed project's socioeconomic effects, including gentrification and displacement. Following the close of the public review period on May 11, 2020, the planning department prepared a RTC document to respond to the environmental issues raised in comments received during the public review and comment period, published on May 26, 2021.

The previous final EIR was certified by the San Francisco Planning Commission on July 29, 2021. On October 26, 2021, the board of supervisors heard an appeal of the planning commission's certification of the previous final EIR. At the hearing, the appellant and members of the public presented testimony that the proposed project may have significant impacts that were not adequately studied in the previous final EIR (which includes the previously circulated initial study and previously circulated draft EIR); these included the project's potential impacts on adjacent historic resources; geotechnical impacts of the proposed project foundation; and physical impacts resulting from gentrification of the project area and displacement of current residents. The board of supervisors agreed and voted to uphold the appeal and de-certify the EIR. On December 14, 2021, the board of supervisors adopted findings in support of its decision to reverse the planning commission's certification of the final EIR (Appendix I). [6] The board of supervisors remanded the previous final EIR to the planning department to undertake further environmental review of the project's potential impacts to historic resources, potential geotechnical impacts resulting from construction of the project, potential physical impacts resulting from gentrification and displacement of local residents, and potentially feasible mitigation measures and alternatives to address significant impacts in those areas. The board of supervisors' findings state that "as to all other topics studied in the [previous] final EIR, that document complies with CEQA; is adequate, accurate and objective; is sufficient as an informational document; its conclusions are correct; and it reflects the independent judgment of the City [and County of San Francisco]." Thus, this recirculated draft EIR does not include any other resource sections of the previously circulated draft EIR, including the previously circulated initial study. At the board of supervisors' direction, this recirculated draft EIR provides additional analysis and evidence related to the proposed project's potential for physical impacts resulting from gentrification and displacement (see section 3.A, population and housing), historic resource impacts (see section 3.B, cultural resources), and potential geotechnical impacts (see section 3.C, geology and soils).

New project-specific studies have been prepared specifically to address the board of supervisors' direction. With respect to the project's potential for physical impacts resulting from gentrification and displacement, as discussed in section 3.A, population and housing, the 2022 gentrification and displacement report was prepared by Seifel Consulting Inc. (Seifel Consulting) in October 2022 (Appendix J). The 2022 gentrification and displacement report evaluates the potential for the proposed project to result in gentrification and residential or

[6] Appendices A-E, G, and H are attached to the previously circulated draft EIR. New and updated analysis prepared for this partially recirculated draft EIR continue the numbering from the previously circulated draft EIR.

cultural displacement and its conclusions informed the analysis of the project's potential physical environmental effects related to gentrification and displacement.

Regarding potential historic resources impacts, a Historic Resources Evaluation (HRE) Part II has been prepared for the proposed project by Page & Turnbull in October 2022 (Appendix K1). The HRE Part II includes a brief summary of the contexts and character-defining features of the existing historic districts and resources adjacent to or near the project site; a summary of the context of the SOMA Pilipinas Filipino Cultural Heritage District and discussion of resources associated with the SOMA Pilipinas Filipino Cultural Heritage district; a brief summary of the proposed project; and an analysis of the project's compatibility with and potential impacts to historic districts and potential historic resources within or near the project block. Additionally, the planning department's findings based on this report have been issued in the Historic Resource Evaluation Response (HRER) Part II (Appendix K2).[7] The Noise Technical Memorandum (Appendix F) has also been updated to account for additional construction equipment necessary to construct the proposed project, based on the 2022 preliminary geotechnical report (Appendix L1) and to accurately reflect the distance that equipment would operate from adjacent properties. The conclusions of these analyses are presented in section 3.B, cultural resources.

Lastly, with respect to geotechnical impacts from the project's foundations, in 2020 Langan Engineering and Environmental Services, Inc (geotechnical consultant) conducted a further geotechnical investigation at the project site which included drilling two borings to bedrock at the project site to depths of 250 and 265 feet bgs; obtaining shear wave velocity data in one of the borings; and performing laboratory tests on representative soil samples. This information was used to perform engineering analyses and develop preliminary geotechnical conclusions. The geotechnical consultant incorporated the results of this investigation into the 2022 preliminary geotechnical report for the proposed project (Appendix L1). The results of the 2022 preliminary geotechnical report indicate that, on a preliminary basis, a mat foundation or a deep foundation system remain feasible for the proposed project pending additional field investigation and analysis[8] as required by the building department under AB-111 and AB-082 (administrative bulletins in the San Francisco Building Code).

Additionally, the geotechnical consultant prepared a memorandum (Appendix L2) documenting their conclusions on the geotechnical feasibility of the proposed project based on the 2022 preliminary geotechnical report (discussed above) and a review of the performance of existing developments near the project site with similar foundations (i.e., mat foundations), foundation loads, and subsurface conditions. This analysis found that two nearby projects (434 Minna Street and 415 Natoma Street) are supported on mat foundations and have similar foundation loads as calculated for the proposed project and similar subsurface conditions as those on the project site. Building settlement at 434 Minna Street (last measured in September 2021) was about 0.38- to 0.5-inch and building settlement for 415 Natoma (last measured in September 2021) was about 0.5-inch. Both settlement measurements are within the acceptable range of building settlement identified in AB-111: "*the total short-term and long-term computed settlement of the foundation under gravity and seismic loads should not exceed 4 inches.*"

The analysis identified several other existing buildings that have foundation pressures that are similar or higher than that calculated for the proposed project, are supported on a mat foundation bearing either directly on

[7] San Francisco Planning Department. 2022. Historic Resource Evaluation Response Part II. October 24, 2022.
[8] Additional field investigation would include the following: drilling a third boring to bedrock, anticipated at a depth of approximately 260 feet, and a fourth boring with a 50-foot rock core, performing a seismic survey to obtain additional shear wave velocity measurements in the boring within the bedrock, performing laboratory testing of additional soil and rock samples, earthquake time series, additional engineering analyses, and recommendations for the foundation and other geotechnical aspects of the proposed project.

Colma Formation, or on soil improvement [9] extending into the Colma Formation. Although settlement monitoring data is not available for these projects, building department online complaint records show that there have been no complaints or violations related to foundation performance for those structures.

At the request of the planning department, an independent third-party technical expert conducted a peer review of the 2022 preliminary geotechnical report, feasible foundation types for the proposed structure, and an analysis of whether the geotechnical issues that occurred at 301 Mission Street building (i.e., Millennium Tower) could occur at the proposed project site (Appendix L3). This analysis was conducted by Dr. Shahriar Vahdani, Ph.D., P.E. of Applied GeoDynamics, Inc. [10] The analysis found that a mat foundation would have an acceptable level of settlement provided the results of borings, sampling, and testing conducted for the preliminary geotechnical report are consistent with the additional borings, sampling, and testing required for the final phase of geotechnical investigation. Further, the use of deep foundations extending to bedrock would result in a similar range of settlement as a mat foundation supported directly at the surface of dense Colma sand layer. The analysis also found that the large and unacceptable settlements observed at 301 Mission Street would not occur at the project site provided the proposed project is constructed based on the recommendations in the proposed project's preliminary geotechnical report, the scope of the final geotechnical investigation, and in compliance with the guidelines provided in AB-111. The conclusions of these analyses are presented in section 3.C, Geology and Soils.

[9] Soil Improvement or ground modification (improvement) is defined as the alteration of site foundation conditions or project earth structures to provide better performance under design and/or operational loading conditions. Ground modification objectives can be achieved using a large variety of geotechnical construction methods or technologies that alter and improve poor ground conditions.

[10] The building department consulted with Dr. Vahdani in its development of the building department's AB-111, which provides guidelines for geotechnical aspects of design and construction of the foundation of tall buildings, as described above. Dr. Vahdani is on the building department's Pre-Qualified List for Geotechnical Review.

CHAPTER 1
INTRODUCTION

This chapter has substantially changed from the version of the Introduction that was provided in Chapter 1 of the previously circulated draft EIR to describe the history of the environmental review for this proposed project. As such, this chapter is presented as clean text.

In accordance with Public Resources Code (PRC) section 21092.1 and section 15088.5 of the California Environmental Quality Act (CEQA) Guidelines, the San Francisco Planning Department (planning department) has prepared this Partially Recirculated Draft Environmental Impact Report (recirculated draft EIR) for the proposed 469 Stevenson Street Project (proposed project). The previously circulated draft EIR (State Clearinghouse No. 2019100093) was circulated for a 61-day review and comment period from March 12, 2020, to May 11, 2020, and the previous final EIR was certified by the San Francisco Planning Commission (planning commission) on July 29, 2021.

On October 26, 2021, the San Francisco Board of Supervisors (board of supervisors) granted an appeal of the planning commission's certification of the previous final EIR. On December 14, 2021, the board of supervisors adopted findings in support of its decision to grant the appeal (Appendix I). The board of supervisors' findings reversed the final EIR certification by the planning commission and remanded the previous final EIR to the planning department to undertake further environmental review of the project's potential impacts to historic resources, potential geotechnical impacts resulting from construction of the project, potential physical impacts resulting from gentrification and displacement of local residents, and potentially feasible mitigation measures and alternatives to address significant impacts in those impact areas. The findings require that the planning department undertake additional environmental review of the proposed project before further consideration of EIR certification and any project approvals. Accordingly, the planning department has conducted further analysis to address the board of supervisors' findings and is presenting the results in this recirculated draft EIR. This chapter provides the background of the previously circulated draft EIR prepared for the proposed project. It also describes the purpose, scope, and environmental review process for this recirculated draft EIR.

1.A Background

1.A.1 Notice of Preparation of an EIR and Initial Study

On October 2, 2019, the planning department published and distributed a notice of preparation (NOP) of an EIR and an initial study for the proposed project in accordance with sections 15063 and 15082 of the CEQA Guidelines. The previously circulated initial study was prepared to determine whether any aspect of the project, either individually or cumulatively, would cause a significant effect on the environment. The previously circulated initial study narrowed the focus (or scope) of the environmental analysis by identifying which impacts would be less than significant (with or without mitigation) and therefore were adequately analyzed in the previously circulated initial study, and which impacts required further study in the EIR. The previously circulated initial study included the following findings:

- The proposed project would have no impact or less-than-significant impacts related to land use and planning, population and housing, transportation and circulation, odors, greenhouse gas emissions, recreation, utilities and services systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral resources, energy resources, agriculture and forestry resources, and wildfire. Impacts from the proposed project related to cultural resources, tribal cultural resources, and noise would be reduced to less than significant with mitigation measures incorporated.
- The proposed project would have a potentially significant impact related to air quality (all topics except odors), wind, and shadow and require further evaluation in the EIR.
- The proposed project meets all requirements of a transit-oriented infill development project under PRC section 21099 (Senate Bill [SB] 743); therefore, aesthetics and parking were not considered in determining whether the proposed project has the potential to result in significant environmental effects.

The planning department published and distributed the NOP and previously circulated initial study for the proposed project to the State Clearinghouse, relevant state and regional agencies, organizations, and persons interested in the proposed project. Additionally, the planning department mailed a notice of availability of the NOP and previously circulated initial study to occupants of adjacent properties; property owners within 300 feet of the project site; and other potentially interested parties, including neighborhood organizations that have requested such notice, and filed the notice with the County Clerk's office on Wednesday, October 2, 2019. A legal notice concerning the NOP was published on Wednesday, October 2, 2019, in a newspaper of general circulation in San Francisco. The NOP and previously circulated initial study were circulated for a 30-day public review period starting on October 3, 2019, and ending on November 1, 2019.

1.A.2 Previously Circulated Draft EIR

The planning department prepared the previously circulated draft EIR for the proposed project in accordance with CEQA, the CEQA Guidelines, and chapter 31 of the San Francisco Administrative Code. The previously circulated draft EIR (State Clearinghouse No. 2019100093) was published on March 11, 2020, and circulated for an extended 61-day public review and comment period, ending on May 11, 2020. The NOP and previously circulated initial study were included as an attachment to the previously circulated draft EIR. During the 61-day public review and comment period, the planning department received written comments from individuals, non-governmental organizations, and public agencies, as well as oral testimony from San Francisco Planning Commissioners and members of the public during a virtual public hearing on the previously circulated draft EIR held on April 16, 2020.

Following the close of the public review period on May 11, 2020, for the previously circulated draft EIR, the planning department prepared a responses to comments document (RTC) to respond to the environmental issues raised by the written comments received during the public comment period or presented orally at the April 16, 2020, virtual public hearing. The previous RTC was published on May 26, 2021. The previous RTC and previously circulated draft EIR constituted the previous final EIR for the proposed project at that time. The planning commission held a virtual public hearing on July 29, 2021 and certified the previous final EIR.

1.A.3 Appeal of Final EIR and Board of Supervisors Findings

On August 27, 2021, a letter was filed with the Clerk of the Board of Supervisors appealing certification of the previous final EIR. The board of supervisors held a public hearing on October 26, 2021 to consider the appeal of

the certified previous final EIR. Following the public hearing, the board of supervisors granted the appeal and reversed the previous final EIR certification, and directed the Clerk of the Board to prepare written findings in support of such determination based on the written record before the board of supervisors, as well as all testimony at the public hearing in support of and opposed to the appeal.

On December 14, 2021, the board of supervisors adopted findings in support of its decision to grant the appeal of the previous final EIR certification (Appendix I). The board of supervisors directed the planning department to undertake additional analysis, specifically stating the following:

> "*MOVED, That this Board of Supervisors finds that the Final EIR contains inadequate analysis and information regarding potential impacts to historic resources; potential geotechnical impacts resulting from construction of the project; potential physical impacts resulting from gentrification and displacement of local residents; and potentially feasible mitigation measures and alternatives to address significant impacts in those impact areas, all of which were either improperly and prematurely scoped out of the EIR and studied only in the Initial Study, or studied in the EIR with insufficient analysis and evidence; and, be it*
>
> *FURTHER MOVED, That based on the above findings this Board finds that the Final EIR does not comply with CEQA, because it is not sufficient as an informational document; and be it*
>
> *FURTHER MOVED, That this Board reverses the EIR Certification by the Planning Commission; and, be it*
>
> *FURTHER MOVED, That this Board finds that as to all other topics studied in the final EIR, that document complies with CEQA; is adequate, accurate and objective; is sufficient as an informational document; its conclusions are correct; and it reflects the independent judgement of the City; and, be it*
>
> *FURTHER MOVED, That this Board remands the Final EIR to the Planning Department to undertake further environmental review of the Project consistent with this Motion, before further consideration of EIR Certification and any Project Approvals."*

1.B Purpose and Scope of this Recirculated Draft EIR

The planning department has prepared this recirculated draft EIR in response to the determination by the board of supervisors to grant an appeal of the planning commission's certification of the previous final EIR and their findings in support of that determination. This recirculated draft EIR has been prepared in accordance with CEQA Guidelines section 15088.5. CEQA Guidelines section 15088.5(a) states the following with respect to recirculation of an EIR:

> *A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation include, for example, a disclosure showing that:*

1. *A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.*
2. *A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.*
3. *A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.*
4. *The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. [Citation omitted.]*

CEQA Guidelines section 15088.5(c) further states that, if the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified. This is known as "partial recirculation," meaning that only chapters or portions of the previously circulated draft EIR containing new information has been revised and reissued.

At the board of supervisors' direction, this recirculated draft EIR provides additional analysis and evidence related to the proposed project's potential for physical impacts resulting from gentrification and displacement (see section 3.A, population and housing), potential impacts on adjacent historical resources and districts (see section 3.B, cultural resources), and potential geotechnical impacts (see section 3.C, geology and soils). Where additional analysis and evidence presented in this recirculated draft EIR identify significant impacts, mitigation measures and/or alternatives are identified to reduce those impacts to a level of insignificance.

This recirculated draft EIR also includes the summary, project description, other CEQA issues, and the alternatives chapters of the previously circulated draft EIR, which have been revised to reflect text revisions initiated by planning department staff in the previous RTC, minor changes to the project design in response to the planning commission's request for the proposed project to provide additional open space, revisions to the project description to include the community benefits that are part of the proposed project, and the project's potential impacts related to population and housing, historic resources, and geology and soils.

The board of supervisors' findings state that "as to all other topics studied in the [previous] final EIR, that document complies with CEQA; is adequate, accurate and objective; is sufficient as an informational document; its conclusions are correct; and it reflects the independent judgment of the City [and County of San Francisco]." Thus, this recirculated draft EIR does not include any other sections of the previously circulated initial study or previously circulated draft EIR.

1.C Content of this Partially Recirculated Draft EIR

CEQA Guidelines section 15088.5(g) requires that when recirculating a revised EIR, either in whole or in part, the lead agency shall, in the revised EIR or by an attachment to the revised EIR, summarize the revisions made to the previously circulated draft EIR. The following summarizes the changes that have been made to several chapters of the previously circulated draft EIR, and lists the environmental topics and technical appendices that have been added to support the recirculated draft EIR:

- Summary. This chapter summarizes the proposed project, the potential environmental impacts that would result from the proposed project, mitigation measures identified to reduce or eliminate the potential

impacts, project alternatives and their comparative environmental effects, and areas of controversy and issues to be resolved. This chapter has been updated to reflect the recirculated draft EIR analysis related to gentrification and displacement (see section 3.A, population and housing), historic resources (see section 3.B, cultural resources), and potential geotechnical impacts (see section 3.C, geology and soils).

- Chapter 1, Introduction. This chapter has been updated to describe the background of the previously circulated draft EIR and previous final EIR, the recirculated draft EIR process, and related CEQA requirements for the proposed project.
- Chapter 2, Project Description. This chapter has been updated to reflect the text revisions that were initiated by planning department staff in the previous RTC, the minor changes to the project design that were requested by the planning commission at the July 29, 2021 public hearing to consider approval of the project , and to include the community benefits that are part of the proposed project.
- Chapter 3, Environmental Impact Analysis. This chapter has been updated to include an analysis of the proposed project's potential physical impacts resulting from gentrification and displacement caused by the project (see section 3.A, population and housing), potential impacts on adjacent historical resources and districts (see section 3.B, cultural resources), and potential geotechnical impacts (see section 3.C, geology and soils). The topics included in the previously circulated draft EIR (air quality, wind, and shadow) are not included, as the board of supervisors found the analysis of those topics to be adequate, accurate and objective, and requiring no further analysis.
- Section 3.A, Population and Housing. This section has been added to assess the project's potential to directly or indirectly result in gentrification or displacement that could result in physical environmental impacts.
- Section 3.B, Cultural Resources. This section has been added to assess the project's potential to directly or indirectly impact historic resources, including individual historic resources, historic districts, and contributors to historic districts.
- Section 3.C, Geology and Soils. This section has been added to assess the potential geology and soils impacts of the proposed project, including the feasibility of the project foundation, seismicity of the local area, the presence of any nearby existing fault lines and the project's ability to impact them, soil stability characteristics, seismic hazards (e.g., liquefaction), and the characteristics of site soil.
- Chapter 4.0, Other CEQA Issues. The Areas of Known Controversy and Issues to Be Resolved section of this chapter has been updated to reflect the written comments received during the public comment period or presented orally at the public hearings for the previously circulated draft EIR and previous final EIR.
- Chapter 5.0, Alternatives. This recirculated draft EIR updates the analysis of the three alternatives and does not identify new alternatives to the three alternatives identified in the previously circulated draft EIR (Alternative A: No Project Alternative, Alternative B: Reduced Density Alternative [Planning Code-Compliant], and Alternative C: No Residential Parking, Tower Only) to include the potential impacts of these alternatives related to population and housing, cultural resources, and geology and soils.
- Chapter 6.0, Report Preparers. This chapter presents a list of persons involved in the preparation of this recirculated draft EIR.
- Appendix F, Updated Noise Technical Memorandum. This appendix includes the noise technical memorandum updated by Stantec Consulting Services Inc. The Noise Technical Memorandum has been updated to account for additional construction equipment necessary to construct the proposed project,

based on the 2022 preliminary geotechnical report, and to accurately reflect the distance that equipment would operate from adjacent properties.

- Appendix I, Board of Supervisors Findings. This appendix has been added to include the board of supervisors' findings reversing certification of the previous final EIR.
- Appendix J, Gentrification and Displacement Report. This appendix includes the Supplemental Analysis Regarding Potential Displacement Impacts from the Proposed Project at 469 Stevenson Street report (2022 gentrification and displacement report) prepared by Seifel Consulting, Inc. (Seifel Consulting). This appendix has been added to provide additional analysis related to the potential for the proposed project to result in gentrification and residential or cultural displacement.
- Appendix K, Historic Resources Reports. This appendix includes the Historic Resource Evaluation (HRE) Part II prepared by Page and Turnbull, and the planning department's Historic Resource Evaluation Response (HRER) Part II. These reports have been added to provide additional analysis of potential impacts to historic resources.
- Appendix L, Geotechnical Report and Memoranda. This appendix includes the 2022 preliminary geotechnical report and geotechnical feasibility memorandum prepared by Langan Engineering and Environmental Services, Inc (geotechnical consultant), and the geotechnical peer review memorandum prepared for the proposed project by an independent third-party technical expert. These reports have been added to provide additional analysis of the proposed structure's potential geotechnical impacts.

1.D Partially Recirculated Draft EIR Process

The CEQA Guidelines and San Francisco Administrative Code chapter 31 encourage public participation in the planning and environmental review processes. The city will provide opportunities for the public to present comments and concerns regarding this recirculated draft EIR and its CEQA process. These opportunities include: (1) a 47-day public review and comment period, starting on November 2, 2022 and ending on December 19, 2022; and (2) a noticed public hearing before the planning commission on the partially recirculated draft EIR on December 8, 2022

Pursuant to CEQA Guidelines section 15088.5(f)(2), when the EIR is revised only in part and the lead agency is recirculating only the revised chapters or portions of the EIR, the lead agency may request that reviewers limit their comments to the revised chapters or portions of the recirculated EIR. Because all comments received during the initial circulation period that related to chapters or portions of the previously circulated draft EIR were responded to in the previous RTC, the planning department need only respond to comments received during the recirculation period that relate to the chapters or portions of the previously circulated draft EIR that were revised and recirculated. In other words, the planning department need only respond to comments on new and revised text in this recirculated draft EIR. Furthermore, pursuant to San Francisco Administrative Code section 31.16(c)(5), "If the Board reverses the Planning Commission's certification of the final EIR, it shall remand the final EIR to the Planning Commission for further action consistent with the Board's findings. Any further appeals of the EIR shall be limited only to the portions of the EIR that the Planning Commission has revised, and any appellant shall have commented on the revised EIR at or before a public hearing held on the revised EIR or the project, if any. [sic] The Board's subsequent review, if any, also shall be limited to the portions of the EIR that the Planning Commission has revised including, without limitation, new issues that have been addressed."

Accordingly, the city requests that reviewers limit their comments to the revised chapters or portions that are included in this recirculated draft EIR; these are the comments to which the city will provide responses. The city also requests that reviewers not make new comments on chapters or portions of the previously circulated draft EIR (which includes the previously circulated initial study and the previous RTC), not included in this recirculated draft EIR, as the city will not respond to such comments. Furthermore, the city requests that reviewers not re-submit comments already included in the previous RTC, as those comments have already been addressed and the city will not recirculate those responses.

All written comments or questions about this recirculated draft EIR should be addressed to:

San Francisco Planning Department
Attention: Jenny Delumo, Senior Environmental Planner
49 South Van Ness Avenue, Suite 1400, San Francisco, CA 94103
CPC.469Stevenson@sfgov.org

Written comments must be received by 5:00 p.m. on December 19, 2022. Comments may also be submitted during the public hearing before the planning commission, which has been scheduled for December 8, 2022. Please be advised that due to the COVID-19 public health emergency, the planning commission is holding hybrid hearings. Members of the public can attend the hearing in-person at City Hall, Room 400, or participate remotely. Additional information may be found on the planning department's website at https://sfplanning.org/hearings-cpc-grid.

This recirculated draft EIR is available for public review and comment on the planning department's "Environmental Review Documents" web page (https://sfplanning.org/environmental-review-documents). Referenced materials in this recirculated draft EIR are also available for review on the San Francisco Property Information Map, which can be accessed at https://sfplanninggis.org/pim/. Individual files can be viewed by clicking on the "Planning Applications" link, clicking the "More Details" link under the project's environmental record number 2017-014833ENV and then clicking on the "Related Documents" link. (Call [628] 652-7568 for questions related to review of materials). A USB or paper copy of this recirculated draft EIR will be mailed upon request. Referenced materials will also be made available for review upon request. Contact Jenny Delumo, Senior Environmental Planner, at CPC.469Stevenson@sfgov.org

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

1.E Final EIR and EIR Certification

Following the 47-day public review period, the planning department will respond in writing to environmental points raised by the reviewers in their comments on this recirculated draft EIR in a recirculated RTC document. The recirculated RTC will contain all comments on and responses to this recirculated draft EIR that relate to the new or revised text in this recirculated draft EIR. The final EIR shall consist of the previously circulated draft EIR (including the previously circulated initial study appended to that document), the recirculated draft EIR, comments received on both the previously circulated draft EIR and recirculated draft EIR, and the responses to those comments. Not less than 10 days prior to the planning commission hearing to consider certification of the

final EIR, the final EIR will be made available to the public and any boards, commissions, or departments that will carry out or approve the proposed project.

The planning commission, in an advertised public meeting, will consider the documents and, if found adequate, accurate, and objective, certify the final EIR, provided it (1) was completed in compliance with CEQA; (2) was presented to the planning commission and the planning commission reviewed and considered the information contained in the final EIR prior to taking an approval action on the proposed project; and (3) reflects the lead agency's independent judgment and analysis, per chapter 31 of the San Francisco Administrative Code. CEQA requires that agencies shall neither approve a project nor implement a project unless the project's significant environmental impacts have been reduced to a less-than-significant level, thereby essentially eliminating, avoiding, or substantially lessening the potentially significant impacts of the proposed project, except when certain findings are made. If an agency approves a project that would result in the occurrence of significant adverse impacts that cannot feasibly be mitigated to less-than-significant levels (that is, significant and unavoidable impacts), the agency must state the reasons for its action in writing; demonstrate that mitigation is infeasible, based on the EIR or other information in the record; and adopt a statement of overriding considerations.

1.F Senate Bill 7

The project sponsor intends to submit an application with the Governor's Office of Planning and Research for certification of the proposed project as an environmental leadership development project under the Jobs and Economic Improvement through Environmental Leadership Act of 2021 (SB 7).

SB 7[11] provides streamlining benefits under CEQA, as described further below, for environmental leadership development projects and defines an environmental leadership development project as a project with the following characteristics:

- The project is residential, retail, commercial, sports, cultural, entertainment, or recreational in nature;
- The project, upon completion, will qualify for Leadership in Energy and Environmental Design gold certification or better;
- The project will achieve at least 15 percent greater standard for transportation efficiency than comparable projects;
- The project is located on an infill site;
- For housing development within a metropolitan planning organization's jurisdiction for which a sustainable communities strategy or alternative planning strategy is in effect, the infill project is consistent with the general use designation, density, building intensity and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, for which the California Air

[11] California Public Resources Code section 21178 et seq. and Governor's Office of Planning and Research, California Jobs (AB 900), *Governor's Guidelines for Streamlining Judicial Review Under the California Environmental Quality Act Pursuant to AB 900, Updated to Comply with Senate Bill 734 and Assembly Bill 246*, accessed July 22, 2019, http://opr.ca.gov/ceqa/california-jobs.html.

Resources Board has accepted that the strategy would achieve the greenhouse gas (GHG) emission reduction targets.[12]

In order for the Governor to certify a leadership project, the project must: (1) result in a minimum investment of $100 million in California upon completion of construction; (2) create high-wage, highly skilled jobs that pay prevailing wages and living wages and provide construction jobs and permanent jobs for Californians, and help reduce unemployment; (3) not result in any net additional GHG emissions; (4) comply with requirements for commercial and organic waste recycling; (5) have a binding agreement with the lead agency establishing that all required mitigation measures shall be conditions of approval of the project and will be fully enforceable by the lead agency; and (6) the project applicant agrees to pay the costs of the trial court and the Court of Appeal in hearing and deciding any case; and agree to pay the costs of preparing the record of proceedings for the project concurrent with review and consideration of the project, in a form and manner specified by the lead agency for the project.[13] Multifamily residential projects certified as environmental development leadership projects are also required to provide unbundled parking, such that private vehicle parking spaces are priced and rented or purchased separately from dwelling units.[14]

As of the publication of this recirculated draft EIR the Governor has not yet certified the proposed project under SB 7.

In accordance with the requirements of SB 7, the planning department has provided a record of proceedings for the proposed project that can be accessed and downloaded from the following website: https://www.469stevensonstreetproject.com. The record of proceedings includes the previous final EIR[15] and all other documents and materials submitted to, or relied upon by, the lead agency in the preparation of this recirculated draft EIR or the approval of the project. In addition, a document prepared by the lead agency or submitted by the applicant after the date of the release of this recirculated draft EIR that is a part of the record of proceedings, and comments received on this recirculated draft EIR, will be made available to the public on this same website in a readily accessible electronic format within the timeframes specified by this act.

Within 10 days of the governor certifying the proposed project as an environmental leadership development project, the planning department is required to issue a public notice in no less than 12-point font stating the following:

> "THE APPLICANT HAS ELECTED TO PROCEED UNDER CHAPTER 6.5 (COMMENCING WITH SECTION 21178) OF DIVISION 13 OF THE PUBLIC RESOURCES CODE, WHICH PROVIDES, AMONG OTHER THINGS, THAT ANY JUDICIAL ACTION CHALLENGING THE CERTIFICATION OF THE ENVIRONMENTAL IMPACT REPORT (EIR) OR THE APPROVAL OF THE PROJECT DESCRIBED IN THE EIR IS SUBJECT TO THE PROCEDURES SET FORTH IN SECTIONS 21185 TO 21186, INCLUSIVE, OF THE PUBLIC RESOURCES CODE. A COPY OF CHAPTER 6.5

[12] California Public Resources Code, Section 21180(b). https://casetext.com/statute/california-codes/california-public-resources-code/division-13-environmental-quality/chapter-65-jobs-and-economic-improvement-through-environmental-leadership-act-of-2021/section-21180-definitions. Accessed October 23, 2022.
[13] California Public Resources Code, Section 21183. https://casetext.com/statute/california-codes/california-public-resources-code/division-13-environmental-quality/chapter-65-jobs-and-economic-improvement-through-environmental-leadership-act-of-2021/section-21183-conditions-for-certification. Accessed October 23, 2022.
[14] California Public Resources Code, Section 21184.5(a). https://casetext.com/statute/california-codes/california-public-resources-code/division-13-environmental-quality/chapter-65-jobs-and-economic-improvement-through-environmental-leadership-act-of-2021/section-211845-parking. Accessed October 23, 2022.
[15] The previous final EIR consists of the previously circulated initial study, previously circulated draft EIR, and the previous RTC.

> (COMMENCING WITH SECTION 21178) OF DIVISION 13 OF THE PUBLIC RESOURCES CODE IS INCLUDED BELOW."

As required by PRC section 21185, the Judicial Council adopted rules of court that establish procedures applicable to actions or proceedings brought to attack, review, set aside, void, or annul the certification of the environmental impact report for an environmental leadership development project (certified by the governor pursuant to this act) or the granting of any project approvals that require the actions or proceedings, including any potential appeals therefrom to the Court of Appeals or the Supreme Court, be resolved, to the extent feasible within 270 days of the filing of the certified record of proceedings with the court. This creates an accelerated timeframe for CEQA litigation. The procedures can be found in California Rules of Court rules 3.2220 to 3.2231.

The provisions of SB 7 apply to projects that have been certified by the Governor as environmental leadership development projects by January 1, 2024, and approved by the lead agency by January 1, 2025. This act remains in effect until January 1, 2026.

CHAPTER 2
PROJECT DESCRIPTION

This chapter includes a reprint of the Project Description that was provided in Chapter 2 of the previously circulated draft EIR and incorporates the text revisions that were initiated by planning department staff in the previous RTC and minor clarifications and changes to the project design, including changes made in response to the planning commission's request for the proposed project to provide additional open space and listing the community benefits that are part of the proposed project. Additional detail is also provided regarding the foundation types required to construct the proposed project. New text, including staff-initiated text revisions from the previous RTC, is shown in double underline and deleted text is shown in ~~strikethrough~~. Any text that has not changed from what was presented in the previously circulated draft EIR is presented as clean text.

2.A Project Overview

The project site is a through lot located at 469 Stevenson Street in the South of Market (SoMa) neighborhood of San Francisco (Assessor's Block 3704, Lot 45). The project site is approximately 28,790 square feet (0.66-acre) and currently developed as a public surface parking lot with 176 parking spaces.

The project sponsor, ~~BUILD~~ 469 Stevenson Property Owner LLC, is proposing to demolish the existing surface parking lot and construct a new 27-story mixed-use building that is approximately 274 feet tall (with an additional ~~10~~ 16 feet for ~~rooftop mechanical equipment~~ the rooftop mechanical penthouse and 20 feet for the elevator overrun that would be used to access the roof deck). The proposed project would total approximately 535,000[16] gross square feet (gsf) and include 495 dwelling units, approximately 4,000 square feet of commercial retail use on the ground floor, and approximately ~~25,000~~ 30,000 square feet of private and common open space. The proposed 495 dwelling units consisting of approximately 192 studios, ~~33 junior one-bedroom units,~~ ~~116~~ 149 one-bedroom units, 96 two-bedroom units, 50 three-bedroom units, and 8 five-bedroom units would be available to rent. The proposed project would use the Individually Requested State Density Bonus Program[17] and provide affordable housing units onsite.

The proposed project would provide three below grade parking levels with ~~178 vehicular~~ 166 residential parking spaces, as well as 12 car-share parking spaces, 200 class 1[18] bicycle spaces, and two service delivery loading spaces. Additionally, one onsite freight loading space would be located on the ground floor. Twenty-seven class 2[19] bicycle parking spaces would be placed along Jessie Street.

The proposed project would require 55,850 cubic yards of excavation, and the project sponsor proposes to use a mat foundation. The results of the 2022 preliminary geotechnical report indicate a mat foundation is feasible for

[16] All numbers are rounded to the nearest thousand or hundred thousand.
[17] City of San Francisco Planning Department, Individually Requested State Density Bonus Program, Informational and Supplemental Application Packet. http://forms.sfplanning.org/IndividuallyRequestedState_SupplementalApplication.pdf. Accessed September 18, 2019.
[18] Class 1 bicycle parking space(s) are spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, non-residential occupants, and employees.
[19] Class 2 bicycle parking space(s) are bicycle racks located in a publicly-accessible, highly visible location intended for transient or short-term use by visitors, guests, and patrons to the building or use.

the support of the proposed structure.[20] The proposed foundation would comply with the requirements of the San Francisco Building Code and building department Administrative Bulletins (AB)-082 and AB-111. The design-level geotechnical report and its review by the geotechnical member(s) of the Engineering Design Review Team (EDRT) will determine which foundation system is used to construct the building. Should the design-level geotechnical report or building department determine that a mat foundation is not feasible, a deep foundation system using drilled cast-in-place piers (i.e., drilled shafts) would be used.

No pile driving is proposed or required. Project construction would span approximately 36 months.

2.B Project Sponsor's Objectives

The project sponsor has identified the following project objectives:

1. Redevelop an underutilized site in a transit-oriented, urban infill location with a range of dwelling units, ground-floor commercial retail uses, and open space amenities.
2. Build a substantial number of residential units onsite to help alleviate the current housing shortage in San Francisco and the greater San Francisco Bay Area (Bay Area), and to contribute to the General Plan's Housing Element goals and the Association of Bay Area Government's (ABAG's) Regional Housing Needs Allocation for the City and County of San Francisco.
3. Promote the construction of affordable housing units in San Francisco by providing onsite inclusionary housing units.
4. Produce a high-quality architectural and landscape design that encourages variety, is compatible with its surrounding context and promotes sustainability through environmentally sensitive design features that meet or exceed the requirements of the San Francisco Public Utilities Commission's Non-Potable Water Ordinance as well as the City and County of San Francisco's Stormwater Management Requirements, Green Building Ordinance, and Better Streets Design Guidelines.
5. Develop the project site to encompass ample open space amenities for building residents and encourage use of common residential open space.
6. Provide off-street vehicle parking that is adequate for the occupancy proposed pursuant section 151.1 of the San Francisco Planning Code (planning code) and to meet investment capital parking requirements.
7. Design a project that incorporates building massing features, including massing articulation, that would improve the building's performance with respect to wind safety and comfort impacts.
8. Construct a high-quality project that includes a sufficient number of dwelling units and commercial space to make redevelopment of the site economically feasible by producing a reasonable return on investment for the project sponsor and its investors, attracting investment capital and construction financing, and generating sufficient revenue to provide onsite inclusionary housing units.

[20] Langan Engineering and Environmental Services, Inc. 2022. Preliminary Geotechnical Study- 469 Stevenson Street. June 30, 2022.

2.C Project Location

The project site is located at 469 Stevenson Street in the SoMa neighborhood of San Francisco (Figure 1). As shown in Figure 2, the project site is a through lot with frontages on both Stevenson and Jessie streets and is located mid-block between Fifth and Sixth streets (Assessor's Block 3704, Lot 45). The project site is approximately 28,790 square feet (0.66-acre) and currently used as a public surface parking lot with 176 parking spaces. Access to the project site is currently available from the existing 24-foot-wide curb cut on Stevenson Street and the 12-foot-wide curb cut on Jessie Street. There is no existing vegetation on the project site. However, there are five trees adjacent to the east boundary of the project site on the Clearway Energy property. The topography of the site is generally level with a ground surface elevation of approximately 30 feet above mean sea level.

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

The project site is served by the city's transit network and is located less than one block south of the Powell Street Bay Area Rapid Transit (BART) station and the subsurface San Francisco Municipal Railway (Muni) lines. Additionally, there are several aboveground Muni bus lines that operate within 0.5 mile of the project site, including the 14-Mission, 27-Bryant, 45-Union/Stockton, and 8-Bayshore Express. The closest aboveground Muni stop is located about 300 feet north of the project site on Market Street and Sixth Street.[21]

2.D Existing Setting

Land uses in the surrounding area consist of a mix of retail, commercial office, industrial, hotel, and residential uses. The east boundary of the project site is adjacent to Clearway Energy's thermal power station, Station T, (460 Jessie Street) which produces and distributes steam to buildings within a two square mile area of the central business district for space heating, domestic hot water, air conditioning, and industrial process uses. The thermal power station is fully operational and includes six boilers and two gas stacks approximately 160 feet tall. Four buildings are adjacent to the west boundary of the project site, consisting of two 3-story hotels, a 3-story mixed-use building with commercial and hotel uses, and a 7-story mixed-use building with commercial and residential uses. Three buildings are located directly across from the project site on Stevenson Street. These buildings front Market Street and include two 7-story mixed-use buildings, one with commercial uses and one with ~~commercial and office~~ residential uses, and a 2-story commercial building. Four buildings are located directly across from the project site on Jessie Street consisting of automotive and office uses ranging from one to five-stories.

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

[21] Transit services presented herein reflect conditions prior to the onset of transit service changes resulting from the COVID-19 pandemic.

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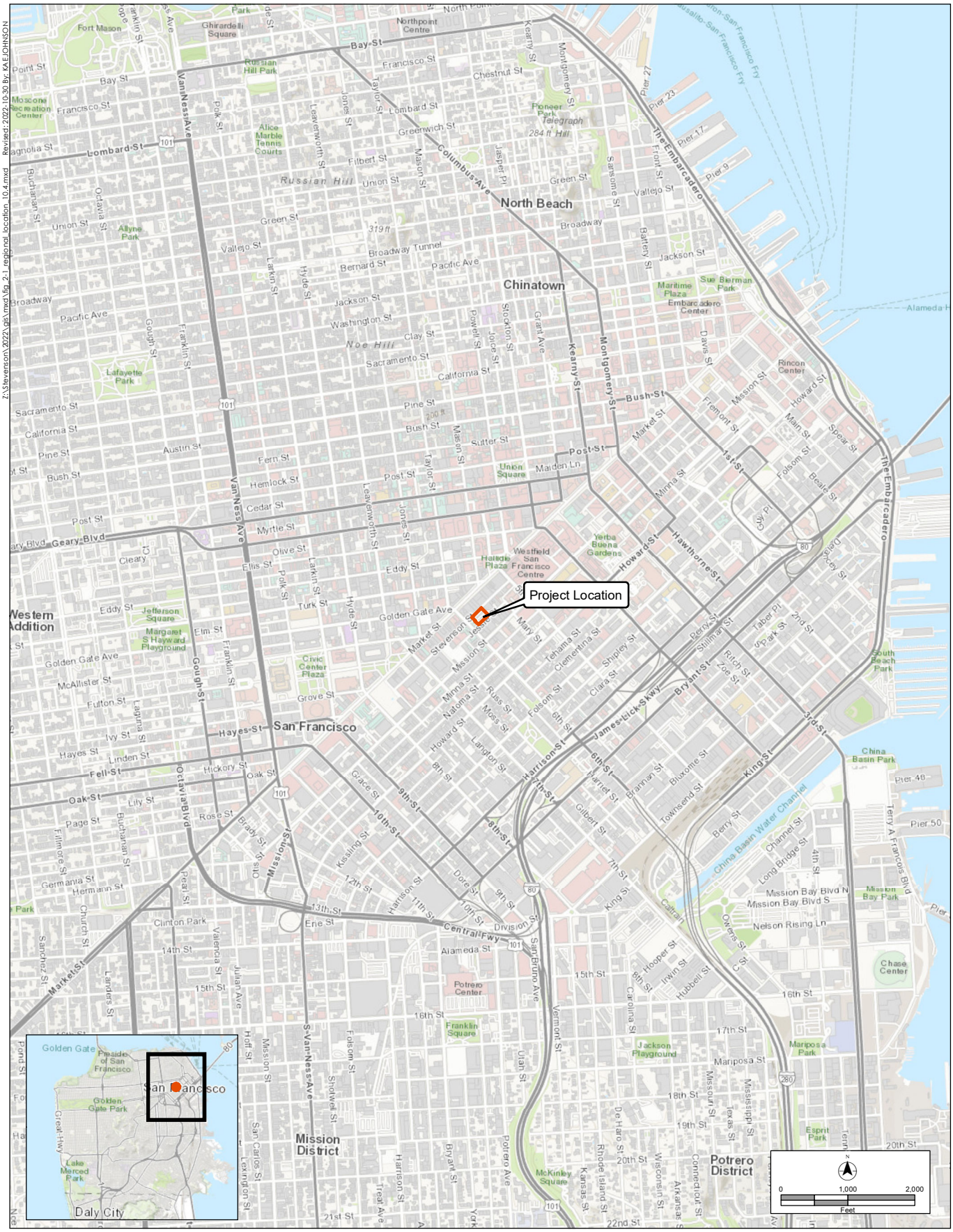

SOURCE: ESRI 2022; Stantec 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 1

Project Site Location

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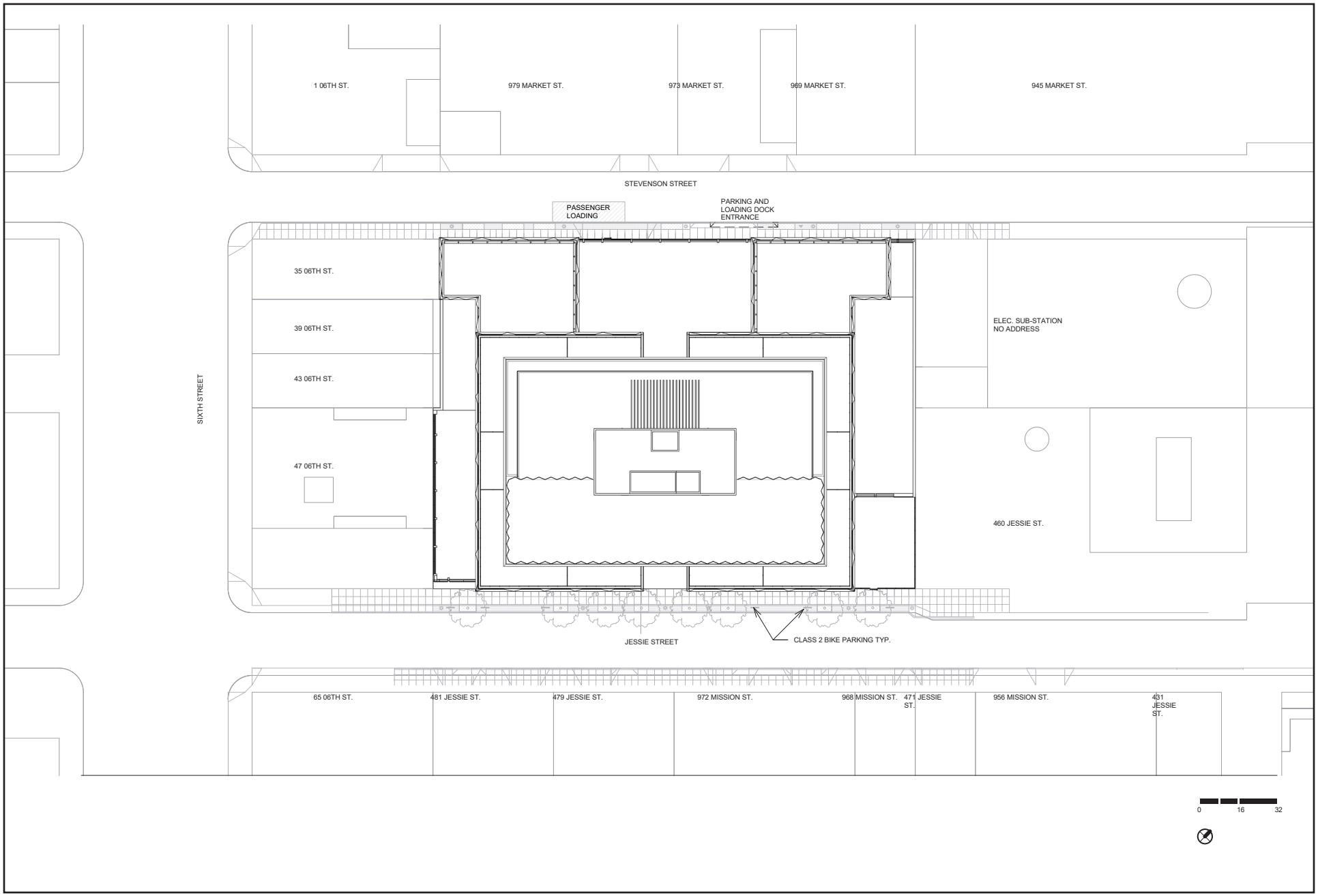

SOURCE: Solomon Cordwell Buenz 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 2

Proposed Project Site Plan

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The project site is within the SoMa and Mid-Market employment centers, and within walking distance to downtown. Class 2[22] and class 3[23] bicycle facilities currently run along Market Street in both directions. The nearest Bay Area bike share station is less than one block east ~~north~~ of the project site at the ~~northwest corner of Market and Fifth streets~~ corner of Mint Street and Mission Street.

The nearest parks or public open spaces include Mint Plaza, about 0.1-mile to the northeast; Father Alfred E. Boeddeker Park, about 0.3-mile to the northwest; Gene Friend Recreation Center Park, about 0.3-mile to the southeast; Turk-Hyde Mini Park, about 0.4-mile to the north; Tenderloin Recreation Center, about 0.4-mile to the north; United Nations (UN) Plaza, about 0.4-mile to the northwest; Victoria Manalo Draves Park, about 0.5-mile to the south; Joseph L. Alioto Performing Arts Piazza, about 0.5-mile to the northwest; Union Square, about 0.7-mile to the north; and Yerba Buena Gardens open space and recreational facilities, about 0.5-mile northeast of the project site.

In addition, six projects within a 0.25-mile radius are currently under construction or have been constructed since publication of the NOP and therefore are considered part of the existing environmental conditions. Pursuant to CEQA Guidelines section 15125(a), the date of publication of the NOP establishes the baseline physical environmental conditions by which this analysis evaluates the impacts of the proposed project. These projects include the following:

- 5M Project, 925-927 Mission Street (Case No: 2011.0409E): Involves retention and rehabilitation of two buildings on the site, demolition of six existing buildings on the site, and the construction of five new buildings. Buildings would range in height from approximately 50 feet to 400 feet. The total square footage of renovated existing buildings and new construction would include approximately 1.85 million gsf of new and existing uses, comprising 1,132,200 gsf of office uses, 552,800 gsf of residential uses (748 dwelling units), up to 146,900 gsf of active ground floor retail/office/cultural/educational uses, and 18,200 gsf of arts/cultural/educational uses. This project is about 600 feet southeast of the project site. The first phase of the 5M Project was completed in March 2022 after publication of the NOP. The first phase included construction of the 640,000 square-foot, 25-story 415 Natoma office building; a 310,490-square-foot, 20-story apartment complex with 302 units at 434 Minna Street; 26,100 square feet of privately owned public open space; and the adaptive reuse of the Dempster and Camelline buildings for art and cultural uses. Mary Plaza, part of the 5M Project, began construction in March 2021 and completed construction in March 2022. This publicly accessible private open space opened to the public in March 2022.
- 950-974 Market Street (Case No: 2013.1049E): Involves demolition of the existing buildings and parking structure to construct an approximately 406,000 gsf building containing 242 dwelling units, a 232-room hotel, and approximately 16,600 gsf of retail uses, in a 12-story, 120-foot-tall building. This project is about 400 feet north of the project site. Construction of this project was completed in 2020 after publication of the NOP.
- 1066 Market Street (Case No: 2013.1753E): Involves demolition of the existing building and parking lot and construction of a new 12-story, 120-foot-tall, approximately 297,950 gsf residential building with ground floor retail space and two levels of subterranean parking. The mixed-use building would provide approximately

[22] Class 2 bicycle facilities are standard bike lanes within a portion of road reserved for the preferential or exclusive use of people biking, indicated by road markings. California Department of Transportation, A Guide to Bikeway Classification, July 2017. http://www.dot.ca.gov/d4/bikeplan/docs/caltrans-d4-bike-plan_bikeway-classification-brochure_072517.pdf. Accessed March 26, 2019.
[23] Class 3 bicycle facilities are typically wide travel lanes shared by bicyclists and vehicles. They are commonly marked with the standard or greenback sharrows and wayfinding signs to indicate shared use. California Department of Transportation, A Guide to Bikeway Classification, July 2017. http://www.dot.ca.gov/d4/bikeplan/docs/caltrans-d4-bike-plan_bikeway-classification-brochure_072517.pdf. Accessed March 26, 2019.

304 dwelling units and 4,540 gsf of ground-floor commercial retail space. This project is about 750 feet northwest of the project site. Construction of this project was completed in 2020 after publication of the NOP.

- Central Subway Project (Case No: 1996.281E): Involves extension of the Muni Metro T Third Street Line through SoMa, Union Square, and Chinatown. Construction is currently under way and operations are expected to begin in ~~2021~~ 2022. Once the Central Subway is completed, the T Third Line will travel mostly underground from the 4th Street Caltrain Station to Chinatown. Four new stations will be built along the 1.7-mile alignment: 4th and Brannan Station at 4th and Brannan streets, Yerba Buena/Moscone Station at 4th and Folsom streets, Union Square/Market Street Station on Stockton Street at Union Square, and Chinatown Station at Stockton and Washington streets.
- Sixth Street Pedestrian Safety Project (Case No. 2014.1010E): Alters Sixth Street between Market and Howard streets by reducing the number of vehicle lanes on Sixth Street from four lanes to three lanes; widening the sidewalks on both sides of Sixth Street; installing new corner curb bulbouts at all intersections; installing new traffic signals at the intersections of Sixth Street/Stevenson Street and Sixth Street/Natoma Street; installing new crosswalk striping at all alleys crossing Sixth street; and installing new roadway striping and streetscape improvements (e.g., decorative sidewalks, pedestrian lighting). This project is currently in construction with substantial completion anticipated in May 2024. [24]

2.E Project Characteristics

The proposed project would replace the existing 176 space surface parking lot with a 27-story (274 foot-tall with an additional ~~10~~ 16 feet for ~~rooftop mechanical equipment~~ the rooftop mechanical penthouse and 20 feet for the elevator overrun that would be used to access the roof deck [25]) mixed-use residential building of approximately 535,000 gsf. The proposed building would consist of residential and commercial retail uses above a three-level below grade parking garage. The proposed project would provide sidewalk landscaping improvements and open space consisting of solariums, courtyards, decks, balconies, and a roof deck. The proposed project would connect to existing utility lines including sewer, water, and electricity~~, and gas lines~~. Table ~~2.5-1~~ 2-1, Project Summary, lists the characteristics of the individual project components. Figure 2 shows the proposed project site plan.

Table ~~2.5-1~~ 2-1 Project Summary

Component	Gross Square Feet
Residential	475,000
Retail	4,000
Vehicle Parking	56,000

[24] Kimberly Leung, P.E., T.E., Acting Pedestrian Program Manager, San Francisco Municipal Transportation Agency, personal communication, on October 21, 2022.

[25] In response to the planning commission's request for the proposed project to provide additional open space, the project design has been updated to include a 5,000-square-foot roof deck, which would result in a slight increase in the penthouse from 10 to 16 feet and the elevator overrun from 10 feet to 20 feet. Prevision Design prepared a Supplementary Shadow Analysis memorandum on October 5, 2022 to reflect the changes in the project design. The results of that analysis indicate that the updated project design would have slightly different, but similar shadow impacts as the previous design and would not change the proposed project's shadow impact conclusions disclosed in the previously circulated draft EIR. Prevision Design. 2022. *Supplementary Shadow Analysis Memo for the 469 Stevenson Project shadow analysis detailing changes in shadow effects due to a revised project design.* October 5, 2022.

Component	Gross Square Feet
Building Total	*535,000*
Common Residential Open Space[2]	~~11,000~~ 16,000
Private Residential Open Space[3]	14,000
Open Space Total	*~~25,000~~ 30,000*
DWELLING UNIT TYPE – NUMBER OF UNITS	
Studios	192
~~Junior one-bedroom~~	~~33~~
One-bedroom	~~116~~ 149
Two-bedroom	96
Three-bedroom	50
Five-bedroom	8
Total Dwelling Units	*495*
PARKING SPACES - NUMBER OF SPACES	
Residential Parking Spaces	~~178~~ 166
Car-Share Parking Spaces	12
Retail Parking Spaces	0
Total Parking Spaces	*178*
BICYCLE PARKING - NUMBER OF SPACES	
Bicycle (class 1)	200
Bicycle (class 2)	27
Total Bicycle Parking Spaces	*227*

Notes:
[1] All numbers are rounded to the nearest thousand or hundred thousand.
[2] Common residential open space consists of the lounge solarium, approximately 4,000 square feet; fitness solarium, approximately 6,000 square feet; and a ground floor courtyard, approximately 1,000 square feet. Common usable open space as defined in section 135(a) of the planning code pertains to areas jointly used by residents of the project. The proposed project would include a 5,000 square foot common roof deck.
[3] Private decks and balconies would be provided to 22 dwelling units on the 2nd, 6th, and 27th floors.

The project proposes to use the Individually Requested State Density Bonus Program[26] and must provide at least ~~11~~ 13 percent of the base[27] project's residential units as very low affordable dwelling units onsite in order to qualify for a ~~35~~ 42.5 percent increase in density. The project proposes to provide ~~19~~ 13 percent of the base project's residential units as very low affordable dwelling units onsite.

The project sponsor will also be requesting waivers from height, bulk, and other physical constraints of the planning code and is reserving its right to use the incentives afforded by providing affordable dwelling units onsite, as allowed by the Individually Requested State Density Bonus Program.

[26] City of San Francisco Planning Department, Individually Requested State Density Bonus Program, Informational and Supplemental Application Packet. http://forms.sfplanning.org/IndividuallyRequestedState_SupplementalApplication.pdf. Accessed September 18, 2019.
[27] In order to determine how much of a density bonus state law will allow, the density allowed by current controls ("base density" or "base project") must first be calculated. The base density is the maximum gross residential density allowed pursuant to the site's zoning requirements.

2.E.1 Residential Component

The proposed project would provide approximately 495 dwelling units within approximately 475,000 square feet of residential space. Levels 2 through 5 would each contain 21 units consisting of 6 studios, ~~3 junior one-bedroom units, 6~~ 9 one-bedroom units, 2 two-bedroom units, 2 three-bedroom units, and 2 five-bedroom units. ~~Level 6 would contain 19 units consisting of 6 studios, 3 junior one-bedroom units, 6 one-bedroom units, 2 two-bedroom units, and 2 three bedroom units.~~ Levels ~~7~~ 6 through 26 would each contain 19 units consisting of 8 studios, ~~1 junior bedroom unit, 4~~ 5 one-bedroom units, 4 two-bedroom units, and 2 three-bedroom units. The 27th level would include ~~2 junior bedroom units, 6~~ 8 one-bedroom units and 4 two-bedroom units. The project floor plans are depicted in Figure 3 through Figure 9.[28] The building elevations are depicted in Figure 10 and Figure 11.

2.E.2 Commercial Retail Component

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

2.E.3 Open Space, Landscaping, and Stormwater Retention

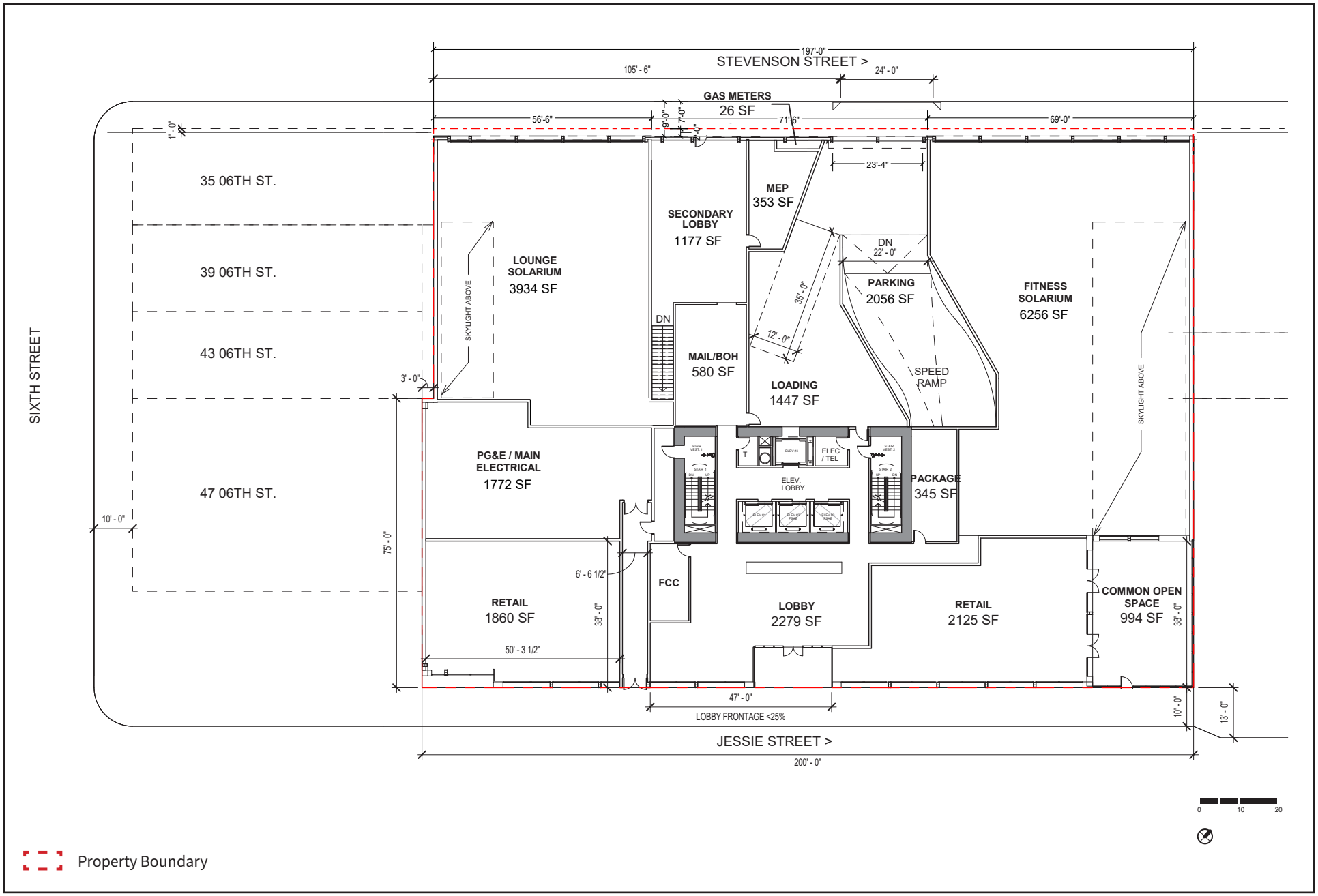
OPEN SPACE

The proposed project would provide approximately ~~11,000~~ 16,000 square feet of common open space. Common open space areas would consist of a fitness solarium, approximately 6,000 square feet; a lounge solarium, approximately 4,000 square feet; ~~and~~ a courtyard area on the ground floor, approximately 1,000 square feet; and a 5,000 square foot roof deck. The proposed project would include approximately 14,000 square feet of private open space ~~and 11,000 square feet of common open space~~. Private open space would consist of decks and balconies for 22 dwelling units. The private decks and balconies would be provided for units on the 2nd, 6th, and 27th floors. Additionally, the proposed project would contribute staff resources to support maintenance of Mint Plaza.

LANDSCAPING

Landscaping at the project site would include approximately eight street tree planting areas along Jessie Street. Due to the narrow sidewalks along Stevenson Street, street trees cannot be planted. Therefore, the proposed project would instead provide seven vegetated landscape strips along Stevenson Street. Trees would also be planted in the building's outdoor courtyard. Raised planters would be provided in the private balcony areas on the 2nd, 6th, and 27th floors. An 18-foot-tall "green screen" made from plants grown on a vertical trellis would be placed around the private balconies on the second floor. The landscape plans for the proposed project are provided on Figure ~~11~~ 12 through Figure ~~14~~ 16.

[28] The project floor plans presented in Figures 3 through 9 are representative; therefore, the exact configurations may change.



SOURCE: Solomon Cordwell Buenz 2022

469 Stevenson Street Project
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FIGURE 3

Ground Floor Plan

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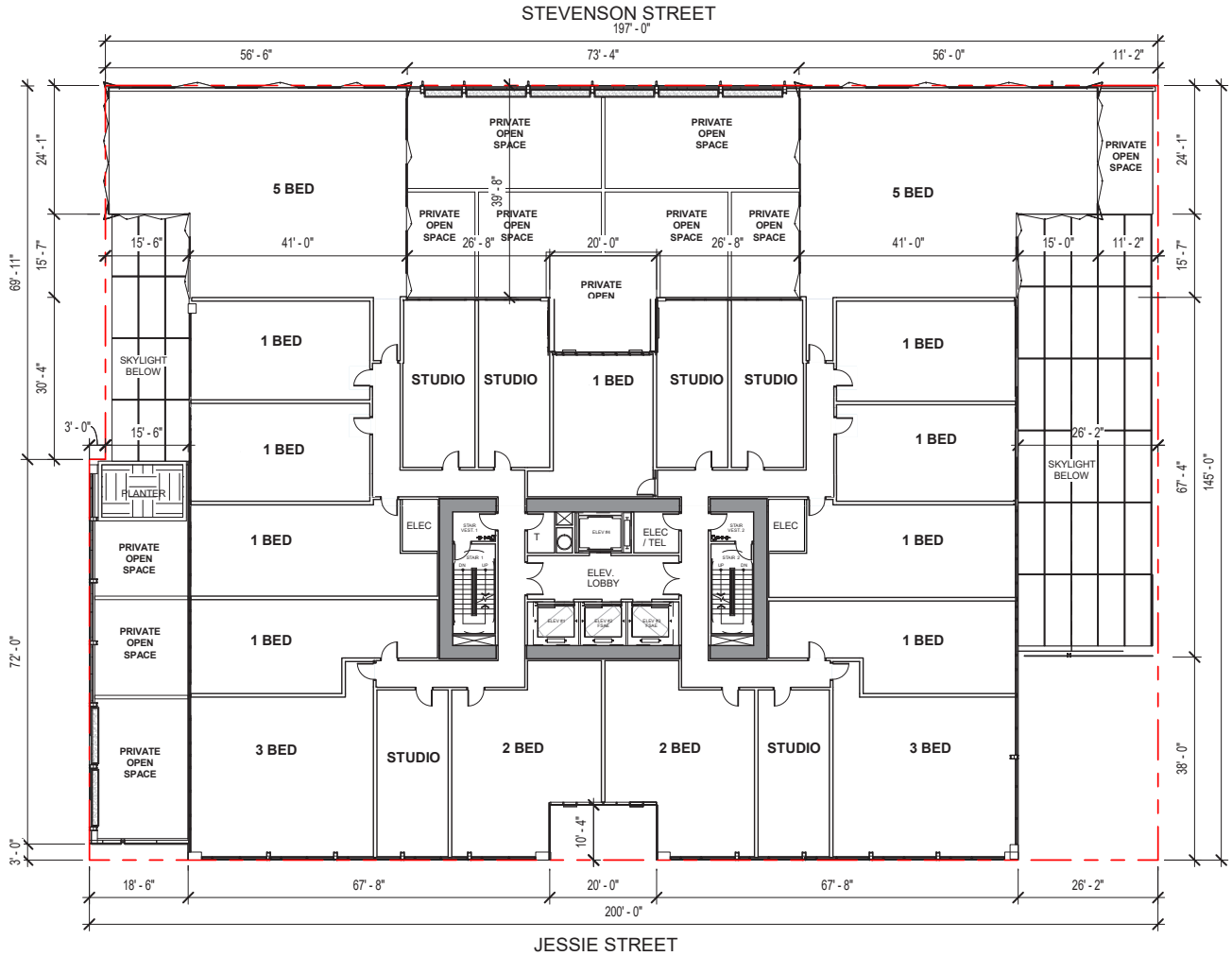

Property Boundary

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 4
Level 2 Plan

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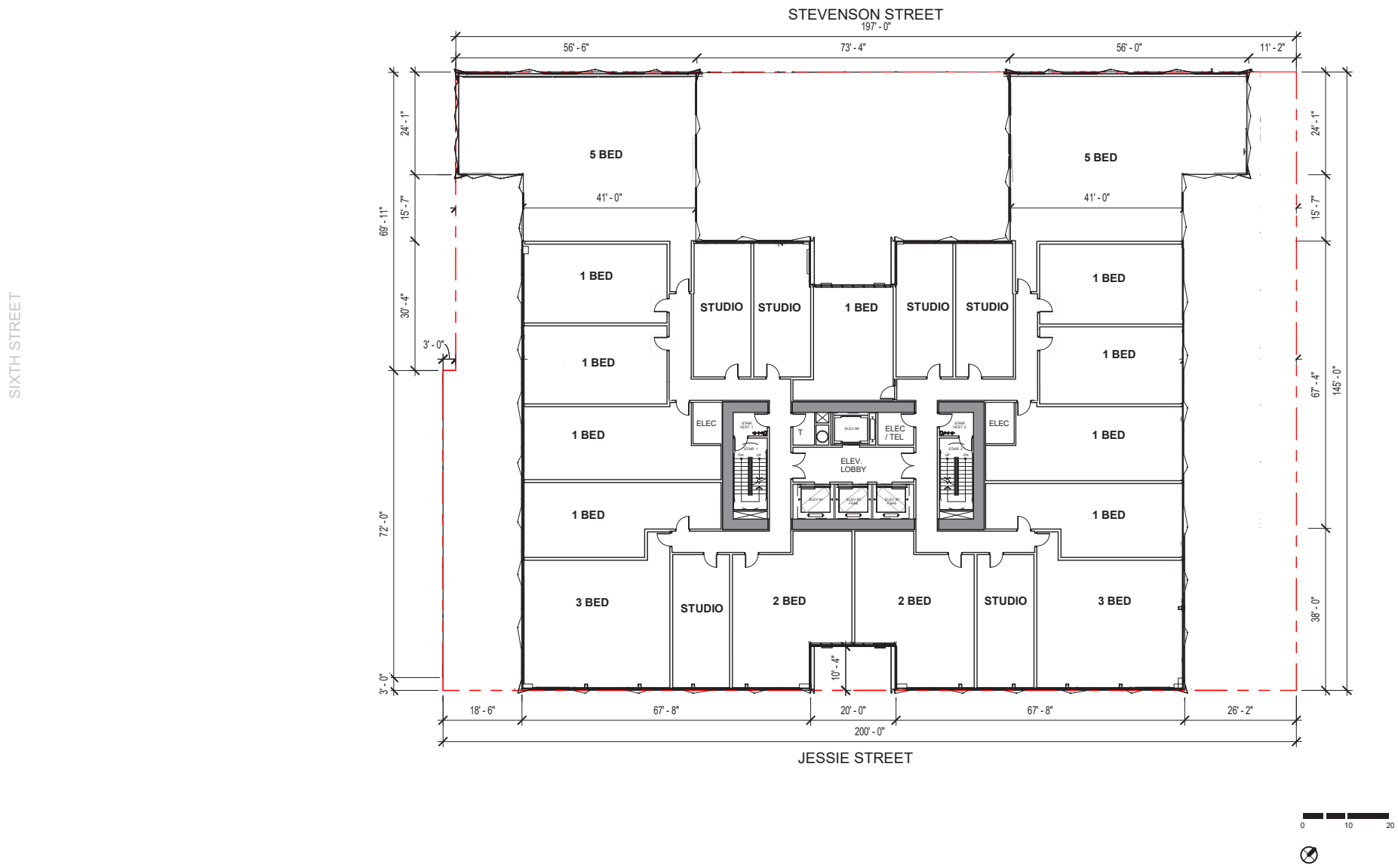

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 5

Levels 3 through 5 Plan

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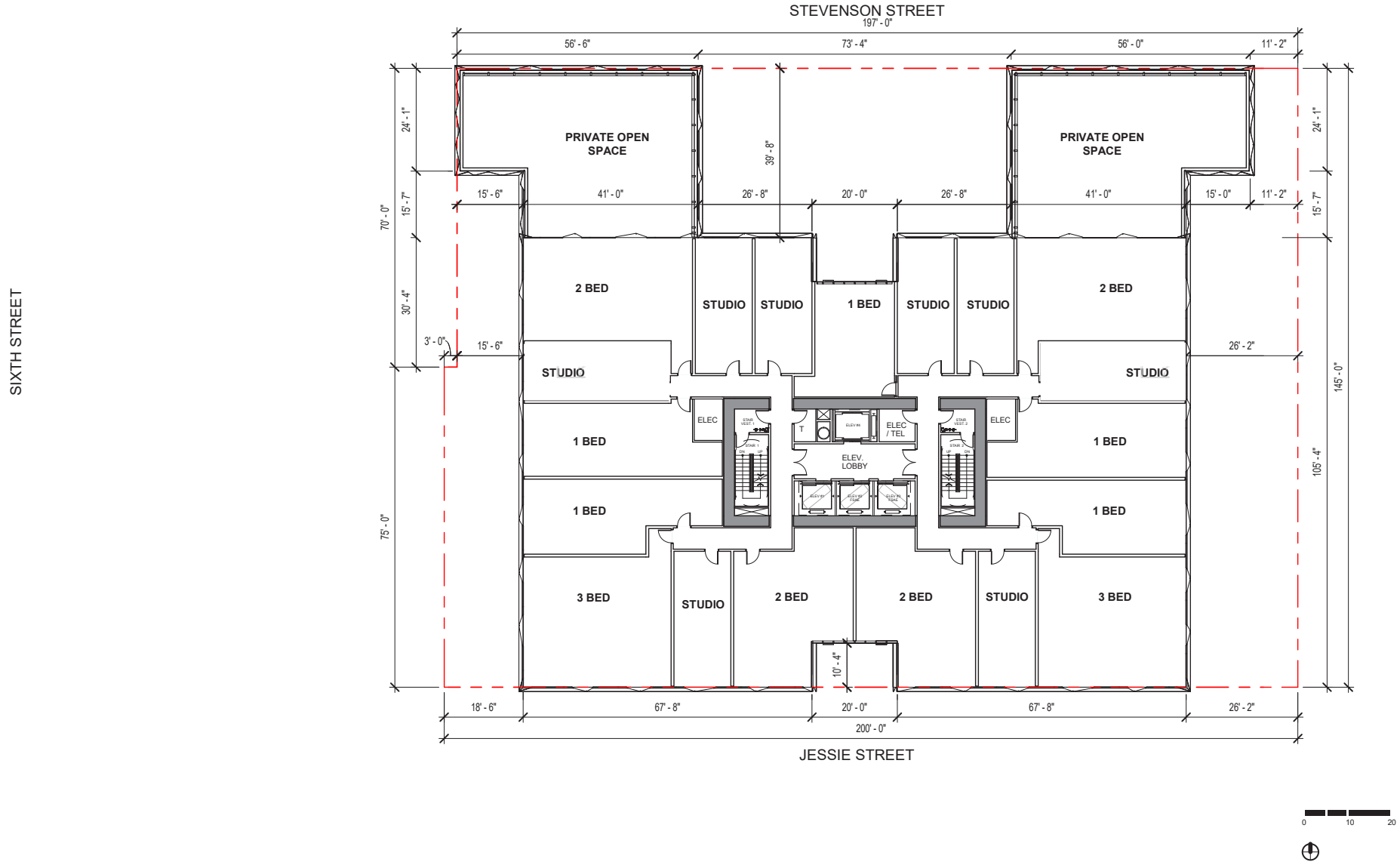

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 6

Level 6 Plan

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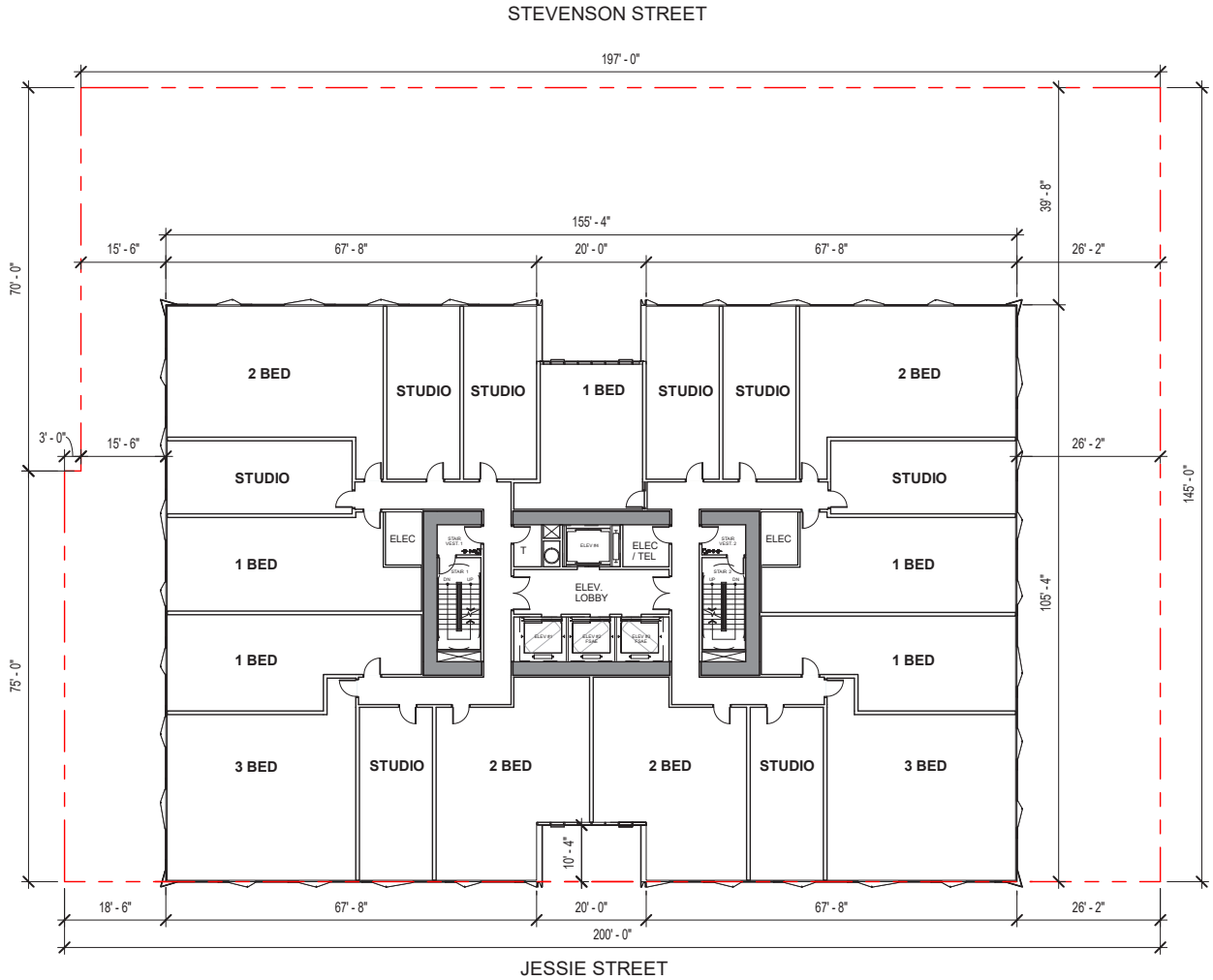

Property Boundary

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 7

Levels 7 through 26 Plan

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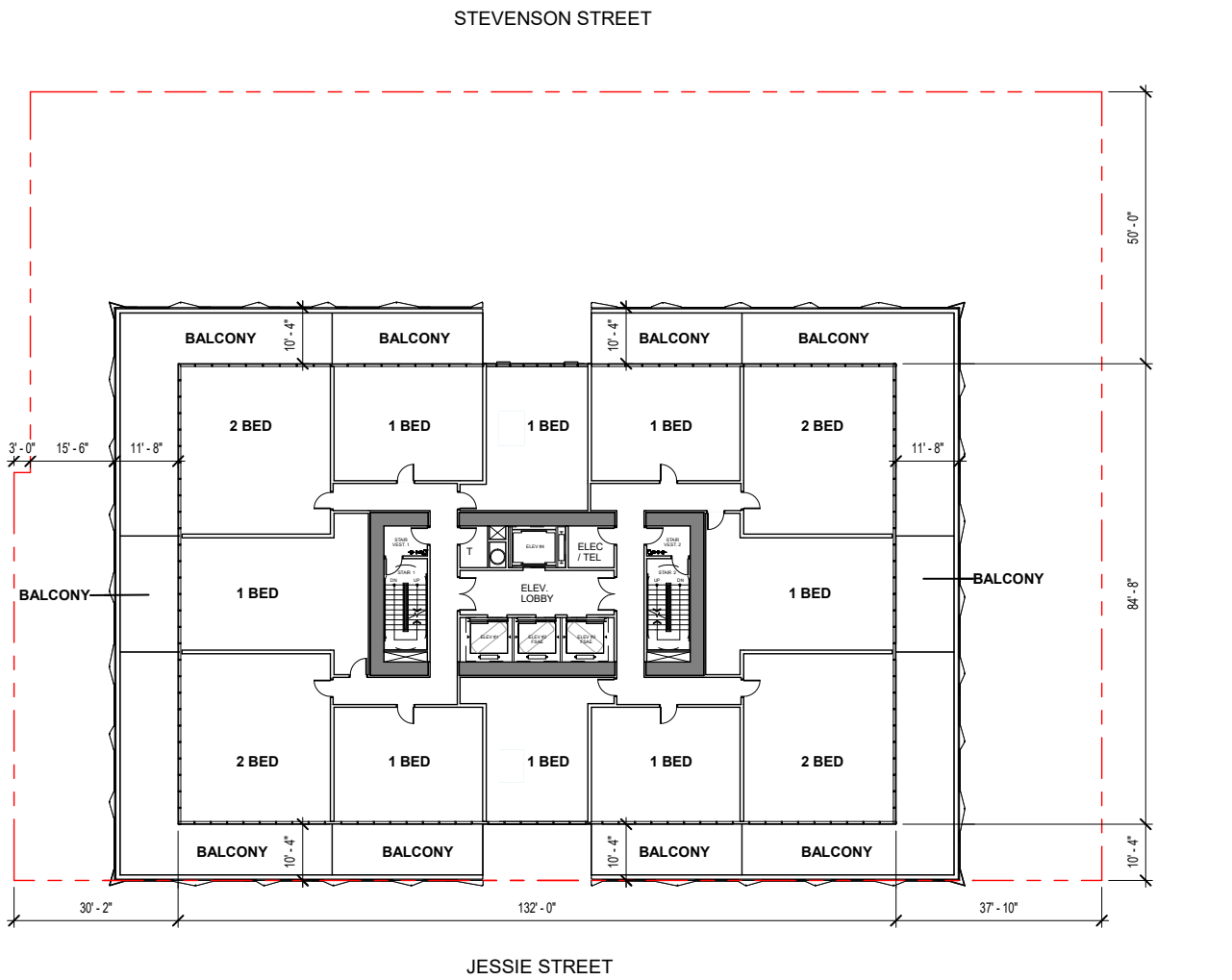

0 10 20

Property Boundary

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 8

Level 27 Plan

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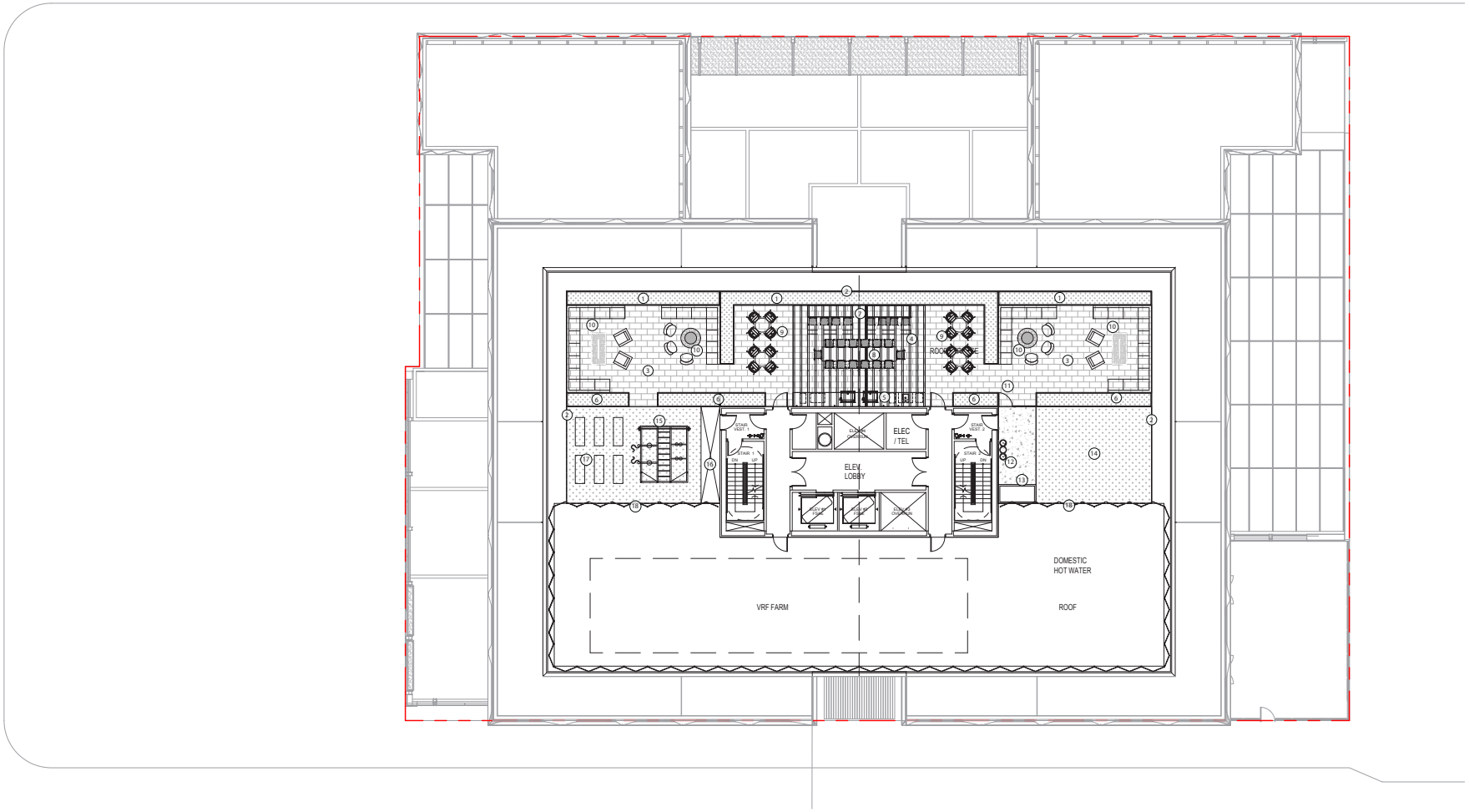

Property Boundary

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 9
Roof Plan

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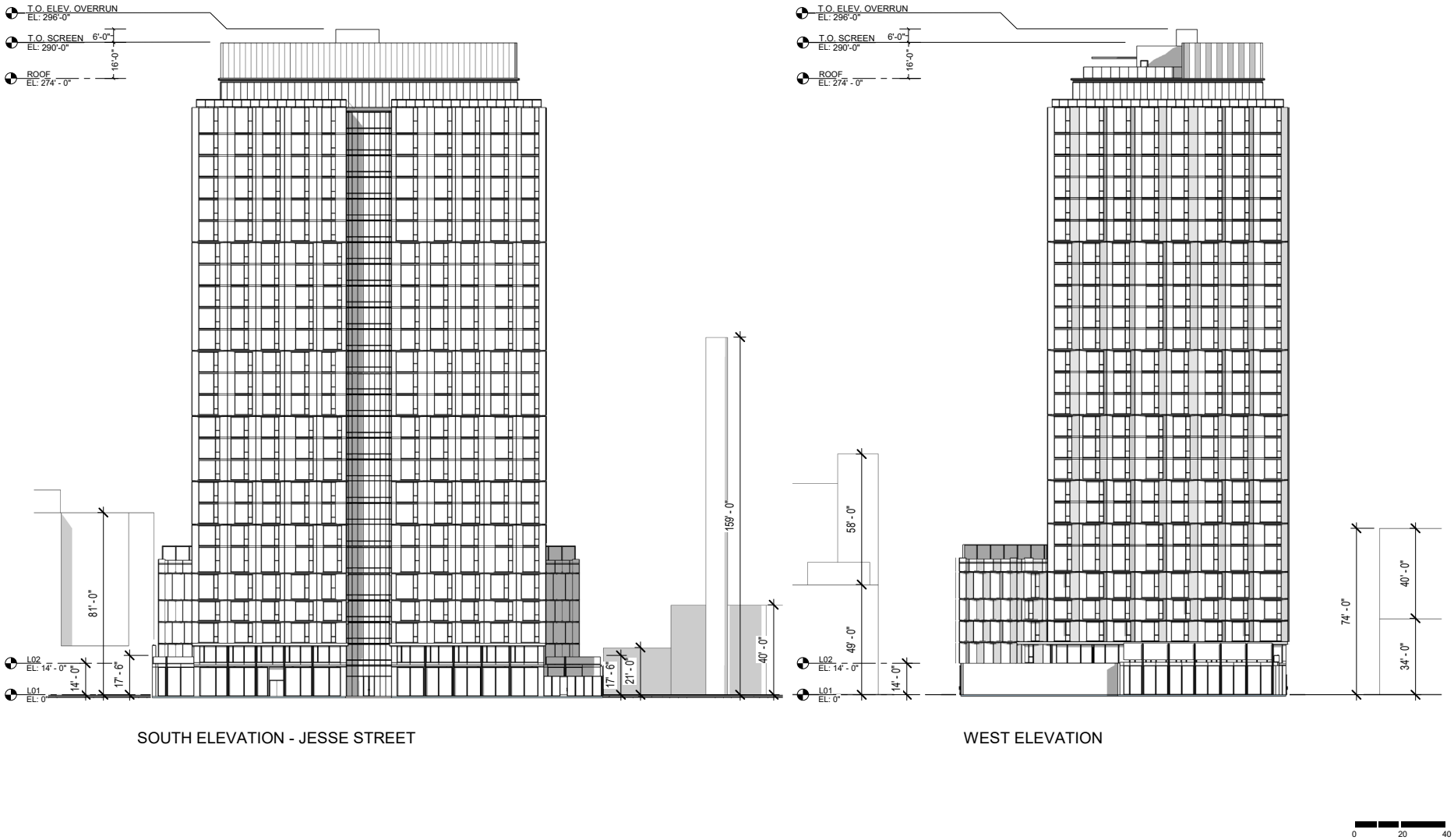

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 10

South and West Elevations

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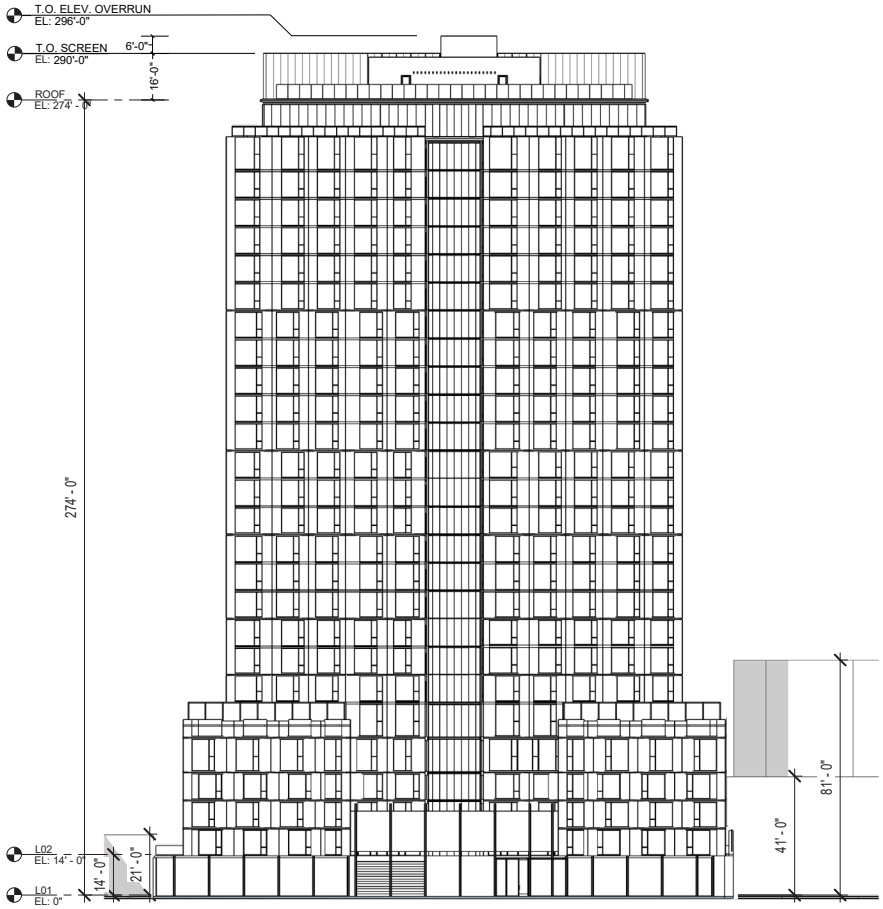
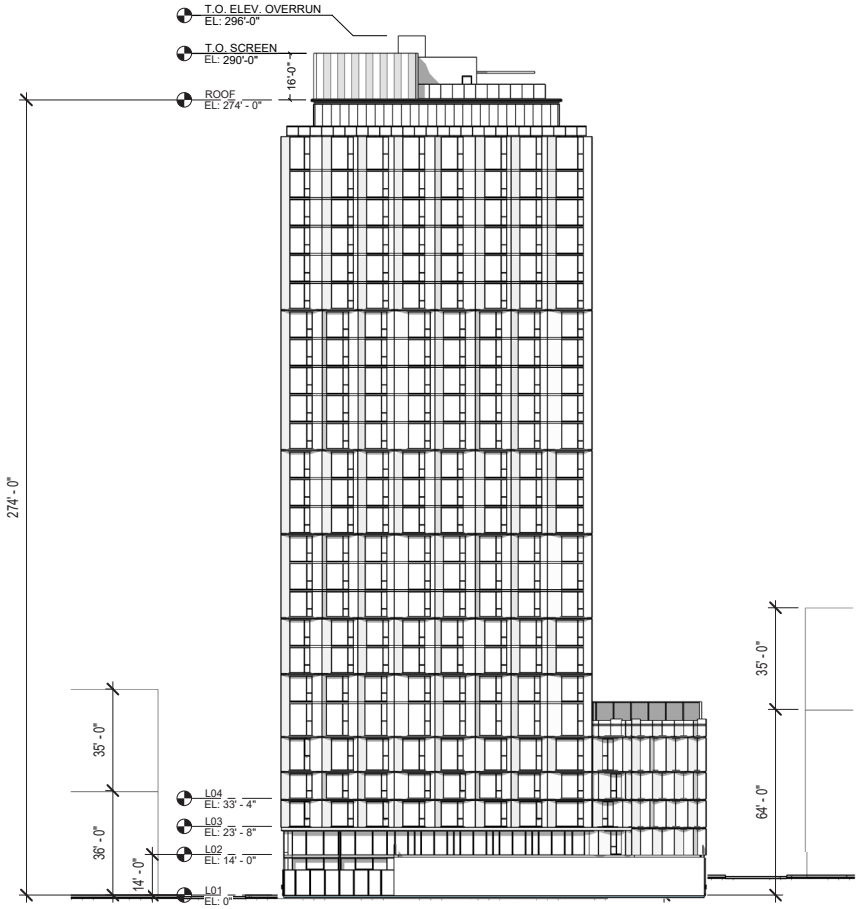


NORTH ELEVATION - STEVENSON STREET



EAST ELEVATION

0 20 40

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 11

North and East Elevations

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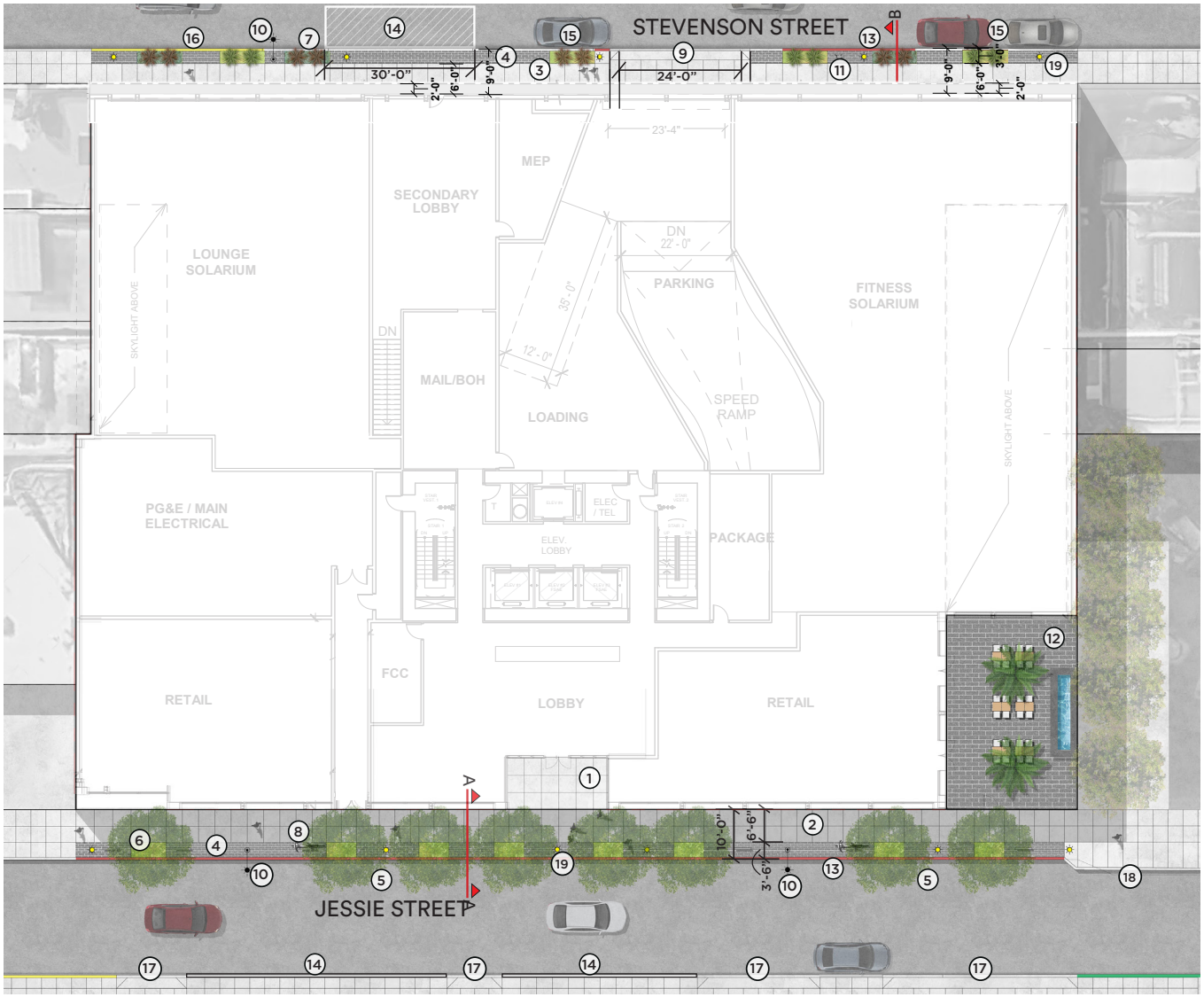

LEGEND

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

0 10 20

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 12

Ground Floor Landscape Plan

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LEGEND

1. Private Patio w/ Pedestal Pavers
2. 18'-0" high Green Screen
3. Skylight
4. Raised Planter
5. Movable Furniture
6. Planter pots

0 10 20

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 13

Level 2 Landscape Plan

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LEGEND

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

0 10 20

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 14

Level 6 Landscape Plan

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LEGEND

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

0 10 20

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 15

Level 27 Landscape Plan

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LEGEND

1. Raised Planter w/ Succulents/Grasses
2. 6'-0" High Glass Wall Enclosure
3. Pedestal Pavers
4. Trellis w/ Overhead Lights and Heaters
5. Outdoor Kitchen Counter w/ Barbeque Grills, Sink, Ice Maker, Refrigerator, Trash and Recycle Bins
6. Raised Planters
7. Bar Counter w/ Stools
8. Community Table and Chairs
9. Cafe Tables and Chairs
10. Gathering area w/ Seating and Fire pit
11. Access Gate to Dog Run Area
12. Dog Drinking Fountain
13. Dog Wash Station
14. Artificial Turf Dog Run Area
15. Outdoor Fitness Area w/ Artificial Turf
16. Storage for Fitness Area
17. Flexible Space for Yoga and Stretching
18. Architect's Mechanical Enclosure

4' 24'
0 12'
SCALE: 3/32" = 1'-0"

SOURCE: Solomon Cordwell Buenz 2022

469 Stevenson Street Project
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FIGURE 16
Roof Landscape Plan

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STORMWATER RETENTION

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

STREETSCAPE AND SIDEWALK IMPROVEMENTS

The proposed project would provide sidewalk improvements along Stevenson Street and Jessie Street in accordance with the city's Better Streets Plan. These sidewalk improvements would include enhanced sidewalk paving, tree planting areas along Jessie Street, landscaped strips along Stevenson Street, bicycle racks, and relocation of one existing streetlight along Jessie Street to Stevenson Street near the driveway entrance. The proposed project would not alter the existing 10-foot-wide sidewalk ~~widths~~ on ~~Stevenson Street or~~ Jessie Street but would widen the existing sidewalk along the project frontage on Stevenson Street from 7 to 9 feet by stepping the ground floor of the building back from the property line. The proposed project would also not result in any new bus stops or changes to existing bus stops in the vicinity of the project site.

The proposed project would relocate the existing commercial loading zone (yellow curb) west of the project site and convert the existing street parking to (white curb) passenger loading. In addition, some of the existing street parking on Stevenson Street would be converted to passenger loading. The passenger loading zone on Stevenson Street is proposed near a pedestrian entrance for the project. The passenger and commercial loading zones are shown on Figure ~~11~~ 12.

2.E.4 Parking, Loading, Bicycle Facilities

SITE ACCESS AND CIRCULATION

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

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

VEHICLE PARKING

The proposed project would include approximately 56,000 square feet of off-street vehicular parking space, with ~~a total of 178~~ 166 residential parking spaces at a proposed parking ratio of ~~0.36~~ 0.34 space per unit. Per sections 155(i), ~~and~~ 166, and 169 of the planning code, the proposed project would provide at least ~~9~~ 7 accessible parking spaces and ~~3~~ 12 car-share spaces. In addition, at least 8 percent of the total proposed parking spaces would be designated for low-emitting, fuel efficient, and carpool/van pool vehicles. The parking spaces would be reserved for residents only.

The off-street loading area for freight deliveries would be within the parking garage and accessed by the driveway on Stevenson Street. One freight loading space would be located on the ground floor and two service vehicle parking spaces would also be provided on the first parking level. The site plans for the ground-floor freight loading and three-level parking garage are depicted in Figure 3 and Figure ~~16~~ 17 through Figure ~~18~~ 19.

BICYCLE PARKING

The proposed project would provide 200 class 1 and 27 class 2 bicycle parking spaces. The class 1 bicycle parking spaces would be provided in a designated 3,400-square-foot room on the first parking garage level, which would be equipped with space efficient bicycle racks (Figure ~~15~~ 17). The class 2 bicycle parking spaces would consist of bicycle racks installed along the sidewalk on Jessie Street (Figure 12).

2.E.5 Transportation Demand Management Plan

The project sponsor proposes the following transportation demand management (TDM) measures for the proposed project. Additional TDM measures that are proposed are included in the project's TDM application.[29] The TDM measures are subject to review and approval as part of the planning department's approvals:

1. ACTIVE-1: Improve Walking Conditions (Option ~~D~~ A): The project would provide streetscape improvement elements consistent with the Better Streets Plan.
2. ACTIVE-2: Bicycle Parking (Option A): The project would provide class 1 and class 2 bicycle parking spaces as required by the planning code.
3. ACTIVE-4: Bike Share Membership (Location B). The project would offer one complimentary bike share membership to each dwelling unit and/or employee, at least once annually, for the life of the project.
4. ACTIVE-5A: Bicycle Repair Station: The project would provide an indoor bicycle repair station in the below grade parking level that is equipped with tools and supplies necessary to perform basic bicycle maintenance.
5. ACTIVE-5B: Bicycle Maintenance Services. The property owner shall offer bicycle maintenance services to each dwelling unit and/or employee, at least once annually, for 40 years.
6. ~~ACTIVE-6: Fleet of Bicycles: The project would provide five shared bicycles for building residents, visitors, or employees to use.~~
7. ~~7.~~ 6. CSHARE-1: Carshare (Option E): The project would provide one car-share membership for each dwelling unit and reserve ~~three~~ 12 parking spaces for car-share services.

[29] San Francisco Planning Department, Transportation Demand Management Program Supplemental Application, submitted ~~August 29, 2018~~ October 27, 2022.

~~8.~~ 7. DELIVERY-1: Delivery Supportive Amenities: The project would facilitate delivery support amenities by providing an area for receipt of deliveries that offers one of the following: (1) clothes lockers for delivery services; (2) temporary storage for package deliveries, laundry deliveries, and other deliveries; or, (3) providing temporary refrigeration for grocery deliveries.

~~9.~~ 8. FAMILY-1: Family TDM – Amenities (Option A + B): The project would provide family amenities that include onsite storage for family gear, utility carts, and cargo bicycles.

~~10. FAMILY-3: Family TDM Package. The project would include CSHARE-1 Option E and FAMILY-1, Options A and B.~~

~~11. HOV-1: Contributions or Incentives for Sustainable Transportation (Option A). The project would offer contributions or incentives to each dwelling unit and employee, at least once annually, for the life of the project. The project would provide at least 25 percent (Muni M pass = $81/month. As such, $81 x 25% = $20.25/month/DU) contribution or incentive.~~

~~12.~~ 9. INFO-1: Multimodal Wayfinding Signage. The project would provide multimodal wayfinding signage that can withstand weather elements in key locations. That is, the signs shall be located externally and/or internally so that the residents, tenants, employees, and visitors are directed to transportation services and infrastructure, including: transit, bike share, car-share, bicycle parking and amenities, showers and lockers, taxi stands, and carpool/shuttle/vanpool pick-up/drop-off locations.

~~13. INFO-3: Tailored Transportation Marketing Services (Option C). The project would provide individualized, tailored marketing and communication campaigns, including incentives to encourage the use of sustainable transportation modes.~~

~~14.~~ 10. INFO-2: Real Time Transportation Information Displays. The project would provide real time transportation information on displays in prominent locations on the project site to highlight sustainable transportation options and support informed trip-making.

11. INFO-3: Tailored Transportation Marketing Services (Option B). The project would provide tailored marketing and communication campaigns to encourage the use of sustainable transportation modes, including providing promotions and welcome packets to residents, providing personal consultations for each new resident/employee, and requesting a commitment from residents to try new transportation options.

~~15.~~ 12. LU-2: Onsite Affordable Housing (Option B). The project would use the Individually Requested State Density Bonus Program and provide at least ~~11~~ 13 percent of the base project's residential units as very low affordable dwelling units onsite in order to qualify for a ~~35~~ 42.5 percent increase in density. ~~The project would provide 13 percent of the base project's residential units as very low affordable dwelling units onsite.~~

~~16.~~ 13. PKG-1: Unbundle Parking (Location E). The project would lease or sell all parking spaces separately from the rental for the life of the project, so that tenants have the option of renting or buying a parking space at an additional cost, and would, thus, experience a cost savings if they opt not to rent or purchase parking.

~~17.~~ 14. PKG-4: Parking Supply (Option ~~A~~ D). The project would provide off-street private vehicular parking (Accessory Parking) in an amount no greater than the off-street parking rate for the neighborhood (neighborhood parking rate), based on the transportation analysis zone for the project site.

2.F Construction Activities and Schedule

~~The proposed project is anticipated to be constructed on a mat foundation and no pile driving or piers are proposed or required.~~ The project sponsor proposes to use a mat foundation for construction of the proposed building. The results of the 2022 preliminary geotechnical analysis indicate a mat foundation is feasible for the support of the proposed structure. [30] If the supplemental settlement evaluation undertaken as part of the Phase 2 field investigation, laboratory testing program, and design-level geotechnical report indicates a mat foundation is not feasible, then a deep foundation system using drilled cast-in-place piers (i.e., drilled shafts) that extend through the Old Bay Clay into the underlying alluvium and residual soil and/or Franciscan Formation bedrock would be required to support the proposed structure. No pile driving is proposed or required. To accommodate the below-grade parking and foundation, the proposed project would entail excavation to a maximum depth of 55 feet below ground surface (bgs). The entire 0.66-acre project site would be permanently disturbed and approximately 55,850 cubic yards of soil would be excavated and hauled offsite for disposal and recycling.

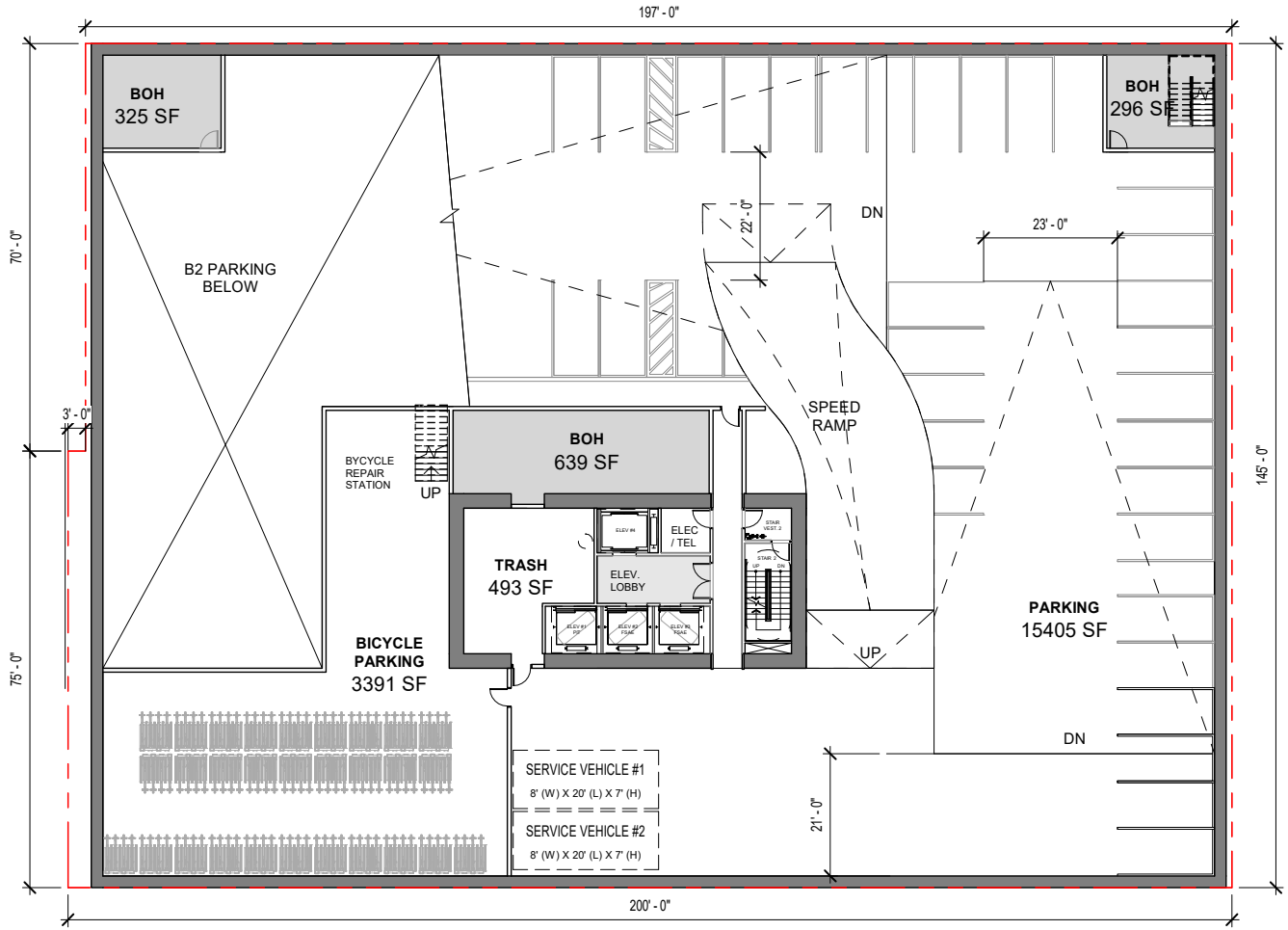
Construction of the proposed project is anticipated to begin in ~~2021~~ 2023 and be completed by ~~2024~~ 2026, requiring approximately 36 months of construction. Construction activities would include site preparation/demolition, excavation and shoring, building construction, architectural coating, and sitework/paving. Construction would generally occur between the hours of 7:00 a.m. and 8:00 p.m. up to seven days a week. However, during the total 36-month construction phase, nighttime construction work may be required on up to five (5) nights and include the following activities:

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

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

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

[30] Langan Engineering and Environmental Services, Inc. 2022. Preliminary Geotechnical Study- 469 Stevenson Street. June 30, 2022.



0 10 20

Property Boundary

SOURCE: Solomon Cordwell Buenz 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 17

Parking Garage Plan - Level 1

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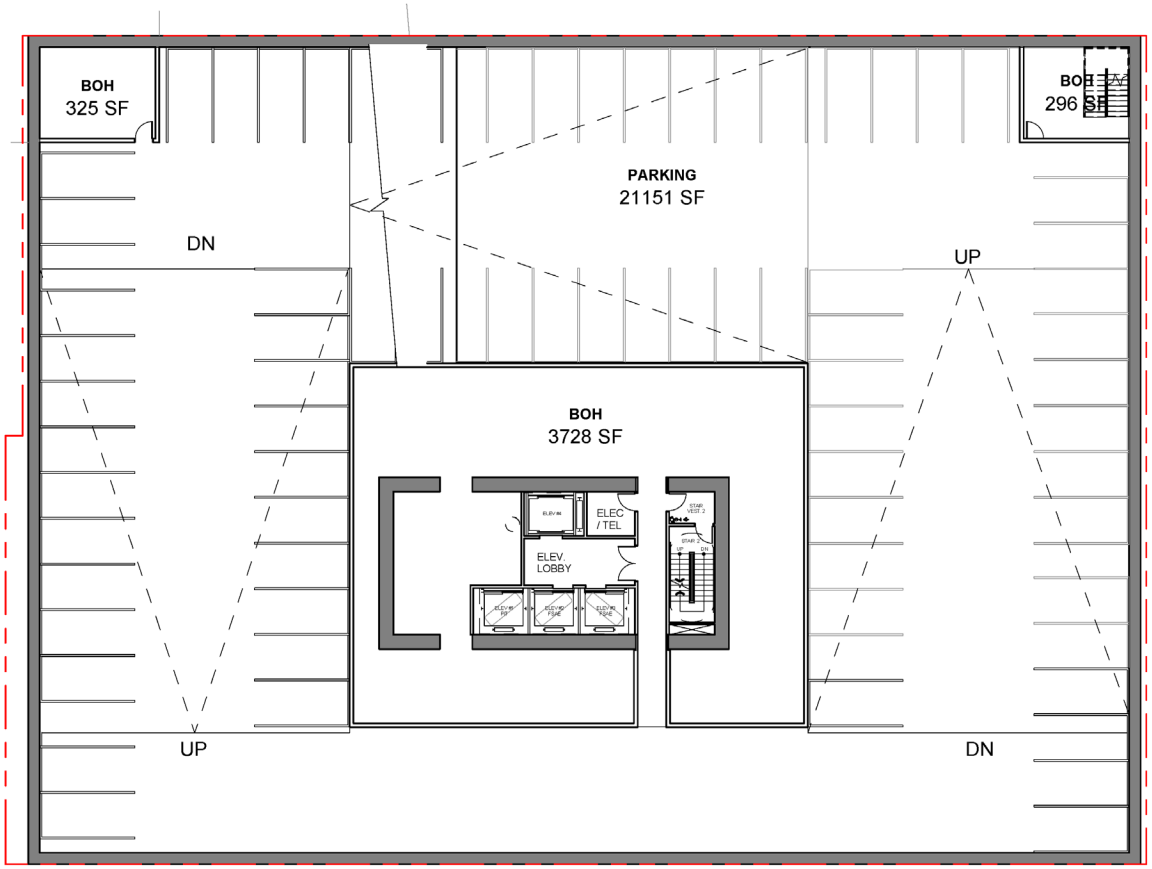

Property Boundary

SOURCE: Solomon Cordwell Buenz 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 18

Parking Garage Plan - Level 2

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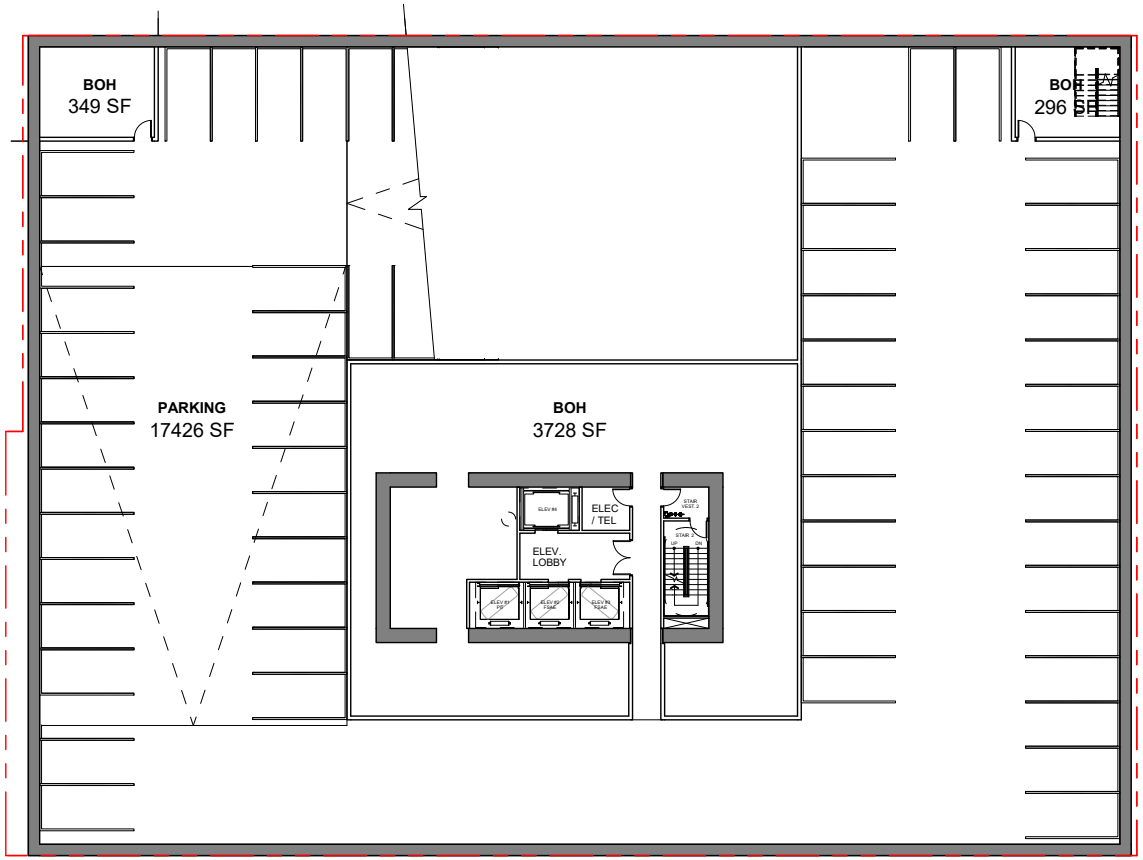

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Property Boundary

SOURCE: Solomon Cordwell Buenz 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 19

Parking Garage Plan - Level 3

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The 2022 preliminary geotechnical report provides recommendations for a pre-construction survey and monitoring program consistent with AB-111 and standard industry practice. The project sponsor proposes to implement this pre-construction survey and monitoring program during construction activities. The program would be undertaken prior to installation of shoring, excavation, and foundation installation to monitor the effects of these operations. The requirement for a pre-construction survey should be included in the shoring drawings and reviewed by the geotechnical engineer of record. [31] The survey should include documenting the condition of the surrounding structures, including a crack survey, prior to and following construction. The monitoring should provide timely data, which can be used to modify the shoring system if needed. Survey points should be installed on the shoring and on the adjacent streets, buildings, and other improvements that are within 150 feet of the proposed excavation. These points should be used to monitor the vertical and horizontal movements of the shoring and these improvements. These points should be selected with the help of the geotechnical engineer. The monitoring program would also establish a baseline of conditions before starting construction and identify the effects of the construction on the adjacent buildings and improvements. The monitoring program should include survey points, vibration and sound-level monitors, tilt-meters, and crack meters installed in and on adjacent structures, and inclinometers to monitor the movement of shoring walls, and piezometers to monitor groundwater levels. A monitoring program is also recommended to establish the baseline pre-construction groundwater levels at the site for a period of at least twelve months to capture seasonal fluctuations in groundwater.

2.G Required and Voluntary Community Benefits

As discussed above, the proposed project must provide at least 13 percent of the base project's [32] residential units as onsite affordable units. In addition, the proposed project would provide the following community benefits:

- 73 onsite inclusionary, affordable apartments, consisting of 45 units for very low income households, 14 units for low income households, and 14 units for moderate income households (required by planning code section 415).
- $8 million in inclusionary affordable housing fees (required by planning code section 415).
- Continue to partner with the community and fund $250,000 to support public art and public realm projects at the project site that recognize the Filipino community's history, culture, and contributions ($250,000 represents the public art fee requirement under planning code section 429).
- Provide employment opportunities for economically disadvantaged individuals during construction and operations (required by chapter 83 of the San Francisco Administrative Code).
- Potential use of the required in-lieu affordable housing fees to help fund a new 100 percent affordable housing senior development at 967 Mission Street (voluntary).
- Rent for the proposed project's two ground-floor commercial retail spaces would be subsidized for community-serving retail or services (voluntary).

[31] A geotechnical engineer of record is typically responsible for the design and construction phases of a project.
[32] In order to determine how much of a density bonus state law will allow, the density allowed by current controls ("base density" or "base project") must first be calculated. The base density is the maximum gross residential density allowed pursuant to the site's zoning requirements.

- Provide in-kind contributions by the project's onsite maintenance and administration staff to help maintain Mint Plaza, valued at $50,000 annually (voluntary).[33]
- Donate $578,700 to a community programming fund to benefit resident-led projects and organizations in the SoMa and Tenderloin neighborhoods. The community programming fund would help ensure the sustainability of resident-led projects and organizations and fund programs that promote community, public safety, sanitation, and resident wellness (voluntary).
- Work in conjunction with the Office of Economic and Workforce Development 6th Street Employment Fund to develop employment programs for residents of the SoMa and Tenderloin neighborhoods residing in zip codes 94102 and 94103 (voluntary).
- Fund an independent impact assessment/study to evaluate the extent of the construction impact of the proposed project, including impacts to social equity, livelihoods, health, and the general SoMa population, to inform current and future community programming (voluntary).
- Coordinate with the Mayor's Office of Housing and Community Development (MOHCD) to direct the proposed project's inclusionary housing fees to affordable housing investments in the SoMa neighborhood (voluntary).
- Make a commercially reasonable best effort to negotiate either a lease of the ground floor of the Helen Hotel, located at 166 Turk Street, for use as an Urban Rest and Sleep Center, or a purchase option for the entire building. Should the negotiation be successful, the project sponsor would assign the lease or purchase option to a local community group and fund a) 12 months of rent for the ground floor space and b) ground floor tenant improvements subject to a cap of $35 per square foot of leased space, for a total of up to $122,500 in tenant improvements (voluntary).
- Donate the property at 59 Sixth Street (Assessor's Block 3704, Lot 049) for a community benefit use, such as affordable housing, open space and recreation, or a community facility (voluntary).

2.H Project Approvals

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

2.H.1 Actions by the Planning Commission

- Approval of an Individually Requested State Density Bonus project with up to two incentives/concessions and unlimited waivers from the following requirements: height, bulk, floor area ratio, rear yard requirements, open space, section 148 wind comfort exceedances, and dwelling unit exposure.
- Adoption of findings and a statement of overriding considerations under CEQA
- Approval of a Downtown Project Authorization (planning code section 309)
- Approval of Conditional Use Authorization (planning code section 124[f])
- ~~Approval of a TDM Plan (planning code section 169)~~

[33] Service and maintenance may include supplemental pressure washing, landscaping, repair and maintenance of existing improvements, and a direct contribution to the Friends of Mint Plaza.

2.H.2 Actions by the Zoning Administrator

- Approval of a TDM Plan (planning code section 169)

2.H.3 Actions by Other City Departments

DEPARTMENT OF BUILDING INSPECTION

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

SAN FRANCISCO PUBLIC WORKS

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

SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY

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

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

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

SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH

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

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

2.H.4 Actions by Other Government Agencies

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

CHAPTER 3
ENVIRONMENTAL IMPACT ANALYSIS

The previously circulated initial study prepared for the previously circulated draft EIR analyzed the proposed project's potential impacts on population and housing, cultural resources, and geology and soils. The previously circulated initial study analysis for those topics is included in the following sections of this recirculated draft EIR and has been updated to include additional analysis related to gentrification and displacement, historic resources, and geotechnical impacts. Each resource section shows new text in double underline and deleted text in ~~strikethrough~~. Any analysis that has not changed from what was presented in the previously circulated draft EIR (which includes the previously circulated initial study appended to that document) is presented as clean text or by reference to the previously circulated initial study. Some text has been moved from its original location in the previously circulated initial study to be consistent with the format of an EIR but is otherwise unchanged unless it includes a double underline or ~~strikethrough~~.

Introduction

This chapter updates the analysis of the physical environmental impacts of the proposed project as it relates to population and housing, cultural resources, and geology and soils. It describes the environmental setting, assesses impacts (offsite, onsite, construction-related, operational, direct, and indirect) and cumulative impacts, and identifies mitigation measures to reduce or avoid identified significant environmental impacts.

Scope of Analysis

As discussed in Chapter 1, Introduction, the board of supervisors directed the planning department to undertake further environmental review of "potential impacts to historic resources; potential geotechnical impacts resulting from construction of the project; potential physical impacts resulting from gentrification and displacement of local residents; and potentially feasible mitigation measures and alternatives to address significant impacts in those impact areas." Therefore, this chapter of this recirculated draft EIR analyzes the proposed project's potential impacts on the following resources:

- Section 3.A, Population and Housing, assessing the project's potential to directly or indirectly result in gentrification or displacement that could result in physical environmental effects.
- Section 3.B, Cultural Resources, assessing the project's potential to directly or indirectly impact historic resources, including individual historic resources, historic districts, and contributors to historic districts.
- Section 3.C, Geology and Soils, assessing the potential geology and soils impacts of the proposed project, including the feasibility of the project foundation, seismicity of the local area, the presence of any nearby existing fault lines and the project's ability to impact them, soil stability characteristics, seismic hazards (e.g., liquefaction), and the characteristics of site soil.

Each resource section discusses the environmental setting, which describes the current physical conditions, or baseline conditions, in the project area. As discussed in Chapter 1, Introduction, the baseline used for

environmental impact analysis under CEQA reflects the conditions present on October 2, 2019, the date the NOP and previously circulated initial study for the previously circulated draft EIR were published.

CEQA Methodological Requirements

CEQA Guidelines section 15151 describes standards for the preparation of an adequate EIR. The specific standards under section 15151 are listed below.

- An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information that enables them to make a decision that intelligently takes into account environmental consequences of the project.
- An evaluation of the environmental impacts of a project need not be exhaustive; rather, the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.
- Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts.

In practice, the above points indicate that EIR preparers should adopt a reasonable methodology upon which to estimate impacts. This approach means making reasonable assumptions, using the best information available. In some cases, when information is limited or there are variations in project characteristics, EIR preparers would employ a "reasonable worst-case analysis" to capture the largest expected change from existing baseline conditions resulting from implementation of a project.

Format of Environmental Analysis

Each environmental topic analyzed in this chapter includes the following subsections:

- Introduction. This subsection includes a brief description of the proposed project's potential impacts in the environmental topic area analyzed pursuant to the board of supervisors' direction, as well as a summary of the impacts that were scoped out in the previously circulated initial study for the previously circulated draft EIR and determined by the board of supervisors to have been adequate (e.g., impacts that were determined to result in a less-than-significant impact or no impact).
- Environmental Setting. This subsection presents a description of baseline physical conditions on the project site and in the surrounding areas at time of issuance of the NOP (with respect to each resource topic), with enough detail and breadth to allow a general understanding of the environmental impacts of the proposed project.
- Regulatory Framework. This subsection describes the relevant federal, state, and local regulatory requirements that are directly applicable to the environmental topic being analyzed.
- Impacts and Mitigation Measures. This subsection describes the physical environmental impacts (e.g., the changes to baseline physical environmental conditions) that could result from implementation of the proposed project, as well as any mitigation measures that could avoid, eliminate, or reduce identified significant impacts. This subsection begins with a listing of the significance criteria that have been developed by the planning department for use in determining whether an impact is significant. Environmental topic sections also include an "Approach to Analysis" subsection. This discussion explains the parameters, assumptions, and data used in the analysis.

Under the "Impact Evaluation" discussion, the impact analysis for each topic begins with an impact statement that reflects one or more of the applicable significance criteria. Some significance criteria may be combined in a single impact statement, if appropriate. Each impact statement is keyed to a subject area abbreviation (e.g., PH for Population and Housing) and an impact number (e.g., 1, 2, 3) for a combined alpha-numeric code (e.g., Impact PH-1).

If potentially significant impacts are identified, mitigation measures are presented that would avoid, eliminate, or reduce significant adverse impacts of the project. All mitigation measures would be required as conditions of project approval. Each mitigation measure corresponds to the impact statement and has an "M" in front to signify it is a mitigation measure (e.g., Mitigation Measure M-PH-1 for a mitigation measure that corresponds to Impact PH-1). If there is more than one mitigation measure for the same impact statement, the mitigation measures are numbered with a lowercase letter suffix (e.g., Mitigation Measures M-PH-1a and M-PH-1b).

Significance Determinations

A "significant effect" is defined by CEQA Guidelines Section 15382 as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment [but] may be considered in determining whether the physical change is significant."

The significance criteria used in this recirculated draft EIR are based on the planning department's guidance regarding the thresholds of significance for assessing the severity of the environmental impacts of the proposed project. The planning department's guidance is based on CEQA Guidelines Appendix G, with some modifications. The level of significance of the impact is indicated in parentheses at the end of the impact statement based on the following terms:

- No Impact. No adverse physical changes (or impacts) to the environment are expected.
- Less than Significant. Impact that would not exceed the defined significance criteria or would be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations.
- Less than Significant with Mitigation. Impact that is reduced to a less-than-significant level through implementation of the identified mitigation measures.
- Significant and Unavoidable with Mitigation. Impact that exceeds the defined significance criteria and cannot be reduced to less-than-significant levels through compliance with existing local, state, and federal laws and regulations and/or implementation of all feasible mitigation measures.
- Significant and Unavoidable. Impact that exceeds the defined significance criteria and cannot be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations and for which there are no feasible mitigation measures.

Cumulative Impacts

Cumulative impacts, as defined in CEQA Guidelines section 15355, refer to two or more individual effects that, when taken together, are "considerable" or that compound or increase other environmental impacts. A

cumulative impact from several projects is the change in the environment that would result from the incremental impact of the project when added to the impact of closely related past, present, and reasonably foreseeable future projects. Pertinent guidance for cumulative impact analysis is provided in CEQA Guidelines section 15130:

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable" (e.g., the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current, and probable future projects, including those outside the control of the agency, if necessary).
- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR. A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as the discussion of effects attributable to the project alone.
- The focus of the analysis should be on the cumulative impact to which the identified other projects contribute rather than the attributes of the other projects that do not contribute to the cumulative impact.

The cumulative impact analysis for each individual resource topic is described in each resource section immediately following the description of the project impacts and identified mitigation measures.

APPROACH TO CUMULATIVE IMPACT ANALYSIS

Two approaches to a cumulative impact analysis are provided in CEQA Guidelines section 15130(b)(1):

- The analysis can be based on a list of reasonably foreseeable future projects that could produce closely related impacts and combine with those of a proposed project, or
- A summary of projections contained in a general plan or related planning document can be used to determine cumulative impacts. The following factors were used to determine an appropriate level for cumulative analysis in this EIR:
  - Similar Environmental Impacts. A relevant project contributes to effects on resources that are also affected by the proposed project. A relevant future project is defined as one that is "reasonably foreseeable," such as a project with an application on file at the approving agency or approved funding.
  - Geographic Scope and Location. A relevant project is within the geographic area where effects could combine. The geographic scope varies on a resource-by-resource basis. For example, the geographic scope for evaluating cumulative effects on regional air quality consists of the affected air basin, whereas the cumulative effects of construction noise are limited to combined noise from the project and nearby projects.
  - Timing and Duration of Implementation. Effects associated with activities for a relevant project (e.g., short-term construction or demolition, long-term operations) would most likely coincide with the timing of related effects from the proposed project.

The analyses in this recirculated draft EIR employ a list-based approach and projections-based approach, depending on the environmental topic analyzed. For instance, the cumulative analysis of cultural resources impacts is a list-based approach as it considers whether a list of cumulative projects in combination with the

proposed project could impact the same individual historic resources, historic districts, and contributors to historic districts. Whereas the cumulative analysis of population and housing impacts is a projections-based approach as it considers the ABAG Plan Bay Area projections for population and employment growth in San Francisco and development projects in the pipeline. Whether the proposed project in combination with cumulative projects would exceed the ABAG projections for planned growth in San Francisco is one consideration of whether the proposed project could result in a cumulative population and housing impact.

CUMULATIVE SETTING

Cumulative projects within a 0.25-mile radius of the project site are listed below in Table ~~4.1-1~~ 3-1 and mapped on Figure ~~18~~ 20. These cumulative projects are projects that are currently under review by the planning department, or a building permit is on file or has been approved by the building department at the time the NOP was published on October 2, 2019. Due to the time that has elapsed since the previously circulated draft EIR, some of the cumulative projects listed below have been approved by the planning commission, are under construction, have been completed, or have been withdrawn, and additional projects have been proposed. As such, the table below has been updated to show the status of the cumulative projects at the time of publication of the previously circulated draft EIR, the current status of those projects, and new cumulative projects identified at the time of preparation of this recirculated draft EIR.

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Table ~~4.1-1~~ 3-1 Cumulative Projects within 0.25-Mile Radius of the Proposed Project

Map No. Address (Case No.)	Description	Dwelling Units	Retail/ Commercial (gsf)	Office (gsf)	Hotel (gsf)/ Rooms	PDR[1] (gsf)	Group Housing Rooms	Status in the Previously Circulated Draft EIR	Current Status
1. 1025 Howard Street (2015-005200ENV)	Demolition of an existing building and construction of a new 8-story hotel with a ground floor retail space and below ground parking.	--	2,445	--	77,510 173 rooms	--	--	Under review	Under review
2. 1053-1055 Market Street (2014.0408E)	Demolition of an existing two-story commercial building and construction of a 10-story hotel with 157 rooms and a ground floor retail space.	--	2,117	--	67,903 157 rooms	--	--	Approved - not yet under construction.	Approved 12/7/2017- not yet under construction.
3. 1082 Howard Street (2015-010371ENV)	Demolition of a 2-story retail sales building and construction of a 9-story multi-family residential building.	9	--	--	--	--	--	On Hold	Withdrawn 5/4/2020
4. 1088 Howard Street (2017-009796ENV)	The proposed project would preserve the existing one story over mezzanine industrial building and construct an approximately 20,402 gsf, 74-foot-tall residential addition.	24	--	--	--	--	--	Under Review	Approved 3/2/2020– not yet under construction
5. 1125 Market Street (2013.0511E)	Construction of a 12-story, 138,101 sf building containing 181 hotel rooms, 5,587 sf of restaurant/retail, and a 18,737 sf co-working space/office.	--	5,587	18,737	95,506 181 rooms	--	--	Under Review	On Hold
6. 219 Sixth Street (2017-001590CUA)	Change of use that would result in a net increase of 9 rooms.	--	--	--	--	--	9 guest rooms	On Hold	Withdrawn – 6/10/2021
7. 270 Turk Street (2017-015701PRJ)	Addition of four accessory dwelling units at the basement level of the building.	4	--	--	--	--	--	Under Review	Under Review
8. 415-417 Tehama Street (2017-016278PRJ)	Construction of one accessory dwelling unit.	1	--	--	--	--	--	Under Review	Under Review

Map No. Address (Case No.)	Description	Dwelling Units	Retail/ Commercial (gsf)	Office (gsf)	Hotel (gsf)/ Rooms	PDR[1] (gsf)	Group Housing Rooms	Status in the Previously Circulated Draft EIR	Current Status
9. 457-475 Minna Street (2018-016055PRJ)	Demolition of an existing 2-story building and proposed merger of four lots and construction of a new 16-story, 270-room group housing building.	--	--	--	--	--	270	Under Review	Approved
10. 481-483 Tehama Street (2015-006765ENV)	Proposed demolition of an existing 2-story building. Construction of a new 4-story residential/ PDR building.	6	--	--	--	1,790	--	Approved – not yet under construction.	Approved 12/10/2019 – not yet under construction.
11. 527 Stevenson Street (2018-012429ENV)	Demolition of an existing 1-story commercial building and new construction of a 7-story commercial building.	--	--	7,062	--	--	--	Under Review	Approved 11/8/2021 – not yet under construction.
12. 57 Taylor Street aka 111 Turk Street (2015-007525ENV)	Subdivision of parcel containing a mixed-use residential and retail building and a surface parking lot. Demolition of a portion of the existing structure (vacant retail space). New construction of a 12-story over basement mixed-use residential group housing with ground floor retail.	--	11,000	--	--	--	77	Under Review	Withdrawn 1/20/2022
13. 611 Minna Street (2018-009426PRJ)	Addition of two new studio accessory dwelling units at the basement level of an existing 12-unit building.	2	--	--	--	--	--	Approved – not yet under construction.	Approved 11/4/2019– not yet under construction.
14. 921 Howard Street (2017-000275ENV)	Construction of a new, 18-story, 180-foot-tall mixed-use residential tower and podium.	205	4,999	--	--	--	--	Under Review	Approved 2/25/2020 – Under construction.
15. 984 Folsom Street (2017-013741ENV)	Demolition of a 3-story building and construction of a new 8-story building with a restaurant on the ground floor and group housing on the remaining seven floors.	--	9,115	--	--	--	111	Under Review	Under Review

Map No. Address (Case No.)	Description	Dwelling Units	Retail/ Commercial (gsf)	Office (gsf)	Hotel (gsf)/ Rooms	PDR[1] (gsf)	Group Housing Rooms	Status in the Previously Circulated Draft EIR	Current Status
16. 996 Mission Street (2015-015253 ENV)	Demolition of 2-story existing residential hotel building. New construction of an 8-story hotel (2 floors residential hotel units, 5 floors tourist hotel) with ground floor retail.	--	--	--	5,645 (105 rooms)	--	--	Under Review	Withdrawn 7/2/2019
17. Better Market Street (2014.0012E)	The multi-agency project would replace and upgrade aging infrastructure – including streetlights, traffic signals, streetcar tracks, overhead wires, and underground utilities.	--	--	--	--	--	--	Approved - implementation of near-term improvements [3] beginning January 2020; full construction beginning late 2020 or early 2021.	The first phase, Market Street between Fifth and Eighth streets anticipated late 2022.
18. Fifth Street Improvement Project[2]	This project involves bicycle and pedestrian safety improvements along Fifth Street between Townsend and Market streets in the SoMa neighborhood.	--	--	--	--	--	--	Approved – construction of near-term improvements in Fall 2019.	Construction of long-term improvements summer/fall 2022
19. 1010V Mission Street	This project proposes new construction of a 9-story residential building with 57 Single Room Occupancy units and a street-level commercial space.	57	450	--	--	--	--	NA	Under Review

Map No. Address (Case No.)	Description	Dwelling Units	Retail/ Commercial (gsf)	Office (gsf)	Hotel (gsf)/ Rooms	PDR[1] (gsf)	Group Housing Rooms	Status in the Previously Circulated Draft EIR	Current Status
20. 580 Minna Street	New construction of a seven-story building with 20 dwelling units.	20	--	--	--	--	--	NA	Under Review
21. 67 Taylor Street	RedMint One proposes a Personal Services holistic health/wellness center with acupuncture related services, (e.g., body cupping and moxa), herbal bar, facial and beauty services, yoga and Pilates, day spa, foot and hand reflexology, and incidental massage establishment at 65 Taylor Street. The Property is a 18,905 square foot corner lot fronting both Taylor and Turk Streets, and is improved with a 5-story mixed-use building constructed in 1906 with residential above retail. The Project will occupy 2,980 sf in the building's vacant ground floor retail space as well as 4,535 sf in the basement.	--	7,515	--	--	--	--	NA	On Hold

Map No. Address (Case No.)	Description	Dwelling Units	Retail/ Commercial (gsf)	Office (gsf)	Hotel (gsf)/ Rooms	PDR[1] (gsf)	Group Housing Rooms	Status in the Previously Circulated Draft EIR	Current Status

Notes:

[1] PDR – Production, Distribution, Repair

[2] The Fifth Street Improvement Project was considered in the cumulative transportation analysis in Section E.5, Transportation and Circulation, of the previously circulated initial study for the previously circulated draft EIR; however, this project was not included in this list of cumulative projects specifically listed in the previously circulated initial study for the previously circulated draft EIR. This project was considered in the cumulative analysis of the previously circulated draft EIR.

[3] Better Market Street near-term improvements include the following changes within the project corridor: a car-free zone westbound from Steuart Street to Van Ness Avenue and eastbound from 10th Street to Main Street; new passenger and commercial loading zones on cross streets; peak-hour loading restrictions on Market Street; extending the existing transit-only lane east from Third to Main Street and making it available to Muni only; painted safety zones at eight intersections; bicycle intersection improvements; vehicle circulation changes to sections of Ellis, Jones, 2nd and Steuart streets.

Sources:

San Francisco Planning Department. 2019 and 2022. San Francisco Planning Department – Permits in my Neighborhood Map. https://sfplanning.org/resource/permits-my-neighborhood. San Francisco Public Works Department. 2019 2022. Projects Database. https://sfpublicworks.org/projects.

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Cumulative Projects

1. 1025 Howard Street
2. 1053-1055 Market Street
3. 1082 Howard Street
4. 1088 Howard Street
5. 1125 Market Street
6. 219 Sixth Street
7. 270 Turk Street
8. 415-417 Tehama Street
9. 457-475 Minna Street
10. 481-483 Tehama Street
11. 527 Stevenson Street
12. 57 Taylor Street (aka 111 Turk Street)
13. 611 Minna Street
14. 921 Howard Street
15. 984 Folsom Street
16. 996 Mission Street
17. Better Market Street
18. Fifth Street Improvement Project
19. 1010v Mission Street
20. 580 Minna Street
21. 67 Taylor Street

SOURCE: ESRI 2022; Stantec 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

Figure 20
Cumulative Projects

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3.A Population and Housing

3.A.1 Introduction

Board of supervisors' motion M21-182, in file no. 211278, directed the planning department to further analyze the potential physical impacts resulting from gentrification and displacement of local residents and potentially feasible mitigation measures and alternatives to address significant impacts in those impact areas. This section of this recirculated draft EIR updates the population and housing analysis presented in the previously circulated initial study for the previously circulated draft EIR to address the board of supervisors' direction. This section discusses the relevant environmental setting, regulatory framework, environmental impacts, and mitigation measures related to the potential impacts on population and housing that could result from the proposed project and cumulative projects. The impact analysis focuses on whether the proposed project would displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing (Impact PH-2). Additionally, Impact C-PH-1 analyzes whether the proposed project in combination with cumulative projects would displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing.

As to all other subtopics covered under the Population and Housing topic in the previously circulated initial study for the previously circulated draft EIR, the board of supervisors' motion found that the previously circulated draft EIR "complies with CEQA; is adequate, accurate and objective; is sufficient as an informational document; its conclusions are correct; and it reflects the independent judgement of the City." Therefore, Impact PH-1 (induce substantial unplanned population growth in an area, either directly or indirectly) is considered adequately addressed in the previously circulated initial study for the previously circulated draft EIR and is not addressed further in this section.

In response to the board of supervisors' findings, the planning department directed Seifel Consulting to prepare the *Supplemental Analysis Regarding Potential Displacement Impacts from the Proposed Project at 469 Stevenson Street* report (2022 gentrification and displacement report) (Appendix J). The 2022 gentrification and displacement report evaluates the potential for the proposed project to result in gentrification and displacement (which includes residential displacement and cultural displacement), and analysis from the report is presented throughout this section.

Seifel Consulting's 2022 gentrification and displacement report contains the following information and analysis:

- Peer review of the socioeconomic report prepared by ALH Urban & Regional Economics prepared in 2020 [34] (2020 socioeconomic report). The 2020 socioeconomic report was prepared at the direction of the planning department to address comments on the previously circulated draft EIR related to the proposed project's potential for gentrification and displacement effects. The information and findings from the 2020 socioeconomic report were incorporated into the previous RTC.
- A review of additional research and reports regarding potential displacement and gentrification impacts in San Francisco and other similar urban areas that were not addressed in the 2020 socioeconomic report, with a particular focus on those that apply to the City of San Francisco and publications from 2020 onward.

[34] ALH Urban & Regional Economics. Economics. Socioeconomic Effects of 469 Stevenson Street Market-Rate Development, September 2020.

- An analysis and summary of neighborhood conditions that are relevant to the analysis of displacement and are supplemental to the 2020 socioeconomic report, with a focus on the areas surrounding the proposed project.
- An evaluation of potential gentrification and residential displacement impacts from the proposed project.
- An evaluation of potential cultural displacement impacts from the proposed project, with a focus on the cultural assets in the SOMA Pilipinas Filipino Cultural Heritage District.

The information in the 2022 gentrification and displacement report about existing conditions in the area surrounding the project site, including existing gentrification and displacement, changes to the population since the 2000 United States (U.S.) Census, and existing cultural assets associated with the SOMA Pilipinas Filipino community, is provided in the Environmental Setting subsection. A summary of the 2022 gentrification and displacement report's findings related to the proposed projects' gentrification and displacement impacts is provided in the beginning of the Impact Analysis subsection. The conclusions in the report informed the planning department's analysis of the proposed project's potential physical environmental effects related to gentrification and displacement, which is provided under Impact PH-2 and C-PH-1 in the Impact Analysis subsection.

3.A.1 Environmental Setting

The following information and analysis have been updated to reflect the analysis presented in the 2022 gentrification and displacement report and further analysis from the planning department.

DEFINITIONS OF GENTRIFICATION AND DISPLACEMENT

Researchers, planners, and policy makers use different definitions to describe and measure gentrification and displacement, as well as to categorize the various types of displacement that may occur. Table 3-2 defines the different types of displacement and gentrification discussed in this analysis.

Table 3-2 Key Terms Regarding Displacement and Gentrification for this Analysis

Term	Definition
Gentrification	Broad pattern of neighborhood change typically characterized by increases in the number of higher income households and increases in home values and/or rents over an extended period of time, for example ten years or more. Gentrification results from both flows of capital and people. The extent to which gentrification is linked to racial transition and other socioeconomic indicators differs across neighborhood contexts.
Displacement	Displacement refers to the involuntary movement or relocation of residents or businesses and organizations of cultural importance from their current locations. *Various types of displacement may occur, and the following terms are used to define them.*
Physical (direct) Displacement	Displacement resulting from eviction, acquisition, rehabilitation, or demolition of a property, or the expiration of covenants on rent- or income-restricted housing.
Economic (indirect) displacement	Displacement that occurs when residents, businesses or organizations can no longer afford escalating rents or property taxes (and must move out).

Term	Definition
Exclusion or exclusionary displacement	Exclusion or displacement that occurs when a lower income household cannot afford to move into an area given the cost of housing relative to their household income, which typically is the result of rising rents and/or home prices that contribute to the area becoming exclusive.
Residential displacement	Displacement that occurs when residents can no longer afford to stay in their homes or are forced to move because of conditions beyond their control.
Cultural displacement	Displacement that occurs when there is a loss of historically and culturally significant institutions, organizations and businesses associated with a particular race, ethnicity, or other culturally significant group, which could occur either directly or indirectly. Such loss could also contribute to the loss of residents associated with that culture in the area, as the institution, organization, or business may serve as an anchor, place of employment, gathering place, place of commercial activity, etc. for that culture.
Anti-displacement strategies	The collection of policies, programs, strategies, components, actions, and laws that are focused on counteracting displacement pressures. Residential anti-displacement strategies address potential impacts on residents, while cultural anti-displacement strategies address impacts on businesses and organizations that are critical to a community's culture.
Affordable Housing Units	Affordable housing units are subject to long term regulatory restrictions that restrict their occupancy and affordability to households of very low, low, and moderate income, which are located within 100 percent affordable housing developments or are inclusionary units within mixed income developments.
Rent Controlled Units	Rent controlled units are located in older residential buildings that are subject to the City's Residential Rent Stabilization and Arbitration Ordinance (chapter 37 of the San Francisco Administrative Code), which provides a series of protections for existing tenants including annual limitations in rent increases, rent arbitration, just cause eviction, tenant petitions, and tenant/landlord mediation. https://sfrb.org/sites/default/files/600 Ordinance 7-18-22.pdf
Single-Room Occupancy (SRO) units	SROs are usually in older residential hotels that are certified for residential occupancy and subject to the Residential Hotel Unit Conversion Ordinance (HCO) (chapter 41 of the San Francisco Administrative Code), which preserves these units by preventing the loss of residential hotel units through conversion to tourist rooms or demolition. SRO units that have been occupied by the same tenant for 32 or more continuous days are also subject to the City's Residential Rent Stabilization and Arbitration Ordinance.

Source: Seifel Consulting 2022 (Appendix J)

POPULATION

SAN FRANCISCO POPULATION

San Francisco was traditionally inhabited by the Yelamu people,[35] a subgroup of the Ramaytush language-speaking group of the Ohlone people. In 1776, Juan de Bautista de Anza led a party that traveled from Monterey to San Francisco to select Spanish settlement locations—specifically, a site for a military base at Fort Point and a mission site at Arroyo de los Dolores. Spanish colonization translated into dramatic social upheaval and a demographic decline for the region's native Ohlone inhabitants. The Spanish period ended in 1821/1822 when the government of Mexico gained independence from Spain and acquired current-day California. Fueled by anti-clerical sentiment, the Mexican government began secularizing the California missions in the 1830s. With

[35] Milliken, A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area, 1769–1810, Menlo Park, CA, Ballena Press, 1995, p. 260.

secularization of the missions, a new class of Hispanic rancho landowners found a readily exploitable supply of labor in the Native Americans who were released from the forced labor of the Franciscan missions. The bayside village of Yerba Buena, a multicultural settlement of immigrants and small-scale harbor facilities along the shores of Yerba Buena Cove in what is now San Francisco's Downtown, grew slowly during the 1830s and early 1840s. In 1848, following the Mexican-American War, Mexico ceded the territories of Texas and California to the United States.

The 1848 discovery of gold in the American River set off the California Gold Rush and quickly changed San Francisco. The city's port was an access point to the goldfields. Businesses that supported gold mining, including banking, food processing, and dry goods trading, began to establish themselves. The area formerly known as Yerba Buena began its shift into an ever-expanding metropolis, resulting in early residential growth. In 1860, the city's population was approximately 57,000, which increased to approximately 150,000 by 1870, [36,37] making San Francisco the tenth-largest city in the United States. In addition, it claimed the largest proportion of foreign-born residents of the 50 largest cities in the country. By 1890, the population of San Francisco had grown to 298,997. [38] The population continued to expand throughout the decade, totaling 342,782 by 1900. [39]

San Francisco continued to see population growth in the first half of the 20th century, climbing from 416,912 in 1910 to 634,394 in 1930. In the early 1940s, following the end of the Great Depression and U.S. entry into World War II, San Francisco's population dramatically increased as workers poured into the Bay Area, seeking jobs in the region's many factories, shipyards, and other defense-related production facilities. In 1940, the population of the City was 95 percent White and 5 percent non-White, with the majority of foreign-born residents coming from Germany (11.5 percent) and Italy (18.5 percent). [40] At the time, the Black population of San Francisco was approximately 0.8 percent. This began to change between 1940 and 1946 when Blacks migrated to western cities in unprecedented numbers to work in the wartime defense industries. Black migrants to San Francisco tended to come from Louisiana, Texas, and Oklahoma, giving the city's Black community a distinctly southern aspect, and settled in established Black neighborhoods, like the Western Addition and Hunters Point. By 1946, San Francisco's Black population had increased by 600 percent. [41]

The City's 1940 population of 634,536 continued to grow after the conclusion of World War II in 1945. Many war workers elected to stay in the city and were joined by returning service members who settled in the Bay Area after the war. By 1950, the City's population increased to 775,357, and was 74 percent White, 3.2 percent Chinese, and 5.6 percent Black. San Francisco's Mexican-born population had increased only moderately in the 1930s and 1940s, while immigration from Central and South America, particularly El Salvador and Nicaragua, more than doubled and, by 1950, outnumbered the Mexican-born population in the city. [42] By 1960, San Francisco had a population of 740,316 (81 percent White, 10 percent Black, and 4.9 percent Chinese), with approximately 19.3 percent being foreign-born residents. [43] By 1970, San Francisco's population was 715,674 (71.4 percent White, 8.2

[36] John S. Hittell, *A History of the City of San Francisco and Incidentally the State of California*, San Francisco: L. Bancroft & Company, 1878, p. 366, 429.
[37] Mel Scott, *The San Francisco Bay Area: A Metropolis in Perspective*. Berkeley: University of California Press, 1985, p. 50-51.
[38] Bay Area Census, *San Francisco City and County*, 1940, http://www.bayareacensus.ca.gov/counties/SanFranciscoCounty40.htm, accessed December 27, 2021.
[39] Ibid.
[40] Ibid.
[41] Broussard, Albert S., Strange Territory, Familiar Leadership: The Impact of World War II on San Francisco's Black Community. In *California History*, 65(1):18–25, 1986.
[42] Godfrey, B.J., Ethnic Identities and Ethnic Enclaves: The Morphogenesis of San Francisco's Hispanic "Bario," in *Yearbook of the Conference of Latin American Geographers*, 11:45–53, 1985.
[43] Bay Area Census, *San Francisco City and County*, 1940, http://www.bayareacensus.ca.gov/counties/SanFranciscoCounty40.htm, accessed December 27, 2021.

percent Chinese, 13.4 percent Black, 3.5 percent Filipino, and 1.6 percent Japanese). Persons of Spanish origin or descent accounted for 9.7 percent of the population. [44] The 1970s also witnessed increased immigration from Central America as refugees from Nicaragua and El Salvador moved to the city. [45]

The decades following the 1980s saw the White population and the Black population of the city decline, while the Asian population and Hispanic population continued to grow, along with the overall population of the city. By 2010, the population of the city had reached 805,235. The Black population had declined from 13.4 percent in 1970 to about 6.1 percent in 2010. Similarly, the White population had declined to 48.5 percent. The Asian population rose to 33.3 percent, and the Hispanic or Latino population rose to 15.1 percent.

Between 2010 and 2016 San Francisco experienced a massive out-migration of low-income and working-class residents, which disproportionally affected Hispanic and Black residents. [46] Many low- and moderate-income residents who left the City moved to the Sacramento region and the Central Valley. Higher-income residents who left the city tended to move to other large metropolitan areas in other parts of the country. For every person in the top income category (annual household income of $200,000 or more) who left the Bay Area between 2010 and 2016, six moderate-income residents (annual household income of $100,000 or less) moved out. [47]

Although California's net domestic migration has been negative for many years, one December 2021 study suggests that the COVID-19 pandemic exacerbated this trend, especially in San Francisco, San Mateo, and Santa Clara counties. A study by the California Policy Lab [48] shows that, since the start of the pandemic in March 2020, the number of individuals who move to California has decreased by 38 percent overall. The numbers have decreased in every county in California as well. At the same time, exits from California to other states have increased by 12 percent. The Bay Area saw a larger share of residents, compared with pre-pandemic numbers, move out of state, with San Francisco, San Mateo, and Santa Clara counties all losing residents to domestic migration for the first time since 2016. [49]

The study identifies limitations of its findings; these include the use of quarterly credit records, which do not include the one in 10 adults without a credit record, along with younger adults, children, and many lower-income consumers. The data set also does not include international migration, which was cut off during the pandemic but normally accounts for a large portion of the Bay Area's population migration. In addition, the data set covers only six years, which is one economic cycle. The study therefore may not be representative of larger trends, particularly with the pandemic that began in March 2020 and upended predictable migration patterns and resulted in a brief change that is not expected to continue. Furthermore, the study does not account for those in the Bay Area whose work-from-home status allowed them to relocate elsewhere temporarily. In short, although the 2021 study is cited for informational purposes, it is too preliminary and unrepresentative to be reflected in this analysis.

Notwithstanding recent isolated trends, population in the City continues to increase. According to recently released data from the U.S. Census (Table 3-3), the 2020 population in San Francisco was about 874,000, which is

[44] Ibid.
[45] Godfrey, B.J., Ethnic Identities and Ethnic Enclaves: The Morphogenesis of San Francisco's Hispanic "Bario," in *Yearbook of the Conference of Latin American Geographers*, 11:45–53, 1985.
[46] Romem, I., and E. Kneebone, Terner Center for Housing Innovation at UC Berkeley, *Disparity in Departure: Who Leaves the Bay Area And Where Do They Go?* 2018.
[47] Ibid.
[48] Holmes and White. California Policy Lab, December 2021, Pandemic Patterns: California is Seeing Fewer Entrances and More Exits, https://www.capolicylab.org/wp-content/uploads/2021/12/Pandemic-Patterns.-California-is-Seeing-Fewer-Entrances-and-More-Exits.pdf.
[49] Ibid.

an increase of about 97,000 people since 2000, with most of the growth (about 69,000 people) occurring between 2010 to 2020.

Table 3-3 Population Growth in San Francisco 2000 to 2020

Geography	Population			Change Between 2000 to 2020	
	2000	2010	2020	Difference	Percent Change
City of San Francisco	776,733	805,235	873,965	97,232	13%

Source: U.S. Decennial 2000, 2010 and 2020 Census.

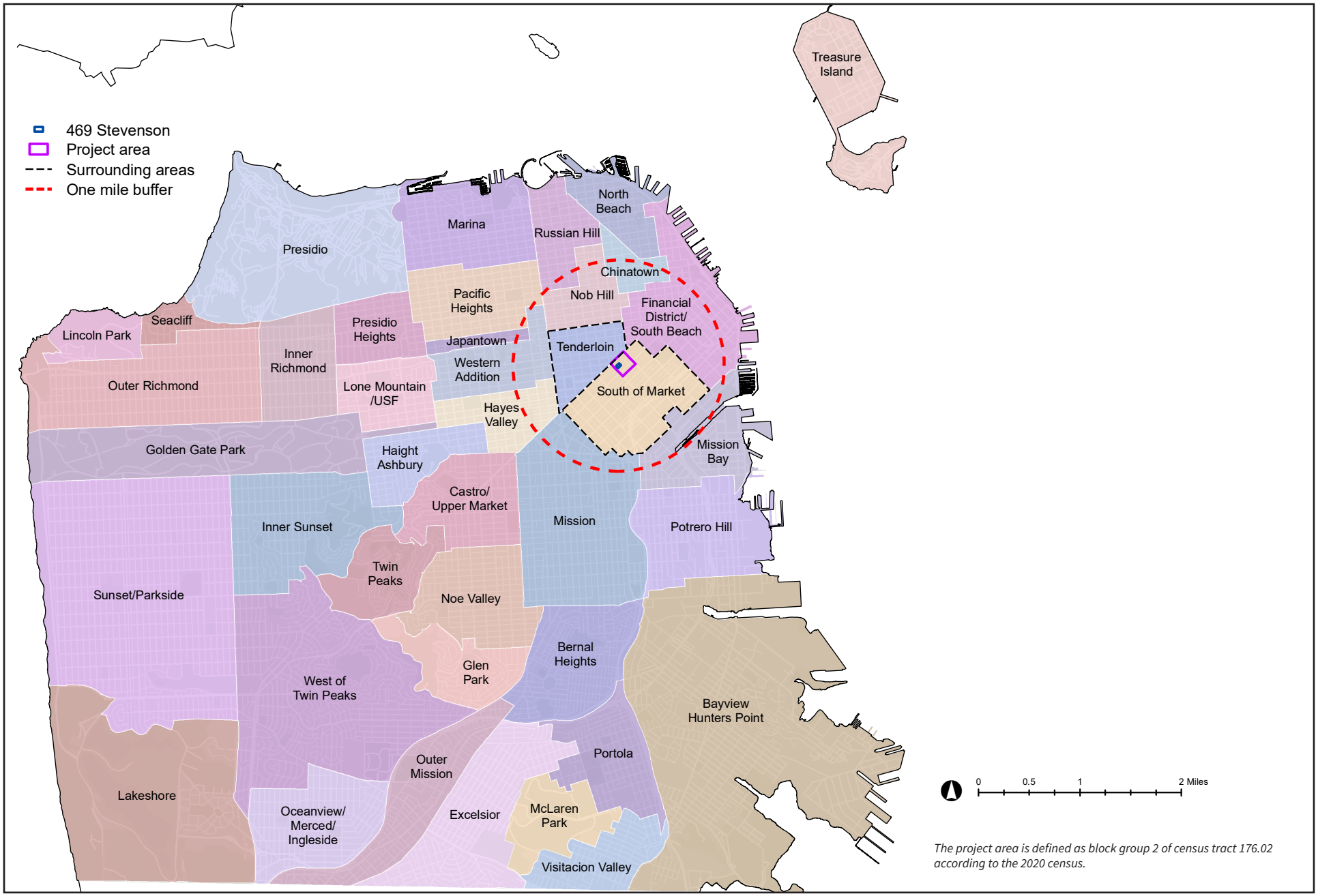
SURROUNDING AREA POPULATION

The project site is located in the SoMa neighborhood of the City, mid-block between 5th and 6th streets and one block south of Market Street. The project site has no existing buildings and consists of a 28,790 square foot surface parking lot. The area of SoMa immediately surrounding the project site is generally comprised of buildings between one and seven stories tall that have commercial, residential, hotel, single room occupancy (SRO) residential, and/or industrial uses and other surface parking areas. Mint Plaza is located to the northeast of the project site, which is a public open space adjacent to the historic San Francisco Mint building and across Fifth Street from the San Francisco Center. The Tenderloin neighborhood is located immediately to the north of Market Street from the project site and has a similar mix of land uses. The northern portion of Sixth Street in SoMa and the Tenderloin neighborhood have a substantial concentration of the City's SRO residential buildings.

The City of San Francisco and the planning department use "analysis neighborhood" geographies that are correlated with U.S. Census tract boundaries to study and report on housing and socioeconomic characteristics of the City's neighborhoods. [50] For this analysis, the SoMa and Tenderloin neighborhoods are collectively referred to as the proposed project's "surrounding area," which consists of the census tracts within the SoMa and Tenderloin analysis neighborhoods (Figure 21). [51] The surrounding area is the primary geography used to analyze neighborhood conditions and the socioeconomic characteristics of residents who live in the areas surrounding the proposed project. The surrounding area also includes:

- The portion of Sixth Street that has numerous residential SROs buildings, which is located in the northern area of the SoMa analysis neighborhood.
- Three of the City's cultural heritage districts:
  - SOMA Pilipinas Filipino Cultural Heritage District, which is largely coterminous with the SoMa analysis neighborhood.
  - Leather & LGBTQ Cultural District, which is located in the SoMa analysis neighborhood.
  - Transgender Cultural District, which is located in the Tenderloin analysis neighborhood

[50] DataSF. 2019. Analysis Neighborhoods. https://data.sfgov.org/Geographic-Locations-and-Boundaries/Analysis-Neighborhoods/p5b7-5n3h. Accessed September 2022.
[51] The U.S. Census tract designations for SoMa and Tenderloin are different for the 2000, 2010 and 2020 census and are as follows. SoMa census tracts for 2000 (17601, 17800, 18000), 2010 (17601, 17801, 17802, 18000), and 2020 (17602, 17603, 17604, 17801, 17803, 17804, 18000). Tenderloin census tracts for 2000 (12200, 12300, 12400, 12500), 2010 (12201, 12202, 12301, 12302, 12401, 12402, 12501, 12502), and 2020 (12202, 12203, 12204, 12301, 12302, 12403, 1204, 12405, 12406, 12502, 12503, 12504).



The project area is defined as block group 2 of census tract 176.02 according to the 2020 census.

SOURCE: DataSF Analysis Neighborhood Map

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 21

Geographic Areas Surrounding the Proposed Project

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As shown in Table 3-4, the population in the surrounding area has grown at a much faster pace compared to the City for the past two decades. According to data from the U.S. Census, the 2020 population of the surrounding area was about 65,000, which is an increase of about 22,000 people since 2000.

Table 3-4 Population Growth in Surrounding Area 2000 to 2020

Geography	Population			Change Between 2000 to 2020	
	2000	2010	2020	Difference	Percent Change
Surrounding Area	43,025	51,431	64,573	21,548	50%

Source: U.S. Decennial 2000, 2010 and 2020 Census.

PEOPLE OF COLOR

The population of all racial and ethnic groups has grown in the surrounding area between 2000 to 2020 according to the U.S. Census (Table 3-5), which indicates that the new residents who have moved to the surrounding area are racially diverse. San Francisco's population continues to be racially diverse, and both Asian and Hispanic or Latino groups have increased in population over the past two decades. In contrast to the surrounding area, the City has experienced a loss in people of color in certain racial and ethnic groups over the past two decades, with the Black or African American population experiencing the greatest loss in population. [52] However, some of the growth or decline in a racial or ethnic group, like Black or African American, may be attributable to changes in the U.S. Census survey methodology as it continually evolves how it gathers and reports data on race and ethnicity and how people self-identify. Notably, both the surrounding area and the City have experienced a substantial increase in people of color who identify as Two or More Races or Some Other Race. [53] Over the past decade, an increasing number of people of color across the United States are identifying in these racial groups, as the census survey methodology has evolved, and the national population has become more diverse.

Table 3-5 Comparison of Changes in Race and Ethnicity From 2000 to 2020 in Surrounding Area and San Francisco

Race and Ethnicity[1]	2000 Census	2010 Census	2020 Census	Change Between 2000 to 2020	
				Difference	Percent Change
Surrounding Area					
Non-Hispanic or Latino, White	15,380	17,694	19,547	4,167	27%
Asian	13,704	15,731	21,037	7,333	54%
Hispanic or Latino	6,462	9,683	13,184	6,722	104%

[52] The U.S. Census categories of race and ethnicity are used to describe people of color in this analysis, which differs from what the planning department uses in some of its analysis. Starting in Census 2000, individuals were presented with the option to self-identify with more than one race and this continued with the 2010 Census and has evolved in 2020. People who identify with more than one race may choose to provide multiple races in response to the race question. The Census data on race and ethnicity used in this section is based on population data indicating race alone and not in combination with other races. https://www.census.gov/topics/population/race/about.html

[53] The "Two or More Races" population (also referred to as the Multiracial population) has changed considerably over the past decade in the nation from 9 million people in 2010 to 33.8 million people in 2020, a 276 percent increase. The "Some Other Race" alone or in combination group also increased significantly nationally by 129 percent. https://www.census.gov/newsroom/press-releases/2021/population-changes-nations-diversity.html

Race and Ethnicity[1]	2000 Census	2010 Census	2020 Census	Change Between 2000 to 2020	
				Difference	Percent Change
Two or More Races	2,510	2,574	6,106	3,596	143%
Some Other Race	2,674	4,684	7,780	5,106	191%
Black or African American	5,125	6,201	7,081	1,956	38%
American Indian or Alaskan Native	1,038	544	1,135	97	9%
Native Hawaiian or Pacific Islander	183	201	338	155	85%
City of San Francisco					
Non-Hispanic or Latino, White	338,909	337,451	361,382	22,473	7%
Asian	239,565	267,915	296,505	56,940	24%
Hispanic or Latino	109,504	121,774	136,761	27,257	25%
Two or More Races	33,255	37,659	86,233	52,978	159%
Some Other Race	50,368	53,021	73,169	22,801	45%
Black or African American	60,515	48,870	46,725	(13,790)	-23%
American Indian or Alaskan Native	8,971	4,024	6,475	(2,496)	-28%
Native Hawaiian or Pacific Islander	3,844	3,359	3,476	(368)	-10%

Notes: [1] Categories of race and ethnicity are sorted based on 2000 Census data.

Source: U.S. Decennial 2000, 2010 and 2020 Census.

As shown in Table 3-5, the Asian population has experienced the largest increase in population in the surrounding area over the past two decades, followed by the Hispanic or Latino population. [54] The surrounding area has also experienced a substantial increase in people of color who identify as Two or More Races or Some Other Race, along with increases in the Non-Hispanic or Latino, White population.

As shown in Figure 22, the proposed project is located in a census tract with an Asian Majority/Plurality based on an analysis of American Community Survey (ACS) 2019 5-Year estimates. Several of the remaining census tracts in the surrounding area in both SoMa and the Tenderloin also have a substantial Asian population, although a few nearby census tracts have a slim gap in Non-Hispanic or Latino White Majority/Plurality.

FILIPINO POPULATION

The project site and surrounding area are within the SOMA Pilipinas Filipino Cultural Heritage District. The City's draft Housing Element 2022 Update [55] includes a description of the history of and displacement pressures facing various racial and ethnic groups within the City, including the Filipino community. The following section on the Filipino community is an excerpted summary from this assessment. [56]

> *"The first Filipino immigrants arrived in the U.S. in the early 1900s, following the annexation of the Philippines after the Spanish-American War and Philippine-American War. While Filipinos were recruited to the United States to provide low-cost agricultural labor, they were denied the ability to naturalize and*

[54] The U.S. Census has also evolved its survey methodology with respect to Hispanic or Latino origin, which also may contribute to relative growth or declines in this ethnic group. https://www.census.gov/topics/population/hispanic-origin/about/comparing-race-and-hispanic-origin.html

[55] Draft 4 of Housing Element 2022 Update was released in October 2022 after the analysis in this report was substantially prepared but prior to publication. While the text of the policies referenced in this section have been revised and/or updated, none of the policies have been removed and the overall intent of the policies is consistent with the version in Draft 3.

[56] See pages 78 through 79 of the City's Draft Housing Needs Assessment and Assessment of Fair Housing Report, which reference numerous historical documents that were used as sources for this summary.

were only considered American nationals. At first, most immigrated to Hawaii to pursue work on sugar plantations, but many arrived in California by the 1920s to pursue agricultural and service work. Filipino immigrants in San Francisco, largely single men, established the enclave of Manilatown on the eastern border of Chinatown. Many others settled in SoMa, adjacent to a small Japanese enclave. They primarily lived in SRO hotels. Excluded from many jobs by white Americans and limited in entrepreneurship by already established Chinese and Japanese business owners, Filipino Americans established fraternal societies, barbershops, and restaurants serving the Filipino community.

In the wake of World War II, new laws granted some Filipinos the opportunity to naturalize and others to own property in the U.S., although employment opportunities remained largely limited to service and agricultural work. Additionally, the expansion of the Financial District in the 1950s and 1960s, encouraged by the City, caused the outpricing and displacement of Filipino Americans living in residential hotels in Manilatown. This displacement reached a peak in 1978, when residents from the last remaining residential hotel in Manilatown, the International Hotel, were evicted after a decade long fight from residents, Filipino Americans, and allied community members.

Displaced Filipino residents resettled in SoMa, Mission, Excelsior, or outside of San Francisco entirely. The growth of a Filipino community in SoMa in the 1960s and 1970s, however, was also threatened due to the Yerba Buena Redevelopment in central city. Community activists, including Filipino SoMa residents, successfully organized and won concessions from the San Francisco Redevelopment Agency, including the right to replacement housing and relocation. Despite these struggles, Filipino Americans established businesses, cultural and art collectives, and organizations dedicated to advocating for housing and social justice across the City."

Currently, most of the City's Filipino community's cultural history and activities occur in the SoMa neighborhood within the surrounding area. In order to understand how the Filipino population may have changed in the surrounding area over the past two decades, an analysis was performed using the best available data from the U.S. Census regarding the Filipino population. While the 2000 and 2010 Census have published data regarding the Filipino ethnic group, the 2020 Census data on the Filipino ethnic group has not yet been released. The most current data on the Filipino population is published in the ACS 2020 5-year, which provides a representative survey of the population.

Table 3-6 shows the estimated growth in the Filipino population using reported data from the 2000 and 2010 Census and a 2020 estimate of current Filipino population in the surrounding area that is based on the percentage of Filipino population (8.7 percent) in the surrounding area according to the 2020 ACS multiplied by the population in the surrounding area according to the 2020 Census. [57] This data indicates that the total Filipino population has likely remained stable or grown over the past two decades in the surrounding area; although it may have declined since 2000 if the 2020 Filipino population estimate is overstated. The 2020 Filipino population estimate is based on data from the 2020 5-year ACS with a summated margin of error of +/-20 percent, which indicates that it could range from about 4,500 persons to 6,700 persons. A portion of the population change may be attributable to changes in the US Census survey methodology as it has evolved and how people self-identify

[57] Due to the relatively small population and sample size for the Filipino population within individual census tracts in the surrounding area, the 2020 ACS data is not statistically reliable for the Filipino ethnic group by census tract due to the large sampling error. When the population data regarding the Filipino ethnic group is aggregated across all census tracts within the surrounding area, the data is more statistically reliable, with a summated margin of error of approximately +/- 20 percent, and this aggregated population data is used to estimate the 2020 Filipino population in the surrounding area.

in each survey. The surrounding area also has a higher proportion of Filipino residents than the City, as about 5.3 percent of the City's 2020 population is Filipino according to the 2020 ACS.[58]

Table 3-6 Growth in Filipino Population in Surrounding Area 2000 to 2020

Geography	Population		
	2000	2010	2020
Surrounding Area	4,950	4,509	5,622

Notes: The Filipino population includes those that identify as Filipino alone or in any combination with another group. The estimate of the Filipino population is based on the total population in the surrounding area according to the 2020 Census multiplied by the Filipino population's percentage share of total population (8.7 percent) from the 2020 5-Year ACS, which reports a statistical count with a summated margin of error of approximately +/- 20 percent.

Source: U.S. Decennial 2000, 2010 and 2020 Census and 2020 5-Year ACS.

FILIPINO CULTURAL ASSETS

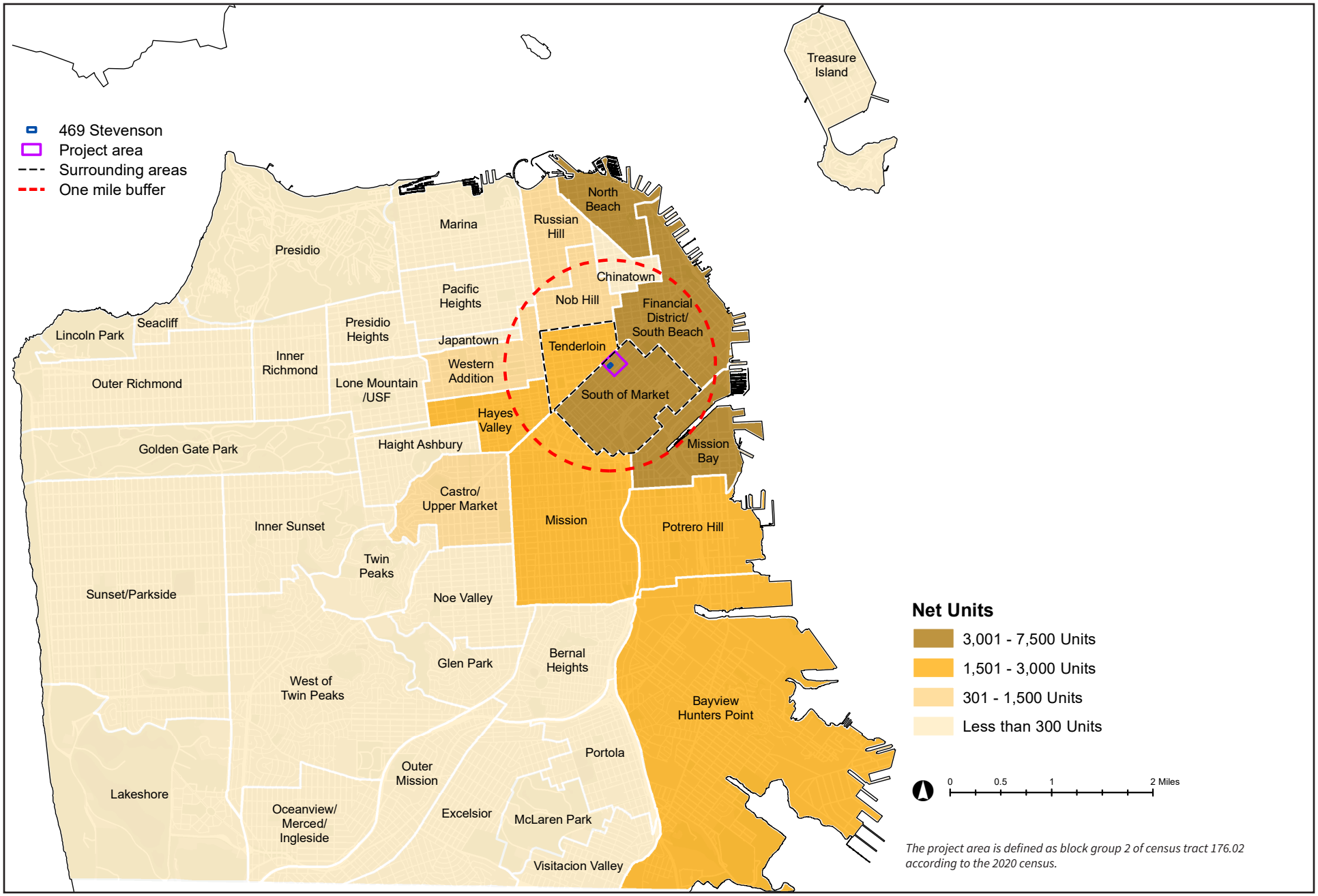
The SOMA Pilipinas Filipino Cultural Heritage District was recognized as a district in 2016 prior to the creation of the City's cultural district program in 2018. The SOMA Pilipinas Filipino Cultural Heritage District is generally bounded by Market, Second, Brannan, and Eleventh streets, which is largely coterminous with the SoMa neighborhood and includes a few buildings of cultural significance that are outside the SoMa neighborhood– the International Hotel, Iloilo Circle Building Gran Oriente Filipino Masonic Temple, and Rizal Apartments (now known as San Lorenzo Ruiz Center). The SOMA Pilipinas Filipino Cultural Heritage District is one of nine cultural districts that have been established to "preserve, strengthen and promote cultural communities, and its goals are to support legacy businesses, nonprofits, community arts, and traditions."

The *2013 Filipino Heritage Addendum to the South of Market Historic Context Statement* (Filipino Heritage Addendum) [59] lists and describes Filipino social heritage resources in SoMa based on research and oral histories conducted by Page and Turnbull. The Filipino Heritage Addendum describes individual assets in the SoMa area that the Filipino community has identified as being a valuable and important part of the Filipino culture and history, while noting that some of these individual assets no longer exist or have relocated prior to its publication in March 2013.

Many of the Filipino social heritage resources listed in the Filipino Heritage Addendum have been identified by SOMA Pilipinas in the list of cultural assets on its website and/or are included on the SOMA Pilipinas Filipino Cultural Heritage District Map, which is shown on Figure 23.

SOMA Pilipinas also provided a list of non-residential and residential cultural assets to the planning department in 2022 as part of the preparation of the draft *SOMA Pilipinas Cultural Heritage District - Cultural History, Housing and Economic Sustainability Strategies* (CHHESS). [60] These cultural assets were considered in the analysis of the proposed project's potential to result in cultural displacement.

[58] The Filipino population includes those that identify as Filipino alone or in any combination with another group.
[59] Page & Turnbull, *San Francisco Filipino Heritage Addendum to the South of Market Area Historic Context Statement* (San Francisco: Prepared for the San Francisco Planning Department, March 13, 2013).
[60] Mayor's Office of Housing and Community Development. 2022. SOMA Pilipinas Filipino Cultural Heritage District - Cultural, History, Housing, and Economic Sustainability Strategy. https://sfgov.legistar.com/View.ashx?M=F&ID=11026062&GUID=6A4D8EA0-2547-43F2-913A-81B9EED49258



SOURCE: San Francisco Draft Housing Needs Assessment and Assessment of Fair Housing Report, ACS 2020 5-Year Estimates

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 22

Plurality/Majority of Race and Ethnicity within San Francisco

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HOUSING

SAN FRANCISCO HOUSING GROWTH

San Francisco has experienced substantial growth in housing between 2000 to 2020. As shown in Table 3-7, housing has increased citywide by about 60,000 housing units from 2000 to 2020 for a total of about 407,000 units. The number of households and renter households have also increased from 2000 to 2020. It is estimated about 62 percent of households in the City are renter households. From 2000 to 2020, 21 percent of the growth in housing units citywide has occurred in the surrounding area, according to the U.S. Census.

Table 3-7 San Francisco Housing Growth 2000 to 2020

Housing	2000	2010	2020	Change Between 2000 to 2020	
				Difference	Percent Change
Housing Units	346,527	376,942	406,628	60,101	17%
Households	329,700	345,811	371,851	42,151	13%
Renter Households*	214,385	222,165	230,480	16,095	8%
Percent Renter Households*	65%	64%	62%	-3%	-5%

Notes: * Renter household data is not yet available from the 2020 Census as of August 2022. Thus, the number of renter households for 2020 is estimated based on the percentage of renter households in SoMa, Tenderloin and San Francisco based on data from the 2020 5-Year ACS.

Source: U.S. Decennial 2000, 2010 and 2020 Census and 2020 5-Year American Community Survey.

SURROUNDING AREA HOUSING GROWTH

Table 3-8 presents data regarding the surrounding area's housing growth from 2000 to 2020. The number of housing units has grown at a faster pace in the surrounding area compared to the City for the past two decades. The surrounding area had about 37,000 housing units in 2020, which represents about 9 percent of all housing units in the City (up from 24,000 housing units and a 7 percent share in 2000). Additionally, the surrounding area has a higher percentage of renters than the City (about 90 percent in 2020 in the surrounding area compared to 62 percent citywide). Of the total growth in housing units in the City from 2000 to 2020, 21 percent of that growth occurred in the surrounding area.

Table 3-8 Surrounding Area Housing Growth 2000 to 2020

Housing	2000	2010	2020	Change Between 2000 to 2020	
				Difference	Percent Change
Housing Units	24,014	30,786	36,720	12,706	53%
Households	22,194	27,261	32,637	10,443	47%
Renter Households*	21,174	24,957	29,504	8,330	39%
Percent Renter Households*	95%	92%	90%	-5%	-5%

Notes: *Renter household data is not yet available from the 2020 Census as of August 2022. Thus, the number of renter households for 2020 is estimated based on the percentage of renter households in SoMa, Tenderloin and San Francisco based on data from the 2020 5-Year ACS.

Source: U.S. Decennial 2000, 2010 and 2020 Census and 2020 5-Year American Community Survey.

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COMMUNITY LANDMARKS:

1. Bayanihan Community Center
2. Bessie Carmichael Elementary School
3. Dewey Monument at Union Square
4. Filipino American Center, Main Library
5. Filipino Education Center
6. Gene Friend Recreation Center
7. "Jose Rizal" Plaque at Palace Hotel
8. Kapwa Mural
9. "Lipi ni Lapu Lapu" Mural
10. Mendelsohn House
11. Mint Mall
12. Philippine Consulate
13. San Lorenzo Luis Center (formerly Dimasalang House)
14. San Francisco City College
15. St. Patrick's Church
16. "Tuloy Po Kayo" Mural
17. Tutubi Park & Plaza
18. Victoria Manalo Draves Park
19. Woolf House Apartments
20. Yerba Buena Gardens

NONPROFIT ORGANIZATIONS:

1. Asian Pacific Islander Legal Outreach
2. Bindlestiff Studio
3. Bill Sorro Housing Program
4. Canon Kip Senior Center
5. Center for Asian American Media
6. Filipina Women's Network
7. Filipino American Development Foundation
8. Gran Oriente Masonic Lodge
9. International Hotel (868 Kearny St)
10. Kearny Street Workshop
11. KulArts
12. Mabuhay Health Center
13. Manilatown Center (868 Kearny St)
14. Pilipino Senior Resource Center
15. San Francisco Filipino Cultural Center
16. SOMCAN
17. Tenderloin Filipinio American Cmmunity Assoc.
18. United Playaz
19. Veterans Equity Center
20. Westbay Pilipino Multiservice Center

BUSINESSES:

1. ADY Barber and Beauty Shop
2. Alchemy
3. Arkipelago Bookstore
4. AsiaSF
5. Beard Papa
6. Celia's In and Out Cleaners
7. FilAm Star Newspaper
8. Inay Filipino Kitchen
9. JT Restaurant & Catering
10. Kearny St Workshop
11. K-OZ
12. Kusina Ni Tess
13. Little Skillet
14. Make It Mariko
15. Mango Tours
16. Manila Bowl
17. Mestiza
18. Plinth Agency
19. The Sarap Shop
20. Señor Sisig
21. Studio O+A
22. Tancinco Law Office
23. The Market
24. Unimart
25. Victory Hall

SOURCE: SOMA Pilipinas 2022

FIGURE 23

SOMA Pilipinas Filipino Cultural Heritage District

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According to the City's draft Housing Element 2022 Update, most of the housing growth since 2005 (also referred to as housing production) has occurred in the eastern parts of San Francisco, including the surrounding area and within a 1-mile radius [61] of the project site. As shown in Table 3-9, more than 50 percent of the City's housing growth from 2005 [62] to 2021 has occurred within the 1-mile radius, while about 24 percent of the City's housing growth occurred within the surrounding area. As further described below, net housing production since 2005 within the 1-mile radius was about 27,000 housing units (net) out of about 53,000 units citywide. Housing growth or production of housing since 2005 is based on the net increase of housing units without counting existing housing units that were replaced on a site.

Table 3-9 Distribution of Housing Growth from 2005 to 2021 by Affordability and Geographic Area

Production (Units Completed 2005-2021)	SoMa	Tenderloin	Surrounding Area[1]	Remaining 1-mile Radius	1-mile Radius	Remaining City Areas	San Francisco
100% Affordable Housing Units	1,412	955	2,367	1,489	3,856	4,964	8,820
Inclusionary Housing Units	865	218	1,083	1,301	2,384	1,259	3,643
Total (Net) Affordable Units	2,277	1,173	3,450	2,790	6,240	6,223	12,463
Affordable Units as a Percent of Total (Net) Units in Geographic Area	*24%*	*35%*	*27%*	*19%*	*23%*	*25%*	*24%*
Affordable Units as a percent of Total Affordable Units Produced Citywide	*18%*	*9%*	*28%*	*22%*	*50%*	*50%*	*100%*
Accessory Dwelling Units (ADU)	9	10	19	39	58	1,108	1,166
Affordable Units (including ADUs)	2,286	1,183	3,469	2,829	6,298	7,331	13,629
Market Rate Units	7,145	2,128	9,273	11,717	20,990	17,952	38,942
Total (Net) Units Produced	9,431	3,311	12,742	14,546	27,288	25,283	52,571

[61] The 1-mile radius includes the following neighborhoods in addition to SoMa and Tenderloin: Western Addition, Japantown, Hayes Valley, Mission, Mission Bay, Chinatown, Nob Hill, and Financial District/South Beach and the census tracts within them. The 1-mile radius is the primary geography used to analyze the development of market rate and affordable housing located within 1-mile of the proposed project and is also used to describe housing market conditions in these eastern areas of San Francisco.

[62] Geocoded housing production data by neighborhood and housing type is only available from 2005 onward.

Production (Units Completed 2005-2021)	SoMa	Tenderloin	Surrounding Area[1]	Remaining 1-mile Radius	1-mile Radius	Remaining City Areas	San Francisco
Total (Net) Units as a Percent of Citywide Housing Production	*18%*	*6%*	*24%*	*28%*	*52%*	*48%*	*100%*

Notes: [1] Surrounding area is the sum of the SoMa and Tenderloin neighborhoods.

Source: San Francisco Planning Department, Mayor's Office of Housing and Community Development.

Housing production since 2005 to 2021 includes affordable housing units, accessory dwelling units (ADUs), and market rate units. As shown in Table 3-9, housing production within the 1-mile radius and surrounding area has primarily consisted of affordable housing units and market rate units. While about 1,200 ADUs have been produced in the City since 2015, only about 20 ADUs have been produced in the surrounding area out of about 60 ADUs within the 1-mile radius.

About 6,300 units of affordable housing have been produced within the 1-mile radius since 2005, of which more than half has been built within the surrounding area (about 3,500 units). Affordable housing units in the surrounding area are located in developments with 100 percent affordable housing units [63] and others with inclusionary housing units. [64] As shown in Table 3-9, about 2,400 units produced in the surrounding area out of about 3,900 units produced in the 1-mile radius are located in 100 percent affordable housing developments. About 1,100 inclusionary units have also been produced in the surrounding area out of about 2,400 inclusionary units in the 1-mile radius. Additionally, about 21,000 market rate apartments and condominiums have been produced in the 1-mile radius since 2005. While about one quarter of housing units in the surrounding area are unprotected, market rate units built since 2005 represent a substantial share of these unprotected units. As shown in Table 3-9, between 2005 and 2021 approximately 9,300 market rate units were built in the surrounding area. These types of units are typically rented to moderate and above moderate-income households. This means that approximately 73 percent of the new housing units built in the surrounding area since 2005 have been market-rate units.

HOUSING AFFORDABILITY

PROVISION OF PROTECTED UNITS AND AFFORDABILITY OF MARKET RATE APARTMENTS

Protected Units

Table 3-10 summarizes and compares the number of protected units within the City, surrounding area, and 1-mile radius. The City has about 407,000 housing units, of which about 174,000 units (43 percent) are "protected units" consisting of affordable housing units, rent controlled units, and SROs. The surrounding area and 1-mile radius have a higher percentage of protected units compared to the City. A protected unit is targeted at the unit,

[63] These affordable units are located within affordable housing developments where all units (other than those reserved for onsite property management) are subject to long term regulatory restrictions typically restricting their occupancy to lower income households, with a focus on very low and extremely low-income households. A 100 percent affordable housing development is generally built by non-profit developers and usually require public subsidies. A high proportion of these developments in the City are rental developments that have been funded using Federal and/or State Low Income Housing Tax Credits, which limit occupancy to lower income households and include a large proportion of extremely low income and/or very low-income households.
[64] These affordable units are onsite inclusionary units within mixed income developments that are subject to long term regulatory restrictions typically restricting their occupancy to lower and moderate-income households.

not the individual or household. For example, this does not mean an individual or a household living in a protected unit is protected from eviction. All other units described herein are referred to as "unprotected" units.

As shown in Table 3-10, the surrounding area has about 37,000 housing units, of which about 27,000 housing units are protected (75 percent). The 1-mile radius has about 84,000 housing units, of which about 57,000 housing units are protected (68 percent).

Table 3-10 Distribution of Protected Units by Geographic Area as of December 2021

Protected Units	SoMa	Tenderloin	Surrounding Area[1]	Remaining 1-mile Radius	1-mile Radius	Remaining City Areas	San Francisco
Affordable Housing Units	4,719	6,163	10,882	4,997	15,879	20,012	35,891
Rent Controlled Apartment Units	1,520	6,717	8,237	19,192	27,429	120,053	147,482
SRO Units	2,010	6,277	8,287	5,163	13,450	5,695	19,145
Total Protected Units	8,249	19,157	27,406	29,352	56,758	145,760	202,518
Protected Units as a Percent of Total Units in Geographic Area	*52%*	*92%*	*75%*	*62%*	*68%*	*45%*	*50%*
Protected Units as a Percent of Citywide Protected Units	*4%*	*9%*	*14%*	*14%*	*28%*	*72%*	*100%*
Total Housing Units (per 2020 Census)	15,913	20,807	36,720	46,988	83,708	322,920	406,628
Total Units in Geographic Area as Percent of Citywide Total Units	*4%*	*5%*	*9%*	*12%*	*21%*	*79%*	*100%*

Market Rate Units

The remaining units in the surrounding area and the 1-mile radius are market rate housing units, many of which are market rate apartments. These units are not protected (i.e., they are not affordable housing units or rent controlled units, including SROs). Some of these market rate apartments, typically those that are 15 years or older, are covered by AB 1482, which imposes rent caps in certain circumstances and includes "just cause" eviction requirements that apply after residents have occupied the unit for a certain amount of time.

While market rate rents have increased overall since 2000, rent levels have fluctuated over time. Notably, rents have declined in the City, surrounding area, and 1-mile radius since the COVID-19 pandemic started in early 2020 and have only recently approached rent levels that were in place prior to the pandemic, although rents remain lower than 2019 levels as of May 2022. In the surrounding area, the effective rent [65] for a market rate apartment is about $2,540 per month as of Spring 2022. Based on 30 percent of income paid toward rent, a typical apartment is affordable to a moderate-income household at about 95 percent of the Unadjusted Area Median Income (AMI) for a two-person household per MOHCD. Effective rents citywide and in the 1-mile radius average about $2,900 per month, which would be affordable to moderate-income households at about 110 percent AMI as of 2022. [66]

Based on historical CoStar rent data, effective market rate rents in the surrounding area have not increased as fast as the citywide average and the 1-mile radius between 2002 to 2022, increasing by about 32 percent in the surrounding area versus 44 percent citywide. In contrast, average median sales prices for existing single-family homes in San Francisco have increased by over 300 percent since 2002 according to the California Association of Realtors. [67]

Historically, apartment vacancy rates fluctuated between 3 to 6 percent in the City, surrounding area, and 1-mile radius until the pandemic occurred starting in 2020 when vacancy rates increased to 12 percent. [68] While vacancy rates have declined substantially as of May 2022, they are still averaging about 7 percent, which is higher than national vacancy rates of about 3 percent in Spring 2022 according to the National Apartment Association [69] and above the target vacancy level of 5 percent for market rate multi-family apartments that is often used to underwrite apartment developments. [70]

Over the past two decades, average rents in the surrounding area have increased less than the City as a whole, and have remained relatively less expensive with average rents about 14 percent less than the City as of Spring 2022. The average current vacancy rate of 7.1 percent indicates that market rent apartment supply is greater than demand.

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[65] Monthly effective rent – The average monthly rent over a lease term that reflects what tenants are paying for rent during their lease term taking into account any reported landlord concessions, such as one month free rent.

[66] The 30 percent affordability standard is used by the City, and the City's average renter household is 2.14 persons per household according to the 2020 5-year American Community Survey. The corresponding household income level is based on a one-bedroom unit at "Tier 1" per MOHCD. https://sfmohcd.org/sites/default/files/2022 AMI-RentLimits-HMFA-ForMOHsf.pdf

[67] Based on an analysis of data from the California Association of Realtors of historical median sales prices for existing single-family homes from May 2002 to May 2022.

[68] CoStar multi-family residential market data for the City of San Francisco (2000 through early 2022).

[69] Based on guidelines from HUD Exchange, which provides training and resources on multifamily underwriting. https://www.hudexchange.info/trainings/courses/2020-home-multifamily-underwriting-template-webinar/3682/

[70] National Apartment Association. 2022. Spring 2022 Apartment Market Pulse. https://www.naahq.org/spring-2022-apartment-market-pulse. Accessed September 2022.

LOWER INCOME AND SPECIAL NEEDS HOUSEHOLDS

As discussed, the surrounding area has a high proportion of protected units, including 100 percent affordable developments, rent controlled units, and residential SROs that are typically occupied by very low- and low-income households. The Sixth Street area in SoMa and several streets in the Tenderloin have a high concentration of SROs that are occupied by extremely low income and very low-income households. The draft Housing Element 2022 Update also indicates that the largest concentrations of people with disabilities are in the Tenderloin, SoMa, and Western Addition neighborhoods, which is related to the substantial presence of permanent supportive housing, permanent affordable housing, and SROs.

According to the draft Housing Element 2022 Update, about 32 percent of households in San Francisco are extremely low-income and very low-income, a similar share to the wider Bay Area (31 percent). About 25 to 50 percent of households that reside in the census tract where the proposed project is located are extremely low- and very low-income, while several of the census tracts immediately to the north and south of the proposed project in the surrounding area have a majority share of extremely low- and very low-income households. Four of the neighborhoods with the highest concentrations of lower to moderate income residents in the City – areas where these households represent more than 75 percent of the population – are located within the 1-mile radius of the project site: Tenderloin, SoMa, Chinatown, and the Western Addition. [71] Based on 2020 household income data published by MOHCD, about 67 percent of households within the surrounding area have incomes below $75,000 (considered low income households), which includes very low-income and extremely low-income households. [72] The surrounding area has a higher proportion of lower income households compared to the City and a lower proportion of above moderate income households earning at least $150,000.

GENTRIFICATION IN THE SURROUNDING AREA

As defined above and discussed in the 2020 socioeconomic report, gentrification is a broad pattern of neighborhood change typically characterized by increases in the number of higher income households and increases in home values and/or rents over an extended period. Based on review of maps developed by the Urban Displacement Project, all census tracts in the SoMa neighborhood and in the southern areas of the Tenderloin bordering Market Street in the surrounding area have experienced early/ongoing gentrification or advanced gentrification. [73] This is an existing condition. As shown previously in Table 3-9, about 9,300 market rate units were built from 2005 to 2021 in the surrounding area, which are typically rented to moderate and above moderate income households.

[71] San Francisco Planning Department. 2022. Draft Housing Needs Assessment and Assessment of Fair Housing report. https://www.sfhousingelement.org/draft-housing-needs-assessment-and-assessment-fair-housing. Accessed September 2022.

[72] The U.S. Census presents data by household income tranches that were compiled for this analysis to generally correspond to household income levels according to MOHCD data. Based on a typical two person household size, a $74,999 income corresponds to about 73 percent of AMI according to MOHCD income data and is between 50 percent to 80 percent AMI, which is considered a low income household. https://sfmohcd.org/sites/default/files/Documents/MOH/Asset Management/2020 AMI-IncomeLimits-HMFA_05-01-20.pdf

[73] As indicated in the Housing Element 2022 Update, the Urban Displacement Project created displacement and gentrification maps to better understand and predict where gentrification and displacement is happening and would likely occur in the Bay Area through a community-engaged research process. The gentrification and displacement typology maps summarize housing market dynamics and displacement and gentrification risk into categories ("typologies") at the census tract level. These maps are based on 2018 data, and these maps are undergoing another update in 2022 to incorporate new data on migration patterns. https://www.urbandisplacement.org/maps/sf-bay-area-gentrification-and-displacement/

3.A.2 Regulatory Framework

STATE AND REGIONAL REGULATIONS

CALIFORNIA HOUSING ELEMENT LAW

State law requires each city and county to adopt a general plan for future growth. This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. Under state law, the California Department of Housing and Community Development (HCD) is required to allocate a region's share of the projected statewide housing need to its council of governments, based on California Department of Finance population projections and regional population forecasts. ABAG is the regional authority charged with preparing the regional housing needs allocation (RHNA), which quantifies the housing need for local jurisdictions in the Bay Area. The process of assigning shares of the regional housing need provides cities and counties the opportunity to comment on the proposed allocations. HCD oversees the process to ensure that the council of governments distributes its share of the state's projected housing need.

Each city and county must update its general plan housing element on a regular basis (approximately every eight years). Among other things, the housing element must incorporate policies and identify potential sites that would accommodate a county's share of the regional housing need. Before adopting an update to its housing element, a city or county must submit the draft to HCD for review. HCD will advise the local jurisdiction whether its housing element complies with the provisions of California Housing Element Law.

The councils of government are required to assign regional housing shares to the cities and counties within their region on a similar schedule. At the beginning of each cycle, HCD provides population projections to the councils of government, which then allocate shares to their cities and counties. The shares of the regional need are allocated before the end of the cycle so that the cities and counties can amend their housing elements by mandated deadlines. The city is currently in the process of updating its State-mandated housing element and much of the information presented in the environmental setting section above is based on the City's draft Housing Element 2022 Update. The city expects to adopt the update in January 2023.

STATE DENSITY BONUS LAW

The State Density Bonus Law (California Government Code sections 65915-65918) is a state housing development mandate that supersedes certain local land use requirements and encourages the development of affordable and senior housing. The State Density Bonus Law allows for up to 50 percent increase in project density based on the amount of affordable or senior housing included in the proposed development. The bonus is also applicable when developers donate land to local government for the development of affordable housing. In addition to allowing for high density, the mandate also benefits developers by providing waivers and "concessions" from restrictions such as height, parking, setbacks, and minimum square footage requirements.

ASSOCIATION OF BAY AREA GOVERNMENTS PROJECTIONS

ABAG is the official comprehensive planning agency for the San Francisco Bay region, which is composed of the nine counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma, and contains 101 cities. ABAG produces growth forecasts on four-year cycles so that other regional agencies, including the Metropolitan Transportation Commission and Bay Area Air Quality Management District,

can use the forecast to make project funding and regulatory decisions. ABAG projections are the basis for the Regional Transportation Plan and the regional Ozone Attainment Plan. In this way, ABAG projections have practical consequences that shape growth and environmental quality. The General Plans, zoning regulations and growth management programs of local jurisdictions inform the ABAG projections. The ABAG projections are also developed to reflect the impact of "smart growth" policies and incentives that could be used to shift development patterns from historical trends toward a better jobs-housing balance, increased preservation of open space, and greater development and redevelopment in urban core and transit-accessible areas throughout the ABAG region.

REGIONAL HOUSING NEEDS ALLOCATION

The California Housing Element Law requires local jurisdictions to allow the construction of a share of the region's projected housing needs. As discussed above, this share is called the RHNA. The specific RHNA number for a jurisdiction is important because State law mandates that each jurisdiction provide sufficient land to accommodate a variety of housing opportunities for all economic segments of the community to meet or exceed this number of housing units. ABAG, in coordination with the HCD, calculates the RHNA for individual jurisdictions within San Francisco County, including the City of San Francisco based on regional trends, projected population and job growth, income levels, and existing needs.

ABAG approved the Final 2023-2031 RHNA Plan for the Bay Area in December 2021. The 2023-2031 RHNA Plan requires the City of San Francisco to provide 82,070 new housing units consisting of 20,867 very low-income units, 12,014 low income units, 13,717 moderate income units, and 35,471 above moderate-income units by the end of 2031. [74] Based on the 2023-2031 RHNA Plan, approximately 60 percent of the City's housing need would be allocated to moderate to above-moderate income households, and 40 percent would be allocated to very low and low-income households.

LOCAL REGULATIONS AND PLANS

The City has adopted many laws and regulations to preserve existing housing stock and create incentives for housing production, including the laws and regulations discussed below.

SAN FRANCISCO PLANNING CODE SECTION 317

Planning code section 317 codifies the review criteria for projects which include demolition, conversions, and mergers or residential units and prohibits residential demolition permits until approval of a new construction permit is obtained. Section 317 of the planning code requires that a conditional use hearing before the planning commission prior to approval of any permit that would remove one or more existing residential or unauthorized housing units, with certain codified exceptions.

SAN FRANCISCO PLANNING CODE SECTION 415

Planning code section 415 codifies the City's inclusionary housing program which aims to create affordable to low, moderate, and/or middle-income housing units in new buildings. The program requires a housing developer who proposes a project with 10 or more units to set aside a percentage of units in the building to be rented or sold below market rate, provide an equivalent number of units in another building to be rented or sold

[74] Association of Bay Area Governments, Final Regional Housing Need Plan for the San Francisco Bay Area 2023–2031, https://abag.ca.gov/sites/default/files/documents/2021-12/Final_RHNA_Allocation_Report_2023-2031-approved_0.pdf, accessed March 21, 2022.

below market rate, dedicate land for affordable housing, pay a fee, or satisfy the requirement with a combination of these actions. The process is overseen by MOHCD.

SAN FRANCISCO SUBDIVISION CODE SECTION 1302(C)(2)

Section 1302(c)(2) of the San Francisco Subdivision Code [75] recognizes that condominium conversion subdivisions differ from other subdivisions for the purposes of a) preserving a balance between ownership and renting, b) promoting an expansion of homeownership opportunities, c) reducing the impact of conversions on non-purchasing tenants who may be required to relocate, d) preventing the displacement of elderly and disabled tenants, e) ensuring that purchasers of converted housing have been properly informed of a structure's physical condition, f) preventing the loss of the City's low- or moderate-income housing stock, and g) expanding the supply of the City's low- or moderate-income housing stock.

SAN FRANCISCO RESIDENTIAL RENT STABILIZATION AND ARBITRATION ORDINANCE

Chapter 37 of the San Francisco Administrative Code, which includes changes and updates published in court decisions and state legislation, [76] was established to protect tenants in buildings constructed prior to 1978 from unfair rent increases while balancing the interests of property owners, and requiring just cause for evictions. The ordinance caps allowable annual rental increases and establishes the San Francisco Rent Stabilization and Arbitration Board, which is empowered to review the state of rent in San Francisco, certify rental increases which are beyond the allowable amount, and hear complaints related to rent control.

RESIDENTIAL HOTEL UNIT CONVERSION AND DEMOLITION ORDINANCE

The Residential Hotel Unit Conversion and Demolition Ordinance [77] (chapter 41 of the San Francisco Administrative Code) regulates the use, demolition and conversion of residential hotel rooms to other uses. Chapter 41A of the San Francisco Administrative Code minimizes adverse impacts on the housing supply and on persons and households of all income levels resulting from the loss of residential hotel rooms through their conversion to tourist and transient use.

SAN FRANCISCO OFFICE OF COMMUNITY INVESTMENT AND INFRASTRUCTURE

The San Francisco Office of Community Investment and Infrastructure (OCII) is the Successor Agency to the San Francisco Redevelopment Agency, which was dissolved pursuant to state law on February 1, 2012. As Successor Agency, OCII focuses on: (1) the Major Approved Development Projects (defined as the Hunters Point Shipyard/Candlestick Point Redevelopment Project, the Mission Bay North and South Redevelopment Project, and the Transbay Redevelopment Project); (2) the disposition of San Francisco Redevelopment Agency assets such as Yerba Buena Gardens, existing economic development agreements such as loans, grants, or owner participation agreements, and other real property and assets of San Francisco Redevelopment Agency that must be relinquished under the Dissolution Law; and (3) OCII's "Retained Housing Obligations" which include ensuring the development of affordable housing in the Major Approved Development Projects.

OCII manages these affordable housing development obligations through direct oversight and underwriting along with services procured from MOHCD. In general, OCII is responsible for directly managing the

[75] San Francisco Department of Building Inspection, *Codes*, 2021, https://sfdbi.org/codes, Accessed September 27, 2021.
[76] San Francisco Rent Board. The Rent Ordinance. 2021, https://sfrb.org/rent-ordinance. Accessed April 2022.
[77] San Francisco Department of Building Inspection, Residential Hotel Unit Conversion and Demolition, 2021, https://sfdbi.org/residentialhotels, accessed October 2022.

development process through completion and procures services from MOHCD staff to assist OCII with construction monitoring, review and monitoring of marketing for both inclusionary and OCII funded projects, implementing the Certificate of Preference program, and assisting with the fiscal management and disbursement of OCII's funds, and other ancillary tasks as needed. Upon completion of the projects, defined as constructed, occupied, and converted to permanent financing, OCII transfers the affordable housing assets, such as land, funding agreements, ground leases, and affordability restrictions for each completed project to MOHCD, who is then responsible for all asset management responsibilities for the transferred projects. MOHCD is then also responsible for managing any revenues generated from transferred housing assets and spending them for eligible affordable housing activities through the Low and Moderate Income Housing Asset Fund. [78]

SAN FRANCISCO HOUSING ELEMENT

The San Francisco 2014 Housing Element (existing housing element) is intended to provide the policy background for housing programs and decisions, and to provide broad direction towards meeting the City's housing goals. As with other elements of the General Plan, it provides the policy framework for future planning decisions, and indicates the next steps the City plans to take to implement the Housing Element's objectives and policies. The City is in the process of updating the existing housing element and preparing the associated EIR. The draft Housing Element 2022 Update establishes goals, policies, and actions to address the existing and projected housing needs of San Francisco. The goals, policies, and actions are required to plan for the regional housing targets allocated to San Francisco by regional agencies for 2023 to 2031 and to meet future housing demand in San Francisco. Draft 4 of the Housing Element 2022 Update was released in October 2022, and includes a series of draft reports that assess the City's housing needs and present various City goals, objectives, policies, and actions to address these housing needs and potential priorities for decision making and resource allocation for housing programs, development, and services. Additionally, the draft Housing Element 2022 Update is proposed as San Francisco's first housing plan that centers in racial and social equity. The City is committed to recognizing housing as a right, increasing housing affordability for low-income households and communities of color, opening small and mid-rise multi-family buildings across all neighborhoods, and connecting housing to neighborhood services. At the time of this recirculated draft EIR, the Housing Element 2022 Update is in the draft stage and has not been adopted by the planning commission or board of supervisors. The following objectives and policies from the existing housing element may be relevant to the proposed project:

- Objective 1. Identify and make available for development adequate sites to meet the City's housing needs, especially permanent affordable housing.
  - Policy 1.1. Plan for a full range of housing needs in the City and County of San Francisco, especially affordable housing.
  - Policy 1.2. Focus housing growth and infrastructure necessary to support growth according to community plans. Complete planning underway in key opportunity areas, such as Treasure Island, Candlestick Park, and Hunter's Point Shipyard.
  - Policy 1.8. Promote mixed use development, and include housing, particularly permanently affordable housing, in new commercial, institutional, or other single use development projects.

[78] San Francisco Office of Community Investment and Infrastructure. 2017. Affordable Housing Production Report Fiscal Year 2016-2017. https://sfocii.org/sites/default/files/2017%20ANNUAL%20REPORT%20-%20FY%2016%20-17%20FINAL.pdf

  - Policy 1.10. Support new housing projects, especially affordable housing, where households can easily rely on public transportation, walking and bicycling for the majority of daily trips.
- Objective 3. Protect the affordability of the existing housing stock, especially rental units.
  - Policy 3.1. Preserve rental units, especially rent controlled units, to meet the City's affordable housing needs.
- Objective 4. Foster a housing stock that meets the needs of all residents across lifecycles.
  - Policy 4.5. Encourage sufficient and suitable rental housing opportunities, emphasizing permanently affordable rental units wherever possible.
  - Policy 4.6. Ensure that new permanently affordable housing is located in all of the city's neighborhoods, and encourage integrated neighborhoods, with a diversity of unit types provided at a range of income levels.
  - Policy 4.7. Encourage an equitable distribution of growth according to infrastructure and site capacity
  - Policy 4.8. Consider environmental justice issues when planning for new housing, especially affordable housing.
- Objective 5. Ensure that all residents have equal access to available units.
  - Policy 5.4. Provide a range of unit types for all segments of need, and work to move residents between unit types as their needs change.
  - Policy 5.5. Minimize the hardships of displacement by providing essential relocation services.
  - Policy 5.6 Offer displaced households the right of first refusal to occupy replacement housing units that are comparable in size, location, cost, and rent control protection.
- Objective 7. Secure funding and resources for permanently affordable housing, including innovative programs that are not solely reliant on traditional mechanisms or capital.
  - Policy 7.5. Encourage the production of affordable housing through process and zoning accommodations, and prioritize affordable housing in the review and approval processes.
- Objective 11. Support and respect the diverse and distinct character of San Francisco's neighborhoods.
  - Policy 11.1. Promote the construction and rehabilitation of well-designed housing that emphasizes beauty, flexibility, and innovative design, and respects existing neighborhood character.
  - Policy 11.3. Ensure growth is accommodated without substantially and adversely impacting existing residential neighborhood character.
  - Policy 11.8. Continue a neighborhood's character when integrating new uses, and minimize disruption caused by expansion of institutions into residential areas.
- Objective 12. Balance housing growth with adequate infrastructure that serves the city's growing population.
  - Policy 12.1. Encourage new housing that relies on transit use and environmentally sustainable patterns of movement.
  - Policy 12.2. Consider the proximity of quality of life elements, such as open space, childcare, and neighborhood services, when developing new housing units.
  - Policy 12.3. Ensure new housing is sustainably supported by the City's public infrastructure systems.

- Objective 13. Prioritize sustainable development in planning for and constructing new housing.
  - Policy 13.1. Support "smart" regional growth that locates new housing close to jobs and transit.
  - Policy 13.3. Promote sustainable land use patterns that integrate housing with transportation in order to increase transit, pedestrian, and bicycle mode share.

3.A.3 Impacts and Mitigation Measures

This section describes the analysis of potential physical environmental impacts due to the potential gentrification and displacement associated with implementation of the proposed project. It describes the methods used to determine the impacts of the proposed project and lists the criteria used to conclude whether an impact would be significant. Measures to mitigate significant impacts, if necessary, accompany the discussion of each identified significant impact.

SIGNIFICANCE CRITERIA

The proposed project would have a significant effect if it would:

- Displace substantial numbers of existing people or housing, thereby necessitating the construction of replacement housing.

APPROACH TO ANALYSIS

Socioeconomic effects are not, in themselves, considered physical environmental impacts under CEQA. Rather, pursuant to CEQA Guidelines section 15064, an EIR reviews the effects of a project that are related to a physical change to the environment. A significant effect on the environment, in turn, is one that results in 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. A social or economic change related to a physical change may be considered in determining whether the physical change is significant. [79] However, an economic or social change by itself shall not be considered a significant effect on the environment. Therefore, evidence of social or economic effects that do not contribute to, or are not caused by, physical impacts on the environment is not substantial evidence of a significant effect on the environment. [80]

This section updates the population and housing analysis presented in the previously circulated initial study for the previously circulated draft EIR. The previously circulated draft EIR (which includes the previously circulated initial study) relied on the information and findings of the 2020 socioeconomic report [81] that was prepared at the direction of the planning department to address comments on the previously circulated draft EIR related to the proposed project's potential for gentrification and displacement effects. The information and findings from the 2020 socioeconomic report were incorporated into the previous RTC. In response to the board of supervisors' findings, the planning department directed Seifel Consulting to prepare the 2022 gentrification and

[79] Section 15382 of the CEQA Guidelines. https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-6-resources-agency/chapter-3-guidelines-for-implementation-of-the-california-environmental-quality-act/article-20-definitions/section-15382-significant-effect-on-the-environment. Accessed October 2022.
[80] Section 15064(f)(6) of the CEQA Guidelines. https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-6-resources-agency/chapter-3-guidelines-for-implementation-of-the-california-environmental-quality-act/article-5-preliminary-review-of-projects-and-conduct-of-initial-study/section-15064-determining-the-significance-of-the-environmental-effects-caused-by-a-project. Accessed October 2022.
[81] ALH Urban & Regional Economics. Economics. Socioeconomic Effects of 469 Stevenson Street Market-Rate Development, September 2020.

displacement report (Appendix J). The 2022 gentrification and displacement report evaluates the potential for the proposed project to result in gentrification and displacement (which includes residential displacement and cultural displacement), and analysis from the report is presented throughout this section.

Seifel Consulting conducted a peer review of the 2020 socioeconomic report and concluded that its key findings are thorough and accurately reflect the socioeconomic analysis available at the time of its preparation and the research reviewed during the preparation of that report. The 2022 gentrification and displacement report did find, however, that since the publication of the 2020 socioeconomic report, recent academic research provides a different perspective on these findings. As discussed in the 2022 gentrification and displacement report, Seifel Consulting conducted supplemental review of more than 50 research studies and reports published by the Urban Displacement Project, California Housing Partnership Corporation, the City of San Francisco, and recent academic research regarding displacement pressures and risks that are occurring in areas within San Francisco, as well as the City's housing needs, and potential strategies to address them.

Additionally, the report includes discussion of the existing housing, socioeconomic, and neighborhood conditions of the surrounding area and the changes that have occurred over the past two decades. The report also identifies SOMA Pilipinas Filipino cultural assets and evaluates the degree to which they are protected from potential cultural displacement that may result from the proposed project. This information is then used to inform the analysis and evaluate the potential gentrification and residential and cultural displacement impacts from the proposed project. The findings of the report are detailed below. The 2022 gentrification and displacement analysis is based on publications, research, and data from a wide variety of available sources, which were assembled from May 2022 through September 15, 2022. While Seifel Consulting made reasonable efforts to assure that the sources are timely, accurate and comprehensive of the topic, the sources used do not capture more qualitative data, such as oral histories and interviews, that may provide other perspectives on how the proposed project's surrounding area has changed over time. That type of information is not readily available from public sources or the planning department.

IMPACT EVALUATION

SUMMARY OF FINDINGS OF 2022 GENTRIFICATION AND DISPLACEMENT REPORT

The following provides a summary of the main findings of the 2022 gentrification and displacement report. Detailed analysis and additional findings are included in the report (Appendix J).

The 2022 gentrification and displacement report found that the proposed project would not result in the direct physical displacement of residents or cultural assets associated with the SOMA Pilipinas Filipino Cultural Heritage District, as the project site is a parking lot and does not contain any buildings that house residents, businesses, or community organizations.

The proposed project would construct 422 market rate units and 73 onsite inclusionary units that would be provided at below market rate rents that are affordable to very low, low, or moderate-income households. While the rent levels of the 422 market rate units are not known at this time, average market rents would likely range between $3,350 to $4,350 per month based on information provided by ALH Urban & Regional Economics. [82]

[82] Revised 469 Stevenson Street Alternatives Economic Analysis, ALH Urban & Regional Economics, March 8, 2021. The lower end of the range reflects market rents based on a November 2020 survey performed by Greystar, which were significantly substantially impacted due to the pandemic. The higher end of the range is based on a 27 percent to 30 percent increase from the November 2020 market rent levels, which reflects more normalized market conditions.

Based on this range of market rent levels, average market rents for the proposed project would be affordable to above moderate-income households, which would likely increase the number of above moderate-income households in the surrounding area by about 400 households based on a typical average occupancy level of 95 percent for market rate units. [83] The 2022 gentrification and displacement report found that, while the addition of about 400 households of above moderate income could intensify gentrification pressures in the surrounding area, the distribution of renter households by income level would not shift substantially with the proposed project, ranging from about 0 to 1 percent shift in the household income percentage within each major income group (Figure 24). For example, the proportion of above moderate income households in the surrounding area is projected to shift from 17 to 18 percent with the proposed project. Also, the proportion of above moderate-income households with incomes of $150,000 or more would be substantially less (18 percent) than the City as a whole (36 percent). [84] Furthermore, the 2022 gentrification and displacement report found that the proposed project's required anti-displacement measures consisting of 73 onsite inclusionary housing units and $8 million in affordable housing fees would likely lessen potential gentrification, exclusion, and indirect displacement effects from the proposed project in the surrounding area.

The 2022 gentrification and displacement report could not conclude with absolute certainty that the proposed project would not indirectly result in the displacement of households or cultural assets. Based on research from the Urban Displacement Project, new market rate housing production may increase displacement pressure for lower income households under certain circumstances between 0.5 to 2 percent. Based on this analysis, the 2022 gentrification and displacement report found that the proposed project may result in the displacement of 10 to 41 households within the surrounding area in the absence of any anti-displacement measures. However, as described below, the range of potentially displaced households would likely be less than 10 to 41 as implementation of the proposed project and its required anti-displacement measures would largely address the potential for indirect residential displacement to occur.

Several research studies and reports, such as the Urban Displacement Project Policy Brief; the City's Community Stabilization Report; and the SOMA Pilipinas Filipino Cultural Heritage District CHHESS recommend anti-displacement measures to address impacts from residential and cultural displacement. [85] These recommended measures are listed in the 2022 gentrification and displacement report (see Attachment E, Residential and Cultural Anti-Displacement Measures, to Appendix J). The proposed project incorporates both required and voluntary anti-displacement measures (see section 2.G, required and voluntary community benefits), including the required provision of 73 onsite affordable units, required payment of $8 million in housing fees that could potentially support between 27 to 40 units of additional affordable housing units in the surrounding area, voluntary donation of property in the vicinity of the proposed project at 59 Sixth Street (Assessor's Block 3704, Lot 049) for community benefit use that could include affordable housing, and voluntary efforts to negotiate a lease for an urban rest and sleep center at the Helen Hotel, located at 166 Turk Street .

The project sponsor has also committed to voluntary anti-displacement measures that would relieve some displacement pressures (see section 2.G, required and voluntary community benefits). Additionally, approximately 75 percent of the housing units in the surrounding area are protected units (e.g., affordable units

[83] This analysis uses the 30 percent affordability standard and assumes a two-person household corresponding with a household income level for a one-bedroom unit at "Tier 1" per MOHCD and assumes a 5 percent vacancy rate. https://sfmohcd.org/sites/default/files/2022 AMI-RentLimits-HMFA-ForMOHsf.pdf

[84] The renter household income distribution with the proposed project is estimated assuming that all households of market rate units have household incomes of $150,000 or more. The analysis assumes a 5 percent vacancy rate for market rate units and 3 percent vacancy rate for affordable units.

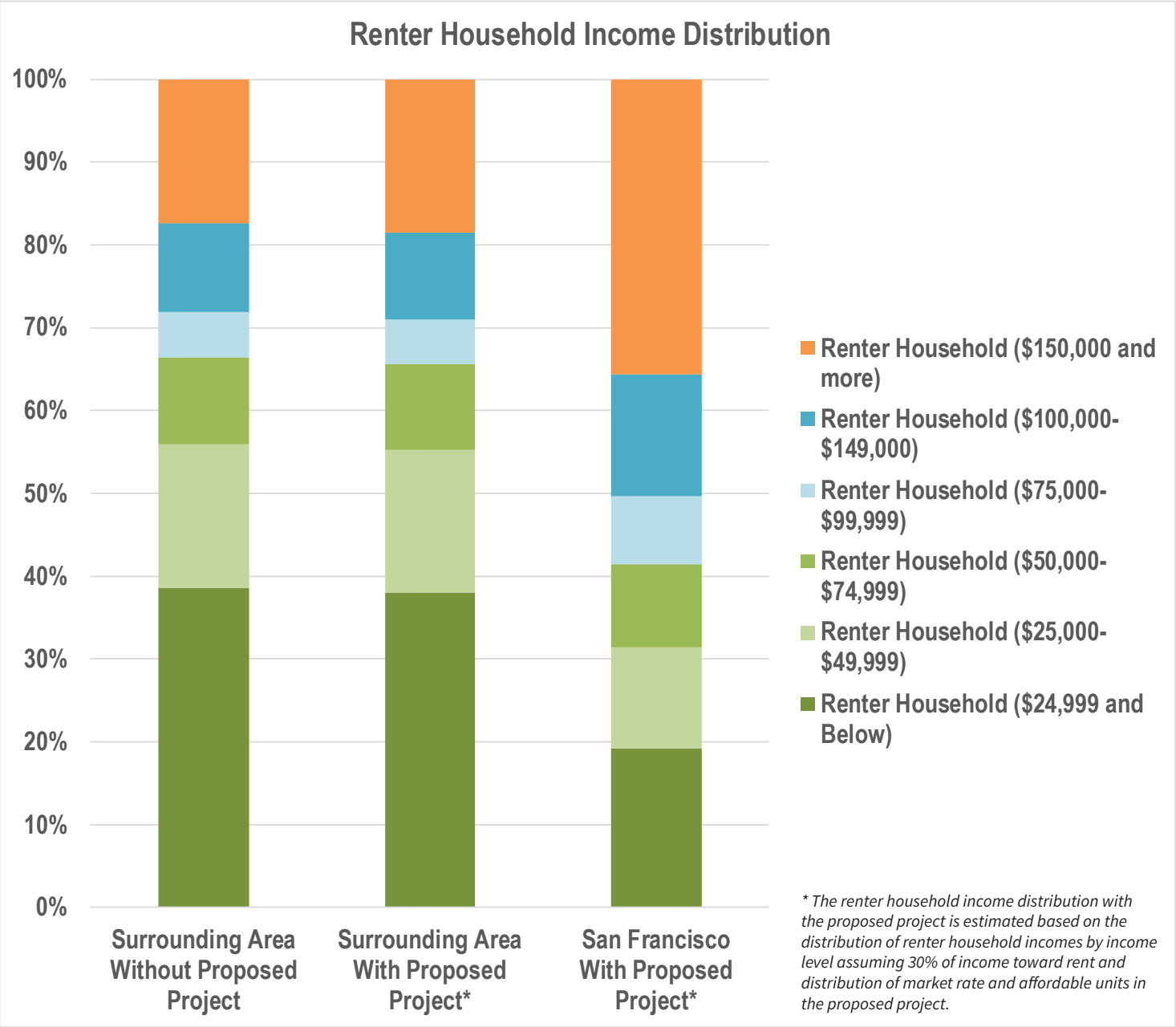
[85] Mayor's Office of Housing and Community Development. 2022. SOMA Pilipinas Filipino Cultural Heritage District - Cultural, History, Housing, and Economic Sustainability Strategy. https://sfgov.legistar.com/View.ashx?M=F&ID=11026062&GUID=6A4D8EA0-2547-43F2-913A-81B9EED49258

subject to regulatory agreements or units in older buildings (including SROs) that are subject to rent control). The remaining units (25 percent) in the surrounding area are market rate units, and do not include below market rate units that would be susceptible to displacement pressures. The 2022 gentrification and displacement report also found that most of the Filipino non-residential cultural assets may be somewhat protected from displacement pressures because most assets are on public property or on property that is owned by, or ground leased to a non-profit. In addition, some of the cultural assets in the SOMA Pilipinas Filipino Cultural Heritage District are historic resources, which may afford some protection from displacement. The 2022 gentrification and displacement report identified the project's requirement of approximately $250,000 to support public art and voluntary contribution to designate two ground floor spaces, totaling approximately 4,000 square feet, at below market rate rents for community-serving SoMa retail and community spaces as measures that would reduce the potential for indirect cultural displacement to occur as a result of the proposed project.

The City has also implemented several anti-displacement strategies in the surrounding area under the following three categories:

- Housing Production. Future housing development in the surrounding area would include about 1,600 affordable housing units in 100 percent affordable housing developments.
- Housing Preservation. The City has implemented a broad range of preservation strategies including preservation of federally subsidized housing, no-net-loss, one-for-one replacement strategies, SRO residential hotel rent and conversion controls, property rehabilitation and preservation programs (that include buildings with high proportions of Filipino tenants), and facilitation of community land banking/community control.
- Tenant Protection and Housing Stabilization. In addition to the housing preservation strategies described above, the City has funded and facilitated tenant protection and housing stabilization strategies including tenant rental assistance to lower income households, rent stabilization and control, tenant counseling and right to legal counsel, the Code Enforcement Outreach and SRO Collaborative Programs, tenant right to purchase, foreclosure assistance, and other homeowner assistance programs.

These strategies would relieve displacement and gentrification pressures in the surrounding area related to all market rate development in the area, not just the proposed project.



SOURCE: ALH Urban Economics, CoStar, U.S. Decennial 2020; Census 2020, 5-Year American Community Survey

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 24

Comparison of Renter Household Income Distribution in Surrounding Area with and without Proposed Project and San Francisco

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In summary, the 2022 gentrification and displacement report concluded that the proposed project would not substantially change the distribution of renter households by income level and the socioeconomic effects related to the range of potential residential displacement resulting from the proposed project would likely be less than 10 to 41 households considering the project and the City's anti-displacement measures. Similarly, while most cultural assets in the SOMA Pilipinas Filipino Cultural Heritage District have some level of protection (e.g., are located on publicly owned property or on property that is owned or ground leased to a non -profit; or have a historic resource designation), some cultural assets do not. Thus, while many cultural assets may be protected, it is possible, though unlikely, that the proposed project would result in increased displacement of cultural assets. These conclusions informed the analysis of the project's physical environmental effects related to gentrification and displacement.

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

Based on additional analysis conducted since the previously circulated draft EIR, the following analysis concludes that the proposed project would have less than significant physical environmental impacts related to displacing substantial numbers of existing people or housing units, including the physical environmental impacts of gentrification (direct and indirect, residential and cultural).

DIRECT PHYSICAL ENVIRONMENTAL IMPACTS

The proposed project would not directly displace substantial numbers of existing people or housing units. Direct physical displacement occurs as a result of eviction, acquisition, rehabilitation, demolition of a property, or the expiration of covenants on rent-restricted or income-restricted housing. The project site consists of a 28,790 square foot surface parking lot and does not contain any buildings, including buildings that house residents. Furthermore, the project site does not contain any cultural assets associated with the SOMA Pilipinas Filipino Cultural Heritage District. Therefore, the proposed project would not directly displace residents or cultural assets associated with the Filipino community.

The market rate housing constructed by the proposed project would result in approximately 400 renter households of above moderate-income living at the project site. The transportation analysis prepared for the proposed project accounts for vehicle trips from residents of market rate development, including vehicle trips by transportation network company (TNC) vehicles and taxis. The travel demand for the proposed project was generated using the methodology in the planning department's *2019 Transportation Impact Analysis Guidelines update* (2019 guidelines). The trip rates in the 2019 guidelines were developed using data gathered in 2016 and 2017 (when TNCs were widely in use), at 65 sites across San Francisco and supplemented with California Household Travel Survey data. Data was collected at multiple sites, including multi-family dwelling units, and included information about trips taken by TNCs and taxis. The travel demand analysis for the proposed project assumes that each taxi or TNC trip would require access to passenger loading space. Therefore, the travel demand for the proposed project accounts for the travel behavior of residents of market rate residential development, including the demand for trips that would be generated by the proposed project's residents who would use TNCs and taxis. Because the vehicle trip generation considers this, it is already accounted for in the transportation analysis and related noise and air quality analyses for the proposed project.

In summary, the proposed project would not result in the direct displacement of residents or cultural assets; and all other direct physical environmental impacts of the proposed project's population have been adequately addressed in the previously circulated draft EIR, including the previously circulated initial study. The proposed

project would not directly displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing, and the impact would be less than significant. No mitigation is necessary.

INDIRECT EFFECTS

A chain of effects must occur for the proposed project to result in physical environmental effects due to socioeconomic effects like gentrification and indirect displacement. It is a challenging analysis, some of which may be speculative to assess. Regardless, the analysis attempts to answer four questions:

1) Would gentrification occur from the proposed project?

2) Would indirect displacement occur from the proposed project?

3) If yes to either questions 1 or 2, would the project necessitate the construction of replacement housing?

4) If yes to either questions 1, 2, or 3, what physical environmental impacts could occur?

Regarding question 1, the area where the proposed project is located is experiencing early/ongoing gentrification according to the Urban Displacement Project's research. Meaning gentrification in the area is an existing condition to which the proposed project may contribute, although some of the proposed project's elements would relieve gentrification pressures. For question 2, the answer is conservatively yes, as the planning department cannot conclude with absolute certainty that the proposed project would not indirectly result in the displacement of individual households or individual cultural assets. For question 3, it is speculative to determine whether any gentrification or indirect displacement that may result from the proposed project would require the construction of replacement housing or other facilities elsewhere or to which displaced persons or assets would relocate. For question 4, the impact analysis addresses the indirect physical environmental impacts that could occur as a result of the proposed project. The following provides additional discussion of these questions.

GENTRIFICATION

As discussed above, the addition of about 400 households of above moderate income could increase gentrification in the surrounding area, an area that has experienced early/ongoing gentrification or advanced gentrification according to the Urban Displacement Project. However, the distribution of renter households by income level in the surrounding area would not shift substantially with the proposed project, ranging from about 0 to 1 percent shift in the household income percentage within each major income group shown Figure 24. For example, the proportion of above moderate-income households in the surrounding area is projected to shift from 17 to 18 percent with the proposed project. The proportion of above moderate-income households with incomes of $150,000 or more would be substantially less (18 percent) than the City as a whole (36 percent).[86]

The proposed project's 73 onsite inclusionary housing units and $8 million in affordable housing fees would relieve potential gentrification pressures by the proposed project or increases in home values and/or rents in the surrounding area over time.

[86] The renter household income distribution with the proposed project is estimated assuming that all households of market rate units have household incomes of $150,000 or more. The analysis assumes a 5 percent vacancy rate for market rate units and 3 percent vacancy rate for affordable units.

INDIRECT DISPLACEMENT

Despite the project's anti-displacement measures, the planning department cannot conclude with absolute certainty that the residents affected by increased displacement pressures from the proposed project would be the same residents benefiting from the proposed project's anti-displacement measures. Based on research from the Urban Displacement Project, new market rate housing production may increase displacement pressure for lower income households under certain circumstances by between 0.5 to 2 percent. Based on this analysis, the proposed project may result in the displacement of 10 to 41 households within the surrounding area in the absence of any anti-displacement measures. However, the range of potentially displaced households would likely be less than 10 to 41 because:

- The proposed project would include required and voluntary anti-displacement measures (see section 2.G, required and voluntary community benefits). The project's required anti-displacement measures include 73 onsite affordable housing units, and approximately $8 million in affordable housing funds, which would largely address the potential for indirect residential displacement to occur, if considering the range of potentially displaced households overall. The project sponsor has also committed to voluntary anti-displacement measures including the donation of property in the vicinity of the proposed project at 59 Sixth Street (Assessor's Block 3704, Lot 049) for community benefit use that could include affordable housing, and voluntary efforts to negotiate a lease at the Helen Hotel, located at 166 Turk Street, for an urban rest and sleep center.
- Approximately 75 percent of the housing units in the surrounding area are protected units (e.g., affordable units subject to regulatory agreements or units in older buildings (including SROs) that are subject to rent control). The remaining units (25 percent) in the surrounding area are market rate units, and do not include below market rate units that would be susceptible to displacement pressures.

The planning department also cannot conclude with absolute certainty that the proposed project would not indirectly result in the displacement of individual cultural assets. This uncertainty is due, in part, to the comparatively few research studies that have been done to measure cultural displacement impacts compared with research that has been conducted to analyze and measure residential displacement impacts. Further, similar to the residential displacement analysis discussed above, the planning department cannot conclude that the same cultural assets affected by increased displacement pressures from the proposed project, if such displacement pressures exist from market-rate housing on a parking lot, would be the same cultural assets benefiting from the proposed project's anti-displacement measures. The following presents information from the 2022 gentrification and displacement report that could relate to indirect displacement of cultural assets.

Most of the existing Filipino non-residential cultural assets may be somewhat protected from displacement pressures because most assets are on public property or on property that is owned, or ground leased to a non-profit. In addition, some of the cultural assets in the SOMA Pilipinas Filipino Cultural Heritage District are historic resources, which may afford some protection from displacement due to additional investments or tax breaks and by adding regulatory protections or processes to prevent harm to them (e.g., demolition), among other items. The proposed project would also include anti-displacement measures, including the project's requirement of approximately $250,000 to support public art and voluntary contribution to designate two ground floor spaces at approximately 4,000 square feet at below market rate rents for community-serving SoMa retail and community space as measures that would reduce the potential for indirect cultural displacement to occur.

PHYSICAL ENVIRONMENTAL IMPACTS OF INDIRECT EFFECTS

Given that the potential for indirect displacement from the proposed project is less than between 10 to 41 households and unlikely (though possible) for cultural assets, and that the project's required and voluntary anti-displacement measures would likely reduce this level of potential effect, it would be too speculative to determine whether gentrification and indirect displacement that may result from the proposed project would require the construction of replacement housing or other facilities elsewhere. CEQA Guidelines section 15145 states, "if, after thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact." [87] In accordance with CEQA Guidelines section 15145, no further analysis of physical environmental effects from the construction of replacement housing or other facilities is necessary.

A more likely scenario, considering the potential for indirect displacement is less than between 10 to 41 households and unlikely (though possible) for cultural assets, would be indirectly displaced households or cultural assets would move to housing units and facilities elsewhere in the Bay Area or beyond. If indirectly displaced households or cultural assets move to available housing units and facilities elsewhere in the Bay Area, it would be unlikely to result in any local physical environmental impacts from such move because households and facilities would be occupying existing buildings. However, if indirectly displaced households or cultural assets move to existing housing units and facilities elsewhere in the Bay Area or beyond, displaced households or people accessing cultural assets may experience longer commutes or be required to drive to goods and services more often and further than they did at their prior location. The following addresses such indirect physical environmental effects.

VMT AND GREENHOUSE GAS EMISSIONS

The physical environmental effect of increased commutes would be increased vehicle trips and/or increased miles to travel per vehicle trip. The regional effect could therefore be increased vehicle miles travelled (VMT). VMT refers to the amount and distance of automobile travel attributable to a project. VMT and greenhouse gas emissions are directly correlated. An increase in VMT from non-all-electric vehicles results in a direct increase in greenhouse gas emissions. Therefore, increased VMT also increases greenhouse gas emissions. One way to express VMT is through efficiency metrics (e.g., VMT per capita or VMT per employee). For example, VMT per capita estimates the average daily VMT per person in one household's location.

As discussed in the previously circulated draft EIR, the planning department considers that a project would generate substantial additional VMT if it is in a location where the existing VMT per capita or employee exceeds 15 percent below the regional average VMT.

On average, persons living or working in San Francisco result in lower amounts of VMT per person than persons living or working elsewhere in the nine-county Bay Area region. The residential VMT per capita for the project site is 1.9, [88] whereas the regional average is approximately 16.8. Therefore, the VMT per capita for residential uses provided at the project site is approximately 89 percent below the regional average. Similarly, under 2040 conditions, the VMT per capita at the project site is about 90 percent below the regional average. Therefore, by

[87] CEQA Guidelines section 15145. https://www.califaep.org/docs/2022_CEQA_Statue_and_Guidelines.pdf
[88] San Francisco Planning Department. 2022. San Francisco Transportation Information Map. https://sfplanninggis.org/TIM/?search=0195025. Accessed September 12, 2022.

providing 495 housing units at the project site, the proposed project results in a VMT per capita that is well below the threshold of 15 percent below the regional average VMT per capita.

Should the proposed project indirectly displace households or cultural assets, it can be assumed that they would be displaced to areas with a higher VMT per capita and result in greater greenhouse gas emissions. However, given that the proposed project would result in VMT per capita that is 89 to 90 percent below the regional average and that any potential indirect displacement that could occur would be less than between 10 to 41 households and possible, though unlikely, for cultural assets, such increased VMT resulting from indirect displacement would be offset by the VMT per capita reductions attributable to providing 495 housing units at the project site. As such, any potential increase in VMT per capita and related greenhouse gas emissions resulting from indirect displacement would not increase the project's VMT such that a significant VMT or greenhouse gas impact would occur.

AIR QUALITY

Like greenhouse gases, increased VMT would result in increased criteria air pollutant emissions, which are emissions that affect regional air pollution. Should the proposed project indirectly displace households or cultural assets, it is assumed here that they would be displaced to areas with a higher VMT per capita and result in greater regional criteria air pollutant emissions. However, as discussed in the previously circulated draft EIR, the air quality analysis prepared for the proposed project found that total criteria air pollutants resulting from operation of the project would be well below significance thresholds. Specifically, emissions of reactive organic gases (ROG) would be 13.6 pounds per day which is approximately 75 percent below the air district's significance threshold of 54 pounds per day. [89] Similarly, nitrogen oxides (NOx) emissions would be 4.5 pounds per day and particulate matter emissions would be 0.4 pounds per day. These emissions levels are 91 percent below the NOx significance threshold of 54 pounds per day, and the particulate matter (PM)emissions from the proposed project are an even smaller fraction of the 54 pound per day threshold for $PM_{2.5}$ and 82 pound per day threshold for PM_{10}. As discussed, the number of displaced households resulting from the proposed project would be less than between 10 to 41 households and, while it is possible cultural assets could be displaced as an indirect effect of the proposed project, such possibility is unlikely. Therefore, any potential increase in VMT per capita and related criteria air pollutant emissions resulting from indirect displacement would not be so great as to cause an exceedance of the air district's criteria air pollutant thresholds.

CONCLUSION

For the reasons stated above, the proposed project would have less than significant impacts related to displacing substantial numbers of existing people or housing units, including the physical environmental impacts of gentrification and displacement (direct and indirect, residential and cultural). No mitigation measures are required.

~~As the project site is currently developed as a parking lot, the proposed project would not displace any residents or housing units. Therefore, the proposed project would have no direct impact related to the displacement of housing units or people and would not necessitate the construction of replacement housing. It is also noted that the planning department, with assistance from ALH Urban & Regional Economics, has completed extensive analysis of gentrification and displacement in the city to determine whether individual projects, including market-rate housing projects, contribute to gentrification and displacement and whether either of these phenomena directly or indirectly result in physical environmental effects. The planning department has not~~

[89] Stantec Consulting Services Inc. Air Quality Results Memorandum for the 469 Stevenson Project, February 29, 2020.

~~found empirical evidence supporting the position that market-rate housing development leads to residential or commercial displacement that results in secondary physical effects on the environment. No impact would occur. No mitigation measures are required. This topic will not be discussed in the EIR.~~

CUMULATIVE IMPACTS

Impact C-PH-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to displacement. *(~~No Impact~~ Less Than Significant Impact)*

The cumulative context for potential displacement that could result in the need for replacement housing is the City and County of San Francisco. Accordingly, this cumulative analysis relies on the analysis and conclusions disclosed in the draft EIR for the Housing Element 2022 Update. The draft Housing Element 2022 Update establishes goals, policies, and actions to address the existing and projected housing needs of San Francisco for the 2023-2031 RHNA cycle. Therefore, the analysis of the draft Housing Element 2022 Update's environmental impacts is largely a cumulative impact analysis as it considers the City's pipeline projects, which include projects currently under construction, projects that have approved building permits, projects that have building department applications on file, projects that have been approved by the department, and projects that have department applications on file (including the proposed project).

As discussed in the Housing Element 2022 Update draft EIR, the planning department projects approximately 102,000 housing units would be constructed by 2050 under the existing 2014 Housing Element; of these housing units, approximately 70,800 housing units are included in the planning department's current development pipeline. Under the draft Housing Element 2022 Update, it is projected that approximately 50,000 more housing units would be constructed by 2050. Therefore, the cumulative impact analysis presented in the Housing Element 2022 Update draft EIR considers the impacts that would result from the addition of approximately 150,000 housing units in the City through 2050.

The majority of the objectives, policies, and actions in the draft Housing Element 2022 Update focus on advancing equitable housing access, racial and social equity, and eliminating displacement. These objectives, policies, and actions are intended to address displacement through various strategies such as tenant protections, preservation of affordability, production of affordable housing, and advancing equitable access to housing resources and affordable units. For example, objective 3.c seeks to "Eliminate community displacement within areas vulnerable to displacement." Given this, the analysis in the Housing Element 2022 Update draft EIR found that implementation of the draft Housing Element 2022 Update would reduce both direct and indirect displacement compared to the environmental baseline (the existing Housing Element) and concluded that the draft Housing Element 2022 Update would not displace substantial numbers of existing people or housing units necessitating the construction of replacement housing and this impact would be less than significant.

As the City's development pipeline includes the proposed project's 495 housing units, it is accounted for in the housing projections analyzed in the City's Housing Element 2022 Update draft EIR cumulative analysis. Therefore, the proposed project would not combine with cumulative projects to result in a significant cumulative impact related to the displacement of substantial numbers of existing people or housing units necessitating the construction of replacement housing. For this reason, cumulative population and housing impacts would be less than significant. No mitigation measures are required.

~~As discussed above, Plan Bay Area 2040 includes housing and employment projections anticipated to occur in San Francisco through 2040 and calls for focused growth and development within PDAs. The Plan Bay Area 2040~~

~~projections provide the cumulative context for the population and housing analysis. The growth projections in Plan Bay Area 2040 for San Francisco County anticipate 483,700 households in 2040 (an increase of 137,800 households between 2010 and 2040) and 872,500 jobs in 2040 (an increase of 295,700 jobs between 2010 and 2040).~~[90]

~~As discussed above, according to the most recent American Communities Survey, San Francisco has an estimated population of 883,305 residents and 397,550 housing units. As of the fourth quarter of 2018, approximately 70,960 net new housing units are in the pipeline (e.g., are either under construction, have building permits approved or filed, or applications filed, including remaining phases of major multi-phased projects).~~[91] ~~The pipeline also includes the proposed project's 462 residential units. Conservatively assuming that every housing unit in the pipeline is developed and at 100 percent occupancy (no vacancies), the pipeline would accommodate an additional 70,960 households. The pipeline also includes projects with land uses that would result in an estimated 94,600 new employees.~~[92,93] ~~As such, cumulative household and employment growth is below the ABAG projections for planned growth in San Francisco. Therefore, the proposed project in combination with citywide development would not result in significant cumulative environmental effects associated with inducing unplanned population growth or displacing substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere.~~

[90] ~~Metropolitan Transportation Commission and Association of Bay Area Government, Plan Bay Area 2010 Final Supplemental Report: Land Use and Modeling Report. July 2017. This document is available online at: http://2040.planbayarea.org/reports. Accessed November 7, 2018.~~
[91] ~~San Francisco Planning Department, 2018 Q4. Housing Development Pipeline. Available online at: https://sfplanning.org/project/pipeline-report. Accessed April 10, 2019.~~
[92] ~~Ibid.~~
[93] ~~San Francisco Planning Department, Citywide Division, Information and Analysis Group, Scott Edmundson, March 19, 2019.~~

3.B Cultural Resources

3.B.1 Introduction

As directed by the board of supervisors' motion M21-182 in file no. 211278, this section of the recirculated draft EIR updates the cultural resources analysis presented in the previously circulated initial study for the previously circulated draft EIR. This section discusses the relevant environmental setting, regulatory framework, environmental impacts, and mitigation measures related to potential impacts on historic resources that could result from construction of the proposed project and cumulative projects. The impact analysis focuses on whether the proposed project would cause a substantial adverse change in the significance of a historic resource as defined in CEQA Guidelines section 15064.5, including those resources listed in articles 10 or 11 of the San Francisco Planning Code (Impact CR-1 and Impact CR-2). The analysis provided in Impact CR-2 is limited to replacing the analysis provided in Impact NO-2 of the previously circulated initial study for the previously circulated draft EIR with respect to the potential for vibration-generating construction equipment to result in damage to historic buildings (previously circulated initial study pages 141-144) in response to the board's findings concerning potential impacts to historic resources. Lastly, cumulative impacts to historic resources are analyzed in Impact C-CR-1.

As to all other subtopics covered under the Cultural Resources topic in the previously circulated initial study for the previously circulated draft EIR, the board of supervisors' motion found that the previously circulated draft EIR "complies with CEQA; is adequate, accurate and objective; is sufficient as an informational document; its conclusions are correct; and it reflects the independent judgement of the City." Therefore, the following cultural resources and tribal cultural resources subtopics are considered adequately addressed in the previously circulated initial study for the previously circulated draft EIR and are not addressed further in this section: impacts to archeology resources (Impact CR-3); impacts related to human remains, including those interred outside of formal cemeteries (Impact CR-4); and impacts on a tribal cultural resource defined in PRC section 21074 that is listed or eligible for listing in the California Register of Historic Places (California Register), or a resource determined by the lead agency to be significant pursuant PRC section 5024.1(c) (Impact TCR-1).

The historic resources impact analysis in the previously circulated initial study for the previously circulated draft EIR is based on the *Historic Resource Status Memorandum* prepared by the planning department on September 25, 2019, and the *Noise Technical Memorandum for 469 Stevenson Street Project* prepared by Stantec Consulting Services Inc dated September 27, 2019 (Noise Technical Memorandum). In response to the board of supervisors' findings, the planning department directed Page and Turnbull to prepare the HRE Part II, dated October 2022 (Appendix K1), to evaluate the existing conditions of the project site and the potential for construction of the proposed project to impact historic resources, including those associated with the SOMA Pilipinas Filipino Cultural Heritage District. The Noise Technical Memorandum has also been updated to account for additional construction equipment necessary to construct the proposed project, based on the 2022 preliminary geotechnical report (Appendix L1) and to accurately reflect the distance that equipment would operate from adjacent properties. The updated Noise Technical Memorandum dated October 21, 2022 (updated Noise Technical Memorandum) is included as Appendix F in this recirculated draft EIR. Additionally, the planning department's findings based on these reports have been issued in the HRER Part II dated October 24, 2022 (Appendix K2).[94] The following information and analysis have been updated to reflect the analysis in the HRE

[94] San Francisco Planning Department. 2022. Historic Resource Evaluation Response Part II. October 24, 2022.

Part II, the updated Noise Technical Memorandum, and the planning department's findings presented in the HRER Part II.

The information in the HRE Part II about existing conditions of the project site and historic resources within the surrounding historic districts: Market Street Theater and Loft historic district, Sixth Street Lodginghouse historic district, Mint-Mission Article 11 conservation district, Pacific Gas and Electric Company (PG&E) City Beautiful Substations Discontiguous Thematic historic district, and the SOMA Pilipinas Filipino Cultural Heritage District is provided in the Environmental Setting subsection (section 3.B.2). A summary of the HRE Part II report findings and updates to the Noise Technical Memorandum is provided in the Approach to Analysis subsection (section 3.B.4). The conclusions in the HRE Part II report and updated Noise Technical Memorandum informed the planning department's analysis of the proposed project's physical environmental effects related to historic resources that could result from construction of the proposed project, which is provided under Impact CR-1, Impact CR-2, and Impact C-CR-1 in the Impact Analysis subsection (section 3.B.4).

DEFINITIONS AND DATA SOURCES

A historic resource [95] is defined in CEQA Guidelines section 15064.5(a) as one that is listed in, or determined to be eligible for listing in, the California Register. In addition, a resource that (i) is identified as significant in a local register of historic resources, such as article 10 and/or article 11 of the San Francisco Planning Code, or (ii) is deemed significant due to its identification in a historic resources survey meeting the requirements of PRC section 5024.1(g) is presumed to be a historic resource "unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant." CEQA Guidelines section 21084.1 also permits a lead agency to determine that a resource constitutes a historic resource even if the resource does not meet the foregoing criteria. Additional detail regarding the definition of a historic resource is provided in the Regulatory Framework in section 3.B.2.

The operation of heavy construction equipment, particularly pile-drivers and other heavy-duty impact devices (such as pavement breakers), creates seismic waves that radiate along the surface of the ground and downward. These surface waves can be felt as ground vibration and can result in damage to structures. Vibration is measured by peak particle velocity (PPV), defined as the maximum instantaneous peak of the vibration signal in inches per second (in/sec). PPV is the metric typically used to describe vibration from sources that may result in structural stresses in buildings, including buildings that are historic resources. [96]

3.B.2 Environmental Setting

PROJECT SITE

The project site is located at 469 Stevenson Street in the SoMa neighborhood of San Francisco and is located within the City's Downtown Area Plan. [97] The project site is currently occupied by a surface parking lot, does not contain any existing structures, and is not located within a historic district. However, the project site is adjacent to or across the street from individual contributors to four different historic districts: the National Register-listed

[95] The CEQA statute and guidelines use the term "historical resources," while the planning department prefers to use the term "historic resources." These terms are analogous, and historic resources is used throughout the document.
[96] United States Department of Transportation, Federal Transit Administration, Office of Planning and Environment. Transit Noise and Vibration Impact Assessment. FTA Report No. 0123. September 2018. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed April 14, 2021.
[97] City of San Francisco Planning Department. Downtown Area Plan. https://generalplan.sfplanning.org/Downtown.htm. Accessed March 2022.

Market Street Theater and Loft historic district, the California Register-eligible Sixth Street Lodginghouse historic district, the San Francisco article 11 Mint-Mission conservation district, and the California Register-eligible PG&E City Beautiful Substations Discontiguous Thematic historic district (Figure 25). The contributors and four historic districts near or adjacent to the project site are described in the following section.

In addition, the project site is located within the SOMA Pilipinas Filipino Cultural Heritage District. This district encompasses an approximately 618-acre area bounded by Market, Second, Brannan, and Eleventh streets (Figure 25). [98]

SURROUNDING HISTORIC RESOURCES

MARKET STREET THEATER AND LOFT HISTORIC DISTRICT

Originally described in *Splendid Survivors* and listed in the National Register in 1986 (No. 86000729), the Market Street Theater and Loft historic district includes "an imposing but somewhat rundown group of commercial buildings on both sides of Market Street, San Francisco, for nearly 1,200 feet from Sixth Street to Seventh Street and a little beyond in both directions" (Figure 25). [99] The district, which comprises six theaters, one theater site, eight loft buildings, and several other commercial buildings constructed primarily between 1900 and 1926, is characterized by two- to eight-story buildings with two- and three-part vertical composition, featuring lavish ornamentation in Classical, Moorish, and Gothic styles. The visual focus of the district centers around the intersections of Market, Golden Gate, and Taylor streets and Market, McAllister, and Jones streets, with the intersecting grids creating irregularly shaped blocks occupied by the massive contributing theater buildings on the north side of Market Street, facing the more regular rectangular loft and commercial buildings on the south side of Market Street. The National Register Nomination Form for the district does not explicitly state that the setting of the district as a whole contributes to its significance. Rather, the character of the blocks to the southwest of Seventh Street and mid-block to the northeast of Sixth Street help define the district's boundaries. As described in the nomination form:

> *"The proposed district consists only of properties directly facing Market Street, on both sides. In the easterly direction the boundary is a significant change of scale that endures for several buildings, accompanied by a significant degree of remodeling so that too many buildings would be intrusions in the district. In the westerly direction, the boundary on the north side of Market Street is self-evident: a single stripped and sandblasted one-story brick building stands between the Hotel Shaw [a district contributor] and a blockful of new construction that includes the new United Nations Plaza. On the south side of Market there are five old buildings west of the district before the empty lot and new construction, but they too exhibit a change of scale, and two of the five, including the one next to the boundary, would be intrusions in the district."* [100]

[98] San Francisco's cultural districts program, established by the board of supervisors, aims to "preserve, strengthen and promote cultural communities, and its goals are to support legacy businesses, nonprofits, community arts, and traditions." There are currently nine cultural districts across the city, established between 2013 and 2021, within which community-based organizations work with City agencies to develop and implement strategies according to the "Cultural History, Housing, and Economic Sustainability Strategies" report. Historic preservation is one of six focus areas for planning within cultural districts, alongside tenant protections, arts and culture, economic and workforce development, land use, and cultural competency. Supervisors Walton and Chan are proposing the Pacific Islander Cultural District, which if approved would be the tenth cultural district.

[99] Michael Corbett, Charles Hall Page & Associates, Inc., and the Foundation for San Francisco's Architectural Heritage, *Splendid Survivors: San Francisco's Downtown Architectural Heritage* (San Francisco: California Living Books, 1979), 251; Anne Bloomfield, National Register of Historic Places Inventory - Nomination Form for the Market Street Theater and Loft historic district (San Francisco, prepared November 19, 1985), 2.

[100] Anne Bloomfield, National Register of Historic Places Inventory - Nomination Form for the Market Street Theater and Loft historic district, Item 8, Page 2.

Two contributors to the Market Street Theater and Loft historic district are directly across Stevenson Street from the project site (Table 3-11, Figure 26). The Wilson Building, 973 Market Street (Assessor's Block 3704, Lot 069), is an eight-story steel-frame loft building featuring ornate terracotta detailing across the upper six stories of its Market Street-facing primary façade. It has been attributed to George W. Percy and Willis Polk, and was originally completed ca. 1900. In 1906 and 1907, following the earthquake and fire, the structure of the building, exclusive of the retained façade, was rebuilt under the supervision of architect Henry Shulze. The building at 979-989 Market Street (Assessor's Block 3704, Lot 068) is a seven-story steel-frame loft building designed by the Reid Brothers and completed in 1900 for the Hale Brothers Department Store.

Table 3-11 Contributors within the Market Street Theater and Loft Historic District Adjacent to or Across from the Project Site

Building Address (Assessor's Block/Lot)	Date of Construction	Planning Department Historic Resource Status
973 Market Street (3704/069)	Façade ca. 1900 Structure 1906-1907	Category A (Known Historic Resource) / Individual article 11 Category II
979-989 Market Street (3704/068)	1907	Category A (Known Historic Resource) / Individual article 11 Category II

Source: Page & Turnbull 2022 (Appendix K1)

SIXTH STREET LODGINGHOUSE HISTORIC DISTRICT

The Sixth Street Lodginghouse historic district, found eligible for listing in the National Register in 1997, includes 33 contributing buildings facing Sixth Street between Market Street at the northwest, and between Howard and Tehama streets at the southeast (Figure 25).[101] With contributors described as "low-budget residential hotels, or lodginghouses, built from 1906 through 1913, and a few low-rise commercial buildings," the district is representative of the pattern of single room occupancy residential buildings which housed a largely male, working class population in San Francisco's SoMa neighborhood in the years following the 1906 earthquake and fires. While the Sixth Street Lodginghouse historic district is linear in character, in the decades after the 1906 earthquake and fires, similar developments grew along Third, Fourth, Fifth, and Sixth streets in the SoMa neighborhood. The remaining representatives of this type on Sixth Street are examples of a once-broader pattern.[102] Contributing buildings are typically three to four stories in height with ground floor storefronts and upper floors originally built as residential hotels. Many of the buildings have brick exterior cladding and minimal ornamentation, with some limited use of classical motifs on cornices and window surrounds.

[101] Anne Bloomfield, State of California Department of Parks and Recreation (DPR) 523 D Form for the Sixth Street Lodginghouse historic district (San Francisco, August 1, 1997).
[102] Anne Bloomfield, State of California Department of Parks and Recreation (DPR) 523 D Form for the Sixth Street Lodginghouse historic district (San Francisco, August 1, 1997).

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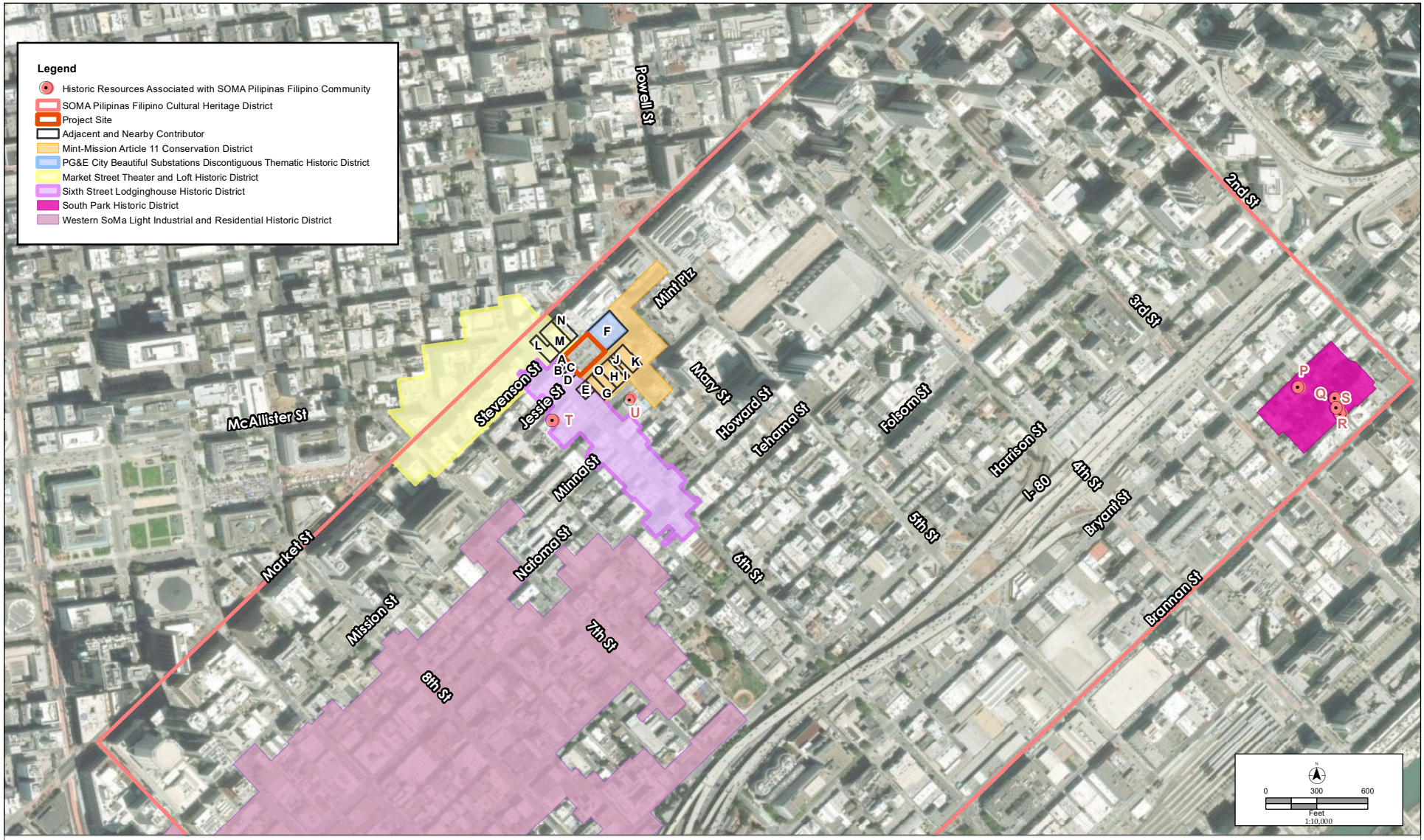

Adjacent and Nearby Contributors

A. 35-37 Sixth Street
B. 39-41 Sixth Street
C. 43-45 Sixth Street
D. 47-55 Sixth Street
E. 65-83 Sixth Street
F. 460 Jessie Street (Clearway Energy)
G. 986 Mission Street/481 Jessie Street
H. 972-976 Mission Street
I. 968 Mission Street
J. 471 Jessie Street
K. 956-960 Mission Street (non-contributor)
L. 995 Market/ 1 Sixth Street (non-contributor)
M. 979-989 Market Street
N. 973 Market Street
O. 479 Jessie Street/982-984 Mission Street

South Park Historic District

P. 104 South Park Street
Q. 41-43 South Park Street
R. 45-49 South Park Street
S. 95 Jack London Alley

Historic Resources Associated with SOMA Pilipinas Filipino Community

T. 1010 Mission Street
U. 953 Mission Street

SOURCE: ESRI 2022; SF Data 2022; Stantec 2022

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Figure 25

Surrounding Historic Districts and SOMA Pilipinas Filipino Cultural Heritage District

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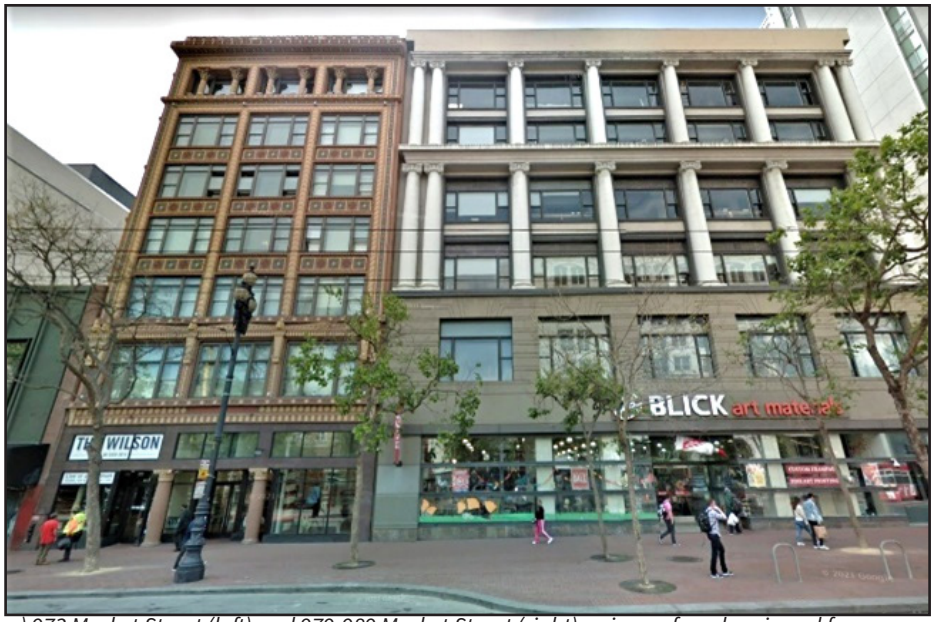

a) 973 Market Street (left) and 979-989 Market Street (right), primary façades viewed from Market Street. Source: Google Earth.

b) Rear façades of 979-989 Market Street (left) and 973 Market Street (right), project site in foreground.

SOURCE: Page and Turnbull 2022

FIGURE 26

Contributors within the Market Street Theater and Loft Historic District Adjacent to or Across from the Project Site

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Four contributing buildings to the Sixth Street Lodginghouse historic district are immediately adjacent to the project site (Table 3-12, Figure 27). The Seattle Hotel at 35-37 Sixth Street (Assessor's Block 3704, Lot 053), the Hotel Maze at 39-41 Sixth Street (Assessor's Block 3704, Lot 052), and the Vienna Hotel at 43-45 Sixth Street (Assessor's Block 3704, Lot 051) are all three-story brick-clad buildings with slightly projecting cornices at the primary façades facing Sixth Street. The Hillsdale Hotel at 47-55 Sixth Street (Assessor's Block 3704, Lot 050) is a seven-story hotel building with decorative brickwork and a projecting cornice. A fifth contributing property, the Society for Individual Rights social hall, is a two-story stucco-clad building with ornamented terra cotta window surrounds and frieze, set diagonally opposite the project site at 65-83 Sixth Street (Assessor's Block 3704, Lot 026).

Table 3-12 Contributors within the Sixth Street Lodginghouse Historic District Adjacent to or Across from the Project Site

Building Address (Assessor's Block/Lot)	Date of Construction	Planning Department Historic Resource Status
35-37 Sixth Street (3704/053)	1908	Category A (Known Historic Resource)
39-41 Sixth Street (3704/052)	1906	Category A (Known Historic Resource)
43-45 Sixth Street (3704/051)	1907	Category A (Known Historic Resource)
47-55 Sixth Street (3704/050)	1912	Category A (Known Historic Resource) / Individual article 11 Category III
65-83 Sixth Street (3704/026)	1913	Category A (Known Historic Resource)

Source: Page & Turnbull 2022 (Appendix K1)

MINT-MISSION ARTICLE 11 CONSERVATION DISTRICT

The Mint-Mission article 11 conservation district was designated as a Subarea of San Francisco's C-3 (Downtown Commercial) districts in 2018, and comprises a mix of residential, commercial, and industrial buildings representing the development of the northern part of the SoMa neighborhood in the years following the 1906 earthquake and fires (Figure 25).[103] The 22 contributing buildings within the district are between one and ten stories in height, and are:

> *"[…] primarily constructed of reinforced concrete and brick masonry and are largely industrial in style and feature Classical Revival detailing typical of early 20th century commercial architecture in San Francisco. Ornament on residential and mixed-use buildings consists of belt courses, arches, moldings and drip pendants, applied cast shields or swag, and corniced rooflines often featuring brackets, modillions, and dentil moldings. The District's buildings are largely clad in smooth finish stucco or brick, with a few structures clad with rusticated stucco, terra cotta, and concrete."*[104]

A notable feature of the district is that the rear façades of many contributors face public rights-of-way, due to their location on through-lots. The four district contributors across Jessie Street from the project site exhibit this characteristic, with primary façades facing Mission Street, and rear façades facing Jessie Street (Table 3-13, Figure 28). District characteristics emphasized in the article 11 standards and guidelines for new construction within the district and alteration within the district include prevailing street wall height; lack of setbacks from the

[103] City of San Francisco Planning Code, Appendix K to Article 11: Mint-Mission conservation district, electronic resource at https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_planning/0-0-0-59356, accessed March 23, 2022.
[104] Ibid.

property or street line; the use of relatively light colors and earth tones; cladding in brick, stone, and terra cotta; and the subdivision of façade planes using bays and distinct elements of vertical composition. [105]

Table 3-13 Contributors within the Mint-Mission Article 11 Conservation District Adjacent to or Across from the Project Site

Building Address (Assessor's Block/Lot)	Date of Construction	Planning Department Historic Resource Status
986 Mission Street/481 Jessie Street (3704/024)	1907	Category A (Known Historic Resource) / article 11 Category IV District Contributor
980-984 Mission Street/ 479 Jessie Street (3704/022)	1924	Category A (Known Historic Resource) / article 11 Category IV District Contributor
972-976 Mission Street (3704/021)	1925	Category A (Known Historic Resource)/ article 11 Category IV District Contributor
968 Mission Street (3704/020)	1930	Category A (Known Historic Resource) / article 11 Category III District Contributor
471 Jessie Street (3704/028)	1912	Category A (Known Historic Resource) / article 11 Category IV District Contributor

Source: Page & Turnbull 2022 (Appendix K1)

PG&E CITY BEAUTIFUL SUBSTATIONS DISCONTIGUOUS THEMATIC HISTORIC DISTRICT

In 1979, Michael Corbett and the contributors to *Splendid Survivors* proposed a thematic district related to electrical substations influenced in their design by the City Beautiful Movement. The proposed district included four PG&E Substations located at 569 Commercial Street, 222-226 Jessie Street, 222 Leidesdorff Street, and 568 Sacramento Street. It was described as follows:

> *"Following the example of Willis Polk's Substation C at 222-226 Jessie Street, the Pacific Gas and Electric Co. became a national leader in that aspect of the City Beautiful Movement which "beautified" common industrial structures in its treatment of power substations in San Francisco. Scattered throughout the city, there are four in the primary areas alone, all readily identifiable by a similar imagery regardless of whether they were designed by Polk, Frederick H. Meyer, or the company architect, Ivan C. Frickstad."* [106]

[105] Ibid.
[106] Michael Corbett et al., *Splendid Survivors*, 252.

a) Primary façades of 35-37, 39-41, 43-45, 47-55, and 65-83 Sixth Street, view southeast.

b) Northwest façade of 65-83 Sixth Street, view south from Jessie Street adjacent to project site.

c) Rear façades of 47-55, 43-45, 39-41, and 35-37 Sixth Street, view southwest, project site in foreground.

SOURCE: Page and Turnbull 2022

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FIGURE 27

Contributors within the Sixth Street Lodginghouse Historic District Adjacent to or Across from the Project Site

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a) Primary façades of 481 Jessie Street / 986 Mission Street, 479 Jessie Street / 980-984 Mission Street, 972-976 Mission Street, and 968 Mission Street west from Mission Street.

b) Rear façades of 471 Jessie Street, 972-976 Mission Street, 479 Jessie Street / 980-984 Mission Street, and 481 Jessie Street / 986 Mission Street, view south-west from Jessie Street.

SOURCE: Page and Turnbull 2022

FIGURE 28

Contributors within the Mint-Mission Article 11 Conservation District Adjacent to or Across from the Project Site

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PG&E Substation T, built in 1924, is adjacent to the northeast side of the project site (Figure 25) and is currently known as the Clearway Energy Thermal Power Station (Assessor's Block 3704, Lot 039). [107] This station was noted as being a contributor to this discontiguous district in the Central SoMa Historic Context Statement and Historic Resource Survey, completed in 2015. [108] It is described as follows: "This reinforced concrete building includes a 220-foot-tall brick exhaust stack and was used to produce steam for space heating, domestic hot water and industrial processes. In 1977 an addition was made along its east façade" (Table 3-14, Figure 29). [109]

Table 3-14 Contributors within the PG&E City Beautiful Substations Discontiguous Thematic Historic District Adjacent to or Across from the Project Site

Building Address (Assessor's Block/Lot)	Date of Construction	Planning Department Historic Resource Status
Clearway Energy Thermal Power Station (3704/039)	1924	Category A (Known Historic Resource)

Source: Page & Turnbull 2022 (Appendix K1)

POTENTIAL HISTORIC DISTRICTS ASSOCIATED WITH SOMA FILIPINO HISTORY

The project site is located within the SOMA Pilipinas Filipino Cultural Heritage District. The SOMA Pilipinas Filipino Cultural Heritage District was recognized as a district in 2016 prior to the creation of the City's cultural district program in 2018. The SOMA Pilipinas Filipino Cultural Heritage District encompasses an approximately 618-acre area generally bounded by Market, Second, Brannan, and Eleventh streets, which is largely coterminous with the SoMa neighborhood. [110] The SOMA Pilipinas Filipino Cultural Heritage District CHHESS was released in June 2022 and on September 6, 2022 the board of supervisors adopted the report per board of supervisors' resolution 368-22, which was signed by the mayor on September 16, 2022. As noted above, the CHHESS outlines proposed strategies and recommendations organized into six primary strategy areas: Historic and Cultural Preservation, Tenant Protections, Arts and Culture, Economic and Workforce Development, Place-Keeping and Place Making, and Cultural Competency. In regard to cultural preservation, placemaking, art, and culture, some of the strategies and recommendations include development and support of a SOMA Pilipinas Filipino cultural heritage archive and living legacy program; expanding access to Filipino arts education and programs; strengthening programs that empower, serve, and address the health of Filipino children and youth; development of Mission Street as a commercial corridor and cultural anchor; dedicated funding for cultural district public realm improvement, maintenance, and neighborhood cleaning and beautification; creation of SOMA Pilipinas special area design guidelines and public realm design toolkit; increase community-based access, use, and stewardship of land, buildings, and spaces; and dedicating funding for maintaining and preserving historic buildings, murals, plaques, and landmarks in SOMA Pilipinas. [111]

As discussed in the previous RTC, the planning department defines cultural heritage as: "tangible properties or intangible assets that express the ways of living developed by a community and passed on from generation to

[107] This station is currently in use as Clearway Energy Station T. The station's address is referred to as 460 Jessie Street and 465 Stevenson Street in different documents.
[108] San Francisco Planning Department, the Central SoMa Historic Context Statement and Historic Resource Survey (San Francisco: March 16, 2015), Appendix A.
[109] San Francisco Planning Department, the Central SoMa Historic Context Statement, 37.
[110] The SOMA Pilipinas Filipino Cultural Heritage District is one of nine cultural districts that have been established to "preserve, strengthen and promote cultural communities, and its goals are to support legacy businesses, nonprofits, community arts, and traditions."
[111] Mayor's Office of Housing and Community Development. 2022. SOMA Pilipinas Filipino Cultural Heritage District - Cultural, History, Housing, and Economic Sustainability Strategy. https://sfgov.legistar.com/View.ashx?M=F&ID=11026062&GUID=6A4D8EA0-2547-43F2-913A-81B9EED49258

generation, including customs, practices, places, objects, artistic expressions and values." The SOMA Pilipinas Filipino Cultural Heritage District contains tangible and intangible heritage assets. However, the SOMA Pilipinas Filipino Cultural Heritage District it is not a historic district and, as such, is not a historic resource as defined by CEQA. Unlike historic districts that are locally designated, listed, or determined eligible for listing in national or state registers, the SOMA Pilipinas Filipino Cultural Heritage District was not established through a formal survey by a consultant or planning department staff member meeting the Secretary of the Interior's Professional Standards. Furthermore, the board of supervisor's resolution establishing the SOMA Pilipinas Filipino Cultural Heritage District does not include a statement of significance addressing eligibility for listing in either the California or National registers, nor was the SOMA Pilipinas Filipino Cultural Heritage District adopted as a historic district by the San Francisco Historic Preservation Commission. Thus, while properties within the SOMA Pilipinas Filipino Cultural Heritage District may qualify as historic resources, either individually or as part of historic districts, the SOMA Pilipinas Filipino Cultural Heritage District is not an identified historic district for the purposes of CEQA review.

However, cultural districts inform the determination of historic resources for the purpose of CEQA. At the direction of the planning department, Page & Turnbull reviewed existing documentation of cultural assets within the SOMA Pilipinas Filipino Cultural Heritage District (Figure 23) to identify potential historic districts and included this information in the HRE Part II. [112]

Based on the HRE Part II and the HRER Part II, which included review of planning department records, there are two previously identified historic districts that have an added layer of significant associations with Filipino history and growth in the SoMa neighborhood (Figure 25). The California Register-eligible South Park historic district, located approximately 0.8-mile east of the project site, contains buildings representing one of the earliest, albeit small, communities of Filipino immigrants in SoMa. Buildings that would contribute to this added layer of significance of the South Park historic district for their associations with Filipinos in SoMa include the Gran Oriente Filipino Lodge (104 South Park Street), the two residential flats buildings purchased by the Gran Oriente Filipino (41-43 South Park Street & 45-49 South Park Street), and the Gran Oriente Masonic Temple (95 Jack London Alley). As the existing South Park historic district is significant, in part, for its association with the settlement of different minority communities in the area, this district's period of significance, currently 1854-1935, could be revised to include the later activities of SoMa's Filipino residents; the period of significance for the South Park historic district's association with SoMa's earliest Filipino communities ranges from ca. 1921, when the Gran Oriente Filipino purchased their first building at 104 South Park Street, to the 1950s, when the organization constructed the Masonic Temple. Additional research may be needed to determine other potential contributor(s) to the historic district that are directly associated with this early Filipino enclave in the South Park area of SoMa.

[112] The recommendation of whether a property is a potential historic resource is provided in an HRE Part I, and the evaluation is finalized in the HRER Part I prepared by the planning department. A proposed project's potential impact to a known historic resource is typically provided in an HRE Part II and is determined by the HRER Part II prepared by the planning department. The report prepared by Page & Turnbull for the proposed project is primarily a Part II analysis because it analyzes the proposed project's potential impacts on historic resources. However, at the direction of the planning department, the report also contains an analysis of whether there are historic resources associated with the cultural assets within the SOMA Pilipinas Filipino Cultural Heritage District, which is the type of information that would normally be provided in an HRE Part I.

a) PG&E Substation, view south from Stevenson Street.

b) PG&E Substation, view northeast across project site.

SOURCE: Page and Turnbull 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 29

Contributors within the PG&E City Beautiful Substations Discontiguous Thematic Historic District Adjacent to or Across from the Project Site

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The second identified historic district that has associations with the Filipino community in SoMa is the Western SoMa Light Industrial and Residential historic district. This historic district is located in the SoMa neighborhood approximately 900 feet from the project site and is eligible for listing in the California Register under criterion 1 [113] as a representation of a noteworthy trend in development patterns and the establishment of different ethnic groups in San Francisco, and criterion 3 [114] as a distinct concentration of architectural styles dating from the Post 1906 Earthquake and Fire period. This historic district was originally identified as being significant most notably for its association with the Greek community, which is reflected in the early twentieth century period of significance from 1906-1936. However, the area also saw a notable increase in other populations after World War II, including Mexicans, Nicaraguans, El Salvadorians, and Filipinos, among others. Because the Western SoMa Light Industrial and Residential historic district was identified as being significant for the establishment of different ethnic groups, it has significant associations with the Filipino community that moved into this area after World War II and because Filipinos were among the different ethnic groups that established residency in the district.

There are no other historic districts identified with association to the SOMA Pilipinas Filipino community and no historic districts associated with the SOMA Pilipinas Filipino community in the immediate vicinity of the project site.

POTENTIAL INDIVIDUAL HISTORIC RESOURCES ASSOCIATED WITH SOMA FILIPINO HISTORY

Page & Turnbull and the planning department reviewed existing documentation of cultural assets within the SOMA Pilipinas Filipino Cultural Heritage District. The purpose of this review was twofold: (1) to determine whether any cultural assets may warrant evaluation as historic resources for the purposes of CEQA review based on their association with the SOMA Pilipinas Filipino community and, (2) to determine whether any are located close enough to the project site that the proposed project may impact their setting as potential historic resources. Five individual cultural assets were identified within the vicinity of the project site: 1010 Mission Street, 953 Mission Street, 185 Sixth Street, old U. S. Mint Building (88 Fifth Street), and 539 Minna Street (Figure 25).

The five-story mixed-use building located at 1010 Mission Street (also addressed 80-96 Sixth Street) is located approximately a block and a half to the southwest of the project site and was built as a residential hotel in 1912. It is a contributor to the Sixth Street Lodginghouse Historic District. The building's association with the Filipino Community was summarized in 2013 by the Addendum to the South of Market Area Historic Context Statement as follows:

> *The Delta Hotel (SRO) at 88 6th Street was purchased in 1976 by Dr. Mario Borja, and in the early 1990s was transformed into affordable housing for low-income residents— primarily Filipino World War II veterans. The building was gutted by fire in 1997, however, resulting in a partnership between the Filipino Community and TODCO [the Tenants and Owners Development Corporation] to revitalize the building as the Bayanihan House. Today [in 2013] the building provides 40 units of Section 8 housing and 152 furnished Single-Resident-Occupancy rooms—most of which are occupied by Filipino veterans. The ground floor of the building houses the Bayanihan Community Center, as well as the Arkipelago Bookstore. The building also serves as headquarters for the*

[113] California Register criterion 1 pertains to an eligible resource associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
[114] California Register criterion 3 pertains to an eligible resource that embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic value.

> *Veterans Equity Center, which was founded in 1998 to provide services for the estimated three thousand Filipino-American World War II veterans and their families living in San Francisco. Previously, the Veteran's Equity Center was located at the Hotel Ysabel at 1099 Mission Street in SoMa."*[115]

The five-story mixed-use building at 953 Mission Street, located approximately a block and a half to the southeast of the project site, was built in 1916 and is a contributor to the Mint-Mission article 11 conservation district. Several different Filipino families and organizations have occupied space in the building in recent decades, as described by the *Addendum to the South of Market Area Historic Context Statement*:

> *"One of the most identifiably Filipino establishments in SoMa is the Mint Mall, a mixed-use building at 953 Mission Street that was purchased by the Nocon family in the 1970s. Since that time, the apartments have largely been occupied by newly-arrived Filipino families, while the ground floor commercial space has provided a home for numerous organizations serving the Filipino community. These included the West Bay Pilipino Multi-Service Center, the South of Market Employment Center, Bayanihan Community Center, the Pilipino AIDS Project, and Bindlestiff Theater. Arkipelago Books was also established in the lower level of the Mint Mall in 1998. Today [in 2013], the bookstore is located in the Bayanihan Center."*[116]

The mixed-use building located at 185 Sixth Street is about four blocks southeast of the project site. Built in 2007, a ground-floor space at the building currently houses Bindlestiff Studios, a community-based performing arts venue founded in 1989 that has for over two decades highlighted the work of Filipino artists. [117] The *Addendum to the South of Market Area Historic Context Statement* provides the following summary about Bindlestiff Studio:

> *"Bindlestiff Studio was formed in 1989 as an experimental theater space at 185 6th Street. Originally, Bindlestiff had no overt connections to the Filipino community. By the early 1990s however, the studio had begun attracting young Filipinos in SoMa, and in 1997 Allan Manalo became managing director—transforming Bindlestiff into the one of the first centers in the United States dedicated to Filipino performing arts. In 2005, the Bindlestiff Studio space was demolished by the San Francisco Redevelopment Agency. After using a temporary space, the organization moved back into a new multi-use building constructed by the Redevelopment Agency on the same site in 2011."*[118]

Tutubi Park, located at 539 Minna Street, about two and a half blocks southwest of the project site, was developed in 2001 by Asian Neighborhood Design, with funding from the MOHCD and San Francisco Redevelopment Agency. The small park is enclosed by a decorative metalwork fence which depicts "animals common in Philippine folklore." [119] Neither the building at 185 Sixth Street which houses Bindlestiff Studios, built in 2007, nor Tutubi Park at 539 Minna Street, developed in 2001, appear to warrant evaluation for status as

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[115] Page & Turnbull, *Addendum to the South of Market Area Historic Context Statement*, 29. https://default.sfplanning.org/Preservation/central_soma_hrs/SOMA_Filipino_Heritage_HCS_Final_Report-031313.pdf
[116] Page & Turnbull, *Addendum to the South of Market Area Historic Context Statement*, 26. https://default.sfplanning.org/Preservation/central_soma_hrs/SOMA_Filipino_Heritage_HCS_Final_Report-031313.pdf
[117] SOMA Pilipinas, "Bindlestiff Studios," electronic resource at https://www.somapilipinas.org/cultural-assets-1/2018/7/25/bindlestiff, accessed March 29, 2022.
[118] Page & Turnbull, *Addendum to the South of Market Area Historic Context Statement*, 32. https://default.sfplanning.org/Preservation/central_soma_hrs/SOMA_Filipino_Heritage_HCS_Final_Report-031313.pdf
[119] Page & Turnbull, *Addendum to the South of Market Area Historic Context Statement*, 35. https://default.sfplanning.org/Preservation/central_soma_hrs/SOMA_Filipino_Heritage_HCS_Final_Report-031313.pdf

historic resources, as both were completed within the last 25 years, generally understood to be insufficient time to obtain a scholarly perspective on the events or individuals associated with a potential resource. [120]
The old U.S. Mint building (old mint) at 88 Fifth Street is listed in the National Register of Historic Places (National Register), is a National Historic Landmark (NHL), and is an individual article 10 landmark. The old mint was constructed between 1869-1874 as a result of the need to collect and coin new gold that was discovered during the California gold rush. The old mint was one of the very few buildings to survive the 1906 Earthquake and Fire due to its fortress-like construction and through the dedication of its employees. The old mint is listed in the National and California registers under criterion A(1) [121] for its contribution to San Francisco and California's early financial history and criterion C(3) [122] as one of the most architecturally distinguished and finest examples of Greek Revival architecture on the west coast. [123] The old mint has also been identified as important to the SOMA Pilipinas Filipino community. [124]

Based upon the information provided in the HRE Part II, planning department staff determined the two buildings at 1010 and 953 Mission streets are individually eligible for listing in the California Register as each has been associated with the SOMA Pilipinas Filipino community for over 40 years. The building at 1010 Mission is individually eligible for listing in the California Register under criterion 1 [125] for its longstanding and continued association with the Filipino Community in the SoMa neighborhood not only as housing for Filipino World War II veterans but also for housing a number of important cultural institutions affiliated with the SOMA Pilipinas Filipino community. The period of significance starts at 1976 when it was purchased by Dr. Mario Borja and would not have a clear end date given its continued association with the Filipino community. The building at 953 Mission Street is individually eligible for listing in the California Register under criterion 1 [126] as it has housed several different Filipino families and organizations since being purchased by the Nocon family in the 1970s. The period of significance starts in the 1970s with purchase of the property by the Nocon family and would not have a clear end date given its continued association with the Filipino community. Additionally, the old mint is an individually eligible historic resource that has been identified as important to the SOMA Pilipinas Filipino community.

Based on direction from the planning department, Page & Turnbull did not review previously identified cultural assets within the SOMA Pilipinas Filipino Cultural Heritage District which are more than 0.25-mile from the project site for their potential significance as individual historic resources. This is because the potential for a proposed project to impact the significance of individual historic resources through changes in setting

[120] California Office of Historic Preservation, Technical Assistance Series #6 California and National Register: A Comparison (for purposes of determining eligibility for the California Register), p.3.
[121] National Register criterion A (Event) pertains to properties associated with events that may have a significant contribution to the broad patterns of our history; California Register criterion 1 pertains to an eligible resource associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
[122] National Register criterion C (Design/Construction) pertains to properties that embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values; or represent a significant distinguishable entity whose components lack individual distinction; California Register criterion 3 pertains to an eligible resource that embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic value. While the National Register criteria uses the term *master*, the planning department uses the term *architect of merit*.
[123] James Dillon, National Register of Historic Places Inventory – Nomination form for the Old United States Mint (San Francisco, prepared March 30, 1976), 3.
[124] Page & Turnbull, *San Francisco Filipino Heritage Addendum to the South of Market Area Historic Context Statement* (San Francisco: Prepared for the San Francisco Planning Department, March 13, 2013), 22. https://default.sfplanning.org/Preservation/central_soma_hrs/SOMA_Filipino_Heritage_HCS_Final_Report-031313.pdf
[125] Under Section 21083.2 of CEQA, criterion 1 pertains to an eligible resource associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
[126] Under Section 21083.2 of CEQA, criterion 1 pertains to an eligible resource associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

diminishes with distance. Future evaluations may find some cultural assets associated with the cultural heritage district that are located further away from the project site to be individually eligible as historic resources for their association with the SOMA Pilipinas Filipino community, but it is very unlikely that a project would affect the setting of historic resources beyond 0.25-mile from the project site such that a significant impact would occur.

3.B.3 Regulatory Framework

HISTORIC RESOURCES

FEDERAL REGULATIONS

Although the proposed project does not require compliance with section 106 of the National Historic Preservation Act, the federal guidelines related to the treatment of cultural resources are relevant for the purposes of determining whether cultural resources, as defined under CEQA, are present and guiding the treatment of such resources. The sections below summarize the relevant federal regulations and guidelines.

NATIONAL HISTORIC PRESERVATION ACT

The National Historic Preservation Act of 1966 was passed primarily to acknowledge the importance of protecting our nation's heritage from rampant federal development. The National Historic Preservation Act:

- Sets the federal policy for preserving our nation's heritage;
- Establishes a federal-state and federal-tribal partnership;
- Established the National Register of Historic Places and National Historic Landmarks Programs;
- Mandates the selection of qualified State Historic Preservation Officers;
- Establishes the Advisory Council on Historic Preservation;
- Charges federal agencies with responsible stewardship; and
- Establishes the role of Certified Local Governments within the States.

While the National Historic Preservation Act sets federal policy for historic preservation, the actual regulations can be found in 36 Code of Federal Regulations part 800, Protection of Historic Properties. This provides guidelines on how to follow the policy set forth in the National Historic Preservation Act.

NATIONAL REGISTER OF HISTORIC PLACES

The National Register of Historic Places (National Register) is the nation's official comprehensive inventory of historic resources. Administered by the National Park Service, the National Register includes buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archeological, or cultural significance at the national, state, or local level. Typically, a resource that is more than 50 years of age is eligible for listing in the National Register if it meets any one of four eligibility criteria and retains sufficient historic integrity. A resource less than 50 years old may be eligible if it can be demonstrated that it is of "exceptional importance" or a contributor to a historic district.

A structure, site, building, district, or object would be eligible for listing in the National Register if it can be demonstrated that it meets at least one of the following four evaluation criteria:

- Criterion A (Event): Properties associated with events that may have a significant contribution to the broad patterns of our history;
- Criterion B (Person): Properties associated with the lives of persons significant in our past;
- Criterion C (Design/Construction): Properties that embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values; or represent a significant distinguishable entity whose components lack individual distinction; and
- Criterion D (Information Potential): Properties that have yielded, or may be likely to yield, information important in prehistory or history.

Although there are exceptions, certain kinds of resources are not usually considered for listing in the National Register: religious properties, moved properties, birthplaces and graves, cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years.

In addition to meeting at least one of the four criteria, a property or district must retain integrity, meaning that it must have the ability to convey its significance through the retention of seven aspects, or qualities, that in various combinations define integrity:

- *Location:* Place where the historic property was constructed;
- *Design:* Combination of elements that create the form, plans, space, structure, and style of property;
- *Setting:* The physical environment of the historic property, inclusive of the landscape and spatial relationships of the buildings;
- *Materials:* The physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form the historic property;
- *Workmanship:* Physical evidence of the crafts of a particular culture or people during any given period in history;
- *Feeling:* The property's expression of the aesthetic or historic sense of a particular period of time; and
- *Association:* Direct link between an important historic event or person and a historic property.

Properties that are listed in the National Register, as well as properties that are formally determined to be eligible for listing in the National Register, are automatically listed in the California Register and, therefore, considered historic resources under CEQA. [127]

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

The *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Secretary's Standards) were published and codified as 36 Code of Federal Regulations 68 in 1995 and updated in 2017. [128] The Secretary's Standards for rehabilitation have been adopted by local government bodies across the country, including the City and County

[127] California Code of Regulations, Title 14, Chapter 11.5, § 4851, Historical Resources Eligible for Listing in the California Register of Historical Resources, https://govt.westlaw.com/calregs/Document/IFF8DB730D48511DEBC02831C6D6C108E?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default). Accessed March 2022.

[128] U.S. Department of the Interior, National Park Service (Kay D. Weeks and Anne E. Grimmer), *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstruction Historic Buildings*, revised 2017, https://www.nps.gov/tps/standards/treatment-guidelines-2017.pdf. Accessed March 2022.

of San Francisco, for reviewing proposed work on historic properties under local preservation ordinances. The Secretary's Standards provide a useful analytical tool for understanding and describing the potential impacts of changes to historic resources and are used to inform CEQA review. Developed by the National Park Service for reviewing certified rehabilitation tax credit projects, the rehabilitation standards provide guidance for reviewing work on historic properties. The rehabilitation standards are as follows:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration required replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale, and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Conformance with all rehabilitation standards does not determine whether a project would cause a substantial adverse change in the significance of a historic resource under CEQA. Rather, projects that comply with the standards benefit from a regulatory presumption that they would have a less-than-significant adverse impact on a historic resource. Projects that do not comply with the rehabilitation standards may or may not cause a substantial adverse change in the significance of a historic resource and would require further analysis to determine whether the historic resource would be "materially impaired" by the project under CEQA Guidelines section 15064.5(b).

STATE REGULATIONS

California implements the National Historic Preservation Act through its statewide comprehensive cultural resource preservation programs. The California Office of Historic Preservation, an office of the California Department of Parks and Recreation, implements the policies of the National Historic Preservation Act on a statewide level. The California Office of Historic Preservation also maintains the California Historic Resources Inventory. The State Historic Preservation Officer is an appointed official who implements historic preservation programs within the state's jurisdiction.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Lead agencies (local governments with permit approval) are required by CEQA to carry out environmental impact analysis. Historic resources are considered part of the environment and are subject to review under CEQA. Historic resources are defined by CEQA Guidelines (California Code of Regulations [CCR] Title 14, Chapter 3, 15064.5) as follows:

1. A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in the California Register (PRC 5024.1, Title 14 CCR, Section 4850 et seq.).
2. A resource included in a local register of historic resources, as defined in section 5020.1(k) of the PRC or identified as significant in an historic resource survey meeting the requirements section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historic resource, provided that the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register.
4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register; not included in a local register of historic resources (pursuant to section 5020.1(k) of the PRC); nor identified in a historic resources survey (meeting the criteria in section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be a historic resource as defined in PRC sections 5020.1(j) or 5024.1.

Therefore, under the CEQA Guidelines, even if a resource is not included in any local, state, or federal register, or identified in a qualifying historic resources survey, a lead agency may still determine that any resource is a historic resource for the purposes of CEQA if there is substantial evidence supporting such a determination. A lead agency must consider a resource to be historically significant if it finds that the resource meets the criteria for listing in the California Register.

CEQA requires a lead agency to determine if a proposed project would have a significant effect on important historic resources or unique archeological resources. If a resource is neither a unique archeological resource nor a historic resource, the CEQA Guidelines note that the effects of the project on that resource shall not be considered a significant effect on the environment (CEQA Guidelines section 15064.5(c)(4)). As noted above, projects that comply with the Secretary's Standards benefit from a regulatory presumption under CEQA that they would have a less-than-significant impact on a historic resource. Projects that do not comply with the Secretary's Standards may or may not cause a substantial adverse change in the significance of a historic resource and must

be subject to further analysis to assess whether they would result in material impairment of a historic resource's significance.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

Under Section 21083.2 of CEQA, an important archeological or historic resource is an object, artifact, structure, or site that is listed on or is eligible to be listed on the California Register. Eligible resources are those that can be clearly shown to meet any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic value.
4. Has yielded or may be likely to yield information that is important in prehistory or history.

Automatic listings include properties that are listed on the National Register. In addition, Points of Historical Interest nominated from January 1998 onward are to be jointly listed as Points of Historical Interest and in the California Register listed in a local historic register or deemed significant in a historical resources survey, as provided under PRC Section 5024.1(g), are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates that they are not. A resource that is not listed on or determined to be ineligible for listing on the California Register, not included in a local register of historic resources, or not deemed significant in a historic resources survey may nonetheless be historically significant, as determined by the lead agency (PRC Section 21084.1 and Section 21098.1).

LOCAL REGULATIONS AND PLANS

SAN FRANCISCO GENERAL PLAN

The San Francisco General Plan Urban Design, Recreation and Open Space, and Housing Elements address issued related to historic preservation by providing policies that emphasize preservation of notable landmarks and historic features, remodeling older buildings, and respecting the character of older buildings adjacent to new development. Policies in the General Plan relevant to cultural resources are identified below. [129]

The Urban Design Element of the General Plan includes the following policies related to historic preservation:

- Objective 2. Conservation of Resources which provide a sense of nature, continuity with the past, and freedom from overcrowding.
  - Policy 2.4. Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.
  - Policy 2.5. Use care in remodeling of older buildings in order to enhance rather than weaken the original character of such buildings.
  - Policy 2.6. Respect the character of older development nearby in the design of new buildings.

[129] City of San Francisco Planning Department, San Francisco General Plan. https://generalplan.sfplanning.org/. Accessed March 2022.

The Recreation and Open Space Element of the General Plan includes the following policies related to historic preservation:

- Objective 1. Ensure a well-maintained, highly utilized, and integrated open space system.
  - Policy 1.12. Preserve historic and culturally significant landscapes, sites, structures, buildings, and objects.
  - Policy 1.13. Preserve and protect character-defining features of historical resources in City parks when it is necessary to make alterations to accommodate new needs or uses.

The Housing Element of the General Plan includes the following policy related to historic preservation[130]:

- Objective 11. Support and respect the diverse and distinct character of San Francisco's neighborhoods.
  - Policy 11.7. Respect San Francisco's historic fabric, by preserving landmark buildings and ensuring consistency with historic districts.

SAN FRANCISCO PLANNING CODE

The City's commitment to historic preservation is codified in San Francisco Planning Code section 101.1(b), which establishes eight general plan priority policies. Priority Policy 7 of section 101.1(b) of the planning code addresses the City's desire to preserve landmarks and historic buildings and states that landmarks and historic buildings be preserved.

San Francisco Historic Preservation Commission and Planning Code, Article 10 and Article 11

The San Francisco Historic Preservation Commission (HPC) is a seven-member body that makes recommendations directly to the San Francisco Board of Supervisors regarding the designation of landmark buildings, historic districts, and significant buildings. The HPC approves certificates of appropriateness for individual landmarks and landmark districts designated under article 10 and permits to alter individual properties and conservation districts listed under article 11. [131,132] Article 10 describes procedures regarding the preservation of sites and areas of special character or special historic, architectural, or aesthetic interest or value, such as officially designated city landmarks and buildings included in locally designated historic districts. Article 11 of the planning code designated significant and contributory buildings and eleven downtown conservation districts. Additionally, the HPC reviews and comments on CEQA documents for projects that result in significant impacts on historic resources.

[130] As discussed in section 3.A Population and Housing, at the time of this recirculated draft EIR, the Housing Element 2022 Update is in the draft stage and has not been adopted by the planning commission or board of supervisors. As such, the objectives and policies are from the existing 2014 housing element.
[131] City and County of San Francisco. Article 10: preservation of Historical Architectural and Aesthetic Landmarks. https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_planning/0-0-0-27871. Accessed March 2022.
[132] City and County of San Francisco. Article 11: Preservation of Buildings and Districts of Architectural, Historical, and Aesthetic Importance in the C-3 Districts. https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_planning/0-0-0-28705. Accessed March 2022.

San Francisco Planning Department CEQA Review Procedures for Historic Resources

The planning department prepared the *CEQA Review Procedures for Historic Resources* to provide guidance in determining whether a resource is considered a historic resource as defined by CEQA. [133] Three categories of properties are defined, as follows:

- Category A. Category A has two subcategories:
  - Category A.1. Resources listed in, or formally determined to be eligible for the California Register.
  - Category A.2. Resources listed in adopted local registers, or properties that appear eligible, or may become eligible, for the California Register.
- Category B. Properties requiring further consultation and review.
- Category C. Properties determined not to be historic resources, or properties for which the City has no information indicating that the property is a historical resource.

To determine if a property is eligible as a historic resource for the purposes of CEQA, the planning department evaluates a property's individual significance for listing in the California Register and a property's relationship to any eligible historic district.

To assess impacts within historic districts, the planning department examines several factors including, but not limited to, size and significance of a historic district, number and location of contributing features/non-contributing features, character defining features, district integrity, district boundaries, and details of the proposed project. Assessments within historic districts are examined on a case-by-case basis, due to the wide variety and unique nature of historic resources and historic districts.

CONSTRUCTION VIBRATION

FEDERAL REGULATIONS

There are no federal regulations related to construction-induced vibration. However, the Federal Transit Administration (FTA) has developed guidelines for the assessment of vibration impacts associated with construction activities in its *Transit Noise and Vibration Impact Assessment Manual*. The manual includes guidance and procedures for evaluating vibration impacts during construction. Table 3-15 below provides the FTA's recommended vibration damage criteria for buildings (see also the state of California Department of Transportation (Caltrans) guidelines for assessment of potential damage to buildings due to ground-borne vibration, provided in Table 3-16, below.)

[133] City of San Francisco Planning Department. Preservation Bulletin No. 16 CEQA Review Procedures for Historic Resources, Draft, 03/31/2008. https://sfplanning.org/sites/default/files/documents/preserv/bulletins/HistPres_Bulletin_16.PDF. Accessed March 2022.

Table 3-15 Federal Transit Administration General Assessment Criteria for Vibration Damage

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

Notes:
PPV = peak particle velocity; in/sec = inches per second
VdB= vibration velocity level (or vibration decibel level; The root-mean-square velocity amplitude for measured ground motion expressed in dB.
Source: United States Department of Transportation, FTA, Office of Planning and Environment. Transit Noise and Vibration Impact Assessment. FTA Report No. 0123. September 2018. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

STATE REGULATIONS

There are no state regulations related to construction-induced vibration. However, Caltrans provides guidance regarding the evaluation of vibration impacts associated with construction activities in its *Transportation and Construction Vibration Guidance Manual*. The manual includes prediction methods, assessment procedures, and impact criteria regarding construction vibration. Table 3-16 shows the Caltrans building damage vibration criteria and the guidelines developed by Caltrans regarding building damage from the transient and continuous vibration that is usually associated with construction activity. The activities that are typically associated with single-impact (transient) or low-rate, repeated-impact vibration include blasting and the use of drop balls or dropped metal plates. Impact pile drivers, "pogo stick" compactors (small hand-held soil compactors), crack-and-seat equipment (equipment that breaks and re-seats pavement), excavation equipment, static compaction equipment, tracked vehicles, vehicles on highways, vibratory pile drivers, pile extraction equipment, and vibratory compaction equipment are typically associated with continuous vibration.

Table 3-16 Vibration Guidelines for Potential Damage to Structures

Structure Type and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Notes: Transient sources create a single, isolated vibration event (e.g., from blasting or the use of drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
PPV = peak particle velocity; in/sec = inches per second
Source: Caltrans, *Transportation and Construction Vibration Guidance Manual*, April 2020.

3.B.4 Impacts and Mitigation Measures

This section analyzes the proposed project's potential impact on historic resources. It describes the methods used to determine the impacts of the proposed project and lists the criteria used to conclude whether an impact would be significant. Measures to mitigate significant impacts, if necessary, accompany the discussion of each identified significant impact.

SIGNIFICANCE CRITERIA

The proposed project would have a significant impact if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines section 15064.5, including those resources listed in article 10 or 11 of the San Francisco Planning Code.

A "substantial adverse change" is defined by CEQA Guidelines section 15064.5 as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource would be materially impaired." The significance of a historical resource is "materially impaired," according to CEQA Guidelines section 15064.5(b)(2), when a project "demolishes or materially alters in an adverse manner those physical characteristics" of the resource that:

(A) Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Public Resources Code section 5024.1(g), unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

A project may cause an adverse change in a historic resource but still not have a significant effect on the environment as defined by CEQA as long as the impact of the change on the historic resource is determined to be less-than-significant, negligible, neutral, or even beneficial. In other words, a project may have an impact on a historic resource, and that impact may or may not impair the resource's eligibility for inclusion in the California Register. If an identified impact would result in a resource that is no longer able to convey its historic significance and is therefore no longer eligible for listing in the California Register, then it would be considered a significant effect.

The planning department is the lead agency for the proposed project, and has determined that the National Register-listed Market Street Theater and Loft historic district, the California Register-eligible Sixth Street Lodginghouse historic district, the article 11 Mint-Mission conservation district, and the California Register-eligible PG&E City Beautiful Substations Discontiguous Thematic historic district, and the contributors therein, are historic resources for the purposes of CEQA. This section analyzes the potential for the proposed project to cause significant effects to these resources. This section also assesses the potential for the proposed project to cause significant effects to the two California Register-eligible historic resources associated with the SOMA Pilipinas Filipino community discussed above and the South Park historic district.

APPROACH TO ANALYSIS

Pursuant to CEQA Guidelines section 15064.5(b)(2), the following analysis considers the potential for the proposed project to materially impair the significance of a historic resource by causing direct or indirect changes to the physical characteristics of the resource that convey its historic significance. This section updates the cultural resources analysis presented in the previously circulated initial study for the previously circulated draft EIR. The previously circulated initial study analysis is based on the *Historic Resource Status Memorandum* prepared by the planning department on September 25, 2019, and the *Noise Technical Memorandum*. In response to the board of supervisors' motion, additional analysis has been conducted to further review of the project's potential impacts to historic resources. The analysis in this section is based on an HRE Part II prepared for the proposed project by Page & Turnbull in October 2022 (Appendix K1), the updated Noise Technical Memorandum dated October 21, 2022 (Appendix F) which was updated based on the 2022 preliminary geotechnical report (Appendix L1), and the HRER Part II prepared by the planning department dated October 24, 2022 (Appendix K2). [134]

The HRE Part II includes a brief summary of the contexts and character-defining features of the existing historic districts and resources adjacent to or near the project site; a summary of the context of the SOMA Pilipinas Filipino Cultural Heritage District and discussion of eligible historic resources associated with the cultural heritage district; a brief summary of the proposed project; and an analysis of the project's compatibility with and potential impacts to historic districts and eligible historic resources within or near to the project block. The HRE Part II analysis is based on proposed project drawings prepared by Solomon Cordwell Buenz (SCB), dated August 4, 2022. At the direction of the planning department, Page & Turnbull reviewed previous documentation of neighboring resources, including California Department of Parks & Recreation (DPR) 523 forms accessed through the San Francisco Property Information Map, *the Historic Context Statement for the South of Market Area* prepared by Page & Turnbull in 2009, and the *San Francisco Filipino Heritage Addendum to the South of Market Historic Context Statement* prepared by Page & Turnbull in 2013.

To acquire information about potential historic resources associated within the SOMA Pilipinas Filipino Cultural Heritage District, Page & Turnbull contacted representatives of the SOMA Pilipinas Filipino Cultural Heritage District on March 8, 2022. A representative from the SOMA Pilipinas Filipino Cultural Heritage District replied on March 11, 2022, and requested additional information about the purpose of designating historic districts within the cultural heritage district. In response to the SOMA Pilipinas Filipino Cultural Heritage District's request, on March 23, 2022 planning department staff provided additional information regarding the scope of the HRE Part II and the potential presence of historic districts associated with the SOMA Pilipinas Filipino Cultural Heritage District. On May 24, 2022, Page & Turnbull and planning department staff participated in a virtual meeting with three representatives of the SOMA Pilipinas Filipino Cultural Heritage District. Page & Turnbull presented findings of the analysis to date, and representatives of the SOMA Pilipinas Filipino Cultural Heritage District requested inclusion of additional information regarding the Filipino community associations of 953 and 1010 Mission streets. The information requested by SOMA Pilipinas has been included in the HRE Part II. The HRER Part II confirmed the recommendations in the HRE Part II and provided additional information based on department records, including the analysis provided in the updated Noise Technical Memorandum. [135]

Page & Turnbull conducted a reconnaissance-level pedestrian survey of properties adjacent to and near the project site, including those properties facing Stevenson and Jessie streets between Fifth and Sixth streets, on

[134] San Francisco Planning Department. 2022. Historic Resource Evaluation Response Part II. October 24, 2022.
[135] Ibid.

March 17, 2022. For each adjacent or nearby building from the public right-of-way, Page & Turnbull photographed the exterior façade facing the project site, Jessie Street, or Stevenson Street.

IMPACT EVALUATION

Impact CR-1: The proposed project would not cause a substantial adverse change in the significance of a historical ~~architectural~~ resource as defined in CEQA Guidelines section 15064.5. (*Less than Significant Impact*)

~~Historical resources are those properties that meet the definitions in section 21084.1 of the CEQA statute and section 15064.5 of the CEQA Guidelines. Historical resources include properties listed in, or formally determined eligible for listing in, the California Register of Historical Resources (California Register) or in an adopted local historic register. Historical resources also include resources identified as significant in a historical resource survey meeting certain criteria. Additionally, properties that are not listed but are otherwise determined to be historically significant, based on substantial evidence, would also be considered historical resources. The significance of a historical resource is materially impaired when a project "demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance." The following discussion is based on the cultural resources analysis conducted by the planning department.~~[136]

~~The project site is in the city's SoMa neighborhood and developed as a surface parking lot.~~ The project site, currently occupied by a surface parking lot, does not include any historic resources and is not located within a historic district listed in the National Register, California Register, or as a local San Francisco article 10 historic district or article 11 conservation district. ~~There are no existing onsite structures at the project site, and it is not located within a historic district, or landmark district.~~[137] However, the project site is ~~directly~~ adjacent to or across the street from the National Register-listed ~~eligible~~ Market Street Theater and Loft historic district, ~~National and~~ the California-Register eligible Sixth Street Lodginghouse historic district, ~~and~~ the Mint-Mission article 11 conservation district,[138] and the Clearway Energy Thermal Power Station which is a contributor to ~~a property within~~ the ~~Pacific Gas and Electric (~~PG&E~~)~~ City Beautiful Substations Discontiguous Thematic historic district. The project site is also located within the SOMA Pilipinas Filipino Cultural Heritage District (Figure 25). While the SOMA Pilipinas Filipino Cultural Heritage District is not a historic district pursuant to CEQA Guidelines section 15064.5, it includes the California Register-eligible Western SoMa Light Industrial historic district, the California Register-eligible historic resources located at 1010 and 953 Mission streets, and the California Register-eligible South Park historic district associated with the SOMA Pilipinas Filipino community.

As discussed, the planning department has determined that the National Register-listed Market Street Theater and Loft historic district, the California Register-eligible Sixth Street Lodginghouse historic district, the article 11 Mint-Mission conservation district, and the California Register-eligible PG&E City Beautiful Substations Discontiguous Thematic historic district, are historic resources for the purposes of CEQA. There are also two historic districts that have associations with the Filipino community in SoMa: the California Register-eligible South Park historic district, and the California Register-eligible Western SoMa Light Industrial and Residential historic district. The planning department has also determined that there are two individually eligible historic resources within the general vicinity of the project site that have associations with the Filipino community in SoMa: the five-story mixed-use building at 1010 Mission Street and the five-story mixed-use building at 953 Mission Street. Both of these individually eligible historic resources are within existing historic districts. Finally,

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~~[136] San Francisco Planning Department. Historic Resource Status for Properties Adjacent to 469 Stevenson Street, September 25, 2019~~
~~[137] San Francisco Planning Department. 2019. San Francisco Property Information Map, Historic Preservation. Accessed February 4, 2019. https://sfplanninggis.org/pim/.~~
[138] Article 11 contains an adopted local register of historic resources in the C-3 (Downtown) district.

the old mint at 88 Fifth Street is an individually eligible historic resource that has associations with the Filipino community in SoMa. Therefore, the following sections analyze the potential for the proposed project to cause a substantial adverse change in the significance of these historic districts and the contributors adjacent to or near the project site, including those historic districts that have associations with the Filipino community in SoMa. The following also analyzes the potential for the proposed project to cause a substantial adverse change in the significance of historic resources within existing historic districts that have individually-eligible associations with the Filipino community near the project site. Lastly, the following section analyzes the potential for the proposed project to cause a substantial adverse change in the significance of the old mint.

MARKET STREET THEATER AND LOFT HISTORIC DISTRICT

Nearby contributors to the Market Street Theater and Loft historic district, built between ca. 1900 and 1908 (Table 3-11, Figure 25), are characterized by distinct three-part primary façade composition and ornamentation featuring classical motifs. The two nearest contributors to the project site, 973 and 979-989 Market Street, are built on through-lots between Market and Stevenson streets, with primary façades oriented toward Market Street and rear façades oriented toward the project site. These utilitarian brick masonry clad rear façades lack ornamentation, and feature regular grids of rectangular punched openings.

The proposed project would provide a contemporary design that is generally compatible with the utilitarian character of the rear façades of the historic district contributors (973 and 978-989 Market Street) within the Market Street Theater and Loft historic district that face the project site across Stevenson Street. The finish materials for the proposed project – glass, metal, and concrete – and grey and brown color palette would be compatible with the materials and finishes present on the rear façades of 973 and 978-989 Market Street. The rectilinearity; three-part vertical composition of the podium, tower, and mechanical penthouse; and regular pattern of glazed openings would also refer somewhat to the composition and arrangement of the windows on the adjacent and nearby contributors of the Market Street Theater and Loft historic district.

The most substantial difference in character between the nearby, existing historic district contributors and the proposed project is the building height. The proposed project would be 27 stories, while the Market Street Theater and Loft historic district consists primarily of buildings between two and eight stories in height, with the nearest contributors, 973 and 979-989 Market Street, at seven and eight stories. However, there is one nearby non-contributing building within the Market Street Theater and Loft historic district, located at 995 Market Street/ 1 Sixth Street, to the west of the project site that is 16 stories. The proposed project includes some features which would reduce the visual impact of its overall height as viewed from the adjacent Stevenson Street public right-of-way. The six-story podium level of the proposed building would sit within the range of existing building heights typical of contributors to the Market Street Theater and Loft historic district, while the tower would be setback approximately 39 feet from the Stevenson Street property line and would be less visually dominant. The stepped setbacks at the southwest side, and narrower setback at the northeast side, would also provide a visual transition between the proposed project and adjacent buildings.

When viewed from the Market Street public right-of-way, which the primary façades of the Market Street Theater and Loft historic district contributors are oriented toward, the height of the proposed building would be less visually dominant than when viewed from the contributors' rear façades that are closer to the project site. The comparative street views and renderings in Figures 30a through 30c depict the general outline of the proposed tower as it would be perceived from three different Market Street locations within the historic district.

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a) Existing view northeast from intersection of Market, McAllister, and Jones street.

b) View with the proposed project.

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 30a

Project Rendering from Market Street Theater and Loft District

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a) Existing view northeast from intersection of Market Street, Taylor Street, and Golden Gate Avenue.

b) View with the proposed project.

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 30b

Project Rendering from Market Street Theater and Loft District

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a) Existing view south toward 973 and 979-989 Market streets.

b) View with the proposed project.

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 30c

Project Rendering from Market Street Theater and Loft District

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One non-contributing building within the Market Street Theater and Loft historic district, the David Hewes Building at 995-997 Market Street (Assessor's Block 3704, Lot 078), partially obstructs views of the proposed project from within the district. This 16-story building at the southeast corner of Market and Sixth Street is located toward the eastern boundary of the historic district across Stevenson Street and provides a visual buffer between Market Street and the project site. While the proposed tower would be visible behind the Market Street Theater and Loft historic district contributors, the introduction of a large, contemporary building, such as the proposed project, within an already densely developed urban environment would not overpower or substantially diminish the Market Street Theater and Loft historic district contributors as viewed from the central artery of this district.

Overall, the proposed project would not remove or alter any physical features of the Market Street Theater and Loft historic district and would not materially impair existing historic resources or their surroundings such that the historic district would no longer be able to convey its historic significance. Although there are individually eligible historic resources within the Market Street Theater and Loft historic district, the impact of the proposed project on individual resources would be similar to the impact of the project on the historic district as a whole. Therefore, the proposed project would not cause a substantial adverse change in the historic significance of the Market Street Theater and Loft historic district or individually eligible resources within the district and the impact would be less than significant.

SIXTH STREET LODGINGHOUSE HISTORIC DISTRICT

The proposed 27-story, mixed-use residential building is compatible with adjacent and nearby contributors to the Sixth Street Lodginghouse historic district, which predominantly includes mixed-use buildings (Table 3-12, Figure 25). Adjacent and nearby contributors to the Sixth Street Lodginghouse historic district, built between 1906 and 1913, are characterized by brick and stucco exterior cladding and have minimal ornamentation with some limited use of classical motifs on cornices and window surrounds. These buildings' primary façades are oriented toward Sixth Street, facing away from the project site. The rear façades of the Sixth Street Lodginghouse historic district contributors overlooking the project site lack ornamentation, and are characterized by brick masonry and stucco cladding. Punched openings are present in the upper stories of three of the four contributors adjacent to the project site: 39-41, 43-45, and 47-55 Sixth streets.

The contemporary design of the proposed project would be generally compatible with the character of the rear façades of the historic district's contributors that face the project site. The finish materials for the proposed project– glass, metal, and concrete – and grey and brown color palette would be compatible with the materials and finishes present on nearby Sixth Street Lodginghouse historic district contributors. The rectilinearity; three-part vertical composition of the podium, tower, and mechanical penthouse; and regular pattern of glazed openings would refer somewhat to the composition and arrangement of windows on the adjacent and nearby historic buildings. As such, the proposed project would be recognizable as new construction, while respecting the materials and finishes of nearby historic buildings.

The most substantial difference in character between the adjacent and nearby historic district contributors and the proposed project is the building height. The proposed project would be 27 stories, while the adjacent and nearby contributors to the Sixth Street Lodginghouse historic district are between two and seven stories. The proposed project includes some features which would reduce the visual impact of its overall height as viewed from adjacent public rights-of-way. The six-story podium level of the proposed building, which would be most pronounced at the Stevenson Street-facing façade, would sit within the range of existing building heights of contributors to the Sixth Street Lodginghouse historic district. The tower portion of the proposed building would

be less visually dominant at the Stevenson Street side of the building, where it would be setback approximately 39 feet from the property line, than at the primary, Jessie Street-facing façade, which has no setback. The stepped setbacks at the southwest side would provide a visual transition between the proposed project and immediately adjacent district contributors.

When viewed from the Sixth Street public right-of-way faced by the primary façades of adjacent and nearby district contributors, the height of the proposed building would be more pronounced than in the nearby Market Street Theater and Loft historic district. The comparative street views and renderings in Figures 31a and 31b depict the general outline of the proposed tower as it would be perceived from various locations within the historic district. While construction of the proposed project would introduce a new visual element outside of the historic district and to the rear of district contributors, the introduction of a large, contemporary building within an already densely developed urban environment would not diminish the integrity of the Sixth Street Lodginghouse historic district which, itself, is characterized by dense urban development.

The proposed project would not remove or alter any physical features of the Sixth Street Lodginghouse historic district and would not materially impair existing historic resources or their surroundings such that the historic district would no longer be able to convey its historic significance. Although there are eligible historic resources within the Sixth Street Lodginghouse historic district, the impact of the proposed project on individual resources would be similar to the impact of the project on the historic districts as a whole. Therefore, the proposed project would not cause a substantial adverse change in the historic significance of the Sixth Street Lodginghouse historic district or individually eligible resources within the district and the impact would be less than significant.

MINT-MISSION ARTICLE 11 CONSERVATION DISTRICT

The proposed 27-story, mixed-use residential building would be compatible with nearby contributors to the Mint-Mission article 11 conservation district, which includes mixed-use, commercial, and industrial buildings (Table 3-13, Figure 25). Nearby contributors to the Mint-Mission article 11 conservation district, built between 1907 and 1930, are typically constructed of reinforced concrete and feature painted and stucco-clad primary façades with minimal ornamentation and broad, divided-lite glazing at the upper stories. The primary façades of district contributors to the Mint-Mission article 11 conservation district that are closest to the project site face Mission Street. These buildings were constructed on through lots, and thus have rear façades facing the Jessie Street public right-of-way and overlooking the project site. These rear façades lack ornamentation, and are typically characterized by unfinished or painted concrete with regular grids of rectangular punched openings.

District characteristics are emphasized in the article 11 standards and guidelines for new construction.[139] The article 11 standards and guidelines would not be applicable to the proposed project as the site is not located within the Mint-Mission article 11 conservation district. The proposed project would provide a contemporary design that is generally compatible with the character of the rear façades of the Mint-Mission article 11 conservation district contributors. The proposed project's finish materials – glass, metal, and concrete – and grey and brown color palette are generally compatible with the materials and finishes present on contributors to the Mint-Mission article 11 conservation district. The rectilinearity; three-part vertical composition of the podium, tower, and mechanical penthouse; and regular pattern of glazed openings would refer somewhat to the composition and the arrangement of windows of the nearby historic buildings. As such,

[139] City of San Francisco Planning Code, Appendix K to Article 11: Mint-Mission conservation district, electronic resource at https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_planning/0-0-0-59356, accessed March 23, 2022.

the proposed project would be recognizable as new construction, while respecting the materials and finishes of nearby historic buildings in the Mint-Mission article 11 conservation district.

The most substantial difference in character between the nearby contributors to the Mint-Mission article 11 conservation district and the proposed project is the building height. The proposed project would be 27 stories, while the Mint-Mission article 11 conservation district contributors closest to the project site, opposite Jessie Street, are two to five stories in height. At the Jessie Street frontage, the existing buildings typically have minimal setbacks from the property line. The proposed project would follow this street-level pattern of minimal setback; however, the building's height, at 27 stories, would be substantially taller than any contributor to the Mint-Mission article 11 conservation district. There are other non-contributing buildings within the Mint-Mission article 11 conservation district that are taller than the typical heights of contributors to this district, such as the Hampton Inn building at 942-946 Mission Street which is 15 stories at the Jessie Street-facing rear façade.

Additionally, there are two recently completed projects nearby that are located outside of the Mint-Mission article 11 conservation district that are taller than the typical heights of contributors to this district. The two nearby projects include a 20-story tower at 434 Minna Street and a 25-story tower at 415 Natoma Street that are approximately 330 and 800 feet respectively to the southeast of the project site. The 32-story building at 888 Howard Street is located approximately 0.2 miles to the east of the project site.

When viewed from the Mission Street public right-of-way, which the primary façades of the adjacent and nearby district contributors are oriented toward, the height of the proposed building would be less than it would be perceived from these contributors' rear façades that are closer to the project site. The comparative street views and renderings in Figures 32a through 32c depict the general outline of the proposed tower as it would be perceived from two locations within the historic district. The proposed project would be visible above the rooflines of Mint-Mission article 11 conservation district contributors; however, the change in setting caused by the proposed project would not diminish the integrity of the Mint-Mission article 11 conservation district. The character and features of the contributing buildings to the Mint-Mission Article 11 conservation district, as viewed from Mission Street, would not be impacted.

The proposed project would not remove or alter any physical features of the Mint-Mission article 11 conservation district and would not materially impair existing historic resources or their surroundings such that the conservation district would no longer be able to convey its historic significance. Although there are individually eligible historic resources within the Mint-Mission article 11 conservation district, the impact of the proposed project on individual resources would be similar to the impact of the project on the conservation district as a whole. Therefore, the proposed project would not cause a substantial adverse change in the historic significance of the Mint-Mission article 11 conservation district or individually eligible resources within the district and the impact would be less than significant.

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a) Existing view southeast toward 35-37, 39-41, 43-45, 47-55, and 65-83 Sixth streets.

b) View with the proposed project.

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 31a

Project Rendering from Sixth Street Lodginghouse Historic District

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a) Existing view northeast from intersection of Sixth and Jessie streets, 47-55 Sixth Street is in the left side of the photo.

b) View with the proposed project.

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 31b

Project Rendering from Sixth Street Lodginghouse Historic District

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a) Existing view north from the intersection of Sixth and Mission streets. 481 Jessie Street/986 Mission Street, 479 Jessie Street/980-984 Mission Street, and 972-976 Mission Street are in the right side of the photo.

b) View with the proposed project.

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 32a

Project Rendering from Mint-Mission Article 11 Conservation District

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a) Existing view southwest from intersection of Jessie and Mint streets.

b) View with the proposed project.

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 32b

Project Rendering from Mint-Mission Article 11 Conservation District

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a) Existing view to the northwest from the intersection of Mission Street and Fifth Street. The old U.S. Mint building is in the center of the photo.

b) View with the proposed project.

SOURCE: Solomon Cordwell Buenz 2022

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FIGURE 32c

Project Rendering from Mint-Mission Article 11 Conservation District

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PG&E CITY BEAUTIFUL SUBSTATIONS DISCONTIGUOUS THEMATIC HISTORIC DISTRICT

As an industrial facility, the Clearway Energy Thermal Power Station (a contributor to the PG&E City Beautiful Substations Discontiguous Thematic historic district) to the northeast of the project site, built in 1924, differs in character from other nearby historic district contributors in its use, massing, and composition. The Clearway Energy Thermal Power Station is significant for its architecture and association with other substations built throughout the downtown area in the early decades of the 20th century, which form a discontiguous district of stations constructed to support San Francisco's urban infrastructure. The northwest and southwest façades of the concrete building are minimally ornamented and without windows, with incised lines, simulated quoining at the corners, and a simple box cornice. With exception of the two 220-foot stacks, the Clearway Energy Thermal Power Station building's overall massing is blocky and horizontally oriented.

Construction of the proposed 27-story mixed-use residential building would introduce a new visual element to the surroundings of the Clearway Energy Thermal Power Station; however, the overall urban character of the Clearway Energy Thermal Power Station's existing setting would not substantially change. The proposed project would not remove or alter any physical features of the PG&E City Beautiful Substations Discontiguous historic district and would not materially impair existing historic resources or their surroundings such that the historic district would no longer be able to convey those aspects of its character that justify its eligibility for listing, and the impact would be less than significant.

SOUTH PARK HISTORIC DISTRICT

As discussed above, the historic district at South Park which, has been determined to have an added layer of significance for its association with the historic Filipino community in the SoMa neighborhood, is more than 0.75-mile in distance from the project site. Due to this distance, and the presence of tall, dense urban development between this district's contributors and the project site, the proposed project would not impact the setting of the historic district.

WESTERN SOMA LIGHT INDUSTRIAL AND RESIDENTIAL HISTORIC DISTRICT

Although the Western SoMa Light Industrial and Residential historic district is closer to the project site than the South Park historic district, the nearest contributing building at 1077-1081 Mission Street, which makes up the northern boundary of the district, is approximately 900 feet from the project site. The surrounding setting of the mixed urban development between the historic district and the proposed project provides a buffer such that the proposed project would not impact the setting of the historic district. Therefore, the proposed project would not cause a substantial adverse change in the significance of the identified historic districts associated with the SOMA Pilipinas Filipino community and the impact would be less than significant.

IDENTIFIED INDIVIDUAL HISTORIC RESOURCES ASSOCIATED WITHIN THE SOMA PILIPINAS FILIPINO COMMUNITY

Similarly, the proposed project's changes in setting associated with two individual California Register-eligible resources identified near the project site that have significant associations with the SOMA Pilipinas Filipino community (1010 and 953 Mission streets) would not result in significant impacts to these resources. Both 1010 and 953 Mission streets are five-story commercial and residential buildings located in a densely developed urban setting. Though the upper stories of the proposed project would be visible from the public rights-of-way adjacent to 1010 and 953 Mission streets, the proposed project would not impact the settings of these buildings

to the degree that their potential to be found eligible for listing at the local, state, or national level for their association with the SOMA Pilipinas Filipino community would be diminished.

The proposed project's changes in setting to the old mint building at 88 Fifth Street would not result in a significant impact to this individual historic resource. The existing historic districts and individual historic resources that surround the old mint building on all sides provide a buffer transition between it and the surrounding urban environment. To the east, separating the proposed project from the old mint is the article 11 Mint-Mission conservation district and the Clearway Energy Thermal Power Station that is a contributing building to the PG&E City Beautiful Substations Discontiguous historic district. Furthermore, the March 5, 2020 Shadow Analysis Report prepared by Prevision Design for the proposed project and October 5, 2022 Supplementary Shadow Analysis memorandum shows that the old mint's open interior courtyard is substantially shaded by existing buildings, including the old mint itself, and that the proposed project would not result in net new shadow on the old mint's open interior courtyard. [140]

Although there are other individually eligible historic resources within the adjacent historic districts that may not have an association with the SOMA Pilipinas Filipino community, the impact of the proposed project on individual resources would be similar to the impact of the project on the historic districts as a whole. Therefore, the proposed project would not cause a substantial adverse change in the significance of the individual resources associated with the SOMA Pilipinas Filipino community and the impact would be less than significant.

CONCLUSION

In summary, the proposed project would not result in a significant impact to the National Register-listed Market Street Theater and Loft historic district, National and California-Register eligible Sixth Street Lodginghouse historic district, article 11 Mint-Mission conservation district, or the California Register-eligible PG&E City Beautiful Substations Discontiguous Thematic historic district; or the individual resources within these historic districts that are adjacent to or near the project site; or impact the setting of old mint or two individual resources associated with the SOMA Pilipinas Filipino community near the project site. For these reasons, the proposed project would not cause a substantial adverse change in the significance of a historic resource as defined in CEQA Guidelines section 15064.5, including those resources listed in article 10 or 11 of the San Francisco Planning Code, and the impact would be less than significant. No mitigation measures are required.

~~Buildings that are identified as contributors and non-contributors within the historic and conservation districts adjacent to the project site are listed in Table 3 and shown on Figure 19.~~

~~Table 3 Contributors and Non-Contributors within Historic/Conservation Districts adjacent to the Project Site~~

~~Map No. Building Address~~	~~Historic/Conservation District~~	~~Date of Construction~~	~~Contributor to Historic District~~
~~35-37 Sixth Street~~	~~Sixth Street Lodging House Historic District~~	~~1908~~	~~Yes~~
~~39-41 Sixth Street~~	~~Sixth Street Lodging House Historic District~~	~~1906~~	~~Yes~~
~~43-45 Sixth Street~~	~~Sixth Street Lodging House Historic District~~	~~1907~~	~~Yes~~

[140] Prevision Design. 2022. *Supplementary Shadow Analysis Memo for the 469 Stevenson Project shadow analysis detailing changes in shadow effects due to a revised project design*. October 5, 2022.

~~Map No. Building Address~~	~~Historic/Conservation District~~	~~Date of Construction~~	~~Contributor to Historic District~~
~~47-55 Sixth Street~~	~~Sixth Street Lodging House Historic District~~	~~1912~~	~~Yes~~
~~65-83 Sixth Street~~	~~Sixth Street Lodging House Historic District~~	~~1913~~	~~Yes~~
~~986 Mission Street / 481 Jessie Street~~	~~Mint-Mission article 11 Conservation District~~	~~1907~~	~~Yes~~
~~980-984 Mission Street/ 479 Jessie Street~~	~~Mint-Mission article 11 Conservation District~~	~~1924~~	~~Yes~~
~~972-976 Mission Street~~	~~Mint-Mission article 11 Conservation District~~	~~1925~~	~~Yes~~
~~968 Mission Street~~	~~Mint-Mission article 11 Conservation District~~	~~1930~~	~~Yes~~
~~471 Jessie Street~~	~~Mint-Mission article 11 Conservation District~~	~~1912~~	~~Yes~~
~~956-960 Mission Street~~	~~Mint-Mission article 11 Conservation District~~	~~1910~~	~~No~~
~~Clearway Energy Thermal Power Station (460 Jessie Street)~~	~~PG&E City Beautiful Substations Discontinuous Thematic Historic District~~	~~1924~~	~~Yes~~
~~973 Market Street~~	~~Market Street Theatre and Loft Historic District~~	~~1904~~	~~Yes~~
~~979-989 Market Street~~	~~Market Street Theatre and Loft Historic District~~	~~1907~~	~~Yes~~
~~995 Market Street / 1 Sixth Street~~	~~Market Street Theatre and Loft Historic District~~	~~1908~~	~~No~~

~~Source: San Francisco Planning Department. 2019. Historic Resource Status for Properties Adjacent to 469 Stevenson Street. September 25.~~

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

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

~~In summary, the proposed project would not result in a significant impact to the National Register-eligible Market Street Theatre and Loft Historic District, National and California-Register eligible Sixth Street Lodging~~

~~House Historic District, article 11 Mint-Mission Conservation District, or the California Register-eligible PG&E City Beautiful Substations Discontinuous Thematic Historic District. No mitigation measures are required. This topic will not be discussed in the EIR.~~

Impact CR-2: Demolition of the existing surface parking lot and construction of the proposed project ~~would not~~ could result in a significant impact to adjacent historic resources. (*Less Than Significant Impact with Mitigation*)

As discussed above, the project site is adjacent to or near several individual historic resources and contributors to the National Register-listed Market Street Theater and Loft historic district, the National and California Register-eligible Sixth Street Lodginghouse historic district, the article 11 Mint-Mission conservation district, and the California Register-eligible PG&E City Beautiful Substations Discontiguous Thematic historic district. Projects adjacent to historic resources may have the potential to cause construction impacts on those resources. Four of the contributors to the Sixth Street Lodginghouse historic district, 35-37, 39-41, 43-45, and 47-55 Sixth streets, directly abut the southwest side of the project site. Additionally, the Clearway Energy Thermal Power Station directly abuts the northeast side of the project site.

As further described in section 3.C, Geology and Soils, the 2022 preliminary geotechnical report (Appendix L1) prepared for the proposed project concludes that construction of the proposed project's three basement levels and mat foundation (if the project is constructed on either a mat foundation or a deep foundation system) would require shoring and underpinning to protect adjacent buildings. The 2022 preliminary geotechnical report also provides recommendations for a pre-construction survey and monitoring program to identify the conditions of existing adjacent improvements before construction commences. The program would be undertaken prior to installation of shoring, excavation, and foundation installation to monitor the effects of these operations. The monitoring would provide timely data, which can be used to modify the shoring system if needed. Survey points would be installed on the shoring and on the adjacent streets, buildings, and other improvements that are within 150 feet of the proposed excavation. The monitoring program would also establish a baseline of conditions before starting construction and identify the effects of the construction on the adjacent buildings and improvements. The monitoring program would include survey points, vibration and sound-level monitors, tilt-meters, and crack meters installed in and on adjacent structures, and inclinometers to monitor the movement of shoring walls, and piezometers to monitor groundwater levels. Specific recommendations for the program would be included in the design-level geotechnical investigation report and included in the shoring documents.

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

Perceptible groundborne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the PPV. The updated Noise Technical Memorandum (Appendix F) evaluates the potential for the proposed project's construction equipment to generate vibration at the surrounding buildings and compares the resulting vibration levels with the applicable Caltrans building damage criteria (see Table 3-16 above) to determine whether

construction activities would generate vibration at levels that could result in building damage. Impact CR-2 has been updated with information based on the 2022 preliminary geotechnical report and the updated Noise Technical memorandum, which replaces the analysis provided in Impact NO-2 of the previously circulated initial study for the previously circulated draft EIR related to the potential for vibration-generating construction equipment to result in damage to historic buildings. This updated analysis is provided in response to the board's findings related to potential impacts on historic resources.

Table ~~12~~ 3-17 summarizes typical vibration levels generated by construction equipment that would be used by the proposed project at various distances.

Table ~~12~~ 3-17 Vibration Source Levels for Construction Equipment

Equipment	Maximum Estimated PPV at 1 Foot (Directly Adjacent to Property)	Estimated PPV at ~~25~~ 5 Feet	Estimated PPV at ~~50~~ 10 Feet	Reference PPV at 25 feet	Estimated PPV at ~~50~~ 40 Feet
Large bulldozer[1]	11.125	~~0.089~~ 0.995	~~0.031~~ 0.352	0.089	~~0.031~~ 0.044
Caisson drilling[2]	11.125	~~0.089~~ 0.995	~~0.031~~ 0.352	0.089	~~0.031~~ 0.044
Hoe Ram	11.125	0.995	0.352	0.089	0.044
Jackhammer	4.375	0.391	0.138	0.035	0.017
Loaded trucks	9.500	~~0.076~~ 0.850	~~0.027~~ 0.300	0.076	~~0.027~~ 0.038
Small bulldozer	0.375	~~0.003~~ 0.034	~~0.001~~ 0.012	0.003	~~0.001~~ 0.015

Notes:
1. Used to approximate vibration from a large tractor, backhoe, and loader for this project
2. Used to approximate vibration from a drill rig for this project.
Source: Federal Transit Administration 2018

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The following equation can be used to estimate the vibration level at a given distance for typical soil conditions.[141] PPVref is the reference PPV from Table ~~12~~ 3-17.

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

Table ~~12~~ 3-16, above, summarizes the vibration damage criteria suggested by Caltrans.[142]

The four contributors (35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, and 47-55 Sixth Street) adjacent to the project site within the Sixth Street Lodginghouse historic district and the adjacent Main Building at the Clearway Energy Thermal Power Station within the PG&E City Beautiful Substations Discontiguous Thematic historic district could be exposed to substantial vibration levels associated with the project construction activities.

As discussed in the updated Noise Technical Memorandum, these buildings fall within the Caltrans damage criteria category of "Historic and Some Old Buildings" [143] During construction of the proposed project, vibration-generating equipment may be used as close as ~~20 feet~~ 1 foot from the nearest vibration-sensitive buildings along Sixth Street, including 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station. These are adjacent historic properties that could be damaged by excessive vibration associated with construction activities. ~~Also, older and historic buildings can be damaged by excessive vibration associated with construction activities.~~ The properties nearest to the project site that are most susceptible to vibration, their distance to the project site, ~~date of construction and construction type,~~ and the applicable Caltrans damage criteria for each building are presented in Table ~~14~~ 3-18. The proposed construction equipment that would generate vibration was analyzed using the vibration equation referenced above to determine construction vibration levels at nearby buildings. The results of this analysis are also provided in Table ~~14~~ 3-18 along with an indication of whether construction activities would result in vibration at levels that exceed the Caltrans building damage criteria.

Table ~~14~~ 3-18 Expected Construction Vibration Levels at Nearby Historic Properties

Figure 25 Map No.	Vibration-Sensitive Buildings	Caltrans Building Damage Criteria	Distance between Vibration Sensitive Building and Project Site	Calculated Maximum PPV at Property	Exceeds Criteria?
A	35-37 Sixth Street	0.25	~~20 feet~~ 1 foot (Directly Adjacent)	~~0.12~~ 11.125	~~No~~ Yes
B	39-41 Sixth Street	0.25	~~20 feet~~ 1 foot (Directly Adjacent)	~~0.12~~ 11.125	~~No~~ Yes
C	43-45 Sixth Street	0.25	~~20 feet~~	~~0.12~~ 11.125	~~No~~ Yes

[141] Federal Transit Administration (FTA).2018. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impactassessment-manual-fta-report-no-0123_0.pdf.
[142] California Department of Transportation. 2004. Transportation-and Construction-Induced Vibration Guidance Manual. 2004. http://www.dot.ca.gov/hq/env/noise/pub/vibrationmanFINAL.pdf.
[143] Stantec Consulting Services Inc. 469 Stevenson Street Project Noise Technical Memorandum. September 27, 2017.

Figure 25 Map No.	Vibration-Sensitive Buildings	Caltrans Building Damage Criteria	Distance between Vibration Sensitive Building and Project Site	Calculated Maximum PPV at Property	Exceeds Criteria?
			1 foot (Directly Adjacent)		
D	47-55 ~~55~~ Sixth Street	0.25	~~20 feet~~ 1 foot (Directly Adjacent)	~~0.12~~ 11.125	~~No~~ Yes
E	65-83 Sixth Street	0.25	~~52~~ 40 feet	~~0.03~~ 0.04	No
F	Clearway Energy Thermal Power Station Main Building /Smokestack	0.25	Main Building - 1 foot (Directly Adjacent)/ Smokestack - 40 feet	11.125/ 0.04	Yes/ No
G	986 Mission Street / 481 Jessie Street	0.25	~~42~~ 38 feet	~~0.04~~ 0.05	No
H	972-976 Mission Street	0.25	~~42~~ 38 feet	~~0.04~~ 0.05	No
I	968 Mission Street	0.25	~~42~~ 38 feet	~~0.04~~ 0.05	No
J	471 Jessie Street	0.25	~~42~~ 38 feet	~~0.04~~ 0.05	No
K	956-960 Mission Street	0.25	51 feet	0.03	No
L	995 Market Street / 1 Sixth Street	0.25	38 feet	0.05	No
M	979-989 Market Street	0.25	~~22~~ 27 feet	~~0.11~~ 0.08	No
N	973 Market Street	0.25	~~22~~ 27 feet	~~0.11~~ 0.08	No
~~-~~	~~Clearway Energy Thermal Power Station~~	~~0.25~~	~~40 Feet~~	~~0.04~~	~~No~~
~~-~~	~~986 Mission Street /481 Jessie Street~~	~~0.25~~	~~42 feet~~	~~0.04~~	~~No~~
O	479 Jessie Street/ 982-984 Mission Street	0.25	~~42~~ 38 feet	~~0.04~~ 0.05	No
~~-~~	~~477 Jessie Street~~	~~0.25~~	~~42 feet~~	~~0.04~~	~~No~~

As shown in Table ~~14~~ 3-18, construction equipment would ~~not~~ generate vibration levels that exceed the building damage criteria. ~~Impacts from construction vibration to adjacent buildings would be less than significant. No mitigation is required. This topic will not be discussed in the EIR.~~

~~The proposed project would use vibration-generating equipment during construction activities. The nearest vibration sensitive buildings that would be exposed to this equipment includes the buildings along Sixth Street (35-37, 39-41, 43-45, and 47-55 Sixth Street), which are approximately 20 feet from the project site~~. According to Caltrans' Construction Vibration Damage Criteria for "Historic and Some Old Buildings," maximum groundborne vibration levels below 0.25 in/sec PPV are not typically expected to cause vibration-related damage to concrete, masonry, and steel-frame historic buildings and structures such as those adjacent to the project site. Based on ~~Caltrans's suggested vibration damage criteria for "Historic and Some Old Buildings" (0.25 peak particle velocity [PPV]) and~~ the PPV equation established by the FTA (PPV = PPVref x $[25/\text{Distance}]^{1.5}$), the vibration-generating equipment used during project construction activities would generate vibration levels up to 11.125 at directly adjacent buildings, which are also historic resources. This estimated maximum PPV level is based on using the most impactful construction equipment operating at 1 foot away from adjacent historic structures. However, vibration levels decrease rapidly within a few feet away from adjacent historic structures. As shown in Table 3-17, vibration levels for a hoe ram, larger bulldozer, or drill rig would be reduced to 0.995 in/sec PPV at 5 feet away, 0.32 in/sec PPV at 10 feet away, and 0.089 in/sec PPV at 25 feet away. At between 10 to 25 feet, construction vibration levels would be below 0.25 in/sec PPV and would not be expected to cause vibration-related damage. Equipment that generates less vibration, such as a jackhammer, would not exceed 0.25 in/sec PPV at 10 feet. Similarly, at 5 feet, a small bulldozer would not exceed 0.25 in/sec PPV. Because construction vibration generating equipment could occur closer than 25 feet from adjacent buildings, the vibration levels generated during project construction would exceed the Caltrans vibration damage criteria of 0.25 in/sec PPV for those historic properties that are directly adjacent to the project construction activity and the project construction activities would potentially generate vibration that results in damage to adjacent historic resources. ~~No mitigation measures are required. This topic will not be discussed in the EIR.~~ Thus, without mitigation, construction of the proposed project would result in vibration levels that could cause physical damage to adjacent historic resources and impacts would be significant.

Mitigation Measure M-CR-2: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction has been identified to reduce construction vibration impacts to less than significant.

> Mitigation Measure M-CR-2: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction.
>
> Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific Pre-construction Survey and Vibration Management and Monitoring Plan to the Environmental Review Officer (ERO) or the ERO's designee for approval. The plan shall identify all feasible means to avoid damage to potentially affected buildings which includes all building and structures at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47- 55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station. The project sponsor shall ensure that the following requirements of the Pre-Construction Survey and Vibration Management and Monitoring Plan are included in contract specifications, as necessary.
>
> *Pre-construction Survey.* Prior to the start of any ground-disturbing activity, the project sponsor shall engage a consultant to undertake a pre-construction survey of potentially affected buildings at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station. The project sponsor shall engage a qualified historic preservation professional and a structural engineer or other professional with similar qualifications to undertake a pre-construction survey of potentially affected historic buildings. The pre-construction

survey shall include descriptions and photographs of all identified historic buildings at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station including all facades, roofs, and details of the character-defining features that could be damaged during construction, and shall document existing damage, such as cracks and loose or damaged features (as allowed by property owners). The report shall also include pre-construction drawings that record the pre-construction condition of the buildings and identify cracks and other features to be monitored during construction. The qualified historic preservation professional shall be the lead author of the pre-construction survey. The pre-construction survey shall be submitted to the ERO for review and approval prior to the start of vibration-generating construction activity.

Vibration Management and Monitoring Plan. The project sponsor shall undertake a monitoring plan to avoid or reduce project-related construction vibration damage to all identified historic buildings at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station and to ensure that any such damage is documented and repaired consistent with the secretary of the interior's standards. Prior to issuance of any demolition or building permit, the project sponsor shall submit the Plan to the ERO for review and approval.

The Vibration Management and Monitoring Plan shall include, at a minimum, the following components, as applicable:

- *Maximum Vibration Level.* Based on the anticipated construction and condition of the affected buildings and/or structures on adjacent properties, a qualified acoustical/vibration consultant in coordination with a structural engineer (or professional with similar qualifications) and a qualified historic preservation professional, shall establish a maximum vibration level that shall not be exceeded at each building/structure on adjacent properties, based on existing conditions, character-defining features, soil conditions, and anticipated construction practices (common standards are a peak particle velocity [PPV] of 0.25 inch per second for historic and some old buildings).

- *Vibration-generating Equipment.* The plan shall identify all vibration-generating equipment to be used during construction (including, but not limited to site preparation, clearing, demolition, excavation, shoring, foundation installation, and building construction).

- *Alternative Construction Equipment and Techniques.* The plan shall identify potential alternative equipment and techniques that could be implemented if construction vibration levels are observed in excess of the established standard (e.g., smaller, lighter equipment could be used in some cases).

- *Construction Best Practices.* The plan shall incorporate construction best practices that outline all feasible means to protect and avoid damage to adjacent historical resources, including, but not necessarily limited to: identifying buffer distances to be maintained based on vibration levels and site constraints between the operation of vibration-generating construction equipment and the potentially affected building and/or structure to avoid damage to the extent possible; staging of equipment and materials and circulation plans that are incorporated into construction documents to minimize impacts to adjacent historical resources; and the installation of physical protection at the boundary of the project site where historical resources are directly adjacent.

- *Vibration Monitoring.* The plan shall identify the method and equipment for vibration monitoring to ensure that construction vibration levels do not exceed the established standards identified in the plan.
    - Should construction vibration levels be observed in excess of the standards established in the plan, the contractor(s) shall halt construction and put alternative construction techniques identified in the plan into practice, to the extent feasible.
    - The qualified historic preservation professional and structural engineer shall inspect each affected building and/or structure (as allowed by property owners) in the event the construction activities exceed the vibration levels identified in the plan.
    - The structural engineer and historic preservation professional shall submit monthly reports to the ERO during vibration-inducing activity periods that identify and summarize any vibration level exceedances and describe the actions taken to reduce vibration.
    - If vibration has damaged nearby buildings and/or structures, the historic preservation consultant shall immediately notify the ERO and prepare a damage report documenting the features of the building and/or structure that has been damaged.
    - Following incorporation of the alternative construction techniques and/or planning department review of the damage report, vibration monitoring shall recommence to ensure that vibration levels at each affected building and/or structure on adjacent properties are not exceeded.
- *Periodic Inspections.* The plan shall identify the intervals and parties responsible for periodic inspections. The qualified historic preservation professional and/or structural engineer shall conduct regular periodic inspections of each affected building and/or structure within 20 feet of the project site (as allowed by property owners) during vibration-generating construction activity on the project site. The plan will specify how often inspections shall occur.
- *Repair Damage.* The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their pre-construction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site consistent with the Secretary of the Interior's Standards in consultation with the qualified historic preservation professional and planning department preservation staff.
- *Vibration Monitoring Results Report.* After construction is complete the project sponsor shall submit to the ERO a final report from the qualified historic preservation professional and structural engineer. The report shall include, at a minimum, collected monitoring records, building and/or structure condition summaries, descriptions of all instances of vibration level exceedance, identification of damage incurred due to vibration, and corrective actions taken to restore damaged buildings and structures. The ERO shall review and approve the Vibration Monitoring Results Report.

Significance after Mitigation: The analysis above demonstrates that the use of vibration generating equipment could result in building damage at adjacent historic resources, resulting in a significant impact. Implementation

of Mitigation Measure M-CR-2: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction, would reduce construction vibration impacts related to building damage by requiring a vibration mitigation plan, monitoring, and inspection. This mitigation measure would also require that any damage that occurs during construction be repaired to the Secretary of the Interior's Standards, thus mitigating building damage from vibration to less than significant levels.

As shown in Table 3-17, vibration levels from construction equipment reduce quickly within a few feet. Additionally, construction activities could use equipment that generates less vibration near adjacent buildings. For example, vibration levels for a jackhammer are reduced from 4.375 in/sec PPV at 1 foot to 0.391 in/sec PPV at 5 feet. Demolition work near adjacent buildings could use a jackhammer instead of a hoe ram, resulting in lower vibration levels. Similarly, construction activities that require a bulldozer could use a small bulldozer instead of a large bulldozer near adjacent buildings, which would result in a vibration level 0.034 in/sec PPV at 5 feet; this vibration level would not be expected to result in building damage. By providing a buffer of 25 feet from highest vibration generating equipment to adjacent buildings, construction vibration levels would be below 0.25 in/sec PPV and would not be expected to cause vibration-related damage. Use of alternative equipment and buffer distances between vibration generating equipment and adjacent buildings are some of the potential measures in the vibration management plan that would be required by Mitigation Measure M-CR-2. Therefore, with implementation of Mitigation Measure M-CR-2, the proposed project's construction activities would not result in a significant impact to historic resources. The impact would be *less than significant with mitigation*.

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

CUMULATIVE IMPACTS

Impact C-CR-1: The proposed project, in combination with cumulative projects, would not result in a significant impact to historical resources, as defined in CEQA Guidelines section 15064.5. (*Less than Significant Impact*)

~~As discussed above, the project site is a surface parking lot and there are no buildings on the project site that are historically significant.~~

The geographic context for cumulative impacts to historic districts and individual resources is cumulative projects within the historic district and adjacent to the historic district's boundaries (i.e., within one block). In some cases, historic resources are part of historic districts, so impacts can extend beyond the project site and adjacent properties into the rest of the historic district. The project site does not contain any existing structures and is not located within a historic district. However, the project site is adjacent to or across the street from the National Register-listed Market Street Theater and Loft historic district, the National and California Register-eligible Sixth Street Lodginghouse historic district, the San Francisco article 11 Mint-Mission conservation district, and a contributor to the California Register-eligible PG&E City Beautiful Substations Discontiguous Thematic historic district. Additionally, the planning department determined that there are two historic districts in SoMa near the project site that have historic associations with the Filipino community: the South Park historic district

and the Western SoMa Light Industrial and Residential historic district. The following discusses the potential cumulative impacts on the adjacent historic districts, individually eligible buildings within those historic districts, and the nearby, individually eligible, old mint. Figure 33 shows the adjacent historic districts relative to the proposed cumulative projects listed in Table 3-1.

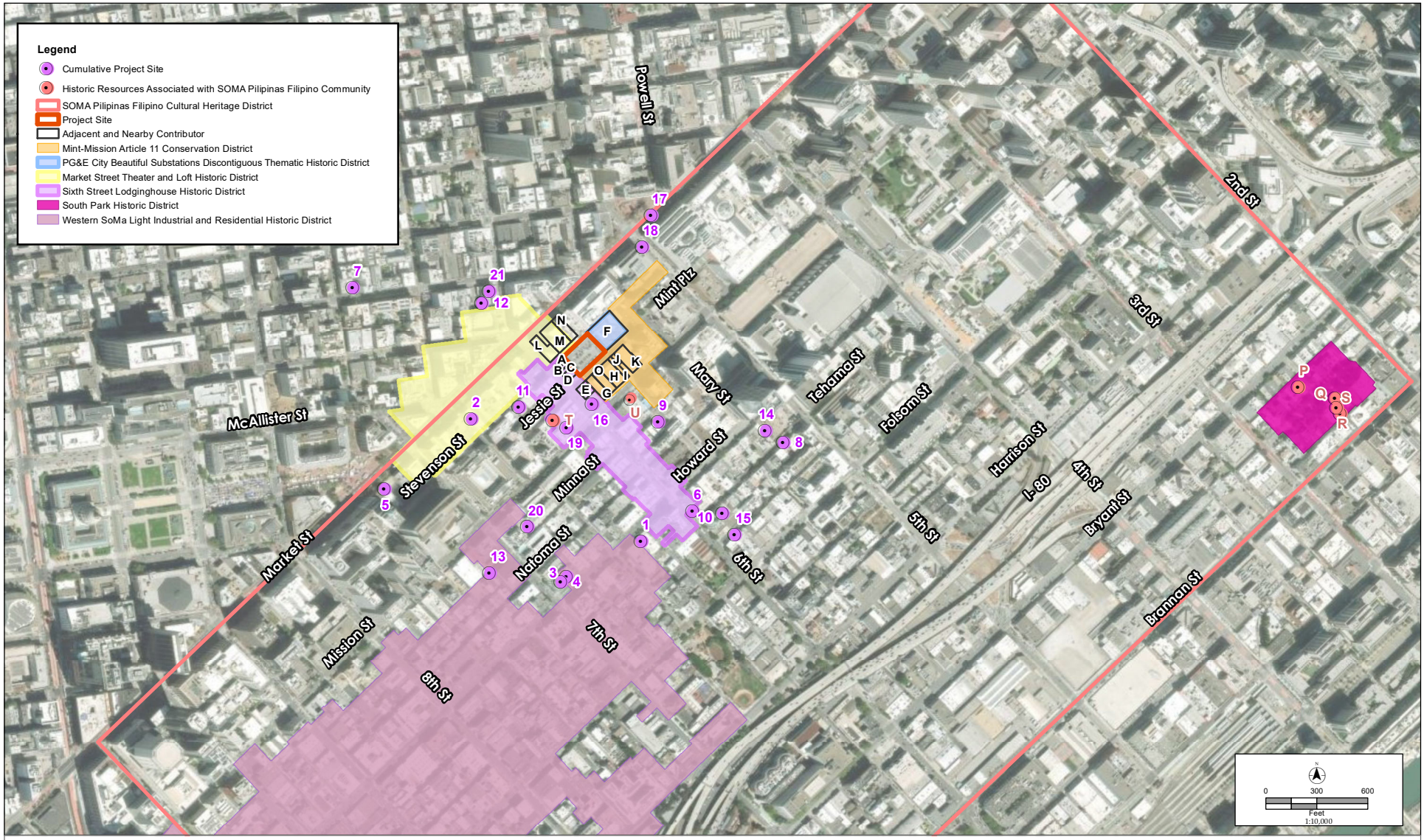
MARKET STREET THEATER AND LOFT HISTORIC DISTRICT

As shown in Figure 33, there is one cumulative project at 1053-1055 Market Street proposed within the Market Street Theater and Loft historic district. The project at 1053-1055 Market Street proposes to demolish the existing building for the construction of a 10-story tourist hotel with ground floor retail space. The environmental review completed for the 1053-1055 Market Street project determined the existing building at 1055 Market Street was not a historic resource or a contributor to the Market Street Theater and Loft historic district. Additionally, the environmental review determined the design of the 1053-1055 Market Street project would be compatible with the setting of the Market Street Theater and Loft historic district and would have a less than significant impact on the district. As discussed, the proposed project would not cause a substantial adverse change in the historic significance of the Market Street Theater and Loft historic district. This project was approved by the planning commission on December 6, 2017.

There are three cumulative projects adjacent to the Market Street Theater and Loft historic district: 1125 Market Street, 527 Stevenson Street, and 57-67 Taylor Street. The project at 1125 Market Street would construct a new 12-story mixed-use hotel and co-working office building on the existing vacant lot. The environmental review for the 1125 Market Street project determined that there would be no direct or indirect alterations to the existing spatial relationships of the Market Street Theater and Loft historic district due to the fact that there are relatively large distances between that project and contributing buildings within the historic district. The project was continued indefinitely at the planning commission on March 4, 2021 and is currently on hold.

The 527 Stevenson Street project would demolish the existing one-story warehouse and construct a new seven-story office building across the street from the Market Street Theater and Loft historic district. This new construction, as currently proposed, would be of a similar height and scale to some of the adjacent buildings within and adjacent to the historic district and would not result in a significant impact to the district. Although the project is currently under review by the planning department, it does not have any anticipated impacts to adjacent historic resources.

The 57-67 Taylor street project proposes to demolish a one-story retail building and construct a new 12-story mixed residential and retail building on the lot that backs up to the Market Street Theater and Loft historic district. Given the relative height and scale of the contributing buildings within the Market Street Theater and Loft historic district, including the eight-story Golden Gate Theater that backs up to the location of the 57-67 Taylor Street project, this project would likely be minimally visible from the historic district and would therefore not have the potential to cause an indirect impact. The project is currently on hold.



Adjacent and Nearby Contributors

A. 35-37 Sixth Street
B. 39-41 Sixth Street
C. 43-45 Sixth Street
D. 47-55 Sixth Street
E. 65-83 Sixth Street
F. 460 Jessie Street (Clearway Energy)
G. 986 Mission Street/481 Jessie Street
H. 972-976 Mission Street
I. 968 Mission Street
J. 471 Jessie Street
K. 956-960 Mission Street (non-contributor)
L. 995 Market/ 1 Sixth Street (non-contributor)
M. 979-989 Market Street
N. 973 Market Street
O. 479 Jessie Street/982-984 Mission Street

South Park Historic District

P. 104 South Park Street
Q. 41-43 South Park Street
R. 45-49 South Park Street
S. 95 Jack London Alley

Historic Resources Associated with SOMA Pilipinas Filipino Community

T. 1010 Mission Street
U. 953 Mission Street

Cumulative Projects

1. 1025 Howard Street
2. 1053-1055 Market Street
3. 1082 Howard Street
4. 1088 Howard Street
5. 1125 Market Street
6. 219 Sixth Street
7. 270 Turk Street
8. 415-417 Tehama Street
9. 457-475 Minna Street
10. 481-483 Tehama Street
11. 527 Stevenson Street
12. 57 Taylor Street (aka 111 Turk Street)
13. 611 Minna Street
14. 921 Howard Street
15. 984 Folsom Street
16. 996 Mission Street
17. Better Market Street
18. Fifth Street Improvement Project
19. 1010v Mission Street
20. 580 Minna Street
21. 67 Taylor Street

SOURCE: ESRI 2022; SF Data 2022; Stantec 2022

Figure 33

Cumulative Projects and Surrounding Historic Districts

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As discussed above, none of the cumulative projects would result in a direct impact to the historic district. The cumulative effect of the proposed project and of 1053-1055 Market Street, 1125 Market Street, 527 Stevenson Street, and 57-67 Taylor Street projects would be a marginal alteration to the surrounding setting of the Market Street Theater and Loft historic district which is already located within the dense urban environment of buildings that have a range of heights and masses. The district boundaries are tightly drawn to only contain buildings facing Market Street on the block and intersections between Sixth and Seventh streets. The unique scale of the richly ornamented contributing two- to eight-story theater and loft buildings facing Market Street would not be affected by minor modifications to the surrounding urban setting. Therefore, the proposed project combined with cumulative projects would not impact the Market Street Theater and Loft historic district to the degree that the historic district would no longer be eligible for listing in the National Register. Cumulative impacts to the Market Street Theater and Loft historic district would be less than significant.

SIXTH STREET LODGINGHOUSE HISTORIC DISTRICT

As shown in Figure 33, there are five cumulative projects within or adjacent to the Sixth Street Lodginghouse historic district. The 1010V Mission Street project is proposed within the Sixth Street Lodginghouse historic district and the 1025 Howard Street and the 457-475 Minna Street projects are adjacent to the district. The 996 Mission Street project was also proposed within the Sixth Street Lodginghouse historic district; however, the application for this cumulative project was withdrawn on July 2, 2019. Similarly, the 219 Sixth Street project was proposed within the Sixth Street Lodginghouse historic district; the application for this cumulative project was withdrawn on June 10, 2021, after publication of the previously circulated initial study for the previously circulated draft EIR.

As mentioned above there is one project proposed within the Sixth Street Lodginghouse historic district: the project at 1010V Mission Street. The proposed project at 1010V Mission Street would construct a nine-story mixed residential building on an empty lot immediately west of 1010 Mission Street. Preservation review as part of environmental review for the 1010V Mission Street project determined the project was in conformance with the Secretary's Standards and compatible with the character of the Sixth Street Lodginghouse historic district, and the adjacent individually eligible building at 1010 Mission Street. Therefore, the proposed project at 1010V Mission Street would not directly impact the building at 1010 Mission Street or its setting to the degree that its potential to be found eligible for listing at the local, state, or national level for its association with the Sixth Street Lodginghouse historic district and the SOMA Pilipinas Filipino community would not be diminished, and the impact would be less than significant. Additionally, the 1010V Mission Street project would not cause an impact on the Sixth Street Lodginghouse historic district because the design of the new construction was determined to be compatible with the character-defining features of the historic district. Environmental review for the project is underway.

There are two cumulative projects adjacent to the Sixth Street Lodginghouse historic district: the projects at 1025 Howard Street and 457-475 Minna Street. The 1025 Howard Street project proposes to construct an eight-story hotel building on the site. Environmental review has not been completed for the 1025 Howard Street project and it is currently on hold. Although the 1025 Howard Street proposed project would be taller than the surrounding contributing buildings within the Sixth Street Lodginghouse historic district, it is across the street from the boundaries of the historic district and its height is compatible with the surrounding dense urban environment of the neighborhood, and as currently proposed is not expected to impact the ability of the historic district to convey its significance.

The 457-475 Minna project proposes to merge four lots for the construction of a 16-story residential building. As an SB 35 project, the 457-4785 Minna Street project was not subject to environmental review and was approved on May 30, 2019. Because the 457-475 Minna Street project is located mid-way along Minna Street, between Sixth and Fifth street, it is not immediately adjacent to the boundaries of the Sixth Street Lodginghouse historic district. The buildings on parcels separating the 457-475 Minna Street project from the boundaries of the Sixth Street Lodginghouse historic district would provide a sufficient buffer such that it would not have an indirect impact on the historic district.

As discussed above, none of the cumulative projects would result in a direct impact to the historic district. The cumulative effect of the proposed project and of the 1010V Mission, the 1025 Howard Street, and the 457-475 Minna Street projects would be a slight alteration to the surrounding setting of the Sixth Street Lodginghouse historic district which is already located within the dense urban environment of buildings that have a range of heights and masses. The significance of the historic district ties to the high concentration of residential hotels aligned along Sixth Street and the linear quality of the district reflects the uniqueness of this portion of Sixth Street as the last concentration of this type of building that was once common along the other surrounding streets in SoMa. Modifications to the surrounding setting would not affect the linear quality of this historic district and its contributors facing Sixth Street and would instead blend in the background of surrounding urban fabric. Therefore, the proposed project combined with cumulative projects would not impact the Sixth Street Lodginghouse historic district to the degree that the historic district would no longer be eligible for listing in the National or California Register. Cumulative impacts to the Sixth Street Lodginghouse historic district would be less than significant.

ARTICLE 11 MINT-MISSION CONSERVATION DISTRICT

As shown in Figure 33, there are no cumulative projects proposed within the article 11 Mint-Mission conservation district. As discussed, the proposed project would not cause a substantial adverse change in the historic significance of the Mint-Mission article 11 conservation district. Additionally, the proposed project would not cause an indirect impact on the significance of 953 Mission Street, the individually eligible historic resource within the district that has significant associations with the Filipino community in SoMa.

There is only one cumulative project adjacent to the article 11 Mint-Mission conservation district: the project at 457-475 Minna Street. As mentioned above, the 457-475 Minna Street project proposes to merge four lots for the construction of a 16-story residential building. As an SB 35 project, the 457-4785 Minna Street project is not subject to environmental review and was approved on May 30, 2019. Although the 457-4785 Minna Street project would be taller than the contributing buildings within the article 11 Mint-Mission conservation district, it is somewhat distanced from the conservation district as the 457-475 Minna Street project is south of the nearest contributing buildings across the street on Minna. While the nearest contributing buildings have elevations on Minna Street, their primary facades face Mission Street, away from the site of the 457-475 Minna Street project. As such, while the 457-475 Minna Street project would likely be visible from within the conservation district, it would be within the context of the surrounding dense urban environment of buildings of varied scales and heights.

As discussed above, none of the cumulative projects would result in a direct impact to the historic district. The cumulative effect of the proposed project and of the 457-475 Minna Street project would be a slight alteration to the surrounding setting of the article 11 Mint-Mission conservation district. The historic district is a combination of residential, commercial, and industrial buildings that reflect the mixed urban development of the SoMa neighborhood in the years following the 1906 earthquake and fire. The mixed nature of the contributing

buildings that range anywhere from one to ten stories in height is such that new construction in the surrounding neighborhood would not affect this district's ability to convey its significance as a tight grouping of buildings constructed in the aftermath of the 1906 earthquake and fire. The slight change in setting would be consistent with the surrounding pattern of development in the neighborhood. Therefore, the proposed project combined with cumulative projects would not impact the article 11 Mint-Mission conservation district to the degree that the historic district would no longer be eligible for listing as an article 11 conservation district. Cumulative impacts to the article 11 Mint-Mission conservation district would be less than significant.

PG&E CITY BEAUTIFUL SUBSTATIONS DISCONTIGUOUS THEMATIC HISTORIC DISTRICT

As shown in Figure 33, there are no cumulative projects proposed within or near the PG&E City Beautiful Substations Discontiguous Thematic historic district. As discussed, the proposed project would not cause a substantial adverse change in the significance of the PG&E Beautiful Substations historic district. Therefore, the proposed project would not combine with a cumulative project to result in a significant cumulative impact on the PG&E City Beautiful Substations Discontiguous Thematic historic district.

SOUTH PARK AND WESTERN SOMA LIGHT INDUSTRIAL AND RESIDENTIAL HISTORIC DISTRICTS

As discussed in Impact CR-1, the South Park historic district and Western SoMa Light Industrial and Residential historic district are both sufficiently distanced from the project site such that there are no anticipated direct or indirect impacts to either of these districts due to the proposed project. Due to this distance, and the presence of tall, dense urban development between these two districts and the project site, the proposed project would not combine with cumulative projects to result a significant cumulative impact on these historic districts.

OLD MINT

There are no identified cumulative projects in close proximity to the old mint. Therefore, the proposed project would not combine with any cumulative projects to result in a significant cumulative impact on the old mint.

CONSTRUCTION

Construction activities that require the use of vibration generating equipment could result in vibration levels at adjacent properties that have the potential to result in building damage. However, temporary construction vibration impacts on historic resources are highly localized and generally confined to the project site and the adjacent properties. As shown in Figure 33, aside from the proposed project, there are no cumulative projects proposed directly adjacent to the historic district contributors that abut the project site. Therefore, construction activities associated with the proposed project would not combine with construction activities of cumulative projects to result in a significant cumulative impact on the adjacent historic resources.

CONCLUSION

In summary, the proposed project would not combine with the identified cumulative projects to result in a significant cumulative impact on the Market Street Theater and Loft historic district, the Sixth Street Lodginghouse historic district, the San Francisco article 11 Mint-Mission conservation district, the PG&E City Beautiful Substations Discontiguous Thematic historic district, the South Park historic district, the Western SoMa Light Industrial and Residential historic district, the old mint, or the individually eligible buildings within each of these districts. The proposed project would not combine with any cumulative projects to result in a significant cumulative impact.

3.C Geology and Soils

3.C.1 Introduction

As directed by board of supervisors' motion M21-182 in file no. 211278, this section of this recirculated draft EIR updates the geology and soils analysis presented in the previously circulated initial study for the previously circulated draft EIR. It discusses the relevant environmental setting, regulatory framework, environmental impacts, and mitigation measures related to the potential geotechnical impacts that could result from construction of the proposed project and cumulative projects. The impact analysis focuses on whether the proposed project would: directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a known earthquake fault, seismic ground shaking, liquefaction, and landslides (Impact GE-1); be located on an unstable geologic unit or soil (Impact GE-3); and/or be located on expansive soil (Impact GE- 4). Lastly, cumulative geology and soils impacts related to the above subtopics are addressed in Impact C-GE-1.

As to all other subtopics covered under the Geology and Soils topic in the previously circulated initial study for the previously circulated draft EIR, the board of supervisors' motion found that the previously circulated draft EIR, "complies with CEQA; is adequate, accurate and objective; is sufficient as an informational document; its conclusions are correct; and it reflects the independent judgement of the City." Therefore, the following additional subtopics are considered adequately addressed in the previously circulated initial study for the previously circulated draft EIR and are not addressed further in this section: substantial soil erosion or the loss of topsoil (Impact GE-2), soils incapable of supporting septic systems or alternative wastewater systems where sewers are not available (Impact GE-5), and paleontological resources (Impact GE-6).

A preliminary geotechnical report was prepared on August 18, 2017, for the previously circulated initial study by Langan Engineering and Environmental Services, Inc (geotechnical consultant). The 2017 preliminary geotechnical report prepared for the previously circulated initial study relied on available subsurface information in the site vicinity to develop preliminary conclusions and recommendations.

In response to the board of supervisors' findings, the planning department directed the geotechnical consultant to conduct further geotechnical investigation at the project site. The results of this further geotechnical investigation are presented in the 2022 preliminary geotechnical report (Appendix L1), and included the following (1) evaluating site conditions by drilling two borings to bedrock within the project site in 2020, obtaining shear wave velocity data in one of the borings, and performing laboratory tests on representative soil samples; (2) performing preliminary engineering analyses to develop preliminary recommendations regarding the geotechnical aspects of the project; and (3) the results of a preliminary settlement analyses of a mat foundation performed using Settle3 [144] for the settlement model based on the project site's subsurface conditions, average foundation pressures, depth of excavation, dewatering assumptions, and anticipated building loads. The building loads provided to the geotechnical consultant are based on the building's anticipated concrete construction material. [145]

[144] Settle3, version 4.023.
[145] To accurately estimate building loads it is necessary to know the anticipated material for construction of a building. Concrete is heavier than other types of construction material, such as steel. The material weight can substantially affect building loads used for settlement analysis. The project sponsor is proposing a concrete building and the building loads were calculated using that assumption.

Additionally, the planning department directed the geotechnical consultant to conduct additional analysis related to the geotechnical feasibility of the proposed project based on the findings of the 2022 preliminary geotechnical report and a review of the performance of existing developments near the project site with similar foundations (i.e., mat foundations), foundation loads, and subsurface conditions (Appendix L2). The planning department also directed a third-party consultant to provide a peer review of the 2022 preliminary geotechnical report regarding the short-term and long-term (consolidation) settlement of the proposed structure and expert opinion whether there would be a need to support the foundation on piles extending down to bedrock as potentially necessitated by the presence of Old Bay clay layer between the dense Colma sand layer and the alluvium (Appendix L3).

The information in the 2022 preliminary geotechnical report about the existing subsurface conditions of the project site and potential seismic hazards, including fault rupture, ground shaking, liquefaction, lateral spreading, and seismic densification is provided in the Environmental Setting subsection (section 3.C.2). A summary of the 2022 preliminary geotechnical report findings and additional review of the proposed structure's geotechnical feasibility is provided in the Approach to Analysis subsection (section 3.C.4). The conclusions in the 2022 preliminary geotechnical report and additional geotechnical feasibility reviews informed the planning department's analysis of the proposed project's physical environmental effects related to the potential geotechnical impacts that could result from construction of the proposed project, which is provided under Impacts GE-1, GE-3, and GE-4 in the Impact Evaluation subsection (section 3.C.4).

3.C.2 Environmental Setting

This section summarizes the subsurface conditions of the project site and potential seismic hazards, including fault rupture, ground shaking, liquefaction, lateral spreading, and seismic densification.

SUBSURFACE CONDITIONS

~~The following discussions are based on the information and findings provided in the *preliminary geotechnical investigation* completed by Langan Engineering and Environmental Services, Inc on August 18, 2017.[146] The preliminary geotechnical investigation relied on available subsurface information in the site vicinity to develop preliminary conclusions and recommendations. Pursuant to the geotechnical report, the specific geologic units beneath the project site are as follows (from shallowest to deepest):~~

San Francisco is located within the geologically complex California Coast Range geomorphic province which is characterized by a series of northwest-trending ridges and valleys that run roughly parallel to the San Andreas Fault Zone and can be further divided into the northern and southern ranges that are separated by the San Francisco Bay. The project site is generally underlain with fill, Dune sand, Marsh deposit, Colma Formation sand, Old Bay Clay, alluvium/residual soil, and Franciscan Complex bedrock. The site is outside the historic shoreline, locally referred to as the Sullivan Marsh (Figure 3, Appendix L1) and within the regional seismic hazard zones map (Figure 6, Appendix L1).

The material types and general descriptions of these subsurface materials are provided below and informed by the two soil borings conducted for the 2022 preliminary geotechnical report. The soil borings were drilled on the project site; boring 1 (LB-1) is located approximately 22 feet from Jessie Street and boring 2 (LB-2) is located

~~[146] Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.~~

approximately 8 feet from Jessie Street at the eastern side of the site. Borings LB-1 and LB-2 were drilled within/near the proposed tower footprint (Figure 2, Appendix L1).

- ~~Sandy Fill: Sandy fill depths across the project site range from approximately 5 to 10 feet thick and 35 to 40 feet bgs.~~

- ~~Native Sand: Native sand under the project site is medium dense and is approximately 20 feet thick and 35 to 40 feet bgs.~~

- Fill: The site is blanketed by 8 to 8.5 feet of very loose to medium dense sand with varying silt and clay contents, with brick, concrete, and other debris fragments.

- Dune Sand: The fill is underlain by a 19- to 19.5-foot-thick layer of fine-grained, poorly graded sand (Dune sand). The sand is loose to dense, and typically grades denser with depth. The sand is moist to wet and extends to depths of 27 to 28 feet bgs, an approximate elevation of 2 feet above sea level. [147]

- Marsh Deposit: ~~Marsh deposits on the site range from 5 to 15 feet thick and 35 to 40 feet bgs~~. A 6.5- to 10-foot-thick Marsh deposit underlays the Dune sand. This deposit consists of medium dense clayey sand and medium stiff sandy clay. The bottom of the Marsh deposit extends to depths of 37 to 38 feet bgs, approximate elevation of -7 to -9 feet.

- Colma Formation: Beneath the Marsh deposit (below depths of 37 to 38 feet bgs) is a 60- to 77.5-foot thick layer of sandy soil with varying clay and silt content, known locally as the Colma Formation. The Colma Formation is generally dense to very dense, is generally strong and relatively incompressible. The Colma Formation extends to depths of 98 and 114.5 feet bgs, about an elevation of -69 and -84.5 feet. A 2-foot-thick medium silt clay layer was encountered at 89 feet bgs within the Colma Formation at Boring LB-2.

- ~~Sand: The dense to very dense sand below the marsh deposit is of the Colma formation and is approximately 40 feet thick and 80 feet bgs.~~

- Old Bay Clay: ~~The old bay clay on the site consists of stiff to hard sandy clay and is approximately 5 to 15 feet thick. The top of the old bay clay layer is located at approximately 80 to 90 feet bgs.~~ The Colma Formation is underlain by a 24- to 37-foot-thick layer of marine clay known locally as Old Bay Clay. Old Bay Clay is medium stiff to very stiff with overconsolidation ratios [148] of about 1.8 to 2.0. The Old Bay Clay extends to depths of 135 to 138.5 feet bgs, about an elevation of -106 to -108.5 feet.

- Alluvium/Residual Soil: The Old Bay Clay is underlain by dense to very dense sand and very stiff to hard clay (alluvium and residual soil) to bedrock. Consolidation test results indicate the alluvial clay is overconsolidated and slightly compressible. The alluvium/residual soil extends to depths of about 243 to 249 feet, about an elevation of -220 to -213 feet, which is the approximate top of bedrock.

- Bedrock: ~~Bedrock is likely located at approximately 200 feet bgs.~~ Bedrock at the site consists of a Franciscan Complex Mélange, typically a mixture of sheared and folded sedimentary, igneous, and metamorphic rocks

[147] Elevations in the 2022 preliminary geotechnical report are based on Historic City of San Francisco datum.
[148] Overconsolidation ratio refers to the ratio of the maximum past pressure a soil has experienced over the existing effective overburden pressure felt by the clay under today's conditions.

resulting from large-scale tectonic processes. Bedrock consists predominantly of siltstone and sandstone, and is intensely fractured to fractured, low to moderately hard, weak to friable, and little weathered.

~~According to the preliminary geotechnical report, the loose to medium dense sandy fill, native sand, and marsh deposit, that likely extend 35 to 40 feet bgs, are not suitable for supporting the proposed project. Therefore, the proposed building and three-level below-grade parking structure may be supported on a mat foundation provided the soil beneath the mat is improved to the top of the dense to very dense sand. Ground improvement may include soil-cement columns or drilled displaced columns extending at least 10 feet into the dense sand below the marsh deposit. Alternatively, the structure may be supported on deep foundations gaining support in dense to very dense sand beneath the marsh deposit. A mat or a structurally supported slab can be used with deep foundations.[149] As such, to construct the three-level below-grade parking structure, and a 10-foot thick mat, it is anticipated a 55-foot excavation is required for the proposed project.~~

During the 2020 field investigation (drilling of borings LB-1 and LB-2 included in the 2022 preliminary geotechnical report), groundwater levels were measured in the borings at approximately 19.5 and 32 feet below existing site grades during and after drilling. However, as discussed in the 2022 preliminary geotechnical report, these measurements do not represent stabilized groundwater levels as the groundwater levels would vary seasonally depending on rainfall infiltration and time of year. In addition, the groundwater levels would vary from dewatering activities in the vicinity and utility leaks. On the basis of the available groundwater information (including the historic groundwater levels, between 10 and 30 feet bgs, assuming an average of 20 feet bgs) and past investigations in the vicinity of the site, and to account for seasonal fluctuations and a reasonable consideration for near-future sea level rise, the preliminary geotechnical investigation estimated the groundwater level within the project site could rise to 16 feet below existing street grades, which corresponds to an elevation of 13 feet. [150]

REGIONAL SEISMICITY AND FAULTING

The project site is in a seismically active region. Numerous earthquakes have been recorded in the region in the past, and moderate to large earthquakes should be anticipated during the service life of the proposed project. The San Andreas, San Gregorio, and Hayward faults are the major faults closest to the project site. For each of these faults, as well as other active faults within about 50 kilometers (km) of the site, the distance from the site and estimated mean Moment magnitude [151] are summarized in Table 3-19.

Table 3-19 Regional Faults and Seismicity

Fault Segment	Approx. Distance from Fault (km)	Direction from Site	Mean Characteristic Moment Magnitude
San Andreas 1906 event	13.3	Southwest	8.1
Total Hayward-Rogers Creek Healdsburg	17	East	7.6
Total San Gregorio	18	West	7.6
Pilarcitos	20	Southwest	6.7

~~[149] Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.~~
[150] Langan Engineering and Environmental Services, Inc. 2022. Preliminary Geotechnical Study- 469 Stevenson Street. June 30, 2022.
[151] Moment magnitude is an energy-based scale and provides a physically meaningful measure of the size of a faulting event. Moment magnitude is directly related to average slip and fault rupture area.

Fault Segment	Approx. Distance from Fault (km)	Direction from Site	Mean Characteristic Moment Magnitude
Contra Costa (Lafayette)	29	East	6.1
Contra Costa Shear Zone (connector)	30	East	6.6
Franklin	31	Northeast	6.7
Contra Costa (Larkey)	32	East	6.0
Contra Costa (Dillon Point)	33	Northeast	6.1
Total Calaveras	33	East	7.5
Monte Vista – Shannon	34	South	7.0
Mount Diablo Thrust	34	East	6.6
Mission (connected)	35	East	6.1
Concord	39	East	6.4
Green Valley	41	Northeast	6.8
Contra Costa (Vallejo)	41	Northeast	5.6
Contra Costa (Lake Chabot)	42	Northeast	5.6
Clayton	45	East	6.4
West Napa	46	Northeast	6.8
Greenville	48	East	7.1

Since 1800, four major earthquakes have been recorded on the San Andreas fault. In 1836 an earthquake with an estimated maximum intensity of VII on the Modified Mercalli (MM) scale occurred east of Monterey Bay on the San Andreas fault. The estimated Moment magnitude (M_w) for this earthquake is about 6.25. In 1838, an earthquake occurred with an estimated intensity of about VIII-IX (MM), corresponding to an M_w of about 7.5. The San Francisco Earthquake of 1906 caused the most significant damage in the history of the Bay Area in terms of loss of lives and property damage. This earthquake created a surface rupture along the San Andreas fault from Shelter Cove to San Juan Bautista approximately 470 km in length. It has a maximum intensity of XI (MM), and M_w of about 7.9, and was felt 560 km away in Oregon, Nevada, and Los Angeles. The Loma Prieta Earthquake occurred on October 17, 1989 in the Santa Cruz Mountains with an M_w of 6.9, the epicenter of which is approximately 95 km from the project site.

In 1868, an earthquake with an estimated maximum intensity of X on the MM scale occurred on the southern segment (between San Leandro and Fremont) of the Hayward fault. The estimated M_w for the earthquake is 7.0. In 1861, an earthquake of unknown magnitude (an M_w of about 6.5) was reported on the Calaveras fault. The most recent significant earthquake on this fault was the 1984 Morgan Hill earthquake (M_w = 6.2). The most recent earthquake to affect the Bay Area occurred on August 24, 2014 and was located on the West Napa fault, approximately 49 km northeast of the project site, with an M_w of 6.0.

The 2016 U.S. Geologic Survey (USGS) predicted a 72 percent change of a magnitude 6.7 or greater earthquake occurring in the Bay Area in 30 years. More specific estimates of the probabilities of different faults in the Bay Area are presented in Table 3-20.

Table 3-20 Estimates of 30-Year Probability (2014 to 2043) of a Magnitude 6.7 or Greater Earthquake

Fault	Probability (percent)
Hayward-Rodgers Creek	33
Calaveras	26
N. San Andreas	22
San Gregorio	16
Mount Diablo Thrust	16
Greenville	6

SEISMIC HAZARD

During a major earthquake on a segment of one of the nearby faults, strong to very strong shaking is expected to occur at the project site. Strong shaking during an earthquake can result in ground failure such as that associated with soil liquefaction, [152] lateral spreading, [153] and seismic densification. [154] Each of these conditions has been evaluated in the 2022 preliminary geotechnical report and is summarized below.

FAULT RUPTURE

Historically, ground surface fault rupture closely follows the trace of geologically young faults and occurs when movement on a fault deep within the earth breaks through to the ground surface. The project site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, and no known active or potentially active faults exist on the project site. According to the 2022 preliminary geotechnical report, the risk of fault offset rupture at the project site from a known active fault is low. In a seismically active area, a remote possibility exists for future faulting in areas where no faults previously existed; however, the risk of surface faulting and consequent secondary ground failure at the project site is low.

GROUND SHAKING

The seismicity of the project site is predominantly governed by the activity of the San Andreas and Hayward faults. However, ground shaking from future earthquakes on any of the nearby faults could be felt at the project site. The intensity of earthquake ground motion at the project site would depend upon the characteristics of the generating fault, distance to the earthquake fault, magnitude and duration of the earthquake, and specific subsurface conditions.

LIQUEFACTION AND ASSOCIATED HAZARDS

When saturated soil with little to no cohesion liquefies during a major earthquake event, it experiences a temporary loss of shear strength as a result of a transient rise in excess pore water pressure generated by strong

[152] Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits.
[153] Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces.
[154] Seismic densification (also referred to as Differential Compaction) is a phenomenon in which non-saturated, cohesionless soil is densified by earthquake vibrations, causing ground-surface settlement.

ground motion. Flow failure,[155] lateral spreading, loss of bearing, ground fissures, and sand boils are evidence of excess pore pressure generation and liquefaction.

The site is within a liquefaction hazard zone as designated by the California Divisions of Mines and Geology seismic hazard zone map for the area. No observations of liquefaction and lateral spreading were documented near the project site during either the 1906 San Francisco or 1989 Loma Prieta earthquakes. The results of the analyses contained in the 2022 preliminary geotechnical report indicate that the loose and medium dense clayey sand within the Marsh deposit, encountered below the design groundwater level, are susceptible to liquefaction during a major seismic event on a nearby fault. The 2022 preliminary geotechnical report estimated that liquefaction-induced settlement in the Dune sand and Marsh deposit sand could be on the order of 2 inches during a Maximum Considered Earthquake Geometric Mean event.

LATERAL SPREADING

Lateral spreading is a phenomenon in which a surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. The surficial blocks are transported downslope or in the direction of a free face, such as a channel, by earthquake and gravitational forces. Lateral spreading is generally the most pervasive and damaging type of liquefaction-induced ground failure generated by earthquakes.

SEISMIC DENSIFICATION

Seismic densification can occur during strong ground shaking in loose, clean granular deposits above the water level, resulting in ground surface settlement. The degree of susceptibility to seismic densification is directly related to the relative density of the existing granular soil.

3.C.3 Regulatory Framework

FEDERAL REGULATIONS

EARTHQUAKE HAZARDS REDUCTION ACT OF 1977

The Earthquake Hazard Reduction Act of 1977 [156] established the National Earthquake Hazards Reduction Program (NEHRP) "to reduce the risks of life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program." The NEHRPA substantially amended this program in 1990 by refining the description of the agency responsibilities, program goals, and objectives. The four principal goals of the NEHRPA are:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation;
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems;
- Improve earthquake hazards identification and risk assessment methods, and their use; and
- Improve the understanding of earthquakes and their effects.

[155] Flow-failure conditions are divided into two types: (1) unlimited flow if pore-pressure reductions caused by dilatancy during flow deformation are not sufficient to solidify the material and thus arrest flow, and (2) limited flow if they are sufficient to solidify the material after a finite deformation.
[156] Federal Emergency Management Agency. 1977. National Earthquake Hazards Reduction Program. https://www.fema.gov/emergency-managers/risk-management/earthquake/nehrp

The NEHRPA designates the Federal Emergency Management Agency as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities.

STATE REGULATIONS ~~TO ADDRESS SEISMIC HAZARDS~~

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT OF 1972 (ALQUIST-PRIOLO ACT)

The Alquist-Priolo Act (Public Resources Code section 2621 et seq.) is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location and construction of most types of structures intended for human occupancy[157] ~~overactive fault traces and strictly regulates construction in the corridors along active faults (e.g., earthquake fault zones).~~ across the trace of active faults and strictly regulates construction in the corridors along active faults (i.e., earthquake fault zones).

CALIFORNIA BUILDING STANDARDS CODE

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

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

CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY AND HEALTH REGULATIONS.

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

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

SEISMIC HAZARDS MAPPING ACT

The Seismic Hazards Mapping Act of 1990 is intended to reduce damage resulting from earthquakes. Although the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act (i.e., the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and all other corollary hazards, and cities and counties are required to regulate development within mapped seismic hazard zones).

LOCAL REGULATIONS AND PLANS ~~TO ADDRESS SEISMIC HAZARDS~~

San Francisco relies on the state and local regulatory review process for review and approval of building permits pursuant to state and local building codes; the building department's implementing procedures, including information sheets; and the Seismic Hazards Mapping Act of 1990 (PRC sections 2690 to 2699.6). Information Sheet No. S-05 identifies the types of work for which geotechnical reports are required, such as for new construction, building additions, and substantial grading, as well as report submittal requirements. The building department reviews project construction documents (foundation and structural addenda to the site permit) for conformance with the recommendations in all project-specific geotechnical reports during its review of the building permit for the project and may require one or more additional site-specific soils report(s) through the building permit application process.

SAN FRANCISCO BUILDING CODE

The San Francisco Building Code is the state building code plus local amendments, including administrative bulletins, local permit processes, and identification of slope protection areas. The San Francisco Building Code is updated on a regular three-year cycle following the update to the state building code.

GUIDELINES AND PROCEDURES FOR STRUCTURAL, GEOTECHNICAL, AND SEISMIC HAZARD ENGINEERING DESIGN REVIEW

Building department AB-082 is part of the local building code that provides guidelines and procedures for structural, geotechnical, and seismic hazard engineering design review by qualified state-licensed engineers. AB-082 also specifies the criteria for determining whether the building department would require independent peer review related to the structural and geotechnical design of a proposed project and the other aspects related to seismic hazards.

If the building department director determines that review is required, "the director shall request one or more Structural, Geotechnical, or Seismic Hazard reviewers having specialized knowledge and experience to provide their professional opinion on identified aspects of a project. The purpose of the review is to provide an independent, objective, technical review of those aspects of the project design that are identified in the scope of the review. The director shall require review for projects where review is required by the San Francisco Building Code. The director may require review for other projects at the director's discretion."

Review under this local code provision is also referred to as Peer Review and encompasses design review. These reviewers would be members of the engineering design review team (EDRT) for the project and shall participate in review of the Geotechnical Engineer of Record's plan for geotechnical site investigations. At the conclusion of the review, and at other times requested by the director, the reviewer(s) shall submit to the director a written

report documenting the scope of the review, the comment log, and the professional opinions of the reviewer(s) regarding the design's conformance with the criteria identified in the scope of the review.

BUILDINGS 160 FEET IN HEIGHT OR TALLER THAT USE NON-PRESCRIPTIVE SEISMIC DESIGN PROCEDURES

Building department AB-083 presents requirements and guidelines for seismic structural design and submittal documents for building permits for new tall buildings that are 160 feet in height or taller that use non-prescriptive seismic design procedures. [158,159] A non-prescriptive seismic design is one that takes exception to one or more of the prescriptive (traditional/strictly code-conforming) requirements of the San Francisco Building Code related to seismic design by invoking Sections 104.2.8, 1605.2, and/or 1629.10.1 of the San Francisco Building Code, which permit alternative (i.e., non-prescriptive) seismic design procedures. To demonstrate that a building design is capable of providing code-equivalent seismic performance, a three-step procedure involving structural design review, submittal requirements, and seismic design requirements to demonstrate acceptable seismic performance for moderate earthquakes is required. At the conclusion of structural design review under AB-083, the structural design reviewer shall provide a written statement that, in their professional opinion, the building elements under their review are equivalent in strength, durability, and seismic resistance of the building to those of a building designed according to the prescriptive provisions of the San Francisco Building Code.

BUILDINGS 240 FEET IN HEIGHT OR TALLER

Building department AB-111 presents additional requirements and guidelines for developing a geotechnical site investigation program and preparing geotechnical reports for foundation design and construction of buildings greater than 240 feet in height. [160]

Geotechnical engineering design review as specified in AB-111 is mandatory for structures 240 feet or taller. In addition to requirements in this bulletin, the procedures and guidelines for that review must also meet the requirements of AB-082. Per AB-082:

> *"If the director determines that review is required, the director shall request one or more Structural, Geotechnical, or Seismic Hazard reviewers having specialized knowledge and experience to provide their professional opinion on identified aspects of a project. The purpose of the review is to provide an independent, objective, technical review of those aspects of the project design that are identified in the scope of the review. The director shall require review for projects where review is required by the San Francisco Building Code. The director may require review for other projects at the director's discretion."*

Per AB-111, the geotechnical member(s) of the EDRT shall participate in the Early Site Permit phase of the project to review the Geotechnical Engineer of Record's [161] plan for geotechnical site investigations and the Geotechnical Engineer of Record's geotechnical basis-of-design document. The EDRT ensures that development projects comply with design guidelines prior to permit or entitlement approvals. During the subsequent design review,

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[158] San Francisco Department of Building Inspection, Administrative Bulletin AB-083, Requirements and Guidelines for the Seismic Design of New Tall Buildings using Non-Prescriptive Seismic-Design Procedures, March 25, 2008 (Updated 01/01/2020 for code references). Available at https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_building/0-0-0-95298.

[159] AB-082 provides the overall requirements for structural and geotechnical review procedures and guidance, but if a project request an exception to provisions in the building code, those projects must follow the requirements in AB-083, for buildings taller than 160 feet tall, or AB-111, for buildings taller than 240 feet tall.

[160] San Francisco Department of Building Inspection, Administrative Bulletin AB-111, Guidelines for Preparation of Geotechnical and Earthquake Ground Motion Reports for Foundation Design and Construction of Tall Buildings, June 15, 2020. Available at https://sfdbi.org/sites/default/files/AB-111%20dated%2006-15-2020.pdf.

[161] A geotechnical engineer of record is typically responsible for the design and construction phases of a project.

the EDRT must use the guidelines outlined in the AB-111 bulletin [162] to review the geotechnical report prepared for foundation design and construction. At the conclusion of the review, the geotechnical members of the EDRT must determine in writing that the geotechnical site investigation plan and geotechnical reports meet the requirements of the San Francisco Building Code and AB-111.

Project submittal documents must be in accordance with the San Francisco Building Code and the building department's interpretations, Administrative Bulletins, and policies. In addition, documents relevant to the Geotechnical Analysis and Recommendations and Structural Design Review (including the type of foundation) shall be submitted by the Engineer of Record to the Director and to the geotechnical members of the EDRT.

In coordination with the project architect and structural engineer of record, the following information (if available at the time of preparation of the geotechnical report) should be provided: The project description; a site location map; height of the structure; number of stories; number of basement levels; lateral and gravity loads resisting systems; anticipated gravity foundation loads or bearing pressures; applicable codes and design guidelines for seismic design of the building; description of the energy dissipation system (if used); and the approach for development of design ground motions.

The following topics are addressed in AB-111 and should be addressed in the geotechnical report: site surface conditions; regional and local geology' seismicity; field Investigation and laboratory testing; subsurface conditions; foundation and geotechnical earthquake engineering studies, including Code-based site classification, ground-motion and seismic ground deformation characterization (including seismic slope stability and soil liquefaction hazards, as appropriate); settlement analysis (including shallow and deep foundations); sea level rise; static and seismic design of basement walls; foundation support (including shallow foundations and deep foundations such as drilled cast-in-place piers [i.e., drilled shafts]); shoring, dewatering, excavation and underpinning systems; and instrumentation and construction monitoring (including selection of instrumentation and monitoring requirements, pre-construction monitoring, and reporting). The site dewatering should be designed by an experienced dewatering designer and implemented by an experienced dewatering contractor to reduce potential for settlement outside the excavation, relative to the baseline groundwater elevation established prior to excavation. The dewatering system design should incorporate the design parameters (soil and groundwater pressure) provided by the geotechnical consultant.

The geotechnical report should also address the effects of construction on adjacent buildings, notably where ground improvements or new foundations extend below the foundation of the adjacent buildings; the potential of loss of ground and displacements due to construction of large-diameter drilled shafts installed deeper than the foundation of an adjacent buildings; the impact of installation of deep foundations on previously installed foundations; the potential impact of ground-surface heave or vibrations on adjacent structures and improvements; and the effect of construction on the groundwater level inside and outside of the construction area.

Prior to completion of new tall building projects subject to AB-111 and where the building would be supported on a shallow foundation (not bearing directly on bedrock), the project sponsor must contract with qualified surveyors and instrumentation engineers to monitor the settlement of the building annually for a 10-year period. Should the settlement monitoring data exceed the geotechnical engineer's estimated time rate of settlement,

[162] San Francisco Department of Building Inspection, Administrative Bulletin AB-111, Guidelines for Preparation of Geotechnical and Earthquake Ground Motion Reports for Foundation Design and Construction of Tall Buildings, June 15, 2020. Available at https://sfdbi.org/sites/default/files/AB-111%20dated%2006-15-2020.pdf.

the project sponsor must notify the building department and bring this condition to the building department's attention for immediate additional investigation.

SAN FRANCISCO PUBLIC WORKS CODE

ARTICLE 4.1

Groundwater encountered during construction of the proposed project would be subject to the requirements of Public Works Code article 4.1 (Industrial Waste) which requires that groundwater meet specified water quality standards before it may be discharged into the sewer system.

In addition, Public Works Code article 4.1 also specifies requirements for batch wastewater discharge permits. Such temporary, or "batch" discharges may result from dewatering of construction sites, wells drilled to investigate or mitigate a contaminated site, water used for cleaning or hydrostatic testing of pipes or tanks, or any other activity that generates wastewater, other than from industrial processes. As part of these permits, the permit applicants shall submit analytical results for specified pollutants. Contractors need to obtain a dewatering and discharge permit from the SFPUC for discharging water into the local combined sewer system when dewatering at a construction site is used.

SAN FRANCISCO SUBDIVISION CODE

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

SAN FRANCISCO GENERAL PLAN

The San Francisco General Plan Community Safety Element addresses issues related to geology and soils by providing policies that emphasize public safety from geologic events. The Community Safety Element of the General Plan includes the following policies related to geology and soils: [163,164]

- Objective 1. Reduce structural and non-structural hazards to life safety and minimize property damage resulting from future disasters.
  - Policy 1.3. Assure that new construction meets current structural and life safety standards.
  - Policy 1.6. Consider site soils conditions when reviewing projects in areas subject to liquefaction or slope instability.
  - Policy 1.7. Consider information about geologic hazards whenever City decisions are made that will influence land use, building density, building configurations or infrastructure are made.

[163] City of San Francisco Planning Department, San Francisco General Plan. https://generalplan.sfplanning.org/. Accessed March 2022.
[164] At time of publication of this recirculated draft EIR, the Community Safety Element is in the process of being updated and would be renamed the Safety and Resilience Element. For more information see: https://sfplanning.org/project/safety-and-resilience-element. As such, the objectives and policies are from the existing Community and Safety Element.

3.C.4 Impacts and Mitigation Measures

This section describes the impact analysis related to whether implementation of the proposed project would exacerbate seismic hazards such as liquefaction hazards, lateral spreading, and subsidence, among others, leading to loss, injury, or death; be located on an unstable geologic unit or soil; and be located on expansive soil. This section also describes the methods used to determine the impacts of the proposed project and lists the criteria used to conclude whether an impact would be significant. Measures to mitigate significant impacts, if necessary, accompany the discussion of each identified significant impact.

SIGNIFICANCE CRITERIA

The proposed project would have a significant impact if it would:

- Directly or indirectly cause 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 Geologists 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,
  - Seismically related ground failure, including liquefaction, or
  - Landslides.
- 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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse; or
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

APPROACH TO ANALYSIS

The planning department considers whether a project would be located in an area that is subject to surface fault rupture of a known earthquake fault or strong seismic ground shaking, as mapped by the California Geologic Survey or presented in other substantial evidence. However, in the *California Building Industry Association v. Bay Area Air Quality Management District* case that was decided in 2015, the California Supreme Court held that CEQA does not generally require lead agencies to consider how existing hazards or conditions might affect a project's users or residents, except when the project would exacerbate an existing environmental hazard. Accordingly, hazards faced by users of a development in an area subject to surface fault rupture or seismic ground shaking are not considered impacts under CEQA, unless the project would exacerbate an existing seismic hazard.

2022 PRELIMINARY GEOTECHNICAL REPORT

This section updates the geology and soils analysis presented in the previously circulated initial study for the previously circulated draft EIR. The previously circulated draft EIR (which includes the previously circulated initial study) relied on the information and findings of the preliminary geotechnical report prepared by the geotechnical consultant on August 18, 2017. The report preliminarily found that the proposed project could be feasibly constructed on a mat foundation or a deep foundation system using drilled cast-in-place piers (i.e.,

drilled shafts), pending additional field investigation and analysis as required by the building code and building department requirements.

As described above, in 2020 the geotechnical consultant conducted further geotechnical investigation at the project site which included drilling two borings to bedrock at the project site, to depths of 250 and 265 feet below site grades; obtaining shear wave velocity data in one of the borings; and performing laboratory tests on representative soil samples. This information was used to perform engineering analyses and develop preliminary conclusions regarding:

- The soil, bedrock, and groundwater conditions at the site.
- The site seismicity and seismic hazards, including potential for fault rupture, ground shaking, and seismically induced settlements.
- The feasible foundation type(s) for the proposed structure.
- The estimates of foundation settlements, including total and differential settlements.
- The feasible shoring and underpinning systems for adjacent structures.
- The 2019 San Francisco Building Code seismic design parameters.
- The site-specific response spectra.
- The construction considerations, including underpinning of adjacent structures, as needed.

The geotechnical consultant incorporated the results of this investigation into the 2022 preliminary geotechnical report for the proposed project. The results of the 2022 preliminary geotechnical report indicate that, on a preliminary basis, a mat foundation or a deep foundation system remain feasible for the proposed project pending additional field investigation and analysis [165] as required by the building department under AB-111 and AB-082. These feasible foundation systems, and other analysis and recommendations in the 2022 preliminary geotechnical report, are described below.

FEASIBLE FOUNDATIONS

1. Mat Foundation. The results of the 2022 preliminary geotechnical report confirm the conclusion of the 2017 geotechnical report that a mat foundation is feasible for the support of the proposed structure. The mat foundation would bear on the Colma Formation, which is generally dense to very dense and is generally strong and relatively incompressible. The geotechnical consultant developed a model to evaluate ground settlement from the anticipated building loads. The anticipated building loads are based on a concrete building structure with three basement levels. The results of the settlement analyses indicate ground settlements between 1 to 2 inches, 50 years after the end of construction at the podium, and 2 to 3.75 inches at the tower portions of the structure. Per AB-111, "*the total short-term and long-term computed settlement of the foundation under gravity and seismic loads should not exceed 4 inches*". Thus, settlement of less than 4 inches is generally considered acceptable. During the building permit review process, settlement analyses that would incorporate the results of additional field investigation and laboratory testing program are required to confirm the preliminary conclusion. Should

[165] Additional field investigation would include the following: drilling a third boring to bedrock, anticipated at a depth of approximately 260 feet, and a fourth boring with a 50-foot rock core, performing a seismic survey to obtain additional shear wave velocity measurements in the boring within the bedrock, performing laboratory testing of additional soil and rock samples, earthquake time series, additional engineering analyses, and recommendations for the foundation and other geotechnical aspects of the proposed project.

further investigation demonstrate that the total short-term and long-term computed settlement of the foundation under gravity and seismic loads would exceed 4 inches, then the mat foundation would not be feasible and a deep foundation system would be necessary.

2. Deep Foundation. A deep foundation system that extends through Old Bay Clay into the underlying alluvium and residual soil and/or Franciscan Formation bedrock is feasible to support the proposed structure. Large-diameter drilled cast-in-place piers (also known as drilled shafts) are feasible. Drilled shafts should transfer structural loads to the relatively incompressible sand and clay deposits and/or bedrock below Old Bay Clay. However, some settlement of the foundation would still occur based on an understanding of the construction material load (concrete) and inclusion of three basement levels. Considering the anticipated drilled shaft lengths and loads, the foundation elements could compress about 1 to 2 inches. Differential settlement [166] of about 1 inch is anticipated between adjacent foundation elements.

SETTLEMENT OUTSIDE OF THE PROPOSED STRUCTURE

Exterior slabs, driveways, utilities, and utility connections at the building interface should be designed to accommodate potential differential settlement of up to 10 inches where the improvements settle relative to the building as a result of liquefaction and seismic densification. These exterior features and connections to the building should also accommodate the anticipated static building settlement of up to 2 inches where the building settles relative to exterior improvements. These settlements are expected to occur at different times during the life of the building.

FEASIBLE SHORING SYSTEMS

Construction of the basement and mat foundation would require excavation on the order of about 46 to 52 feet bgs. The excavation would need to be shored, which means implementing a suitable system to support the sides of the excavation until the foundation and basement levels are constructed and to protect the surrounding improvements. There are feasible shoring systems to support the two potential foundation systems. These include:

- Deep soil mixed (DSM) elements and concrete diaphragm walls. The DSM columns or panels are created by treating soil in place with cement grout. The DSM columns or panels are installed in an overlapping pattern to create a continuous impervious wall. Steel beams are placed in some of the DSM columns or panels to provide rigidity. DSM walls are considered temporary; permanent walls are built within the shoring. Because these walls are continuous, they would temporarily reduce groundwater infiltration, resulting in the need for less dewatering. To properly reduce groundwater inflow in the excavation, the impervious wall would need to extend at least 30 feet below the bottom of the excavation; the actual embedment below the bottom of the excavation would be determined by the shoring/dewatering design engineer as part of the construction documents for the building permit.

- Concrete diaphragm walls. These are concrete walls constructed by slurry trench method. The walls are constructed in sections or panels. A trench is excavated, then slurry is pumped into and maintained within the trench to prevent the soil from caving. After the excavation reaches the design depth and the reinforcement cage is placed, the slurry is displaced by concrete. One primary difference between concrete

[166] Differential settlement is the uneven or unequal settling of a building's foundation. This occurs when the soil under the foundation contracts, expands, or shifts irregularly and causes the structure to settle at a variable rate.

diaphragm walls and a DSM wall is that the diaphragm wall is comprised of structural strength concrete and can be used as both temporary shoring and the permanent walls.

Due to the planned excavation depths, the shoring walls would require grouted tiebacks and/or internal bracing for additional lateral support. Tiebacks would require encroachment agreements from adjacent property owners as well as permits from the City of San Francisco. Further information about the feasible shoring systems can be found in Appendix L1, page 23.

UNDERPINNING

To support the adjacent buildings during excavation, underpinning consisting of slant-drilled piles gaining support in the Colma Formation (below bottom of the excavation) can be used. Underpinning could consist of steel piles installed in slant-drilled shafts (slant piles). Where underpinning is not feasible, the shoring would be designed for the surcharge from adjacent foundations. Further information about underpinning recommendations can be found in Appendix L1, page 26.

EXCAVATION AND SETTLEMENT MONITORING

The 2022 preliminary geotechnical report provides recommendations for a pre-construction survey and monitoring program consistent with AB-111. The program would be undertaken prior to installation of shoring, excavation, and foundation installation to monitor the effects of these operations. The requirement for a pre-construction survey should be included in the shoring drawings and reviewed by the geotechnical engineer of record. The survey should document the condition of the surrounding structures, and include a crack survey, prior to and following construction. The monitoring would provide timely data, which can be used to modify the shoring system if needed. Survey points would be installed on the shoring and on the adjacent streets, buildings, and other improvements that are within 150 feet of the proposed excavation. These points would be used to monitor the vertical and horizontal movements of the shoring and these improvements. These points would be selected with the help of the geotechnical engineer. The monitoring program would also establish a baseline of conditions before starting construction and identify the effects of the construction on the adjacent buildings and improvements. The monitoring program would include survey points, vibration and sound-level monitors, tilt-meters, and crack meters installed in and on adjacent structures, and inclinometers to monitor the movement of shoring walls, and piezometers to monitor groundwater levels. A monitoring program is also recommended to establish the baseline pre-construction groundwater levels at the site for a period of at least 12 months to capture seasonal fluctuations in groundwater.

Pre-construction documentation of surrounding development and a monitoring program are standard construction practice, and these recommendations and standard practices are included in the project description (Chapter 2).

GROUNDWATER AND DEWATERING

Groundwater in the borings drilled on the project site was encountered within 19.5 feet bgs; the high groundwater level can be 16 feet bgs (approximately elevation of 13 feet). An elevation of 13 feet should be assumed as the design groundwater level for preliminary evaluations. For an impervious wall shoring system (such as a secant pile wall or concrete diaphragm wall), the geotechnical consultant anticipates dewatering only within the project site would be required to facilitate excavation for the basement. The dewatering system would need to account for excavation of soil beneath the mat foundation. The use of an impervious shoring system would limit the potential for lowering of the groundwater level outside of the excavation. As required by AB-111,

the site dewatering would be designed by an experienced dewatering designer and implemented by an experienced dewatering contractor to reduce the potential for settlement outside the excavation, relative to the baseline groundwater elevation established prior to excavation.

The 2022 preliminary geotechnical report was reviewed by the building department, who concurred with the analysis in the report. [167] Per the building department, the foundation system and its acceptable performance according to code requirements would be determined during the vetting of the design by the building department and EDRT during the detailed design permitting of the construction plans when additional detailed reports, plans, and calculations are provided.

ADDITIONAL REVIEW OF GEOTECHNICAL FEASIBILITY

The geotechnical consultant also prepared a memorandum (Appendix L2) documenting their conclusions on the geotechnical feasibility of the proposed project based on the 2022 preliminary geotechnical report (Appendix L1) and a review of the performance of existing developments near the project site with similar foundations (i.e., mat foundations), foundation loads, and subsurface conditions.

The geotechnical consultant reviewed the building settlement information for the two recent developments completed in the vicinity of the project site (Figure 1, Appendix L2):

- 434 Minna Street: The 220-foot tall (20-story) residential tower is a concrete building with two basement levels (finished floor at elevation 7.5 feet). Construction of the 20-story residential tower was completed in March 2022.
- 415 Natoma Street: The 395-foot tall (25-story) office tower is a steel frame building with two basement levels extending about 25 feet below street grades (finished floor near elevation of -12 feet). The 25-story office tower was constructed in February 2021.

Both 434 Minna Street and 415 Natoma Street are supported on mat foundations and have similar foundation loads as calculated for the proposed project and similar subsurface conditions as those on the project site. Per AB-111, building settlement must be monitored for 434 Minna Street and 415 Natoma Street and sent to the building department for at least 10 years, which would also be required for the proposed project. Building settlement at 434 Minna Street (last measured in September 2021) was about 0.38- to 0.5-inch and building settlement for 415 Natoma (last measured in September 2021) was about 0.5-inch. Both settlement measurements are within the acceptable range of building settlement identified in AB-111: "*the total short-term and long-term computed settlement of the foundation under gravity and seismic loads should not exceed 4 inches.*"

In addition to 434 Minna Street and 415 Natoma Street, several other existing buildings have foundation pressures that are similar or higher than that calculated for the proposed project, are supported on a mat foundation bearing either directly on Colma Formation, or, on soil improvement extending into the Colma Formation. A list of these buildings is provided below and shown in Figure 1, Appendix L2:

- 55 Fourth Street: A 39-story building constructed in 1989
- 757 Market Street: A 48-story building constructed in 2001

[167] Neville Pereira, Deputy Director, Department of Building Inspection (DBI), *Review of Preliminary Geotechnical Report for 469 Stevenson Street*, Memorandum to Jenny Delumo, Planner 3, Department of Planning, May 13, 2020.

- 888 Howard Street: A 39-story building constructed in 2008
- 680 Mission Street: A 40-story building constructed in 2002

The 10-year building settlement monitoring requirement was established by AB-111, which was published in 2019. As 55 Fourth Street, 757 Market Street, 888 Howard Street, and 680 Mission Street were constructed prior to 2019 they are not subject to the requirements of AB-111 and building settlement information is not available. However, there have been no complaints filed with the building department or notices of violation issued related to settlement or foundation performance for these buildings as of September 2022.[168]

In summary, the geotechnical consultant finds that on the basis of the results of the 2022 preliminary geotechnical investigation report and performance of existing buildings in vicinity of the project site, a mat foundation would be feasible to support the proposed structure. However, as discussed above, the feasibility of a mat foundation would need to be confirmed by a design-level geotechnical investigation report approved by the EDRT assigned to the proposed project by the building department during the review of the project's building permit.

GEOTECHNICAL PEER REVIEW OF PROJECT FOUNDATION SYSTEM

At the request of the planning department and in compliance with building code requirements in AB-111, an independent third-party technical expert prepared a peer review memorandum (Appendix L3) regarding the short-term and long-term (consolidation) settlement of the proposed structure and whether there would be a need to support the mat foundation on piles extending down to bedrock as potentially necessitated by the presence of Old Bay clay layer between the dense Colma sand layer and the alluvium. This analysis was conducted by Dr. Shahriar Vahdani, Ph.D., P.E., of Applied GeoDynamics, Inc.[169] The geotechnical peer review memorandum is based on the following information and analysis:

- Review of the 2022 preliminary geotechnical report
- Review of the geotechnical consultant's "*Scope of Geotechnical Services, Seismic Studies, Design Level Geotechnical Investigation, 469 Stevenson Street, San Francisco, California*", dated August 31, 2022, with respect to number and depth of borings / CPTs, drilling and sampling method, number and type of laboratory tests, and approach to settlement calculation / foundation design that would be undertaken as part of the geotechnical investigation for the final geotechnical report.
- Review of the proposed structure's foundation loads during static loading conditions
- Calculation of short-term and long-term foundation settlement
- Discussions with the design team and review of their short-term and long-term foundation settlement
- Proposed foundation system, which consists of 4 to 10 feet thick mat placed directly at the surface of dense Colma sand layer about 40 feet below the existing ground surface
- Foundation gravity loads of about 7,000 pounds per square feet under the proposed structure

[168] Review of complaints on the San Francisco Property Information Map. Available at: https://sfplanninggis.org/pim/, accessed September 2022.
[169] The building department consulted with Dr. Vahdani in its development of the building department's AB-111, which provides guidelines for geotechnical aspects of design and construction of the foundation of tall buildings, as described above. Dr. Vahdani is on the building department's Pre-Qualified List for Geotechnical Review.

- Subsurface conditions including thickness and compressibility (past pressure, over-consolidation ratio, compression index, and recompression index) of Old Bay clay layer below dense Colma sand layer

Based on the above parameters and results of simplified (hand) calculation, the peer review analysis determined the post-construction, long-term (consolidation) foundation settlement is expected to fall well within values generally accepted from a foundation and structural design point of view, provided that the thickness and compressibility of Old Bay clay layer to be identified through additional borings, sampling, and testing during the final phase of geotechnical investigation will prove to be consistent with those of subsurface conditions at the existing boring locations.

Furthermore, the peer review analysis determined large/unacceptable settlements, such as that observed at 301 Mission Street (i.e., Millennium Tower) would not occur at this site, provided the proposed project is constructed based on the recommendations in the preliminary geotechnical report. This is because depending on the type/number of piles and axial load on each pile, the elastic shortening of a deep foundation may fall within the same range as that of the proposed shallow foundation placed directly at the surface of dense Colma sand layer. This is to say that the use of deep foundations extending to bedrock would not necessarily result in less settlement than a mat foundation supported directly at the surface of dense Colma sand layer. Overall, the proposed foundation system in the preliminary geotechnical report and plans for final geotechnical investigation are in compliance with the guidelines provided in the AB-111.

Therefore, the peer review analysis determined that the proposed foundation system and plans for final geotechnical investigation are in compliance with the guidelines provided in AB-111.

BUILDING DEPARTMENT REQUIREMENTS FOR ADDITIONAL GEOTECHNICAL AND STRUCTURAL REVIEW AND APPROVAL

As discussed under section 3.C.2, regulatory framework, AB-082 presents guidelines and procedures for structural, geotechnical, and seismic hazard engineering design review of buildings and other structures. Additionally, AB-111 presents requirements and guidelines for developing geotechnical site investigations and preparing design-level geotechnical reports for the foundation design and construction of buildings over 240 feet in height. The proposed project would be approximately 274 feet tall (with an additional 16 feet for the rooftop mechanical penthouse and 20 feet for the elevator overrun that would be used to access the roof deck). Therefore, the proposed project would require a design-level geotechnical report, including additional field investigation, laboratory testing program, and supplemental engineering analyses in accordance with AB-111.

For compliance with AB-111, the geotechnical engineer would prepare a design-level geotechnical report that would include the results of the additional field investigation (drilling a third boring to bedrock, anticipated at a depth of approximately 260 feet, and a fourth boring with a 50-foot rock core, performing a seismic survey to obtain additional shear wave velocity measurements in the boring within the bedrock, performing laboratory testing of additional soil and rock samples), earthquake time series, additional engineering analyses, and recommendations for the foundation and for other geotechnical issues relevant to the proposed project. The design-level geotechnical report would be reviewed by one or more geotechnical reviewers who are part of the EDRT assigned to the proposed project by the building department. The EDRT review would be conducted in accordance with the guidelines and requirements in AB-111. At the conclusion of the review, the geotechnical members of the EDRT shall provide a written statement if, in their professional opinion, the geotechnical site-investigation plan and the geotechnical reports (including the engineer of record's geotechnical basis of design document) meet the requirements of the San Francisco Building Code and AB-111.

The additional geotechnical analysis required under AB-111 and independent professional peer review under AB-111 and AB-082 during the building permit review process would confirm the adequacy of the proposed foundation system. The building department would conduct its own review of the project's construction documents for conformance with the San Francisco Building Code and the geotechnical engineer's recommendations as deemed acceptable by the structural and geotechnical peer review process. Because the 2022 preliminary geotechnical report indicates two feasible foundation systems, the analysis in this recirculated draft EIR considers the potential physical environmental impacts of both possible foundation systems.

IMPACT EVALUATION

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

FAULT RUPTURE

Ground rupture is the visible breaking and displacement of the earth's surface along the trace of a fault during an earthquake. The project site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, and no known active or potentially active faults exist on the project site. The San Andreas, Hayward, and San Gregorio faults are the closest major faults to the project site. The San Andreas, Hayward, and San Gregorio faults are designated under the Alquist-Priolo Earthquake Fault Zoning Act and located approximately 8.3 miles southwest, 10.8 miles east, and 11.2 miles west of the project site, respectively. [170] Therefore, no active faults with the potential for surface fault rupture are known to pass directly beneath the project site, and the potential for damage to structures at the project site is low. The proposed project would not exacerbate existing conditions by bringing people or structures into areas potentially susceptible to substantial effects, including fault rupture, which could result in substantial damage to proposed structures or infrastructure, or expose people to substantial risk of injury. Impacts associated with surface rupture from a known earthquake fault would be less than significant. No mitigation measures are required.

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

SEISMIC GROUND SHAKING

The project site is in a seismically active region and is expected to experience strong ground shaking during the design life of the proposed project. The seismicity of the project site is predominantly governed by the activity of the San Andreas and Hayward faults. However, ground shaking from future earthquakes on any of the nearby faults could be experienced at the project site. In accordance with the San Francisco Building Code, the 2022 preliminary geotechnical report conducted a Probabilistic Seismic Hazard Analysis and deterministic analysis to estimate ground shaking at the project site and determine the appropriate seismic design requirements for the proposed project. Construction of the proposed project would be required to comply with the findings and recommendations of the Probabilistic Seismic Hazard Analysis and deterministic analysis, and the provisions of the San Francisco Building Code and the California Building Code, which include engineering standards to

[170] Langan Engineering and Environmental Services, Inc. 2022. Preliminary Geotechnical Study- 469 Stevenson Street. June 30, 2022.

ensure the foundation and basement of the proposed structure would withstand anticipated ground accelerations at the project site.

As required by AB-111, the proposed project would also be required to prepare a design-level geotechnical report. The design-level geotechnical report would be prepared in accordance with the requirements of AB-082 and address the lateral and gravity loads resisting systems; anticipated gravity foundation loads or bearing pressures; applicable codes and design guidelines for seismic design of the building; description of the energy dissipation system (if used); and the approach for development of design ground motions. The design-level geotechnical report would be reviewed by the EDRT assigned to the proposed project by the building department during the review of the site permit to ensure the seismic design criteria is appropriate for the proposed structure. The building department would review the project's final structural and foundation plans (construction documents) to ensure the proposed project conforms with the measures recommended in the design-level geotechnical report and the recommendations made by the EDRT as required by AB-111 and AB-082. Therefore, compliance with the requirements of the San Francisco Building Code, California Building Code, AB-111, and AB-082, would ensure the proposed project would not exacerbate seismic hazards associated with ground shaking in the event of an earthquake, and impacts would be less than significant. No mitigation measures are required.

~~The project site is located within a 30-mile radius of several major active faults, including the San Andreas (7.5 miles), Hayward (10.6 miles), and San Gregorio (11.2 miles) faults. According to the U.S. Geologic Survey (USGS), the overall probability of a magnitude 6.7 or greater earthquake to occur in the San Francisco Bay Area in the next thirty years is 72 percent.[171] The Preliminary Geotechnical Report estimated strong to very strong shaking is expected to occur during the project's lifetime. The proposed project would be required to comply with the provisions of the San Francisco Building, California Building Code, and the recommendations of the design-level geotechnical study in accordance with section 1803 of the San Francisco Building Code to address impacts from seismic ground shaking.~~

~~In addition, new buildings taller than 240 feet are required to comply with the building department's *Interim Guidelines and Procedures for Structural, Geotechnical, and Seismic Hazard Engineering Design Review for New Tall Buildings* (Information Sheet S-18).[172] The interim guidelines supplement and clarify the information in the city's *Guidelines and Procedures for Structural Design Review* (Administrative Bulletin-082),[173] as well as the city's *Requirements and Guidelines for the Seismic Design of New Tall Buildings using Non-Prescriptive Seismic Design Procedures* (Administrative Bulletin-083).[174] The proposed project would construct a 274-foot-tall building (with an additional 10 feet for rooftop mechanical equipment) and therefore is subject to these guidelines. Compliance with these guidelines would require a peer review of the design-level geotechnical study by an engineering design review team to determine the adequacy of the building's foundation and structural design to support the proposed building.[175] The proposed project would also be required to implement a monitoring~~

~~[171] Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.~~
~~[172] City and County of San Francisco. 2017. Interim Guidelines and Procedures for Structural, Geotechnical, and Seismic Hazard Engineering Design Review for New Tall Buildings (Information Sheet [IS] S-18). Available https://sfdbi.org/sites/default/files/IS%20S-18.pdf. Accessed February 10, 2019.~~
~~[173] San Francisco Building Code. 2008. Guidelines and Procedures for Structural Design Review (Administrative Bulletin-082). Available http://www.gsweventcenter.com/GSW_RTC_References/2008_0325_AB_082.pdf. Accessed February 10, 2019.~~
~~[174] City and County of San Francisco. 2007. Requirements and Guidelines for the Seismic Design of New Tall Buildings using Non-Prescriptive Seismic-Design Procedures (Administrative Bulletin-083). Available https://sfdbi.org/ftp/uploadedfiles/dbi/meeting_information/structural/supporting/2008/AB_083_Draft8.pdf. Accessed February 10, 2019.~~
~~[175] City and County of San Francisco. 2017. Interim Guidelines and Procedures for Structural, Geotechnical, and Seismic Hazard Engineering Design Review for New Tall Buildings (Information Sheet [IS] S-18). Available https://sfdbi.org/sites/default/files/IS%20S-18.pdf. Accessed February 10, 2019.~~

~~program to evaluate settlement at the project site during a 10-year period once the certificate of final completion and occupancy is issued.[176]~~

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

LIQUEFACTION AND LATERAL SPREADING

Liquefaction and lateral spreading of soils can occur when ground shaking causes saturated soils to lose strength due to an increase in pore pressure. For substantial lateral spreading displacements to occur, the liquefied soil would consist of saturated cohesionless sediments with penetration resistance, $(N_1)_{60}$, less than 15.[177] The 2022 preliminary geotechnical report determined soils at the project site have a corrected blow count $(N_1)_{60\text{-}cs}$ value greater than 15, and therefore the soils within the project site have a low potential for lateral spreading.[178]

According to the California Geologic Survey seismic hazard zone map for the City and County of San Francisco, the project site is within a designated liquefaction hazard zone.[179] The 2022 preliminary geotechnical report conducted a liquefaction evaluation in accordance with *Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazard Zones in California*, as recommended by the California Geological Survey for sites located within seismic hazard zones. The results of the liquefaction evaluation determined the loose to medium dense Dune sand (extends to depths of 27 to 28 feet bgs) and medium dense clayey sand within the Marsh deposit (extends to depths of 37 to 38 feet bgs), encountered below the design groundwater level, would be susceptible to liquefaction during a major seismic event on a nearby fault.[180] The 2022 preliminary geotechnical report estimated that liquefaction-induced settlement in the Dune sand and Marsh deposit sand could be on the order of 2 inches during a Maximum Considered Earthquake Geometric Mean event. However, the proposed project would require excavation to approximately 55 feet bgs and the removal of approximately 55,850 cubic yards of soil, which would remove the potentially-liquefiable soils in their entirety beneath the proposed structure. The potentially-liquefiable soils would be entirely removed from beneath the structure for construction of either the mat foundation or a deep foundation system to accommodate the proposed three below grade parking levels. In addition, if a deep foundation system is used, drilled cast-in-place piers (i.e., drilled shafts) would be installed through the Old Bay Clay into the underlying alluvium and residual soil (beginning at approximately 138.5 feet bgs) and/or Franciscan Formation bedrock (beginning at approximately 243 to 249 feet bgs).

Furthermore, construction of the proposed project would be required to comply with the Seismic Hazards Mapping Act and the mandatory provisions of the California Building Code, San Francisco Building Code, AB-082, and AB-111. Compliance with these mandatory provisions requires a design-level geotechnical report to

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~~[176] Ibid.~~
[177] Youd, T.L., and Idriss, I.M. 2001. *Liquefaction Resistance of Soils: Summary Report from the 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils*, Journal of Geotechnical and Geoenvironmental Engineering, Vol. 127, No. 4.
[178] Langan Engineering and Environmental Services, Inc. 2022. Preliminary Geotechnical Study- 469 Stevenson Street. June 30, 2022.
[179] California Geologic Survey. Earthquake Zones of Required Investigation San Francisco North Quadrangle. Available http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/SAN_FRANCISCO_NORTH_EZRIM.pdf. Accessed February 10, 2019.
[180] Langan Engineering and Environmental Services, Inc. 2022. Preliminary Geotechnical Study- 469 Stevenson Street. June 30, 2022.

ensure the foundation design and basement of the proposed structure would not be located on soils susceptible to liquefaction. The building department would review the project's structural and foundation plans to ensure they are in conformance with the measures recommended in the design-level geotechnical report and recommendations made by the EDRT as required by AB-082 and AB-111. Therefore, with the removal of the potentially-liquefiable soils as part of the project's proposed excavation to 55 feet bgs to accommodate the three below grade parking levels, and compliance with the requirements of the San Francisco Building Code, California Building Code, AB-082, and AB-111, the proposed project would not exacerbate any risk associated with liquefaction, lateral spreading, or seismic densification, and impacts would be less than significant. No mitigation measures are required.

~~Liquefaction and lateral spreading of soils can occur when ground shaking causes saturated soils to lose strength due to an increase in pore pressure. According to the California Geologic Survey seismic hazard zone map for the City and County of San Francisco, the project site is within a designated liquefaction hazard zone.[181] The preliminary geotechnical report determined the project site is underlain with loose to medium dense sand and the groundwater level is estimated at 15 to 20 feet bgs.[182] The loose to medium dense sand could be susceptible to liquefaction-induced ground settlement and strength loss during a major earthquake. Therefore, the preliminary geotechnical report determined that the potential for liquefaction to occur is high at the project site and up to 2 inches of settlement due to liquefaction could occur. The proposed project would be required to comply with the Seismic Hazards Mapping Act and the mandatory provisions of the California Building Code and San Francisco Building Code. Compliance with these mandatory provisions requires a design-level geotechnical report to evaluate and address the potential for liquefaction and failure-prone soils at the project site. The proposed project would be required to implement the recommendations of the design-level geotechnical report. The building department would review the project's structural and foundation plans to ensure they are in conformance with the measures recommended in the design-level geotechnical reports and recommendations made by the engineering design review team as required by Information Sheet S-18, Administrative Bulletin-082, and Administrative Bulletin-083. Therefore, the proposed project would not increase any risk associated with liquefaction and lateral spreading, and impacts would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.~~

LANDSLIDES

The project site and the surrounding area are relatively ~~flat~~ level with an elevation ranging from 28.5 to 31 feet. ~~Based on the~~ According to the Community Safety Element of the San Francisco General Plan, the project site is not located within a mapped landslide zone.[183] Furthermore, the project site is not within a designated earthquake-induced landslide zone as shown on the California Geological Survey seismic hazard zone map for the area. [184] Therefore, the proposed project would not exacerbate any risk associated with earthquake-induced landslides, and impacts would be less than significant. No mitigation measures are required.

~~[181] California Geologic Survey. Earthquake Zones of Required Investigation San Francisco North Quadrangle. Available http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/SAN_FRANCISCO_NORTH_EZRIM.pdf. Accessed February 10, 2019.~~
~~[182] Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.~~
[183] San Francisco Planning Department. San Francisco General Plan, Community Safety Element. Available http://generalplan.sfplanning.org/Community_Safety_Element_2012.pdf. Accessed February 10, 2019.
[184] California Department of Conservation, Division of Mines and Geology. November 2000. State of California Seismic Hazard Zones, City and County of San Francisco Official Map. https://sfgov.org/sfc/sites/default/files/ESIP/FileCenter/Documents/10438-California%20Seismic%20Hazard%20Zones%20Map.pdf

CONCLUSION

In summary, for the reasons stated above, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismically related ground failure, liquefaction, or landslides. All impacts would be less than significant, and no mitigation measures are required. ~~This topic will not be discussed in the EIR.~~

Impact GE-3: The proposed project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a-result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse. *(Less than Significant Impact)*

According to the 2022 preliminary geotechnical study, the project site is underlain by loose to medium dense sand fill, Dune sand, and marsh deposit, approximately 37 to 38 feet bgs. Beneath the marsh deposit (below depths of 37 to 38 feet bgs) is sandy soil with varying clay and silt content, known locally as the Colma Formation. The Colma Formation is underlain by Old Bay Clay to depths of 135 to 138.5 feet bgs, and alluvium/residual soil that extends to the depths of about 243 to 249 feet, which is the top of bedrock. During the 2020 field investigation, groundwater was encountered within 19.5 feet. However, based on historic groundwater levels, past investigations in the vicinity of the site, and to account for seasonal fluctuations and a reasonable consideration for near-future sea level rise, it is estimated groundwater levels could rise to within 16 feet from existing street grades. [185]

The results of the liquefaction evaluation determined the loose to medium dense Dune sand and medium dense clayey sand within the Marsh deposit, encountered below the design groundwater level, are susceptible to liquefaction and seismic densification. [186] However, soil susceptible to liquefaction generally have a corrected blow count value greater than 15, which indicates that the potential for lateral spreading to occur at the project site is low. Construction of the basement and mat foundation would require an excavation of approximately 55 feet bgs and the removal of approximately 55,850 cubic yards of soil, including all soils susceptible to liquefaction and seismic densification, from the project site. If a deep foundation system is required, drilled cast-in-place piers (i.e., drilled shafts) would be installed through the Old Bay Clay into the underlying alluvium and residual soil (beginning at approximately 138.5 feet bgs) and/or Franciscan Formation bedrock (beginning at approximately 243 to 249 feet bgs). During excavation activities, the proposed project would encounter groundwater and the loose to medium dense sand could become unstable. To address this, the 2022 preliminary geotechnical report recommends the use of shoring and underpinning during construction activities to support the sides of the excavation and protect the adjacent buildings and other improvements as well as the foundation of the proposed structure. Construction of the proposed project would also be required to implement a dewatering system to maintain the water level at the specified depth until the building can resist hydrostatic loads. [187]

The project sponsor is required to implement the final shoring and dewatering systems in accordance with the recommendations of the design-level geotechnical report, and the requirements of San Francisco Building Code, AB-082, and AB-111. Prior to dewatering activities, the project sponsor would be required to notify the SFPUC and obtain a dewatering and discharge permit. [188] Groundwater encountered during construction of the

[185] Langan Engineering and Environmental Services, Inc. 2022. Preliminary Geotechnical Study- 469 Stevenson Street. June 30, 2022.
[186] Ibid.
[187] Ibid.
[188] SFPUC. 2018. Waste Water Discharge Permits. Available https://sfwater.org/index.aspx?page=498. Accessed February 10, 2019.

proposed project would be subject to the requirements of Public Works Code article 4.1 (Industrial Waste) which requires that groundwater meet specified water quality standards before it may be discharged into the sewer system. Adherence to the requirements of the California Building Code, San Francisco Building Code, AB-082, and AB-111 would address any potential impacts related to unstable soils as part of the design-level geotechnical investigation prepared for the proposed project. The building department would review the project's structural and foundation plans to ensure they are in conformance with the measures recommended in the design-level geotechnical reports and recommendations made by the EDRT as required by AB-082 and AB-111. Therefore, the proposed project would not be constructed on a geologic unit or soil that is unstable or that would result in a substantial risk of loss, injury, or death involving unstable geologic units or soils or onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse, and this impact would be less than significant. No mitigation measures are required.

~~According to the preliminary geotechnical study, the project site is underlain by loose to medium dense sandy fill, native sand, and marsh deposit, approximately 35 to 40 feet bgs, with dense to very dense sand extending below to a depth of at least 80 feet.[189] A 5 to 15 foot thick stiff to hard sand clay layer, locally referred to as old bay clay, may be present below the dense to very dense sand at depths of 80 to 90 feet bgs. Groundwater is anticipated within 15 to 20 feet bgs based on sites in the vicinity of the project site.~~

~~The project site would be excavated approximately 55 feet bgs and 55,850 cubic yards of soil would be removed from the project site for construction of the three-level parking garage. During excavation activities, the loose to medium dense sand could become unstable, potentially causing settlement of adjacent structures and streets. The preliminary geotechnical report recommends the use of shoring and underpinning during construction activities to support the sides of the excavation, adjacent buildings, and foundation of the building. Due to the shallow groundwater level, the preliminary geotechnical report also recommends implementation of a dewatering system to lower the groundwater at least 3 feet below the excavation level. The dewatering system would maintain the water level at the specified depth until the building can resist hydrostatic loads.[190] The project sponsor is required to implement the final shoring and dewatering systems in accordance with the recommendations of the design-level geotechnical report, and the requirements of the California Building Code and San Francisco Building Code. Prior to dewatering activities, the project sponsor is also required to notify the SFPUC and obtain a batch wastewater discharge permit.[191] Groundwater encountered during construction of the proposed project would be subject to the requirements of Public Works Code article 4.1 (Industrial Waste) which requires groundwater meet specified water quality standards before it may be discharged into the sewer system.~~

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

~~[189] Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.~~
~~[190] Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.~~
~~[191] SFPUC. 2018. Waste Water Discharge Permits. Available https://sfwater.org/index.aspx?page=498. Accessed February 10, 2019.~~

Impact GE-4: The proposed project would not result in a substantial risk of loss, injury, or death related to expansive soils as defined in Table 18-1-B of the Uniform Building Code. *(Less than Significant Impact)*

Expansive soils expand and contract in response to changes in soil moisture, most notably when near surface soils change from saturated to a low-moisture content condition, and back again. This shrinking and swelling can cause cracks in foundations, slabs, and pavement if not properly managed. The results of the borings drilled at the site indicate that only the Old Bay Clay is highly expansive. The excavation for either foundation system would terminate in Colma Sand, which is about 60 to 77.5 feet thick and above the Old Bay Clay. Therefore, the moderate to high expansion potential for Old Bay Clay would not affect the performance of the proposed structure, regardless of which of the two foundation systems is selected. Additionally, compliance with the requirements of the design-level geotechnical report, California Building Code, San Francisco Building Code, AB-082, and AB-111, would ensure the proposed project would not result in a substantial risk of loss, injury, or death related to expansive soils, and the impact would be less than significant. No mitigation measures are required.

~~The presence of expansive soils is typically based on site-specific data. As discussed in the preliminary geotechnical report, the project site is underlain by loose to medium dense sandy fill, native Dune sand, and marsh deposit, approximately 37 to 38 35 to 40 feet bgs, with dense to very dense sand, known as the Colma Formation, extending below to a depth of 98 to 114.5 feet bgs. at least 80 feet.[192] A 24 to 37 5 to 15 foot thick stiff to hard sand medium stiff to very stiff marine clay layer, locally referred to as old bay clay, may be is present below the dense to very dense sand at depths of 135 to 138.5 feet bgs. 80 to 90 feet bgs The old bay clay, where present, is likely underlain by dense to very dense sand and very stiff to hard clay extending to bedrock. The preliminary geotechnical report estimates bedrock is 200 feet bgs. 243 to 249 feet bgs.[193] Anticipated excavation for the three-level parking garage and foundation is expected to remove the majority of existing loose to medium dense sandy fill, leaving mostly the underlying dense to very dense sand. However, as recommended by the preliminary geotechnical report, the presence of old bay clay at the project site should be confirmed by the design-level geotechnical investigation to determine the potential for expansive soils at the site. The project sponsor is required to complete a design-level geotechnical report and implement its recommendations to address impacts related to expansive soils at the project site in accordance with the San Francisco Building Code. Therefore, impacts related to expansive soils would be less than significant. No mitigation measures are required. This topic will not be discussed in the EIR.~~

CUMULATIVE IMPACTS

Impact C-GE-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to geology and soils. *(No Impact)*

The geographic context for the cumulative analysis of impacts on geology and soils is generally site-specific and comprises the project site and immediately adjacent properties. The requirements of the San Francisco Building Code and California Building Code regulate construction in the City of San Francisco, and all developments would be required to comply with these requirements to ensure life and safety. The list of cumulative projects is provided in Table 3-1. There are no adjacent cumulative projects that would affect subsurface conditions in the area. In addition, the properties directly adjacent to the project site are known historic resources and are unlikely to undergo substantial redevelopment; no reasonably foreseeable projects are associated with those properties.

~~[192] Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.~~
~~[193] Langan Engineering and Environmental Services, Inc. 2017. Preliminary Geotechnical Study- 469 Stevenson Street. August 18, 2017.~~

Thus, the proposed project would not combine with the cumulative projects to result in a cumulative impact related to geology, soils, and seismicity. There would be no impact, and no mitigation measures are required.

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

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

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

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

CHAPTER 4
OTHER CEQA ISSUES

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4.A Introduction

This chapter has been included to update the proposed project's area of known controversy and issues to be resolved based on the board's motion to reverse the planning commission's certification of the final EIR and require further environmental review of the proposed project's potential impacts.

4.B Areas of Known Controversy and Issues to Be Resolved

On August 22, 2018, the project sponsor filed an application for the proposed project with the planning department for CEQA review. Table 4-1 identifies the dates of the major CEQA milestones in the environmental review process for the proposed project.

Table 4-1 CEQA Procedural Background

Milestone	Date
NOP of the previously circulated draft EIR and availability of the previously circulated initial study	October 2, 2019
Scoping period for the previously circulated draft EIR	October 3, 2019, through November 1, 2019
Publication of the previously circulated draft EIR and beginning of public comment period	March 11, 2020
Public hearing on the previously circulated draft EIR at the planning commission	April 16, 2020
Close of public comment period on the previously circulated draft EIR	May 11, 2020
Publication of the previous RTC document	May 26, 2021
Previous final EIR certification hearing at the planning commission	July 29, 2021
Appeal of the previous final EIR at the board of supervisors	October 26,2021
Board of supervisors adopt findings on the decision to reverse the planning commission's certification of the previous final EIR	December 14, 2021

The planning department prepared an initial study checklist and published a NOP for an EIR on October 2, 2019, thereby announcing its intent to prepare and distribute a focused EIR (the NOP and previously circulated initial study checklist are presented as Appendix A ~~to this~~ of the previously circulated draft EIR). Publication of the NOP and previously circulated initial study checklist initiated a 30-day public review and comment period that began

on October 3, 2019 and ended on November 1, 2019. Individuals and agencies that received these notices included owners of properties within 300 feet of the project site and potentially interested parties, and responsible agencies, including regional and state agencies. Five written communications were received during the public review period. Four of the five comments requested additional information, such as the project sponsor's email address and requests for a hard copy of the previously circulated initial study document. The planning department provided such requested information to the respective commenters. The fifth comment received noted a concern with vehicular circulation to and from the project site and inquired if the proposed project would implement limitations on the use of vehicles during the morning and afternoon rush hours. Information regarding project site circulation is provided in Section E.5, Transportation and Circulation, of the previously circulated initial study (Appendix A of the previously circulated draft EIR). As disclosed in the previously circulated initial study of the previously circulated draft EIR, impacts related to transportation and circulation would be less than significant. Potential areas of controversy include the potential effects of the proposed project related to air quality, wind, shadow, and transportation and circulation. Public comments related to these potential areas of controversy were addressed in the previous RTC.

The previously circulated draft EIR was published on March 11, 2020 and circulated for an extended 61-day public review and comment period, ending on May 11, 2020. During the 61-day public review and comment period, the planning department received written comments from individuals, non-governmental organizations, and public agencies, as well as oral testimony from planning commissioners and members of the public during a virtual public hearing on the previously circulated draft EIR held on April 16, 2020. Comments on the previously circulated draft EIR included concerns about the design and location of the proposed project and its impacts related to transportation and circulation, geology and soils, surrounding historic and cultural districts, shadow on Mint Plaza, wind impacts on the SoMa Youth and Family Zone Special Use District, and the proposed project alternatives, among other concerns. The planning department also received several comments requesting an analysis of the proposed project's socioeconomic effects, including gentrification and displacement. Following the close of the public review period on May 11, 2020, the planning department prepared a RTC document to respond to the environmental issues raised in comments received during the public review and comment period, published on May 26, 2021.

The previous final EIR was certified by the San Francisco Planning Commission on July 29, 2021. On October 26, 2021, the board of supervisors heard an appeal of the planning commission's certification of the final EIR. At the hearing, the appellant and members of the public presented testimony that the proposed project may have significant impacts that were not adequately studied previous final EIR (which includes the previously circulated initial study and previously circulated draft EIR); these included the project's potential impacts on adjacent historic resources; geotechnical impacts of the proposed project foundation; and physical impacts resulting from gentrification of the project area and displacement of current residents. The board of supervisors agreed and voted to uphold the appeal and de-certify the EIR. On December 14, 2021, the board of supervisors adopted findings in support of its decision to reverse the planning commission's certification of the previous final EIR (Appendix I). The board of supervisors remanded the previous final EIR to the planning department to undertake further environmental review of the project's potential impacts to historic resources, potential geotechnical impacts resulting from construction of the project, potential physical impacts resulting from gentrification and displacement of local residents, and potentially feasible mitigation measures and alternatives to address significant impacts in those areas. The board of supervisors' findings state that "as to all other topics studied in the [previous] final EIR, that document complies with CEQA; is adequate, accurate and objective; is sufficient as an informational document; its conclusions are correct; and it reflects the independent judgment of the City [and County of San Francisco]." Thus, this recirculated draft EIR does not include any other resource sections of

the previously circulated draft EIR, including the previously circulated initial study. At the board of supervisors' direction, this recirculated draft EIR provides additional analysis and evidence related to the proposed project's potential for physical impacts resulting from gentrification and displacement (see section 3.A, population and housing), historic resource impacts (see section 3.B, cultural resources), and potential geotechnical impacts (see section 3.C, geology and soils).

New project-specific studies have been prepared specifically to address the board of supervisors' direction. With respect to the project's potential for physical impacts resulting from gentrification and displacement, as discussed in section 3.A, Population and Housing, the 2022 gentrification and displacement report was prepared by Seifel Consulting in October 2022 (Appendix J). The 2022 gentrification and displacement report evaluates the potential for the proposed project to result in gentrification and residential or cultural displacement and its conclusions informed the analysis of the project's potential physical environmental effects related to gentrification and displacement.

Regarding potential historic resources impacts, a HRE Part II has been prepared for the proposed project by Page & Turnbull in October 2022 (Appendix K1). The HRE Part II includes a brief summary of the contexts and character-defining features of the existing historic districts and resources adjacent to or near the project site; a summary of the context of the SOMA Pilipinas Filipino Cultural Heritage District and discussion of resources associated with the SOMA Pilipinas Filipino Cultural Heritage District ; a brief summary of the proposed project; and an analysis of the project's compatibility with and potential impacts to historic districts and potential historic resources within or near to the project block. Additionally, the planning department's findings based on this report have been issued in the HRER Part II (Appendix K2). [194] The Noise Technical Memorandum (Appendix F) has also been updated to account for additional construction equipment necessary to construct the proposed project, based on the 2022 preliminary geotechnical report (Appendix L1) and to accurately reflect the distance that equipment would operate from adjacent properties. The conclusions of these analyses are presented in section 3.B, cultural resources.

Lastly, with respect to geotechnical impacts from the project's foundations, in 2020 the geotechnical consultant conducted a further geotechnical investigation at the project site which included drilling two borings to bedrock at the project site to depths of 250 and 265 feet bgs; obtaining shear wave velocity data in one of the borings; and performing laboratory tests on representative soil samples. This information was used to perform engineering analyses and develop preliminary geotechnical conclusions. The geotechnical consultant incorporated the results of this investigation into the 2022 preliminary geotechnical report for the proposed project (Appendix L1). The results of the 2022 preliminary geotechnical report indicate that, on a preliminary basis, a mat foundation or a deep foundation system remain feasible for the proposed project pending additional field investigation and analysis [195] as required by the building department under AB-111 and AB-082 administrative bulletins in the San Francisco Building Code).

Additionally, the geotechnical consultant prepared a memorandum (Appendix L2) documenting their conclusions on the geotechnical feasibility of the proposed project based on the 2022 preliminary geotechnical report (discussed above) and a review of the performance of existing developments near the project site with similar foundations (i.e., mat foundations), foundation loads, and subsurface conditions. This analysis found that

[194] San Francisco Planning Department. 2022. Historic Resource Evaluation Response Part II. October 24, 2022.
[195] Additional field investigation would include the following: drilling a third boring to bedrock, anticipated at a depth of approximately 260 feet, and a fourth boring with a 50-foot rock core, performing a seismic survey to obtain additional shear wave velocity measurements in the boring within the bedrock, performing laboratory testing of additional soil and rock samples, earthquake time series, additional engineering analyses, and recommendations for the foundation and other geotechnical aspects of the proposed project.

two nearby projects (434 Minna Street and 415 Natoma Street) are supported on mat foundations and have similar foundation loads as calculated for the proposed project and similar subsurface conditions as those on the project site. Building settlement at 434 Minna Street (last measured in September 2021) was about 0.38- to 0.5-inch and building settlement for 415 Natoma (last measured in September 2021) was about 0.5-inch. Both settlement measurements are within the acceptable range of building settlement identified in AB-111: "*the total short-term and long-term computed settlement of the foundation under gravity and seismic loads should not exceed 4 inches.*"

The analysis identified several other existing buildings that have foundation pressures that are similar or higher than that calculated for the proposed project, are supported on a mat foundation bearing either directly on Colma Formation, or on soil improvement [196] extending into the Colma Formation. Although settlement monitoring data is not available for these projects, building department online complaint records show that there have been no complaints or violations related to foundation performance for those structures.

At the request of the planning department, an independent third-party technical expert conducted a peer review of the 2022 preliminary geotechnical report, feasible foundation types for the proposed structure (Appendix L3) and an analysis of whether the geotechnical issues that occurred at 301 Mission Street building (i.e., Millennium Tower) could occur at the proposed project site (Appendix L3). This analysis was conducted by Dr. Shahriar Vahdani, Ph.D., P.E., of Applied GeoDynamics, Inc. [197] The analysis found that a mat foundation would have an acceptable level of settlement provided the results of borings, sampling, and testing conducted for the preliminary geotechnical report are consistent with the additional borings, sampling, and testing required for the final phase of geotechnical investigation. Further, the use of deep foundations extending to bedrock would result in a similar range of settlement as a mat foundation supported directly at the surface of dense Colma sand layer. The analysis also found that the large and unacceptable settlements observed at 301 Mission Street would not occur at the project site provided the proposed project is constructed based on the recommendations in the proposed project's preliminary geotechnical report, the scope of the final geotechnical investigation, and in compliance with the guidelines provided in AB-111. The conclusions of these analyses are presented in section 3.C, Geology and Soils.

[196] Soil Improvement or ground modification (improvement) is defined as the alteration of site foundation conditions or project earth structures to provide better performance under design and/or operational loading conditions. Ground modification objectives can be achieved using a large variety of geotechnical construction methods or technologies that alter and improve poor ground conditions.

[197] The building department consulted with Dr. Vahdani in its development of the building department's AB-111, which provides guidelines for geotechnical aspects of design and construction of the foundation of tall buildings, as described above. Dr. Vahdani is on the building department's Pre-Qualified List for Geotechnical Review.

CHAPTER 5
ALTERNATIVES

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5.A Introduction

This chapter presents the alternatives analysis, as required by CEQA, for the proposed project. The chapter includes a discussion of the CEQA requirements for an alternatives analysis and the methodology used for the selection of alternatives, with the intent of developing potentially feasible alternatives that avoid or substantially lessen the significant impacts identified for the proposed project while still meeting most of the basic project objectives. This chapter identifies a reasonable range of alternatives that meet the above criteria.

The alternatives are evaluated for their comparative merits with respect to minimizing adverse environmental effects. After identifying the alternatives, the chapter evaluates the alternatives' impacts compared to existing environmental conditions and compared to the impacts of the proposed project. Based on this analysis, this chapter then identifies the environmentally superior alternative. Finally, it describes other alternative concepts that were considered but eliminated from detailed consideration and the reasons for their elimination.

The previously circulated draft EIR analyzed three alternatives: the No Project Alternative (Alternative A); Reduced Density Alternative (Planning Code-Compliant) (Alternative B); and No Residential Parking, Tower Only Alternative (Alternative C). Based on comments received on the previously circulated draft EIR, Alternative B: Reduced Density Alternative, is renamed in this recirculated draft EIR as Alternative B: Reduced Density Alternative (Planning Code-Compliant), and additional minor changes to the alternatives were made as staff-initiated text changes from the previous RTC. There have been no other changes to the three alternatives presented in the previously circulated draft EIR. Table 5-1 below presents a summary of the characteristics of the proposed project; the No Project Alternative (Alternative A); the Reduced Density Alternative (Planning Code-Compliant) (Alternative B); and the No Residential Parking, Tower Only Alternative (Alternative C). The following analysis has been updated to reflect the potential impacts of the alternatives as they relate to population and housing, cultural resources, and geology and soils. New text is shown in double underline and deleted text is shown in ~~strikethrough~~. Any text that has not changed from what was presented in the previously circulated draft EIR is presented as clean text.

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Table ~~6.1-1~~ 5-1 Characteristics of the Proposed Project and Alternatives

Project Component	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Density Alternative (Planning Code-Compliant)	Alternative C: No Residential Parking, Tower Only Alternative
Building Heights	274 feet (with an additional ~~10~~ 16 feet for ~~rooftop mechanical equipment~~ the rooftop mechanical penthouse and 20 feet for the elevator overrun that would be used to access the roof deck)	--	160 feet (with an additional 10 feet for rooftop mechanical equipment)	284 feet (with an additional 10 feet for rooftop mechanical equipment)
No. of Stories	27 stories 3 below grade levels	--	17 stories 2 below grade level	28 stories 1 below grade level
Total No. Units	495	--	346	467
Studio	192	--	42	0
~~Junior one-bedroom~~	~~33~~	~~--~~	~~0~~	~~0~~
1 Bedroom	~~116~~ 149	--	204	349
2 Bedroom	96	--	64	60
3 Bedroom	50	--	36	58
5 Bedroom	8	--	0	0
Square Footage by Use	475,000 sf residential; 4,000 sf commercial retail	28,790 sf surface parking lot	~~259,110~~ 272,967 sf residential; 6,357 sf commercial retail	~~343,813~~ 469,181 sf residential; 3,651 sf of commercial retail
Total gross square feet (gsf)	535,000 gsf	28,790 gsf	~~338,629~~ 279,324 gsf	~~479,957~~ 472,832 gsf
Open Space	~~11,000~~ 16,000 sf common residential open space; 14,000 sf private residential open space:	--	16,423 sf common residential open space; 252 sf private residential open space	16,756 sf common residential open space; 5,937 sf of private residential open space

Project Component	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Density Alternative (Planning Code-Compliant)	Alternative C: No Residential Parking, Tower Only Alternative
Onsite Vehicular Parking & Loading	1 off-street loading and 2 service vehicle parking; ~~178~~ 166 residential vehicular parking spaces; ~~3~~ 12 car-share spaces; 56,000 sf	176 public vehicular parking spaces; 28,790 sf	2 off-street loading and 2 service vehicle parking; 150 residential vehicular parking spaces; 2 car-share spaces; 57,000 sf	1 off-street loading and 2 service vehicle parking; 2 accessible parking; No car-share parking
Bicycle Parking	200 class 1 27 class 2	None	192 class 1 23 class 2	193 class 1 25 class 2
Entitlements	Conditional Use Authorization; Individually Requested State Density Bonus	None	Conditional Use Authorization	Conditional Use Authorization; Individually Requested State Density Bonus
Excavation Depth	55 feet below grade; 55,850 cubic yards	None	35 feet; 37,600 cubic yards	10 feet; 10,740 cubic yards

5.B Alternatives Analysis

This analysis evaluates the impacts of each of the selected alternatives and identifies whether those impacts would be less than, similar to, or greater than the impacts of the proposed project. The alternative analysis focuses on the topics analyzed in ~~the~~ this recirculated draft EIR (~~air quality, wind, and shadow~~ population and housing, cultural resources, and geology and soils) The alternatives analysis related to air quality, wind, shadow, archeological resources, human remains, tribal cultural resources, noise, and the other previously circulated initial study topics scoped out from further analysis is presented in chapter 6 (Alternatives) of the previously circulated draft EIR. ~~A brief analysis is also provided for other topics scoped out from further analysis in the initial study.~~ Following the alternatives analysis, Table ~~6.2-1~~ 5-2, compares the significant impacts of the proposed project and the alternatives and has been updated to include impacts related to population and housing, cultural resources, and geology and soils.

5.B.1 Alternative A: No Project Alternative

DESCRIPTION

Under the No Project Alternative, the project site would remain substantially in its existing physical condition and the proposed new residential uses would not be developed. The existing onsite parking lot would remain unaltered.

ABILITY TO MEET PROJECT OBJECTIVES

The No Project Alternative would maintain the existing physical environment of the project site and no residential uses would be constructed. Therefore, the alternative would not meet any of the project sponsor's objectives.

IMPACTS

POPULATION AND HOUSING

Under the No Project Alternative, the existing onsite parking lot would remain unaltered and the new residential and commercial retail uses would not be developed. As with the proposed project, the No Project Alternative would not result in the direct physical displacement of residents or cultural assets associated with the SOMA Pilipinas Filipino Cultural Heritage District, as the project site is a parking lot and does not contain any buildings that house residents, businesses, or community organizations. Therefore, the No Project Alternative would not directly displace residents or cultural assets associated with the Filipino community.

However, if construction of the proposed project does not occur at the project site, housing development would continue to occur in the same areas and in the same general manner as it has in recent years. According to the Urban Displacement Project's research, the portion of the surrounding area where the proposed project is located is experiencing early/ongoing gentrification. This would continue with or without the proposed project. The No Project Alternative would not provide market rate and affordable units to increase the City's housing supply that could relieve housing market pressures that contribute to gentrification and displacement effects. Therefore, because the No Project Alternative would not provide new housing or the anti-displacement components of the proposed project, the No Project Alternative could increase the potential for gentrification

and displacement. Any physical environmental impacts of the No Project Alternative would likely be similar to the proposed project and would be less than significant.

CULTURAL RESOURCES

Under the No Project Alternative, the existing onsite parking lot would remain unaltered and the new residential and commercial retail uses would not be developed. The No Project Alternative would not involve any construction or demolition activities, and Mitigation Measure M-CR-2 would not be required. The No Project Alternative would not result in any project-level impacts and would not contribute to any cumulative impacts related to historic resources.

GEOLOGY AND SOILS

Under the No Project Alternative, the project site would remain as an existing surface parking lot and the new residential and commercial retail uses would not be developed. The No Project Alternative would not involve any construction or demolition activities, and Mitigation Measure M-CR-2 would not be required. Therefore, the No Project Alternative would not result in any project-level impacts and would not contribute to any cumulative impacts related to geology and soils.

5.B.2 Alternative B: Reduced Density Alternative (Planning Code-Compliant)

DESCRIPTION

The purpose of the Reduced Density Alternative (Planning Code-Compliant) is to consider a project alternative that would lessen the significant shadow impact on Mint Plaza that would occur from construction of the proposed project. The Reduced Density Alternative (Planning Code-Compliant) would redevelop the project site with a new mixed-use residential project, similar to the proposed project, but would construct a shorter and less dense building than under the proposed project.

The Reduced Density Alternative (Planning Code-Compliant) would include a maximum FAR of ~~338,629~~ 279,324 gsf and a building height of approximately 160 feet (with an additional 10 feet for rooftop mechanical equipment). The proposed density and building height would be consistent with the planning code.

Under this alternative, the site would be redeveloped to provide 346 units comprised of approximately 42 studios, 204 one-bedroom units, 64 two-bedroom units, and 36 three-bedroom units, compared to the 495 units that would be provided by the proposed project. On floors two through eight, 34 residential units would be provided on each floor. On the ninth floor, the building footprint would be reduced allowing for the common terraces and 12 residential units. Twelve residential units would also be provided on each of floors 9 through 17.

Similar to the proposed project, primary access to the units would be via a 1,951 square foot residential lobby located along Jessie Street with secondary access along Stevenson Street and through the below-grade parking garage. Two retail spaces totaling 6,357 square feet would be provided along Jessie Street flanking the residential lobby, which is slightly more than the retail space provided by the proposed project (4,000 square feet). An 8,242 square foot residential amenity space would be provided along Stevenson Street.

Unlike the proposed project, the Reduced Density Alternative (Planning Code-Compliant) would only provide two levels of below grade parking (as opposed to the three levels with the proposed project). As a result, the Reduced Density Alternative (Planning Code-Compliant) only requires 37,600 cubic yards of excavation compared to 55,850 cubic yards for the proposed project. Additionally, the Reduced Density Alternative (Planning Code-Compliant) would require 35 feet of excavation compared to 55 feet of excavation required for the proposed project. The feasible foundation types identified in the 2022 preliminary geotechnical report for the proposed project would also apply to the Reduced Density Alternative (Planning Code-Compliant), except that a mat foundation would be required to be supported on improved soil. [198]

The Reduced Density Alternative (Planning Code-Compliant) would include 150 residential vehicular parking spaces (a 0.43 parking ratio) below grade, which is ~~28~~ 16 fewer total residential vehicular parking spaces than the proposed project, 2 service vehicle parking spaces, and 2 car-share spaces. ~~One~~ Two off-street freight loading space would also be provided at grade like the proposed project. All access to off-street parking and freight loading would be provided via a single curb-cut along Stevenson Street, similar to the proposed project. The Reduced Density Alternative (Planning Code-Compliant) would also provide 192 class 1 bicycle parking spaces in a bicycle storage room on the ground floor accessed via the public lobby. Twenty-three class 2 bicycle parking spaces would also be provided along Stevenson and Jessie streets. A bicycle workshop area would be provided in the below grade parking garage, similar to the proposed project.

Open space would be provided in a series of common terraces at the podium and tower levels. A 7,141 square foot common open space would be provided on the second floor fronting Stevenson Street and two common open space terraces totaling 9,282 square feet would be provided on the ninth floor.

Construction of the Reduced Density Alternative (Planning Code-Compliant) is expected to follow a 29-month construction schedule, which would be 7 months shorter than the proposed project construction schedule. The same discretionary project approvals identified for the proposed project would be required for this alternative.

Figure ~~24~~ 34 provides a visual rendering and Figure ~~25~~ 35 provides an elevation plan of the Reduced Density Alternative (Planning Code-Compliant).

ABILITY TO MEET PROJECT OBJECTIVES

The Reduced Density Alternative (Planning Code-Compliant) could feasibly attain most of the project sponsor objectives. However, this alternative would provide 149 fewer residential units than the proposed project (346 units with the Reduced Density Alternative (Planning Code-Compliant) compared to 495 units with the proposed project). As a result, the Reduced Density Alternative (Planning Code-Compliant) would not maximize the opportunity to alleviate the current housing shortage ~~and to~~ or contribute to the City's ~~Regional Housing Needs Allocation~~ RHNA to the same extent as the proposed project (Objective 2). In addition, by providing fewer residential units, the Reduced Density Alternative (Planning Code-Compliant) would ~~also provide fewer affordable units.~~ not utilize the state density bonus or be required to provide onsite affordable units. The project sponsor would have the option of providing onsite units (but fewer than with the proposed project) or pay the in-lieu Affordable Housing Fee, which would result in no onsite affordable units, or utilize a combination of the

[198] Improved soil or ground modification (improvement) is defined as the alteration of site foundation conditions or project earth structures to provide better performance under design and/or operational loading conditions. Ground modification objectives can be achieved using a large variety of geotechnical construction methods or technologies that alter and improve poor ground conditions. Federal Highway Administration, Ground Modification Methods Reference Manual, Vol. 1, April 2017. Available https://www.fhwa.dot.gov/engineering/geotech/pubs/nhi16027.pdf. Accessed October 2022.

two options which would result in even fewer onsite affordable units than with the proposed project. ~~thereby not promoting~~ Thus, the Reduced Density Alternative (Planning Code-Compliant) would not promote the construction of affordable units, including onsite affordable units, to the same extent as the proposed project (Objective 3). Finally, the reduced density could make redevelopment of the site economically infeasible (Objective 8).

IMPACTS

POPULATION AND HOUSING

As with the proposed project, the Reduced Density Alternative (Planning Code-Compliant) would not result in the direct physical displacement of residents or cultural assets associated with the SOMA Pilipinas Filipino Cultural Heritage District, as the project site is a parking lot and does not contain any buildings that house residents, businesses, or community organizations. Therefore, the Reduced Density Alternative (Planning Code-Compliant) would not directly displace residents or cultural assets associated with the Filipino community.

The Reduced Density Alternative (Planning Code-Compliant) would construct 149 fewer units than the proposed project and would not utilize the state density bonus program. The project sponsor would have the option of providing onsite affordable units (but fewer than the proposed project) or pay the in-lieu Affordable Housing Fee, which would result in no onsite affordable units, or utilize a combination of the two options which would result in even fewer onsite affordable units than with the proposed project. Under this alternative, the addition of 346 households of above moderate income could increase gentrification in the surrounding area, similar to the proposed project, which would result in the displacement of less than 10 to 41 households. However, this alternative would also implement required and voluntary anti-displacement measures to relieve potential gentrification pressures or increases in home values and/or rents in the surrounding area over time, including the provision of some onsite affordable units and/or payment of the in-lieu Affordable Housing Fee.

As with the proposed project, it would be too speculative to determine whether gentrification and indirect displacement that may result from this alternative would require the construction of replacement housing or other facilities elsewhere. If indirectly displaced households or cultural assets move to available housing units and facilities elsewhere in the Bay Area, it would be unlikely to result in any local physical environmental impacts from such move because households and facilities would be occupying existing buildings. However, if indirectly displaced households or cultural assets move to existing housing units and facilities elsewhere in the Bay Area or beyond, displaced households or people accessing cultural assets may experience longer commutes or be required to drive to goods and services more often and further than they did at their prior location. This alternative would construct 149 fewer units than the proposed project, and therefore, like the proposed project, any physical environmental effects resulting from displaced households would not increase VMT such that a significant VMT, greenhouse gas, or air quality impact would occur. Similar to the proposed project, the number of units proposed under this alternative is accounted for in the housing projections analyzed in the City's Housing Element 2022 Update draft EIR cumulative analysis, which found that it would not displace substantial numbers of existing people or housing units necessitating the construction of replacement housing and this impact would be less than significant. Therefore, this alternative would not result in a significant project-level impact or significant cumulative impact related to displacing substantial numbers of existing people or housing units, including the physical environmental impacts of gentrification and displacement (direct and indirect, residential, and cultural).

SOURCE: Solomon Cordwell Buenz 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 34

Visual Rendering of the Reduced Density Alternative (Planning Code-Compliant)

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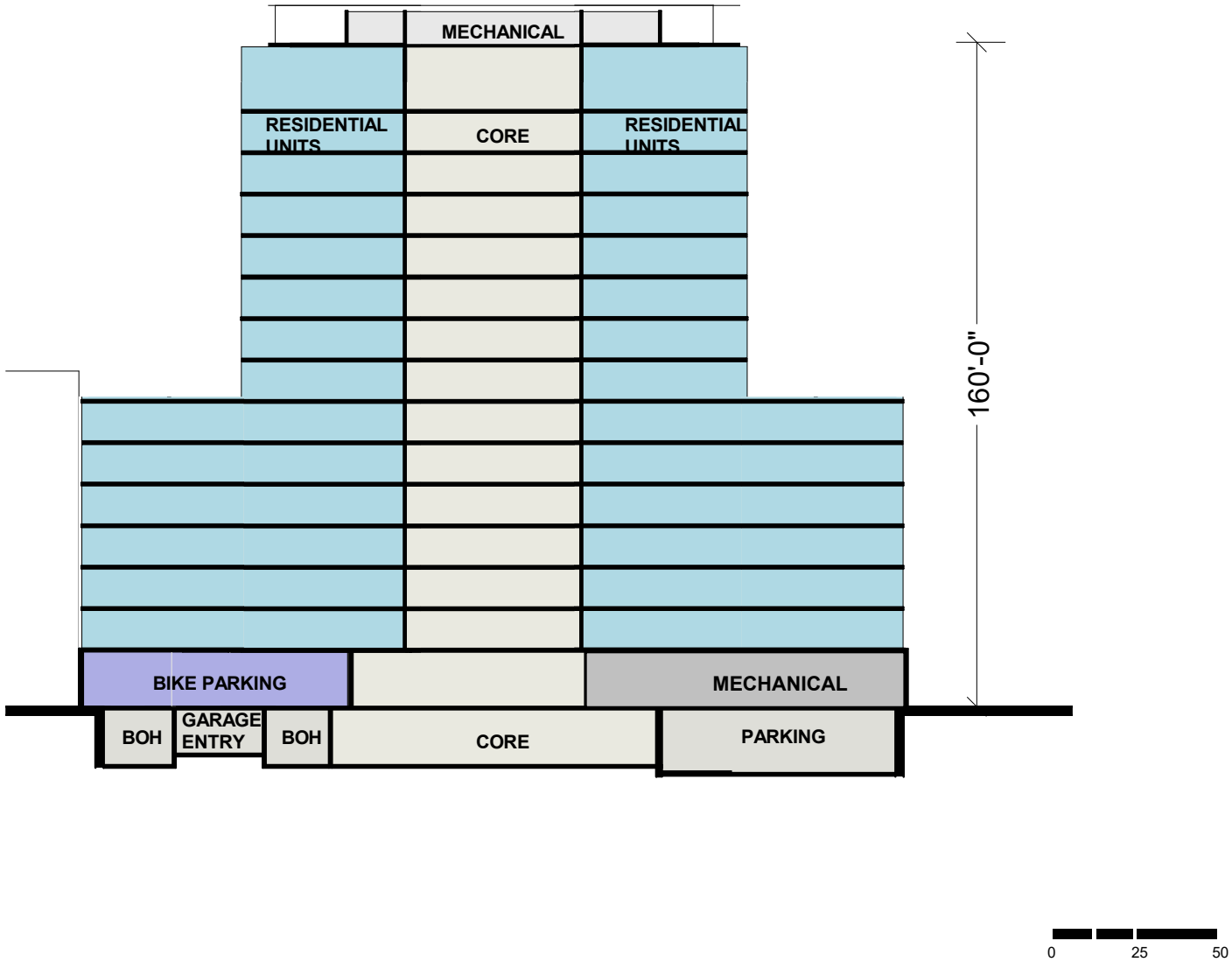

SOURCE: Solomon Cordwell Buenz 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 35

Building Elevation of the Reduced Density Alternative (Planning Code-Compliant)

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CULTURAL RESOURCES

Under the Reduced Density Alternative (Planning Code-Compliant), the proposed project would be approximately 160 feet in height (with an additional 10 feet for rooftop mechanical equipment), which is consistent with the planning code. This alternative would provide a contemporary design similar to the proposed project that is generally compatible with the surrounding historic districts but would be approximately 114 feet shorter than the proposed project. As this alternative would result in a reduced building height, the structure would be less visually dominant and would not diminish the Market Street Theater and Loft historic district, National and California-Register eligible Sixth Street Lodginghouse historic district, article 11 Mint-Mission conservation district, or the California Register-eligible PG&E City Beautiful Substations Discontiguous Thematic historic district; or the individual resources within these historic districts that are adjacent to or near the project site; or the setting of old mint or two individual resources associated with the SOMA Pilipinas Filipino community near the project site.

The Reduced Density Alternative (Planning Code-Compliant) would require the same construction activities and use of the same construction equipment as the proposed project. Therefore, temporary vibration levels generated by construction equipment at the project site are expected to be similar to the proposed project and result in vibration levels that could cause physical damage to adjacent historic resources, resulting in a significant impact. As with the proposed project, Mitigation Measure M-CR-2: Protection of Adjacent Buildings/Structures and Vibration Monitoring would be implemented to reduce vibration impacts to less than significant. Therefore, the Reduced Density Alternative (Planning Code-Compliant) would not result in a significant project-level impact or a significant cumulative impact related to historic resources.

GEOLOGY AND SOILS

The Reduced Density Alternative (Planning Code-Compliant) would only provide two levels of below grade parking (as opposed to the three levels with the proposed project). As a result, the Reduced Density Alternative (Planning Code-Compliant) only requires 37,600 cubic yards of excavation compared to 55,850 cubic yards for the proposed project. The potential impacts related to the subsurface conditions and potential seismic hazards, including fault rupture, ground shaking, liquefaction, lateral spreading, and seismic densification would remain the same as the proposed project and be less than significant. As with the proposed project, a mat foundation or a deep foundation system is feasible for the Reduced Density Alternative (Planning Code-Compliant). Based on the depth of excavation to 35 feet and the subsurface conditions of the project site, a mat foundation would be feasible provided that mat foundation is supported on improved soil that extends into dense sand below the marsh deposit. The proposed project would excavate to a depth of 55 feet bgs and supported directly on dense to very dense sand; therefore, would not require improved soil. If the final geotechnical investigation determines settlement for the Reduced Density Alternative (Planning Code-Compliant) structure supported on a mat foundation on improved soil would be greater than 4 inches, then a deep foundation system using drilled cast-in-place piers (i.e., drilled shafts) would be required. However, compared to the proposed project and depth of excavation, the deep foundation for the Reduced Density Alternative (Planning Code-Compliant) may not need to extend through the Old Bay Clay and could be supported in the dense to very dense sand beneath the marsh deposit.

As with the proposed project, the Reduced Density Alternative (Planning Code-Compliant) would be required to prepare a design-level geotechnical report and comply with the San Francisco Building Code, California Building Code, and AB-082 to determine the adequacy of the foundation system. The design-level geotechnical report would include recommendations for the foundation and for other geotechnical issues relevant to the Reduced

Density Alternative (Planning Code-Compliant). The Reduced Density Alternative (Planning Code-Compliant) would be approximately 160 feet in height, and therefore would not be subject to the requirements of AB-111 as the building height would be less than 240 feet. Instead, the Reduced Density Alternative (Planning Code-Compliant) could be subject to the requirements of AB-083, which presents requirements and guidelines for seismic structural design and submittal documents for building permits for new tall buildings that are 160 feet in height or taller that use non-prescriptive seismic design procedures. [199,200] AB-083 involves a three-step procedure to demonstrate that a building design is capable of providing code-equivalent seismic performance. The three steps include structural design review, submittal requirements, and seismic design requirements to demonstrate acceptable seismic performance for moderate earthquakes. As the Reduced Density Alternative (Planning Code-Compliant) would be feasible on a mat foundation or a deep foundation system, and subject to the San Francisco Building Code, California Building Code, and AB-082, the Reduced Density Alternative (Planning Code-Compliant) would not result in a significant project-level impact or a significant cumulative impact related to geology and soils.

5.B.3 Alternative C: No Residential Parking, Tower Only Alternative

DESCRIPTION

The purpose of the No Residential Parking, Tower Only Alternative is to propose a project that would lessen the significant air quality, noise, archeological and tribal cultural resources impacts of the proposed project associated with the grading and excavation needed to build the three below-grade levels for parking and loading spaces. The No Residential Parking, Tower Only Alternative would redevelop the project site with a new mixed-use residential project, similar to the proposed project, but would include only one basement level (as opposed to the three basement levels included in the proposed project). The No Residential Parking, Tower Only Alternative would result in a taller building, but with 28 fewer units than the proposed project by slightly changing the design to eliminate the podium height massing along the four corners and relocate that square footage to the top of the building creating a streamlined single tower. This alternative would utilize the state density bonus program but would provide fewer onsite affordable units than the proposed project.

The No Residential Parking, Tower Only Alternative would include a single tower with one basement level with a maximum FAR of ~~479,957~~ 472,832 square feet. The tower would be approximately 284-feet-tall (with an additional 10 feet for rooftop mechanical equipment).

This alternative would include 467 units comprised of approximately 349 one-bedroom units, 60 two-bedroom units, and 58 three-bedroom units. Residential uses would begin at the second floor, which includes 17 units and a 11,078-square-foot common open space podium balcony. The 3rd through 28th floors would include 18 residential units per floor with the units on the 28th floor having 576 square feet (total) of private balconies.

Primary access to the residential units would be from the residential lobby located along Jessie Street with secondary access along Stevenson Street. The ground floor would include two retail spaces along Jessie Street totaling approximately 3,651 square feet and on each side of the 1,453 square foot lobby. A 747 square foot

[199] San Francisco Department of Building Inspection, Administrative Bulletin AB-083, Requirements and Guidelines for the Seismic Design of New Tall Buildings using Non-Prescriptive Seismic-Design Procedures, March 25, 2008 (Updated 01/01/2020 for code references). Available at https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_building/0-0-0-95298.

[200] AB-082 provides the overall requirements for structural and geotechnical review procedures and guidance, but if a project request an exception to provisions in the building code, those projects must follow the requirements in AB-083, for buildings taller than 160 feet tall, or AB-111, for buildings taller than 240 feet tall.

common open space would be provided along Jessie Street and a 9,500 square foot solarium for residents would be provided along Stevenson Street.

The No Residential Parking, Tower Only Alternative would require 45,110 cubic yards less excavation (10,740 cubic yards total) than the proposed project (55,850 cubic yards) for below-grade foundation and structural work because it would only provide one basement level. Additionally, the No Residential Parking, Tower Only Alternative would require 10 feet of excavation compared to 55 feet of excavation required for the proposed project. The feasible foundation types identified in the 2022 preliminary geotechnical report for the proposed project would also apply to the No Residential Parking, Tower Only Alternative except that a mat foundation would be required to be supported on improved soil.

The single basement level would be for off-street loading and service vehicle parking, accessible parking, and bicycle parking. No car-share parking would be provided for this alternative pursuant section 166 of the planning code. This alternative would provide 193 class 1 bicycle parking spaces in a bicycle storage room located in the basement and accessed via the ground floor lobby. This alternative would also provide 25 class 2 bicycle parking spaces along Jessie and Stevenson streets.

Open space would include a ground floor solarium, a second story podium terrace, and private balconies at the rooftop level.

Construction of the No Residential Parking, Tower Only Alternative is expected to follow a 34-month construction schedule, which is two months shorter than the proposed project's construction schedule. The same discretionary project approvals identified for the proposed project would be required for this alternative.

Figure ~~27~~ 36 provides a visual rendering and Figure ~~28~~ 37 provides an elevation plan of the No Residential Parking, Tower Only Alternative.

ABILITY TO MEET PROJECT OBJECTIVES

The No Residential Parking, Tower Alternative could feasibly attain most of the project sponsor objectives, including providing much-needed housing. However, by not providing any residential parking, the alternative would fail to meet the objective of providing adequate off-street vehicle parking for the residential use and to meet investment capital parking requirements (Objective 6). The lack of residential parking could also create financing challenges as it would render a standard construction loan unattainable and potentially make development of the site economically infeasible (Objective 8).

IMPACTS

POPULATION AND HOUSING

Under the No Residential Parking, Tower Only Alternative, the project would construct 467 units, which is approximately 28 fewer units than the proposed project.

As with the proposed project, No Residential Parking, Tower Only Alternative would not result in the direct physical displacement of residents or cultural assets associated with the SOMA Pilipinas Filipino Cultural Heritage District, as the project site is a parking lot and does not contain any buildings that house residents, businesses, or community organizations. Therefore, the No Residential Parking, Tower Only Alternative would not directly displace residents or cultural assets associated with the Filipino community.

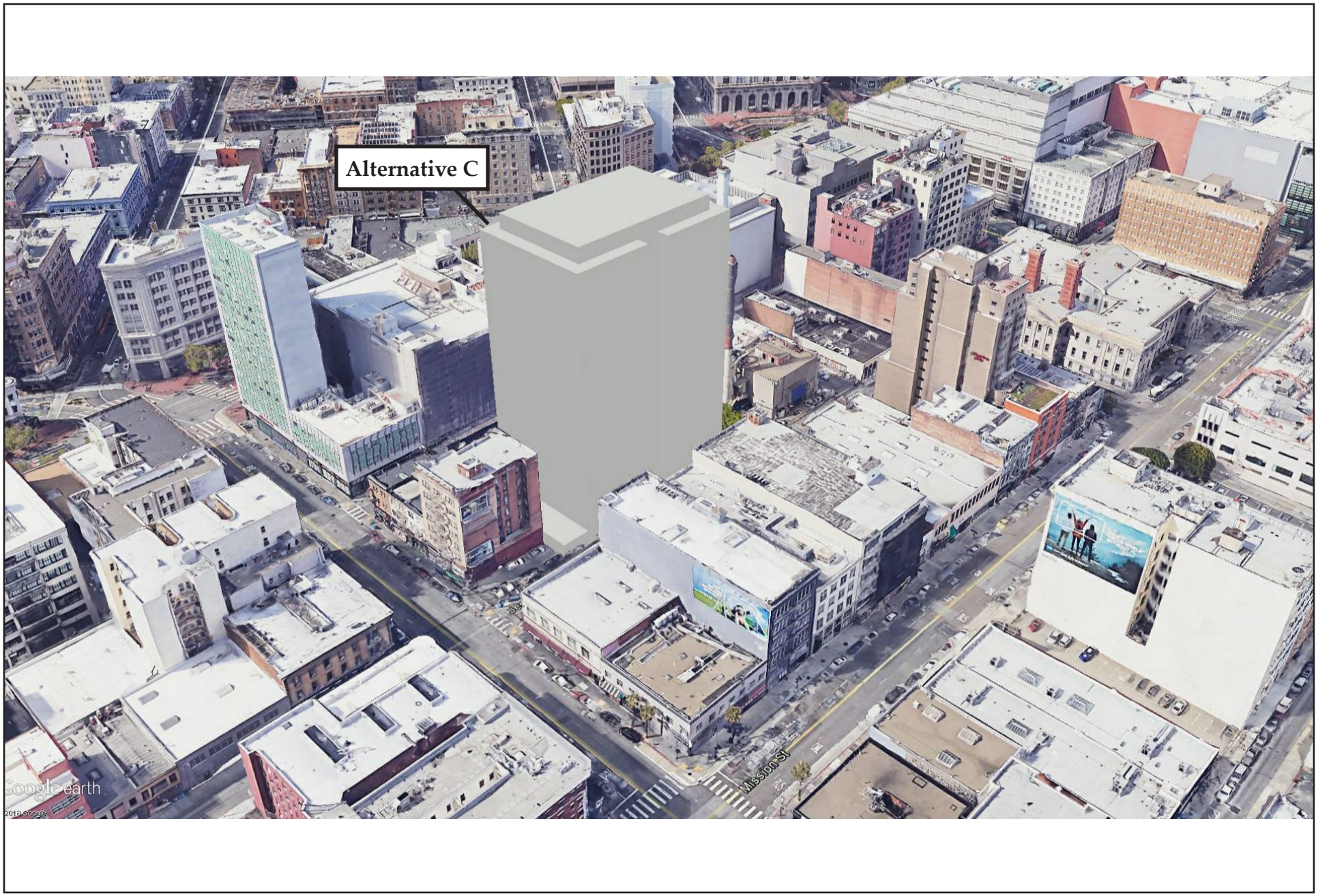
The No Residential Parking, Tower Only Alternative would be required to utilize the state density bonus program but would provide fewer onsite affordable units as there would be 28 fewer units than the proposed project. Under this alternative, the addition of 467 units could increase gentrification in the surrounding area, similar to the proposed project, which would result in the displacement of less than 10 to 41 households. However, this alternative would implement required and voluntary anti-displacement measures to relieve potential gentrification pressures or increases in home values and/or rents in the surrounding area over time.

As with the proposed project, it would be too speculative to determine whether gentrification and indirect displacement that may result from this alternative would require the construction of replacement housing or other facilities elsewhere. If indirectly displaced households or cultural assets move to available housing units and facilities elsewhere in the Bay Area, it would be unlikely to result in any local physical environmental impacts from such move because households and facilities would be occupying existing buildings. However, if indirectly displaced households or cultural assets move to existing housing units and facilities elsewhere in the Bay Area or beyond, displaced households or people accessing cultural assets may experience longer commutes or be required to drive to goods and services more often and further than they did at their prior location.

This alternative would construct 28 fewer units than the proposed project, and therefore would not increase VMT such that a significant VMT, greenhouse gas, or air quality impact would occur. Therefore, this alternative would not result in a significant project-level impact or significant cumulative impact related to displacing substantial numbers of existing people or housing units, including the physical environmental impacts of gentrification and displacement (direct and indirect, residential and cultural).

CULTURAL RESOURCES

Under the No Residential Parking, Tower Only Alternative, the project would be approximately 284-feet-tall (with an additional 10 feet for rooftop mechanical equipment). This alternative would provide a contemporary design similar to the proposed project that is generally compatible with the surrounding historic districts but would be approximately 10 feet taller than the proposed project. The No Residential Parking, Tower Only Alternative would slightly change the design to eliminate the podium height massing along the four corners and relocate that square footage to the top of the building creating a streamlined single tower. The additional building height and slight change in design would result in a slightly taller tower compared to the proposed project. Although the change in setbacks as a result of the tower not incorporating a podium would have a slight visual change in comparison with the proposed project, the overall change in the surrounding setting would be similar to the proposed project. However, as with the proposed project, the No Residential Parking, Tower Only Alternative would be within an already densely developed urban environment and the slight height increase would not diminish the Market Street Theater and Loft historic district, National and California-Register eligible Sixth Street Lodginghouse historic district, article 11 Mint-Mission conservation district, or the California Register-eligible PG&E City Beautiful Substations Discontiguous Thematic historic district; or the individual resources within these historic districts that are adjacent to or near the project site; or the setting of old mint or two individual resources associated with the SOMA Pilipinas Filipino community near the project site.



SOURCE: Solomon Cordwell Buenz 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 36

Visual Rendering of the No Residential Parking, Tower Only Alternative

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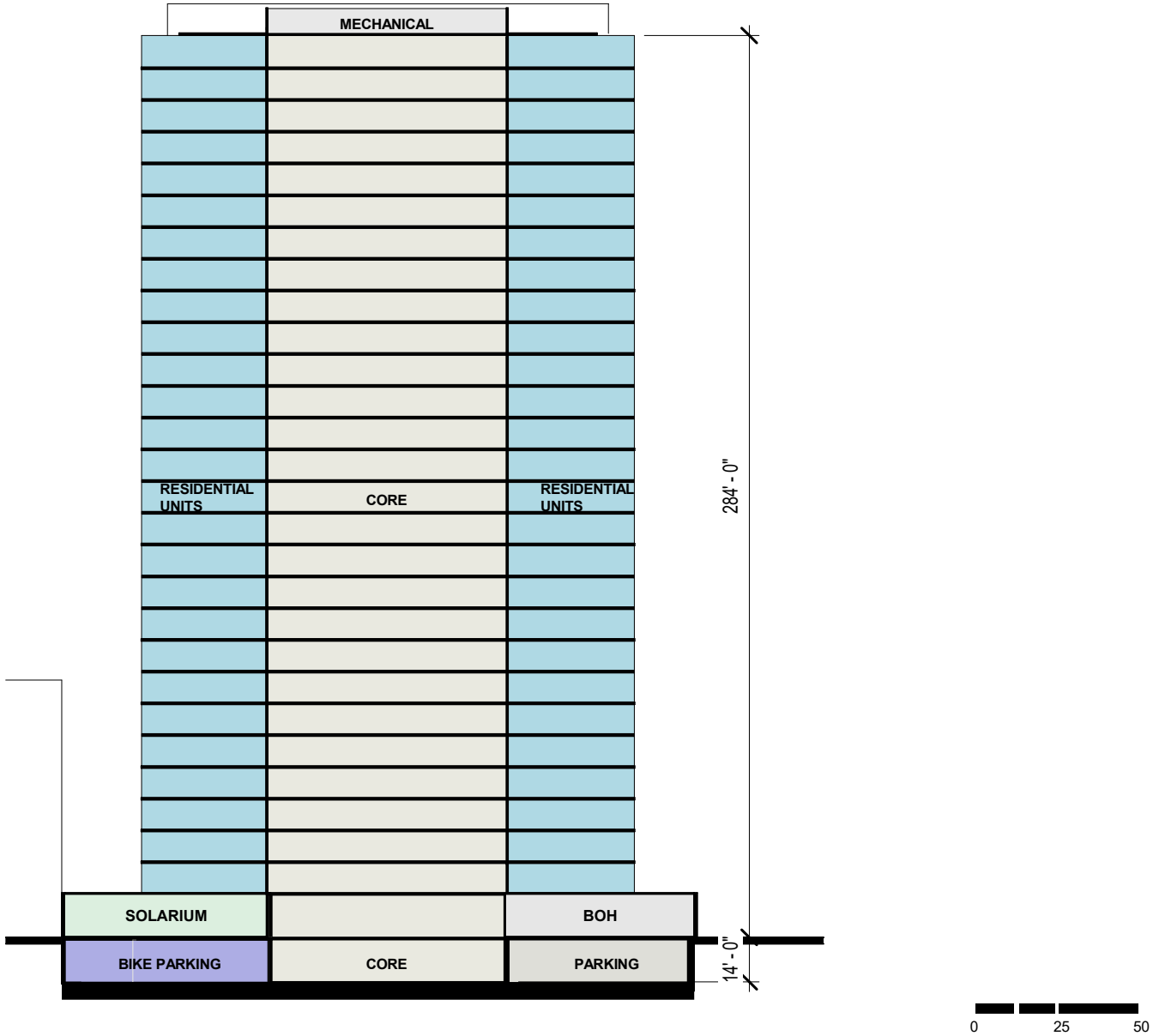

SOURCE: Solomon Cordwell Buenz 2022

469 Stevenson Street Project
Partially Recirculated Draft EIR

FIGURE 37

Building Elevation of the No Residential Parking, Tower Only Alternative

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The No Residential Parking, Tower Only Alternative would require the same construction activities and use of the same construction equipment as the proposed project. Therefore, temporary vibration levels generated by construction equipment at the project site are expected to be similar to the proposed project and would result in vibration levels that could cause physical damage to adjacent historic resources, resulting in a significant impact. As with the proposed project, the No Residential Parking, Tower Only Alternative would implement Mitigation Measure CR-2: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction to reduce vibration impacts to less than significant. Therefore, the No Residential Parking, Tower Only Alternative would not result in a significant project-level impact, or a significant cumulative impact related to historic resources.

GEOLOGY AND SOILS

The No Residential Parking, Tower Only Alternative would require 45,110 cubic yards less excavation (10,740 cubic yards total) than the proposed project (55,850 cubic yards) for below-grade foundation and structural work because it would only provide one basement level.

The potential impacts related to the subsurface conditions and potential seismic hazards, including fault rupture, ground shaking, liquefaction, lateral spreading, and seismic densification would remain the same as the proposed project and be less than significant. As with the proposed project, the No Residential Parking, Tower Only Alternative would be greater than 240 feet and required to comply with the requirements of the San Francisco Building Code, California Building Code, AB-082, and AB-111.

As with the proposed project, a mat foundation or a deep foundation system is feasible for the No Residential Parking, Tower Only Alternative. Based on the depth of excavation to 10 feet and the subsurface conditions of the project site, a mat foundation would be feasible provided that mat foundation is supported on improved soil that extends into dense sand below the marsh deposit. The proposed project would not require improved soil as it would excavate to a depth of 55 feet bgs and supported directly on dense to very dense sand. If the final geotechnical investigation determines settlement for the No Residential Parking, Tower Only Alternative would be greater than 4 inches using a mat foundation supported by improved soil, then a deep foundation system using drilled cast-in-place piers (i.e., drilled shafts) would be required. However, compared to the proposed project, the deep foundation system for the No Residential Parking, Tower Only Alternative may not need to extend through the Old Bay Clay and could be supported in the dense to very dense sand beneath the marsh deposit. As with the proposed project, the No Residential Parking, Tower Only Alternative would be required to prepare a design-level geotechnical report, including additional field investigation, laboratory testing program, and supplemental engineering analyses in accordance with AB-111 to determine the adequacy of the foundation system.

The design-level geotechnical report would be reviewed by geotechnical reviewer(s) who are part of the EDRT. The EDRT review would be conducted in accordance with the guidelines and requirements in AB-111. At the conclusion of the review, the geotechnical members of the EDRT shall provide a written statement if, in their professional opinion, the geotechnical site-investigation plan and the geotechnical reports (including the engineer of record's geotechnical basis of design document) meet the requirements of the San Francisco Building Code and AB-111. The additional geotechnical analysis required under AB-111 and independent professional peer review under AB-111 and AB-082 during the building permit review process would confirm the adequacy and the appropriateness of the foundation system proposed by the engineer of record. The building department would conduct its own review of the project's construction documents for conformance with the state and local building codes and the geotechnical engineer's recommendations as deemed acceptable by the

structural and geotechnical peer review process. As the No Residential Parking, Tower Only Alternative would be feasible on a mat foundation on improved soil or a deep foundation system using drilled cast-in-place piers (i.e., drilled shafts), and subject to the same regulatory requirements as the proposed project, the No Residential Parking, Tower Only Alternative would not result in a significant project-level impact, or a significant cumulative impact related to geology and soils.

5.B.4 Environmentally Superior Alternative

The CEQA Guidelines require the identification of an environmentally superior alternative (section 15126.6(e)), which is the alternative that best avoids or lessens any significant impacts of the proposed project, even if the alternative would impede to some degree attainment of the project objectives. If it is determined that the "no project" alternative would be the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other project alternatives (section 15126.6(3)). Table ~~6.2-1~~ 5-2, Comparison of Significant Impacts of the Proposed Project to Impacts of Alternatives after Mitigation, provides a comparison of ~~compares~~ the significant impacts of the proposed project, No Project Alternative, Reduced Density Alternative (Planning Code-Compliant), and No Residential Parking, Tower Only Alternative and has been updated to include the potential impacts related to population and housing, historic resources, and geology and soils.

The No Project Alternative is considered the environmentally superior alternative because the significant impacts of the proposed project related to air quality, shadow, archeological resources, human remains, tribal cultural resources, and noise discussed in the previously circulated draft EIR and previously circulated initial study, as well as the vibration impacts on historic resources discussed in this recirculated draft EIR would not occur under the No Project Alternative. However, the No Project Alternative would not meet any of the project sponsor objectives.

Because CEQA requires selection of an environmentally superior alternative other than the No Project Alternative, the Reduced Density Alternative (Planning Code-Compliant) is identified as the environmentally superior alternative. The Reduced Density Alternative (Planning Code-Compliant) would require implementation of the same mitigation measures as the proposed project to reduce impacts related to archeological resources, human remains, tribal cultural resources, noise, ~~and~~ air quality, and vibration impacts on historic resources. However, the severity and potential for impacts to those topic areas would be reduced compared with those of the proposed project because of the reduced amount of excavation and earth movement, shorter construction duration, and fewer residential units constructed. The Reduced Density Alternative (Planning Code-Compliant) would be 114 feet shorter than the proposed project and would not cast net new shadow on UN Plaza and would avoid the significant and unavoidable project-level and cumulative shadow impact on Mint Plaza determined in the previously circulated draft EIR. As discussed above, the Reduced Density Alternative (Planning Code-Compliant) could feasibly attain most of the project sponsor objectives.

Table ~~6.2-1~~ 5-2 Comparison of Significant Impacts of the Proposed Project to Impacts of Alternatives After Mitigation

Impact Statement	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Density Alternative (Planning Code-Compliant)	Alternative C: No Residential Parking, Tower Only Alternative
Population and Housing				
Impact PH-2: The proposed project would displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing.	LS	LS	LS =	LS =
Impact C-PH-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to displacement.	LS	LS	LS =	LS =
Cultural Resources				
Impact CR-1: The proposed project would not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines section 15064.5.	LS	NI	LS =/<	LS =/>
Impact CR-2: Demolition of the existing surface parking lot and construction of the proposed project could result in a significant impact to adjacent historic resources.	LSM	NI	LSM =	LSM =
Impact C-CR-1: The proposed project, in combination with cumulative projects, would not result in demolition and/or alteration of historical resources, as defined in CEQA Guidelines section 15064.5.	LS	NI	LS =/<	LS =/>
Geology and Soils				
Impact GE-1: The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismically related ground failure, liquefaction, or landslides.	LS	NI	LS =	LS =
Impact GE-3: The proposed project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.	LS	NI	LS =	LS =

Impact Statement	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Density Alternative (Planning Code-Compliant)	Alternative C: No Residential Parking, Tower Only Alternative
Impact GE-4: The proposed project would not result in a substantial risk of loss, injury, or death related to expansive soils as defined in Table 18-1-B of the Uniform Building Code.	LS	NI	LS =	LS =
Impact C-GE-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to geology and soils.	NI	NI	NI	NI

Notes:
NI (no impact); LS (less than significant); LSM (less than significant with mitigation); SU (significant and unavoidable, no feasible mitigation measures available); = (equal to); < (less than); > (greater than)

CHAPTER 6
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APPENDIX F

To:	Jenny Delumo Planning Department, City and County of San Francisco	From:	Stantec Consulting Services Inc. 1340 Treat Boulevard, Suite 300 Walnut Creek, CA
File:	469 Stevenson Street Project	Date:	September 27, 2019; Updated October 21, 2022

Reference: Noise Technical Memorandum for 469 Stevenson Street Project

This technical memorandum was updated on October 21, 2022 to account for additional construction equipment required to construct the proposed project at 469 Stevenson Street as identified in the 2022 Preliminary Geotechnical Report[1]. This report has also been updated to reflect revisions to the proposed project and potential foundations, accurately reflect the distance between the operation of vibration generating construction equipment and adjacent vibration-sensitive buildings and structures, and minor clarifications. Text that has been deleted from the original memorandum dated September 27, 2019 are shown in ~~strikethrough~~ and new text is shown in double underline.

INTRODUCTION

Noise Technical Memo Purpose

The purpose of this Noise Technical Memorandum (Memo) is to support the 469 Stevenson Street Project (proposed project) Initial Study. This Memo provides analyses of potential project-related noise exposure and generation during construction and operations. This Memo has been prepared to analyze the potential construction-related noise and vibration generated from the proposed project and estimate the potential operational noise conditions located at the project site. This Memo will be used as a supplementary analysis to the initial study and recirculated draft EIR.

Specifically, the purpose of this Memo is to assess the existing ambient noise conditions at the nearest sensitive receptors and within the proposed project area. This Memo includes an evaluation of the proposed noise-generating uses that could affect noise-sensitive receptors.

Project Description and Location

The project site is a through lot located at 469 Stevenson Street in the South of Market (SoMa) neighborhood of San Francisco (Assessor's Block 3704, Lot 45). The project site is located mid-block between Stevenson Street, Sixth Street, Jessie Street, and Fifth Street. The project site is approximately 28,790 square feet (0.66-acre) and currently developed as a surface parking lot with 176 parking spaces. The proposed project would demolish the existing surface parking lot and construct a new 27-story mixed-use building approximately 274 feet tall (with 16~~10~~ additional feet for the penthouse and elevator overrun that would be used to access the roof deck ~~rooftop mechanical equipment~~) with three below grade parking levels. The proposed project would total approximately 535,000~~543,000~~ gross square feet (gsf) consisting of 495~~462~~ residential units, approximately 4,000~~3,900~~ square feet of commercial retail use on the ground floor, and approximately 30,000~~25,059~~ square feet of private and common open space. The 495~~462~~ residential units would be

[1] Langan Engineering and Environmental Services, Inc. 2022. Preliminary Geotechnical Study 496 Stevenson Street, June 30, 2022.

available for rent and include a mix of 192 studios, 149~~358~~ one-bedroom, 96~~54~~ two-bedroom, 50~~42~~ three-bedroom, and 8 five-bedroom units. The proposed project would use the State Density Bonus program and provide affordable housing units onsite. The below grade parking would provide 176~~171~~ parking spaces and 200~~191~~ *Class 1* bicycle spaces. In addition, 27~~23~~ *Class 2* bicycle spaces are proposed along the frontages of Stevenson and Jessie Streets.

The mechanical equipment for the project is anticipated to be located throughout the building, including several pieces of equipment on the roof. The actual mechanical equipment planned for the building is not yet known, however, typical residential and commercial building construction would commonly involve air handling units or make up air units, condensing units, and exhaust fans.

One (1) emergency generator is planned for the proposed project to provide backup energy for the building's mechanical equipment. The generator is planned to be located within a room on the ground floor in the southwest portion of the property. The exact discharge, intake, and exhaust pipe path for the generator are not yet known, but for the purpose of this analysis, they are assumed to be directly on the Sixth Street property plane to simulate a worst-case condition. The generator was assumed to be tested during weekday, daytime hours.

~~The proposed project is anticipated to be constructed on a mat foundation and no pile driving or piers are proposed or required.~~ The project sponsor proposes to use a mat foundation for construction of the proposed building. The results of the 2022 preliminary geotechnical analysis indicate a mat foundation is feasible for the support of the proposed structure. If the final geotechnical report finds a mat foundation is not feasible then deep foundations that extend to bedrock would be required to support the proposed structure. This deep foundation could be constructed using large-diameter, drilled cast-in-place piers, also known as drilled shafts. If drilled shafts are required, that foundation system would result in noise and vibration effects that are similar to that associated with a mat foundation. In either case, no pile driving is proposed or required. Construction of the proposed project is anticipated to begin in ~~2020~~2023 and be completed by ~~2023~~2026, requiring approximately 36 months of construction. Construction activities would include site preparation / demolition, excavation and shoring, foundation and below grade construction, building construction, exterior finishing, and sitework / paving work. Construction would generally occur between the hours of 7:00 a.m. and 8:00 p.m. up to seven days a week. Nighttime construction activities would take place for a maximum of five (5) nights total and would include the following activities

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

Noise Fundamentals and Terminology

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

Sound is mechanical energy transmitted by pressure waves over a medium such as air or water. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed

of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The perceived loudness of sound is dependent upon many factors, including sound pressure level and frequency content. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called A-weighting, written as dB(A) and referred to as A-weighted decibels. There is a strong correlation between A-weighted sound levels and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. Table 1 defines sound measurements and other terminology used in this Memo, and Table 2 summarizes typical A-weighted sound levels for different noise sources.

With respect to how humans perceive and react to changes in noise levels, a 1dB(A) increase is imperceptible, a 3 dB(A) increase is barely perceptible, a 6 dB(A) increase is clearly noticeable, and a 10 dB(A) increase is subjectively perceived as approximately twice as loud (Egan 2007). These subjective reactions to changes in noise levels were developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. These statistical indicators are thought to be most applicable to noise levels in the range of 50 to 70 dBA, as this is the usual range of voice and interior noise levels.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (Leq), the minimum and maximum sound levels (Lmin and Lmax), percentile-exceeded sound levels (such as L10, L20), the day-night sound level (Ldn), and the community noise equivalent level (CNEL). Ldn and CNEL values typically differ by less than 1 dB. As a matter of practice, Ldn and CNEL values are considered to be equivalent and are treated as such in this assessment.

For a point source such as a stationary compressor or construction equipment, sound attenuates based on geometry at rate of 6 dB per doubling of distance. For a line source such as free flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance (Federal Highway Administration 2011). Atmospheric conditions including wind, temperature gradients, and humidity can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface, such as grass, attenuates at a greater rate than sound that travels over a hard surface, such as pavement. The increased attenuation is typically in the range of 1–2 dB per doubling of distance. Barriers such as buildings and topography that block the line of sight between a source and receptor also increase the attenuation of sound over distance.

Table 1: Definition of Sound Measurement

Sound Measurements	Definition
Decibel (dB)	A measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
A-Weighted Decibel (dB(A))	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
C-Weighted Decibel (dB(C))	The sound pressure level in decibels as measured using the C- weighting filter network. The C-weighting is very close to an unweighted or flat response. C-weighting is only used in special cases when low-frequency noise is of particular importance. A comparison of measured A- and C-weighted level gives an indication of low frequency content.
Maximum Sound Level (Lmax)	The maximum sound level measured during the measurement period.
Minimum Sound Level (Lmin)	The minimum sound level measured during the measurement period.
Equivalent Sound Level (Leq)	The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy.
Percentile-Exceeded Sound Level (Lxx)	The sound level exceeded xx % of a specific time period. L10 is the sound level exceeded 10% of the time. L90 is the sound level exceeded 90% of the time. L90 is often considered to be representative of the background noise level in a given area.
Day-Night Level (Ldn)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Peak Particle Velocity (Peak Velocity or PPV)	A measurement of ground vibration defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. PPV is usually expressed in inches/second.
Frequency: Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.

Source: Federal Highway Administration 2006a

Table 2: Typical A-Weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	-110	Rock band
Jet flyover at 1,000 Feet		
	-100-	
Gas lawnmower at 3 Feet		
	-90-	
Diesel truck at 50 Feet at 50 MPH		Food blender at 3 Feet
Noisy urban area, daytime	-80-	Garbage Disposal at 3 Feet
Gas lawnmower, 100 Feet		
Commercial area	-70-	Vacuum Cleaner at 10 Feet
Heavy traffic at 300 Feet		Normal Speech at 3 Feet
	-60-	
Quiet urban daytime		Large business office
	-50-	Dishwasher in next room
Quiet urban nighttime		
Quiet suburban nighttime	-40-	Theater, large conference room (Background)
Quiet rural nighttime	-30-	Library
	-20-	Bedroom at night, concert hall (Background)
	-10-	Broadcast/recording studio
	-0-	

Decibel Addition

Because decibels are logarithmic units, sound pressure levels cannot be added or subtracted through ordinary arithmetic. On the dB scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, their combined sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one source produces a sound pressure level of 70 dB(A), two identical sources would not produce 140 dB(A)—rather, they would combine to produce 73 dB(A). The cumulative sound level of any number of sources can be determined using decibel addition.

Vibration

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

Perceptible groundborne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil

through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV). Table 3 summarizes typical vibration levels generated by construction equipment (Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual, September 2018).

Table 3: Vibration Source Levels for Construction Equipment

Equipment	Reference PPV at 25 Feet	Estimated PPV at 50 Feet
Large bulldozer	0.089	0.031
Caisson drilling	0.089	0.031
Hoe Ram	0.089	0.031
Jackhammer	0.035	0.012
Loaded trucks	0.076	0.027
Small bulldozer	0.003	0.001

Source: Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual, September 2018

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The following equation can be used to estimate the vibration level at a given distance for typical soil conditions (Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual, September 2018). PPVref is the reference PPV from Table 3.

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

Table 4 summarizes the guidelines for vibration annoyance potential criteria suggested by Caltrans (California Department of Transportation 2004). Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous and frequent intermittent sources are sources that continue for an extended period of time and include activities such as impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 4: Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous and Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation 2004.

Table 5 summarizes the guidelines for building damage potential from vibration suggested by Caltrans (California Department of Transportation 2004).

Table 5: Guideline Vibration Damage Potential Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structure	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
Source: California Department of Transportation 2004.		

REGULATORY SETTING

California Building Code

Part 2, Title 24 of the California Code of Regulations California Noise Insulation Standards establishes minimum noise insulation standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings other than single-family residences. Under Section 1207.11 “Exterior Sound Transmission Control”, interior noise levels attributable to exterior noise sources cannot exceed 45 Ldn in any habitable room. Where such residences are located in an environment where exterior noise is 60 Ldn or greater, an acoustical analysis is required to ensure interior levels do not exceed the 45 Ldn interior standard. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the building must also specify a ventilation or air conditioning system to provide a habitable interior environment.

Paragraph 1207.4 “Allowable Interior Noise Levels” states “Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element on the local general plan.”

California Green Building Standards (CALGREEN)

The 2016 California Green Building Standards Code (CalGreen), Section 5.507 “Environmental Comfort”, states the following:

5.507.4.1 Exterior noise transmission. Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC[2] rating of at least 50 or a

[2] STC or Sound Transmission Class Rating is a one-number rating that describes how well a building partition or element attenuates airborne sound. STC ratings focus mainly on the mid-to-high frequency range associated with speech.

composite OITC[3] rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport

Exceptions:

1. Ldn or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.
2. Ldn or CNEL for other airports and heliports for which a land use plan that has not been developed shall be determined by the local general plan noise element.
3. Within the 65 CNEL or Ldn noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway notice source as determined by the Noise Element of the General Plan.

5.507.4.1.1 Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB Leq-1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

5.507.4.2 Performance method. For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq -1Hr) of 50 dBA in occupied areas during any hours of operations

5.507.4.2.1 Site features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.

5.507.4.2.2 Documentation of compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

The proposed project's interiors will be required to comply with the California Building Code and California Green Building Standards. The San Francisco Building Department would review the building plans for the proposed project to determine compliance with these standards.

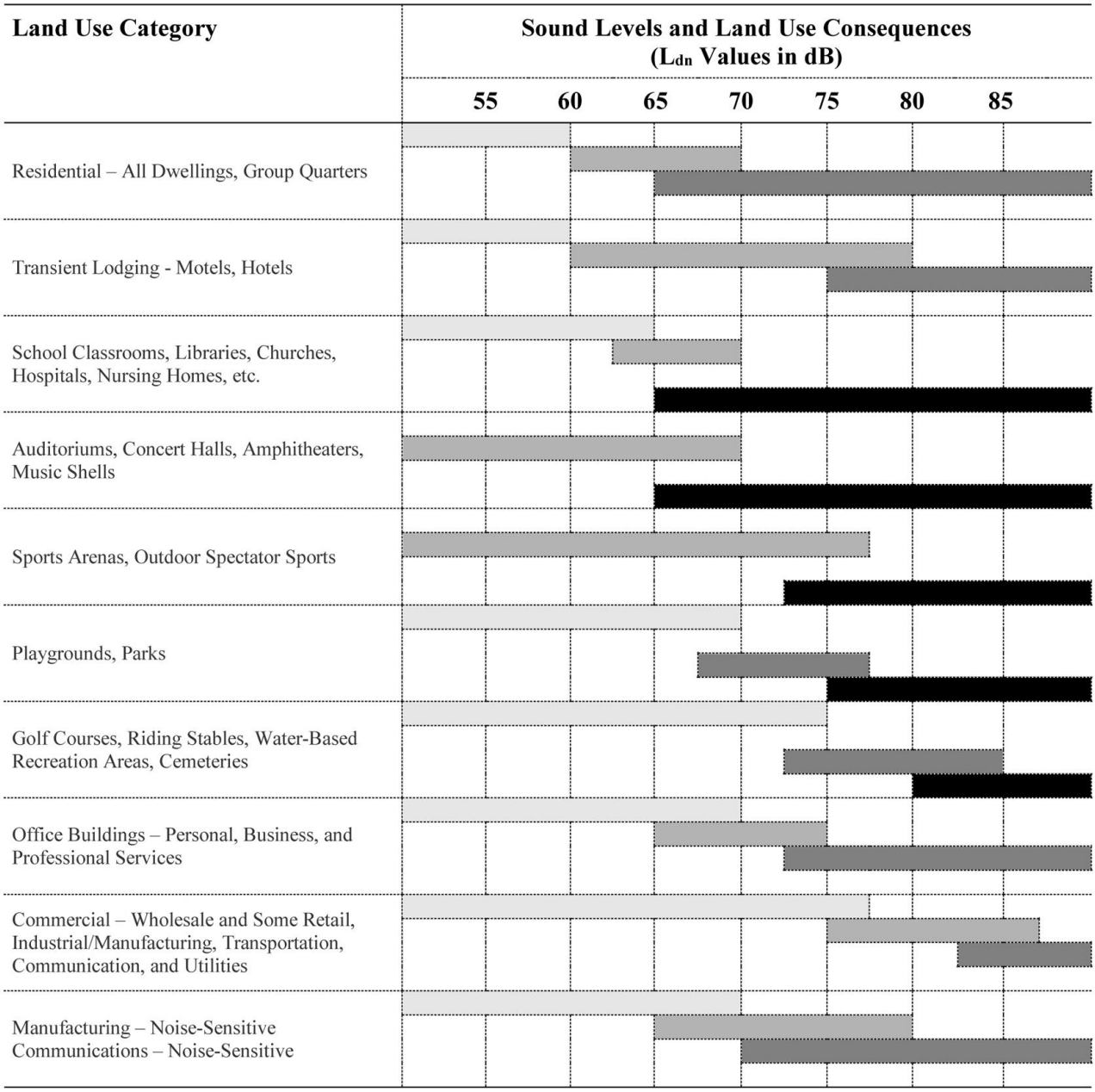
San Francisco General Plan

The Environmental Protection Element within the San Francisco General Plan addresses those environmental issues that affect the residents of San Francisco, including noise concerns. Objective 11 of the Environmental Protection Element is directed toward achieving an environment in which noise levels will not interfere with the health and welfare of people in their everyday activities. Policy 11.1 identifies land use compatibility noise standards for noise-sensitive land uses affected by transportation and non-transportation noise sources. As

[3] OITC or Outside-Inside Transmission Class Ratings are also a one-number rating that described how well an exterior façade element, such as walls and windows, attenuate airborne noise. OITC ratings place more focus on the lower frequency ranges most associated with transportation noise sources.

shown in Figure 1, for residential buildings that are affected by transportation noise sources, the “normally acceptable” exterior noise level is 50-60 dB(A) Ldn. Exterior noise levels up to 70 dB(A) Ldn are considered “conditionally acceptable” and should be undertaken only after a detailed analysis of the noise reduction requirements are made. Exterior noise levels between 65 dB(A) and 90 dB(A) Ldn are considered “normally unacceptable.” New construction with exterior noise levels in this range would require a detailed analysis of the noise reduction requirements and noise insulation features to be incorporated in the project to maintain “normally acceptable” interior noise levels. These policies and objectives of the general plan are implemented by individual projects through required building code requirements (see above discussion).

Figure 1: San Francisco Land Use Compatibility Chart for Community Noise



San Francisco Police Code

Article 29 “Regulation of Noise” of the San Francisco Police Code states the following:

Section 2909 “Noise Limits”

“(a) Residential Property Noise Limits.

(1) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on residential property over which the person has ownership or control, a noise level more than five dBA above the ambient at any point outside of the property plane.

(2) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on multi-unit residential property over which the person has ownership or control, a noise level more than five dBA above the local ambient three feet from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located.

(b) Commercial and Industrial Property Noise Limits. No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on commercial or industrial property over which the person has ownership or control, a noise level more than eight dBA above the local ambient at any point outside of the property plane. With respect to noise generated from a licensed Place of Entertainment, licensed Limited Live Performance Locale, or other location subject to regulation by the Entertainment Commission or its Director, in addition to the above dBA criteria a secondary low frequency dBC criteria shall apply to the definition above. No noise or music associated with a licensed Place of Entertainment, licensed Limited Live Performance Locale, or other location subject to regulation by the Entertainment Commission or its Director, shall exceed the low frequency ambient noise level defined in Section 2901(f) by more than 8 dBC.

(d) Fixed Residential Interior Noise Limits. In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.”

Section 2901 “Definitions”

“(d) “Emergency Work” means work made necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from an imminent exposure to danger or work by private or public utilities when restoring utility service. This term shall not include testing of emergency equipment.”

Section 2907 “Construction Equipment”

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

(b) The provisions of Subsections (a) of this Section shall not be applicable to impact tools and equipment, provided that such impact tools and equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation, and that pavement breakers and jackhammers shall also be equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation.

(c) The provisions of Subsection (a) of this Section shall not be applicable to construction equipment used in connection with emergency work."

Section 2908 "Construction Work at Night"

"It shall be unlawful for any person, between the hours of 8:00 p.m. of any day and 7:00 a.m. of the following day to erect, construct, demolish, excavate for, alter or repair any building or structure if the noise level created thereby is in excess of the ambient noise level by 5 dBA at the nearest property plane, unless a special permit therefor has been applied for and granted by the Director of Public Works or the Director of Building Inspection. In granting such special permit the Director of Public Works or the Director of Building Inspection shall consider: if construction noise in the vicinity of the proposed work site would be less objectionable at night than during daytime because of different population levels or different neighboring activities if obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during daytime; if the kind of work to be performed emits noises at such a low level as to not cause significant disturbance in the vicinity of the work site, if the neighborhood of the proposed work site is primarily residential in character wherein sleep could be disturbed: if great economic hardship would occur if the work were spread over a longer times if the work will abate or prevent hazard to life or property; and if the proposed night work is in the general public interest. The Director of Public Works or the Director of Building Inspection shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise emissions, as required in the public interest.

The provisions of this Section shall not be applicable to emergency work."

Places of Entertainment

Noise Regulations relating to Residential Uses Near Places of Entertainment (Ordinance 70-15, effective June 19, 2015) states residential structures to be located where the day-night average sound level (Ldn) or community noise equivalent level (CNEL) exceeds 60 decibels shall require an acoustical analysis with the application of a building permit showing that the proposed design would limit exterior noise to 45 decibels in any habitable room. Furthermore, the regulations require the San Francisco Planning Department and planning commission to consider the compatibility of uses when approving residential uses adjacent to or near existing permitted places of entertainment and take all reasonably available means through the city's design review and approval processes to ensure that the design of new residential development projects take into account the needs and interests of both the places of entertainment and the future residents of the new development.

The proposed project would be located within 300 feet of two (2) places of entertainment, OMG Bar and Nightclub (directly adjacent to the project site to the southwest) and Mezzanine (215 feet northeast of the project site). In addition, The Warfield is 334 feet northwest of the project site and the SHN Golden Gate Theater is 454 feet northwest of the project site.

The ambient noise level measured at the Jessie Street edge of the site during the early morning hours is an average of 71.4 dB(C). According to Section 2090 "Noise Limits", Paragraph (b) "Commercial and Industrial Property Noise Limits" in the San Francisco Police Code, the loudest noise level the establishments would be

able to generate at the project site is 79.4 dB(C). The project exterior façade would be designed taking into account the noise levels generated by the neighboring places of entertainment as verified by the Project Sponsor via e-mail on July 26, 2019.

EXISTING NOISE ENVIRONMENT

Existing Ambient Noise Levels

The existing noise environment in a project area is characterized by the area's general level of development due to the high correlation between the level of development and ambient noise levels. Areas which are not urbanized are relatively quiet, while areas which are more urbanized are noisier as a result of roadway traffic, industrial activities, and other human activities.

The City of San Francisco is exposed to several sources of noise, including traffic on the local roadways, such as Market Street, Sixth Street, and Fifth Street. Traffic noise depends primarily on traffic speed (tire noise increases with speed), proportion of medium and large truck traffic (trucks generate engine, exhaust, and wind noise, in addition to tire noise), and number of speed control devices, such as traffic lights (accelerating and decelerating vehicles and trucks can generate more noise).

Changes in traffic volumes can also have an impact on overall traffic noise levels. For example, it takes 25 percent more traffic volume to produce an increase of only 1 dB(A) in the ambient noise level. For roads already heavy with traffic volume, an increase in traffic numbers could even reduce noise because the heavier volumes could slow down the average speed of the vehicles. A doubling of traffic volume generally results in a 3 dB(A) increase in noise levels.

The main source of noise at the 469 Stevenson Street site is the steam generation plant on the adjacent Clearway Energy property. The noise from the steam generation plant is a constant, tonal noise produced from the mechanical equipment outside the building and the operation of the facility. Other sources of noise at the site include traffic on Sixth Street, very sparse traffic on Stevenson and Jessie streets, sidewalk activity, parking lot activity, aircraft fly overs, activity from businesses (back-up beepers, etc.), and noise from distant construction sites. The traffic in the area is comprised of vehicles, medium and large trucks, motorcycles, MUNI buses and streetcars, construction vehicles, and emergency vehicles. The project site is well-shielded from traffic noise along Market and Fifth Streets.

Photo 1: Microphone on Roof of 989 Market Building

A noise survey was conducted between Thursday, March 14, 2019 and Sunday, March 17, 2019 to establish the existing baseline condition for the project. The survey involved securing a calibrated Larson Davis LxT sound level meter to the roof of the adjacent building at 989 Market Street, about 95 feet above the ground. The microphone was extended approximately two feet out from the building and directly faced Stevenson Street (within the red circle in Photo 1). The unattended meter collected data continuously between Tuesday and Sunday for a minimum of 24-hours.

One (1) additional spot measurement was taken during the same time period to extrapolate the 24-hour noise level to a different elevation to gain an understanding of sound across the full project site. The spot measurement was taken at the edge of the existing parking lot facing Jessie Street using a fully calibrated Larson Davis 831 sound level meter. The microphone was about 5 feet 6 inches above the sidewalk for the measurement. The results of the ambient noise measurements are shown in Table

7 below. Average 15-minute sound pressure levels measured at the 24-hour measurement location are shown in Appendix 1 attached to this Memo.

Table 7: Ambient Noise Level Measurement Results

Location	Ldn, dB(A)[4]	Maximum One-Hour Leq, dB(A)[5]	Maximum 15-Min Daytime Leq, dB(A)	Minimum 15-Min Daytime Leq, dB(A)	Minimum 15-Min Nighttime Leq, dB(A)[6]
Stevenson Street – Rooftop	67.0 – 70.5 dB(A)	68.8 dB(A)	68.4 dB(A)	59.1 dB(A)	57.5 dB(A)
Jessie Street – Ground Level	64.5 – 68.0 dB(A)	66.3 dB(A)	65.9 dB(A)	56.6 dB(A)	55.0 dB(A)

The dates of the noise survey included the Hello Dolly show at the SHN Golden Gate Theater (March 16 and March 17, 2019), The Nils Frahm concert (March 15, 2019) and the Graveyard and Uncle Acid & The Deadbeats concert (March 16, 2019) at the Warfield, The Dirtybird Quarterly event at Mezzanine (March 15, 2019), and typical weekend activity at OMG Bar & Nightclub. Ambient noise levels measured during the early morning hours, or during the anticipated operational hours of the noise-generating entertainment uses, ranged between 70.2-73.4 dB(C). Ambient noise levels exceed the “satisfactory" category on the Land Use Compatibility Chart for Community noise.

Noise-Sensitive Receptors

Noise-sensitive receptors around the project site include The Wilson apartments at 973 Market Street, the Hampton Inn San Francisco Downtown at the corner of Mint Street and Mission Street, and various hotels and residential buildings near the corner of Sixth Street and Stevenson Street, including the Desmond Hotel at 42 Sixth Street, the Seneca Hotel at 34 Sixth Street, the Haveli Hotel at 37 Sixth Street, the Whitaker Hotel at 45 Sixth Street, the Hillsdale at 51 Sixth Street, the Oak Tree Hotel at 45 Sixth Street, the Winsor Hotel at 20 Sixth Street, and various residential spaces above 87-99 Sixth Street. The noise-sensitive receptors within 300 feet of the 469 Stevenson project site are shown in Appendix 2 attached to this memo.

Vibration-Sensitive Receptors

Historic buildings are more susceptible to vibration as compared with buildings with modern construction. Historic buildings adjacent to the project site include The Haveli Hotel at 35-37 Sixth Street (Date of Construction – 1908), The Whitaker Hotel at 39-41 Sixth Street (Date of Construction – 1906), The Oak Tree Hotel at 43-45 Sixth Street (Date of Construction – 1907), and The Hillsdale Hotel at 47-51 Sixth Street (Date of Construction – 1912). These structures are adjacent to the project site’s western property line. 65-83 Sixth Street (Date of Construction – 1913), 986 Mission Street/481 Jessie Street (Date of Construction – 1922), ~~980~~982-984 Mission Street/479 Jessie Street (Date of Construction – 1924), 972-976 Mission Street (Date of Construction – 1925), 968 Mission Street (Date of Construction – 1930), 471 Jessie Street (Date of Construction – 1912), and 956-960 Mission Street (Date of Construction – 1910) are also historic buildings, and are located across the street from the project’s Jessie Street frontage. 995 Market Street/1 Sixth Street (Date of Original Construction – 1908), 979-989 Market Street (Date of Construction – 1907), 973 Market Street (Date of Construction – 1904) are historic buildings and are located across the street from the project’s Stevenson Street frontage. Additionally, the three-story building and two smokestacks located at 460 Jessie

[4] The day-night noise level, Ldn, is relevant for noise interior to the residential units.
[5] The maximum one-hour equivalent noise level, Leq, is referenced for CalGreen.
[6] The minimum 15-minute nighttime equivalent noise level is used for the fixed-source mechanical noise property plane noise analysis.

Street are located at the adjacent Clearway Energy thermal power station to the east of the project site and are historical resources as contributors to the California Register-eligible PG&E City Beautiful Substations Discontinuous Thematic Historic District. All vibration-sensitive buildings within 300 feet of the project site are also shown in Appendix 2 attached to this Memo and distinguished from noise-sensitive receptors as shown in the legend.

Existing Noise-Generating Uses

This neighborhood of the City contains several entertainment facilities which are in operation for weekly scheduled events or for special events. Noise generated by the operation of the facilities will be part of the ambient noise environment experienced by the subject project. Noise-generating uses around the project include places used for scheduled events, such as The Warfield (982 Market Street), Piano Fight (144 Taylor Street), Pandora Karaoke & Bar (50 Mason Street), OMG Bar and Nightclub (43 Sixth Street), Mezzanine (444 Jessie Street), Exit Stage Left (156 Eddy Street), and the SHN Golden Gate Theater (1 Taylor Street), and spaces used for special events, such as Club Six (60 Sixth Street), and the SF Mint (88 Fifth Street).

METHODOLOGY

In accordance with the requirements of the California Environmental Quality Act (CEQA), the noise analysis evaluates the project's noise sources to determine the impact of the proposed project on the existing ambient noise environment. This analysis does not analyze the impact of the existing ambient noise environment on the proposed project's residents. However, as discussed in the regulatory setting above, existing regulations are in place to ensure adequate interior noise levels are achieved for a proposed project.

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

Operational Noise

Project-generated traffic should not increase existing noise levels by 5 dBA Ldn if existing or existing plus project-generated noise levels are within the City's "Satisfactory" category per the general plan's land use compatibility chart for community noise (Figure 1 above). If existing or resulting with project noise levels are above the "Satisfactory" category, project-generated traffic noise should not result in an increase of 3 dBA Ldn. Anticipated noise increases from future project-related traffic were estimated using predicted vehicle traffic generated from the 469 Stevenson project as detailed in the traffic analysis prepared by Fehr & Peers.

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

Noise from the proposed project's mechanical and HVAC systems would operate regularly and are therefore analyzed for compliance with article 2909(a) and (d) of the noise ordinance (refer to regulatory discussion above).

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

Construction Noise

The San Francisco Police Code does not specify quantitative noise limits for impact equipment or combined noise impacts from the simultaneous operation of multiple pieces of construction equipment. Therefore, the

quantitative evaluation of daytime construction noise effects is based on criteria in the Federal Transit Administration (FTA) guidelines for residential land uses which is 90 dBA Leq.[7]

The planning department also evaluates whether construction noise would result in an increase of 10 dBA over existing noise levels ("Ambient + 10 dBA") at sensitive receptors, which generally represents a perceived doubling of loudness. The quantitative analysis typically evaluates the noise levels from the simultaneous operation of multiple pieces of construction equipment to provide a worst-case assessment of potential noise during construction. Although a more refined analysis evaluating the noise levels from all equipment associated with a construction phase is also acceptable. The quantitative criteria above are only part of the evaluation of construction noise. The evaluation also considers the duration and intensity of any quantitative noise exceedance. In addition, nighttime construction noise is assessed to determine whether sleep disturbance would occur (if construction noise would exceed 45 dBA at residential interiors for prolonged periods of time). The nighttime construction noise analysis also considers the frequency and duration of nighttime construction activities.

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

Construction Vibration

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

ENVIRONMENTAL ANALYSIS

Traffic Noise Levels

To describe future noise levels due to traffic added from the proposed project, peak hour traffic counts (with and without the project) listed in the traffic study by Fehr & Peers were used to determine the percent increase of traffic on the roads adjacent to the project site and near adjacent sensitive receptors.

Table 8 shows the existing peak hour traffic count and the estimated traffic levels under existing plus project conditions on nearby roadways. The last columns in the table show the overall percentage change and the estimated difference in peak hour noise level. Calculations to support the table are contained in Appendix 3 attached to this memo.

[7] Federal Transit Administration (FTA), 2018, Transit Noise and Vibration Impact Assessment, DTA-VA- 90-1003-06, Chapter 12, September 2018, U.S. Department of Transportation. http://www.fta.dot.gov/12347_2233.html.

Table 8: Traffic Peak Hour Counts and Estimated Noise Increase

Roadway	Existing Peak Hour Traffic Counts	Estimated Peak Hour Traffic with Project	Percentage Change	Estimated dB(A) Change
Market Street	580	580	0%	0 dB(A)
Sixth Street	1,844	1,859	1%	0.04 dB(A)
Stevenson Street	108	152	41%	1.6 dB(A)
Fifth Street	1,402	1,4230	2%	0.08 dB(A)

The proposed project is expected to minimally increase traffic volumes along Market Street, Sixth Street, and Fifth Street. There would essentially be no perceptible change in traffic noise expected along these streets. Peak traffic volumes are expected to increase approximately 41 percent along Stevenson Street between Fifth and Sixth Streets with implementation of the proposed project. Traffic increases of 41 percent only raise noise levels approximately 1.6 dB(A), which is imperceptible.

Project Fixed-Source Noise

HVAC and Mechanical Systems Exterior Noise

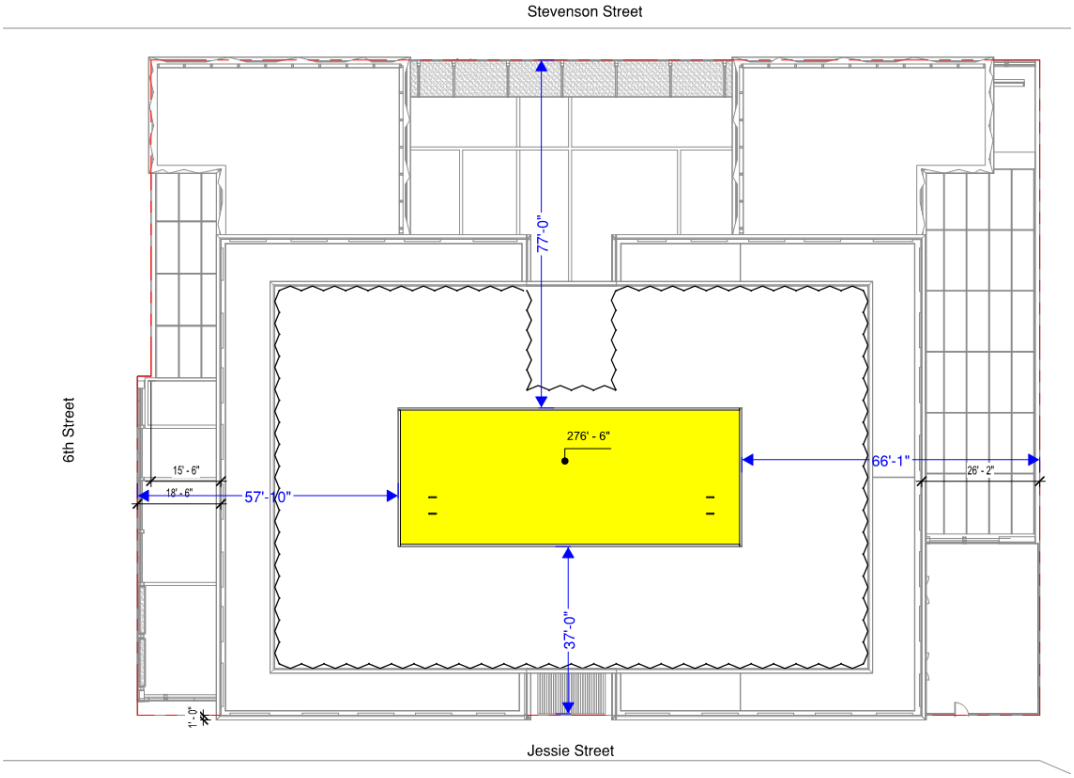
Per San Francisco Police Code section 2909(a) residential properties may not produce a noise level more than 5 dB(A) above the ambient noise level at any point outside of the property plane. Typical residential and commercial building construction would involve new rooftop mechanical equipment, such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

Noise from HVAC equipment can vary greatly, depending on the size of the equipment and the type of equipment used. The project sponsor has verified that water-source heat pumps are planned for the residential units and the main pieces of mechanical equipment would be located on the roof[8]. While the project sponsor has not selected the exact mechanical equipment to be installed on the project site, the following assumptions were used in the exterior analysis of the mechanical equipment based on HVAC equipment similar to standard package units installed on buildings similar to the proposed project:

- A standard HVAC unit would produce sound pressure levels in the range of 70 to 75 dBA at 50 feet.[1].[9]
- The mechanical equipment was assumed to be centrally located in the mechanical area indicated on the roof as shown in the yellow-highlighted area below in Figure 2:

[8] August 19, 2019 e-mail from Victoria Lehman, Build
[9] Hoover and Keith, Noise Control for Buildings, Manufacturing Plants, Equipment, and Products, 2000, Houston, TX.

Figure 2: Assumed Location of Rooftop Mechanical Equipment



- The mechanical area is visually blocked from the surrounding buildings by a 9 foot, 3-inch tall screen. Even though there is a screen, effects of the screen were not considered in the analysis to meet the requirements of the San Francisco Police Code section 2909(a) because this code requirement is a “property plane” requirement. This means the noise level requirements listed in the code must be met at an infinite vertical plane as defined by the subject project’s property line. Therefore, this analysis is conducted just above the screen during nighttime hours to simulate a worst-case scenario.

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

Table 9: Calculated Rooftop Mechanical Equipment Noise Levels at the Project Property Planes

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

The supporting calculations for the property plane noise analysis are attached to this memo in Appendix 4.

A minimum of 20.5 dB(A) noise reduction is required from the rooftop equipment to achieve the requirements of the San Francisco Police Code Section 2909(a) during nighttime hours. The project sponsor shall implement the following mitigation measures to reduce noise levels from the source equipment and achieve compliance with the police code:

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

During the design phase, once the project sponsor has selected the specific HVAC and mechanical equipment for the proposed project, a qualified acoustical consultant shall conduct a property plane noise analysis. The property plane analysis report shall evaluate whether the proposed HVAC and mechanical equipment complies with the noise limits in the San Francisco Police Code. The report shall be submitted to the San Francisco Planning Department for review and approval prior to issuance of a building permit or building permit addendum that would permit the HVAC and mechanical equipment.

<u>HVAC and Mechanical Systems Interior Noise</u>

Per San Francisco Police Code section 2909(d), fixed noise sources cannot intrude into a sleeping or living room in any dwelling unit located on residential property to produce interior noise levels that exceed 45 dB(A) between the hours of 10:00 PM to 7:00 AM or 55 dB(A) between the hours of 7:00 AM to 10:00 PM. The tallest closest noise-sensitive receptors to the 496 Stevenson Project are at 47-Sixth Street (approximately 20 feet from the project site) with a building height of 85'-0" and 973 Market Street (approximately 22 feet from the project site) with a building height of 101'-0". These residential buildings are the tallest buildings located directly adjacent to the Project site and therefore, the residential units in these buildings will be the closest to the rooftop mechanical equipment on the 469 Stevenson Street building.

Noise from the projected project's rooftop equipment to these residential properties was calculated to verify compliance with section 2909(d) of the San Francisco Police Code. All analysis assumptions listed above under HVAC and Mechanical Systems Exterior Noise also apply for the interior noise analysis, except the screen. Because the section 2909(d) analysis is a point calculation to the closest residential units and not a property plane analysis, the effects of the 9 foot 3-inch tall screen shielding the rooftop mechanical equipment was included in the analysis of interior noise for the mechanical systems. The interior noise analysis also accounts for a 15 dB(A) reduction in noise from the building façade. This is a typical noise reduction factor that assumes windows are open. The results of the interior noise analysis are shown in Table 10 below. The supporting calculations for the interior residential noise analysis are included at the end of this memo in Appendix 4.

Table 10: Calculated Rooftop Mechanical Equipment Noise Levels at the Nearest Residential Receptors

Receptor Location	Estimated Rooftop Equipment Noise Level at Residence	Façade Noise Reduction[10]	Calculated Interior Noise Level	Criterion	Exceeds Criterion?
47 Sixth Street	41.5 dB(A)	15 dB(A)	26.5 dB(A)	45 dB(A)	No
973 Market Street	42.7 dB(A)	15 dB(A)	27.7 dB(A)	45 dB(A)	No

Emergency Generators

One emergency generator is planned for the proposed project. The generator is planned to be located within the main electrical room on the ground floor in the southwest portion of the property. The exact discharge, intake, and exhaust pipe paths for the generator are not yet known. The generator would be tested regularly, typically once per month. However, the generator will require a permit to operate from the Bay Area Air Quality Management District, which typically permits emergency generators to operate for testing purposes up to 50 hours per year. The generator would typically be tested during the weekday, daytime hours. Given the generator would be located in an enclosed room and operate at most 1 hour per week during daytime hours, noise from the generator is not anticipated to substantially increase daytime ambient noise levels.

Short-Term Construction Noise

Daytime Construction Noise

Construction activities associated with the proposed project would include site preparation and demolition, excavation and shoring, foundation and below grade work, building construction, exterior finishing, and sitework/paving. Each construction stage has its own mix of equipment and, consequently, its own noise characteristics. These various construction operations would change the character of the noise generated at the project site and, therefore, the ambient noise level as construction progresses. The loudest phases of construction include excavation and shoring and building construction phases, as the noisiest construction equipment is earthmoving and grading equipment and concrete/industrial saws. Table 11 lists types of construction equipment that may be used throughout construction and the maximum and average noise level as measured at 20 feet from the operating equipment. The 20-foot distance is more conservative than the methodology from the FTA which would assume the equipment operates at the center, or 85 feet, from the sensitive receptors along 6th Street. ~~represents the approximate distance between the project property line and the closest noise-sensitive receptors at 35 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, and 47 Sixth Street, which are hotels and residential over retail. The 20-foot distance represents a worst-case~~

[10] Facade noise reduction is typically 15 dBA with windows open. See http://researchrepository.napier.ac.uk/2040/1/TWFrepNANR_116.pdf

~~assessment of noise impacts on nearby receptors because it assumes the equipment operates at the property line closest to the sensitive receptor.~~ The project site is approximately 170 feet wide along its Jessie and Stevenson Street frontages and therefore equipment will often be operating at distances greater than 20-feet from the closest sensitive receptors.

Table 11: Summary of Construction Equipment Noise Levels at the Nearest Noise-Sensitive Receptor

Equipment	Distance ~~to~~ Between Equipment and Nearest Noise-Sensitive Receptor	Sound Level at Nearest Noise-Sensitive Receptor		
		Lmax, dB(A)	Acoustical Use Factor (%)	Leq, dB(A)
Backhoe	20 feet	85.5	40	81.5
Crane	20 feet	88.5	16	80.6
Concrete Mixer Truck	20 feet	86.8	40	82.8
Concrete Saw	20 feet	97.5	20	90.5
Compressor (air)[1]	20 feet	85.6	40	81.6
Excavator	20 feet	88.7	40	84.7
Front End Loader[2]	20 feet	87.1	40	83.1
Flat Bed Truck	20 feet	82.2	40	78.2
Grader	20 feet	93.0	40	89.0
Hoe Ram	20 feet	98.2	20	91.2
Jackhammer	20 feet	96.8	20	89.9
Paver	20 feet	85.2	50	82.2
Welder / Torch	20 feet	82.0	40	78.0
Tractor[3]	20 feet	92.0	40	88.0
Man Lift[4]	20 feet	82.7	20	75.7
Drill Rig	20 feet	87.1	20	80.1
Dump Truck	20 feet	84.4	40	80.4
Pumps	20 feet	88.9	50	85.9

Source: Stantec 2019, Federal Highway Administration Roadway Construction Noise Model Version 1.1, 2008

Notes:

1. Used to approximate noise from a pressure washer for this project.
2. Used to approximate noise from the skid steer loader for this project.
3. Used to approximate noise from the forklift and rough-terrain forklift for this project.
4. Used to approximate noise from the aerial lift and scissor lift for this project.

Construction of the entire project would be conducted in sequential phases and each phase would use different pieces of construction equipment. The noise-producing equipment for each construction phase as defined by the Project Sponsor are shown in Table 12.

Table 12: Construction Phases and Equipment

Construction Phase	Equipment
Site Preparation / Demolition	Dump Truck (2) Excavator (1)
Excavation and Shoring	Bore / Drill Rigs (1) Dumper / Tenders (1) Excavators (1) Skid Steer Loaders (1) Tractors / Loaders / Backhoes (1) Aerial Lifts (1) Hoe Ram (1) Jackhammer (1) Dump Truck (2)
Foundation and Below Grade Construction	Concrete Pump (1) Manlift (1) Dump Truck (1)
Building Construction	Aerial Lifts (1) Cranes (1) Forklift (1) Rough Terrain Forklifts (1) Electric-Powered Welders (1) Concrete / Industrial Saws (2) Dump Truck (1) Manlift (1) Scissor Lift (3) Welders (1)
Exterior Finishing	Air Compressors (1) Forklift (1) Manlift (1) Welders (1)
Sitework / Paving	Cement and Mortar Mixers (1) Pavers (1) Paving Equipment (1) Pressure Washer (1)

A worst-case condition for construction activity would assume all noise-generating equipment for each construction phase were operating at the same time and at the same distance away from the closest noise-sensitive receptor. Using this assumption, the RCNM program calculated the following combined Leq and Lmax noise levels from each phase and stage of construction as shown in Table 13.

Table 13: Calculated Noise Level from Each Construction Phase

Construction Stage	Distance to Nearest Noise-Sensitive Receptor	Sound Level at Nearest Noise-Sensitive Receptor	
		Lmax, dB(A)	Leq, dB(A)
Site Preparation / Demolition	20 feet	91.1 dB(A)	87.1 dB(A)
Excavation and Shoring	20 feet	~~95.0~~ 101.6 dB(A)	~~90.5~~ 95.3 dB(A)
Foundation and Below Grade Construction	20 feet	91.2 dB(A)	85.0 dB(A)
Building Construction	20 feet	102.2 dB(A)	96.1 dB(A)
Exterior Finishing	20 feet	93.6 dB(A)	89.4 dB(A)
Sitework / Paving	20 feet	91.8 dB(A)	88.2 dB(A)

The construction noise modeling output results are attached to this memo in Appendix 5.

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

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

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

Nighttime Construction Noise

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

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

This required nighttime work would occur at different times throughout the 36-month construction period and not for 5 sequential nights. Therefore, given the duration of nighttime work it is not expected to result in sleep disturbance for a substantial period of time.

Construction Noise Control Measures

The following measures would reduce construction noise at nearby sensitive receptors.

Construction Noise Control Plan

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

- Require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds), wherever feasible.

- Require the general contractor to perform all work in a manner that minimizes noise to the extent feasible; use equipment with effective mufflers; undertake the noisiest activities during times of least disturbance to surrounding residents and occupants, as feasible.

- Require the general contractor to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which could reduce noise levels by as much as 10 dBA.

- Require the general contractor to erect temporary plywood noise barriers (at least 0.5-inch-thick) around stationary noise sources and/or the construction site, particularly where a noise source or the site adjoins noise-sensitive uses. The barriers shall be high enough to block the line of sight from the dominant construction noise source to the closest noise-sensitive receptors. Depending on factors such as barrier height, barrier extent, and distance between the barrier and the noise-producing equipment or activity, such barriers may reduce construction noise by 3–15 dBA at the locations of nearby noise-sensitive receptors.

- Require the general contractor to use noise control blankets on a building structure as the building is erected to reduce noise emission from the site.

- Require the general contractor to line or cover hoppers, storage bins, and chutes with sound-deadening material (e.g., apply wood or rubber liners to metal bin impact surfaces).

- Unless safety provisions require otherwise, require the general contractor to adjust audible backup alarms downward in sound level while still maintaining an adequate signal-to-noise ratio for alarm

effectiveness. Consider signal persons, strobe lights, or alternative safety equipment and/or processes as allowed to reduce reliance on high-amplitude sonic alarms/beeps.

- Require the general contractor to place stationary noise sources, such as generators and air compressors, on the east side of the project site, as far away from nearby noise-sensitive receptors as possible. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, if feasible.

- Require the general contractor to place non-noise-producing mobile equipment, such as trailers, in the direct sound pathways between suspected major noise-producing sources and noise-sensitive receptors.

- Under the supervision of a qualified acoustical consultant, the project sponsor shall monitor the effectiveness of noise attenuation measures by taking noise measurements before any construction or ground disturbing activity and regularly during each phase of construction.

- Prior to the issuance of a building permit, along with the submission of construction documents, the project sponsor shall submit to the planning department and building department a list of measures that shall be implemented and that shall respond to and track complaints pertaining to construction noise. These measures shall include:

  (1) posted signs on-site pertaining to permitted construction days and hours;

  (2) a procedure and phone numbers for notifying the building department and the San Francisco Police Department (during regular construction hours and off-hours). This telephone number shall be maintained until the proposed project has been considered commissioned and is ready for occupancy. If the telephone is not staffed 24 hours per day, the contractor shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended;

  (3) a sign posted on site describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction;

  (4) designation of an on-site construction complaint and enforcement manager for the project who shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints; and

  (5) notification of neighboring residents and non-residential building managers within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities (defined as activities generating anticipated noise levels of 90 dBA or greater, about the estimated duration of the activity.

Construction Vibration

During construction of the proposed project, equipment may be used directly adjacent to the nearest vibration sensitive receptors along Sixth Street. The project site is approximately 170 feet wide along its Jessie and Stevenson Street frontages and therefore equipment will often be operating at distances greater than directly adjacent to the closest sensitive receptors. Older and historic buildings can be damaged by excessive vibration associated with construction activities.

Sleep Disturbance from Vibration

As discussed above, nighttime construction work would be limited to five (5) total nights over the entire 36-month construction period. It is not anticipated that nighttime construction work would require vibration generating equipment. Therefore, construction activities are not expected to result in vibration during nighttime hours that would be perceptible and thereby result in sleep disturbance.

Building Damage Assessment

The properties nearest to the project site that are most susceptible to vibration are as follows:

- 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, and 47-55 Sixth Street – Directly adjacent to the Project site. All of these buildings are historic resources according to the San Francisco Planning Department South of Market Historic Resource Survey Map[11] and the associated Primary Records[12]. These buildings are constructed of masonry or concrete clad in textured stucco and capped by a flat roof. Therefore, these buildings are assumed to be under the "Historic and Some Old Buildings" category as defined by Caltrans.

- 979-989 Market Street – Approximately ~~22'~~ 27' from the Project site. This is a ~~non-~~historic building originally constructed in 1907. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.

- 973 Market Street – Approximately ~~22'~~ 27' from the Project Site. ~~Non-~~A historic building~~, but~~ originally constructed in 1904. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old Buildings".

- Clearway Energy Thermal Power Station – Main Building and Smokestack Approximately 40' from the Project Site. However, a portion of the main building extends toward the project site. For this reason, the analysis assumes the main building is directly adjacent to the project site. This site is a contributor to the California Register-eligible PG&E City Beautiful Substations Discontinuous Thematic Historic District. Based on observation and electronic visual references, the smokestack is assumed to be constructed with concrete and masonry with no plaster and would likely fall within the Caltrans building damage category of "Historic and Some Old" buildings.

- 481, 479, 477 Jessie Street – Approximately ~~40'~~ 38' from Project Site. ~~Non-h~~Historic buildings~~, but~~ originally constructed in 1922. Based on observation and electronic visual references, ~~these~~ this building~~s are~~ is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.

- 65-83 Sixth Street – Approximately ~~52'~~ 40' from Project Site. ~~Non-h~~Historic building~~, but~~ originally constructed in 1913. Based on observation and electronic visual references, ~~these~~this building~~s are~~ is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.

- 972-976 Mission – Approximately ~~42'~~ 38' from Project Site. ~~Non-h~~Historic building~~, but~~ originally constructed in 1925. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.

[11] (https://sfplanning.org/resource/south-market-historic-resource-survey-map)
[12] https://sfgov.org/sfplanningarchive/ftp/files/GIS/SouthSoMa/Docs/3704%20051.pdf

- 968 Mission Street – Approximately ~~42'~~ 38' from Project Site. ~~Non h~~Historic building~~, but~~ originally constructed in 1930. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.

- 471 Jessie Street – Approximately ~~42'~~ 38' from Project Site. ~~Non h~~Historic building~~, but~~ originally constructed in 1912. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.

- 956-960 Mission Street – Approximately 51' from Project Site. ~~Non h~~Historic building~~, but~~ originally constructed in 1910. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.

- 995 Market / 1 Sixth Street – Approximately 38' from Project Site. ~~Non h~~Historic building~~, but~~ originally constructed in 1908. Based on observation and electronic visual references, this building is assumed to fall within the Caltrans building damage category of "Historic and Some Old" buildings.

Table 14 estimates the vibration levels at various distances from ~~the nearest receptors to the project site generated by~~ construction equipment that is expected to produce groundborne vibration. As stated previously in this memo, vibration levels are determined using the following formula, PPV = PPVref x $(25/\text{Distance})^{1.5}$, where PPVref is as listed in Table 3.

Table 14: Vibration Source Levels for Construction Equipment

Equipment	Estimated PPV at 1 Foot (Directly Adjacent to Property)	Estimated PPV at 5 Feet	Estimated PPV at 10 Feet	Estimated PPV at 25 Feet	Estimated PPV at 40 Feet
Large Bulldozer[1]	11.125	0.995	0.352	0.089	0.044
Caisson Drilling[2]	11.125	0.995	0.352	0.089	0.044
Hoe Ram	11.125	0.995	0.352	0.089	0.044
Jackhammer	4.375	0.391	0.138	0.035	0.017
Loaded Trucks	9.500	0.850	0.300	0.076	0.038
Small Bulldozer	0.375	0.034	0.012	0.003	0.002

Source: Federal Transit Administration 2018
Notes:
1. Used to approximate vibration from a large tractor, backhoe, and loader for this project
2. Used to approximate vibration from a drill rig for this project.

Table 15 shows the expected vibration levels at the neighboring buildings from construction activity related to the estimated Caltrans Construction Vibration Damage Criteria:

Table 15: Expected Construction Vibration Levels at Closest Properties Related to Caltrans Criteria

Vibration-Sensitive Buildings	Caltrans Building Damage Criteria	Distance between Vibration Sensitive Building and Project Site	Calculated Maximum PPV at Property	Exceeds Criteria?
35-37 Sixth Street	0.25	~~20 feet~~ 1 foot (Directly Adjacent)	~~0.124~~ 11.125	~~No~~ Yes
39-41 Sixth Street	0.25	~~20 feet~~ 1 foot (Directly Adjacent)	~~0.124~~ 11.125	~~No~~ Yes
43-45 Sixth Street	0.25	~~20 feet~~ 1 foot (Directly Adjacent)	~~0.124~~ 11.125	~~No~~ Yes
47-~~51~~55 Sixth Street	0.25	~~20 feet~~ 1 foot (Directly Adjacent)	~~0.124~~ 11.125	~~No~~ Yes
~~53-55 Sixth Street~~	~~0.25~~	~~20 feet~~	~~0.124~~	~~No~~
65-83 Sixth Street	0.25	~~52~~ 40 feet	~~0.03~~ 0.04	No
Clearway Energy Thermal Power Station Main Building and Smoke Stack	0.25	Main Building - 1 foot (Directly Adjacent)/ Smoke Stack - 40 feet	11.125/ 0.04	Yes/ No
986 Mission Street / 481 Jessie Street	0.25	~~42~~ 38 feet	~~0.04~~ 0.05	No
972-976 Mission Street	0.25	~~42~~ 38 feet	~~0.04~~ 0.05	No
968 Mission Street	0.25	~~42~~ 38 feet	~~0.04~~ 0.05	No
471 Jessie Street	0.25	~~42~~ 38 feet	~~0.04~~ 0.05	No
956-960 Mission Street	0.25	51 feet	0.03	No
995 Market Street / 1 Sixth Street	0.25	38 feet	0.05	No
979-989 Market Street	0.25	~~22~~ 27 feet	~~0.11~~ 0.08	No
973 Market Street	0.25	~~22~~ 27 feet	~~0.11~~ 0.08	No
~~Clearway Energy Thermal Power Station~~	~~0.25~~	~~40 Feet~~	~~0.04~~	~~No~~
~~481 Jessie Street~~	~~0.25~~	~~42 feet~~	~~0.04~~	~~No~~
479 Jessie Street/ 982-984 Mission Street	0.25	~~42~~ 38 feet	~~0.04~~ 0.05	No
~~477 Jessie Street~~	~~0.25~~	~~42feet~~	~~0.04~~	~~No~~

As shown in Table 15, construction activities and equipment as proposed by the project sponsor ~~would not~~ may generate vibration levels that exceed the building damage criteria and could result in damage to the

buildings adjacent to the project site, including 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station. The following standard construction best practices would reduce construction-related vibration to the neighboring properties:

Construction Vibration Standard Construction Best Practices

Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific Pre-construction Survey and Vibration Management and Monitoring Plan to the Environmental Review Officer (ERO) or the ERO's designee for approval. The plan shall identify all feasible means to avoid damage to potentially affected buildings which includes all building and structures at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47- 55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station. The project sponsor shall ensure the following requirements of the Pre-Construction Survey and Vibration Management and Monitoring Plan are included in contract specifications, as necessary.

Pre-construction Survey. Prior to the start of any ground-disturbing activity, the project sponsor shall engage a consultant to undertake a pre-construction survey of potentially affected structures at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station. The project sponsor shall engage a qualified historic preservation professional and a structural engineer or other professional with similar qualifications to undertake a pre-construction survey of potentially affected historic buildings. The pre-construction survey shall include descriptions and photographs of all identified historic buildings at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street and the Main Building at the Clearway Energy Thermal Power Station, including all facades, roofs, and details of the character-defining features that could be damaged during construction, and shall document existing damage, such as cracks and loose or damaged features (as allowed by property owners). The report shall also include pre-construction drawings that record the pre-construction condition of the buildings and identify cracks and other features to be monitored during construction. The qualified historic preservation professional shall be the lead author of the pre-construction survey. The pre-construction survey shall be submitted to the ERO for review and approval prior to the start of vibration-generating construction activity.

Vibration Management and Monitoring Plan. The project sponsor shall undertake a monitoring plan to avoid or reduce project-related construction vibration damage to all identified historic buildings at 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, 47-55 Sixth Street, and the Main Building at the Clearway Energy Thermal Power Station and to ensure that any such damage is documented and repaired consistent with the secretary of the interior's standards. Prior to issuance of any demolition or building permit, the project sponsor shall submit the Plan to the ERO for review and approval.

The Vibration Management and Monitoring Plan shall include, at a minimum, the following components, as applicable:

- *Maximum Vibration Level*. Based on the anticipated construction and condition of the affected buildings and/or structures on adjacent properties, a qualified acoustical/vibration consultant in coordination with a structural engineer (or professional with similar qualifications) and a qualified historic preservation professional, shall establish a maximum vibration level that shall not be exceeded at each building/structure on adjacent properties, based on existing conditions, character-defining features, soil conditions, and anticipated construction practices (common standards are a peak particle velocity [PPV] of 0.25 inch per second for historic and some old buildings).

- *Vibration-Generating Equipment*. The plan shall identify all vibration-generating equipment to be used during construction (including, but not limited to site preparation, clearing, demolition, excavation, shoring, foundation installation, and building construction).

- *Alternative Construction Equipment and Techniques*. The plan shall identify potential alternative equipment and techniques that could be implemented if construction vibration levels are observed in excess of the established standard (e.g., smaller, lighter equipment could be used in some cases).

- *Construction Best Practices*. The plan shall incorporate construction best practices that outline all feasible means to protect and avoid damage to adjacent historical resources, including, but not necessarily limited to: identifying buffer distances to be maintained based on vibration levels and site constraints between the operation of vibration-generating construction equipment and the potentially affected building and/or structure to avoid damage to the extent possible; staging of equipment and materials and circulation plans that are incorporated into construction documents to minimize impacts to adjacent historical resources; and the installation of physical protection at the boundary of the project site where historical resources are directly adjacent.

- *Vibration Monitoring*. The plan shall identify the method and equipment for vibration monitoring to ensure that construction vibration levels do not exceed the established standards identified in the plan.

    - Should construction vibration levels be observed in excess of the standards established in the plan, the contractor(s) shall halt construction and put alternative construction techniques identified in the plan into practice, to the extent feasible.

    - The qualified historic preservation professional and structural engineer shall inspect each affected building and/or structure (as allowed by property owners) in the event the construction activities exceed the vibration levels identified in the plan.

    - The structural engineer and historic preservation professional shall submit monthly reports to the ERO during vibration-inducing activity periods that identify and summarize any vibration level exceedances and describe the actions taken to reduce vibration.

    - If vibration has damaged nearby buildings and/or structures, the historic preservation consultant shall immediately notify the ERO and prepare a damage report documenting the features of the building and/or structure that has been damaged.

    - Following incorporation of the alternative construction techniques and/or planning department review of the damage report, vibration monitoring shall recommence to ensure that vibration levels at each affected building and/or structure on adjacent properties are not exceeded.

- *Periodic Inspections*. The plan shall identify the intervals and parties responsible for periodic inspections. The qualified historic preservation professional and structural engineer shall conduct regular periodic inspections of each affected building and/or structure on adjacent properties (as allowed by property owners) during vibration-generating construction activity on the project site. The plan will specify how often inspections shall occur.

- *Repair Damage*. The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their pre-construction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site consistent with the Secretary of the Interior's Standards in consultation with the qualified historic preservation professional and planning department preservation staff.

Vibration Monitoring Results Report. After construction is complete the project sponsor shall submit to the ERO a final report from the qualified historic preservation professional and structural engineer. The report shall include, at a minimum, collected monitoring records, building and/or structure condition summaries,

descriptions of all instances of vibration level exceedance, identification of damage incurred due to vibration, and corrective actions taken to restore damaged buildings and structures. The ERO shall review and approve the Vibration Monitoring Results Report.

Cumulative Noise

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

- 1025 Howard Street (Howard and Sixth Streets)
- 1055 Market Street (Between Sixth and Seventh Streets)
- 1082 Howard Street (Between Sixth and Seventh Streets)
- 1088 Howard Street (Howard and Seventh Streets)
- 1125 Market Street (Between Seventh and Eighth Streets)
- 457-475 Minna Street (Between Fifth and Sixth Streets)
- 481-483 Tehama Street (Tehama and Sixth Streets)
- 527 Stevenson Street (Stevenson and Sixth Streets)
- 57 Taylor Street (Taylor and Market Streets)
- 921 Howard Street (Between Fifth and Sixth Streets)
- 984 Folsom Street (Folsom and Sixth Streets)
- 996 Mission Street (Between Fifth and Sixth Streets)
- Better Market Street (Market Street, between Octavia Boulevard to Steuart Street)

Construction Noise

Of these projects, the closest to the 469 Stevenson Street Project are the, the 996 Mission Street project, the Better Market Street project, and the 527 Stevenson Street project, being about, 145 feet, 246 feet, and 425 feet away from the project site, respectively. All other project sites are separated from the proposed project by an extended distance. All cumulative projects would have multiple existing buildings between them and the 469 Stevenson Street project site that would provide shielding of their construction to limit the noise which combines with the project construction noise, if they were to be constructed simultaneously. Also, construction at all the cumulative project sites would be subject to the same noise regulations as the proposed project, such as limiting construction hours and equipment noise levels. In addition, the noisiest phases of demolition, construction, excavation, and foundation installation, would be relatively brief and less likely to overlap than the less noisy phases of construction, such as interior work. However, given the large number of cumulative projects nearby and the potential for numerous projects to be under construction simultaneously as the

proposed project, cumulative construction noise could be substantial by both increasing the intensity of noise levels in the area and the duration that sensitive receptors experience construction noise. The noise control measures identified above are recommended and would reduce the contribution of construction noise generated by the proposed project.

Construction Vibration

Vibration effects are highly localized, and vibration attenuates rapidly from the source. Therefore, vibration impacts attributable to construction activities generally would be limited to buildings and structures adjacent to the project site. ~~Since the proposed project would not result in vibration-related damage to adjacent structures during construction activities,~~ Because vibration effects are localized and attenuate rapidly with distance from the source, vibration-generating equipment from the proposed project would likely not combine with that of even the closest cumulative projects (~~996 Mission Street,~~ Better Market Street~~,~~ and ~~Sixth Street Improvement~~ Fifth Street Improvement projects) to result in cumulative vibration effects that would damage nearby buildings, including the historic district contributors that abut the project site.

Operational Noise

With respects to operational noise, the proposed project would include new fixed noise sources that would produce operational noise on the project site. Similar new fixed noise sources would produce noise for the cumulative development projects within a 0.25-mile radius of the project site, such as the 996 Mission Street and 527 Stevenson Street projects. This could result in a permanent increase in ambient noise above existing levels. However, noise from the proposed project's mechanical equipment and mechanical equipment from the cumulative projects would be localized, would attenuate with added distance, and would be required to comply with the noise regulations of the San Francisco Police Code. Therefore, the proposed project and cumulative projects would be unlikely to combine to increase ambient noise levels in the area.

Cumulative development projects would also result in operational noise from project-generated vehicular traffic. To estimate future cumulative noise levels due to traffic, peak hour cumulative plus project traffic estimates were used to determine the percent increase of traffic on the roads adjacent to the project site. Due to expected changes in traffic patterns and vehicle restrictions from the Better Market Street Project along Market Street and the Sixth Street Pedestrian Safety Project, the 469 Stevenson Street project plus cumulative projects would actually reduce future peak hour traffic volumes and associated traffic noise along Market Street and Sixth Street. Table 16 shows the existing and cumulative future peak hour traffic volume on the local roadway network. The last columns in the table show the overall percent change and the estimated difference in peak hour noise level.

Table 16: Cumulative Peak HourTraffic Volumes and Estimated Noise Increase

Roadway	Existing Peak Hour Traffic Count	Cumulative Peak Hour Traffic Volumes with Project	Percent Change	Estimated dB(A) Change
Market Street	580	400	-31%	-1.2 dB(A)
Sixth Street	1,844	1,561	-15%	-0.6 dB(A)
Stevenson Street	108	244	126%	Less than 1 dB(A)
Fifth Street	1,402	2,448	75%	3 dB(A)

Peak traffic is expected to increase approximately 125 percent along Stevenson Street between Fifth Street and Sixth Street with the cumulative projects plus the proposed project. Even though the traffic on Stevenson Street is expected to increase by 125 percent, the overall peak hour traffic number is still very low. Cumulative plus project peak hour traffic volumes on Stevenson Street are only expected to be 244 cars. Traffic volumes

this low is not expected to generate a great deal of noise and ambient noise levels at the site would still be dominated by the existing noise sources. The estimated change in ambient noise levels along Stevenson Street is estimated to be below 1 dB(A).

Cumulative plus project peak traffic volumes along Fifth Street between Stevenson Street and Market Street are expected to increase by 75 percent. Traffic increases of 75 percent only increase noise levels approximately 3 dB(A). The project would contribute 28 vehicle trips to Fifth Street under cumulative conditions, which represents a minor proportion of the overall cumulative traffic volume on that segment of Fifth Street.

CONCLUSION

Noise generation associated with the proposed project is typically attributed to the project construction activities. These include site grading, construction of the building and apparatuses, and the increase traffic related to facility use. Operational noise generation can be attributed to the slight increase in traffic volumes from residents as well as from typical commercial and residential fixed mechanical equipment.

Based on the FHWA RCNM, the proposed project can generate high levels of construction noise which are temporary and would not result in long-term noise increases from construction. While the noise levels presented are a “worst-case” scenario and may at times be audible over traffic-related noise levels surrounding the area, these high levels are not expected to be continuous. Moreover, the highest noise levels would occur only during the hours allowed by the San Francisco Police Code and should be reduced by the application of measures to control construction noise at the project site. Noise control techniques should be implemented to ensure that noise generated from temporary construction activities would not be substantial at nearby sensitive receptors.

Stantec Consulting Services Inc.

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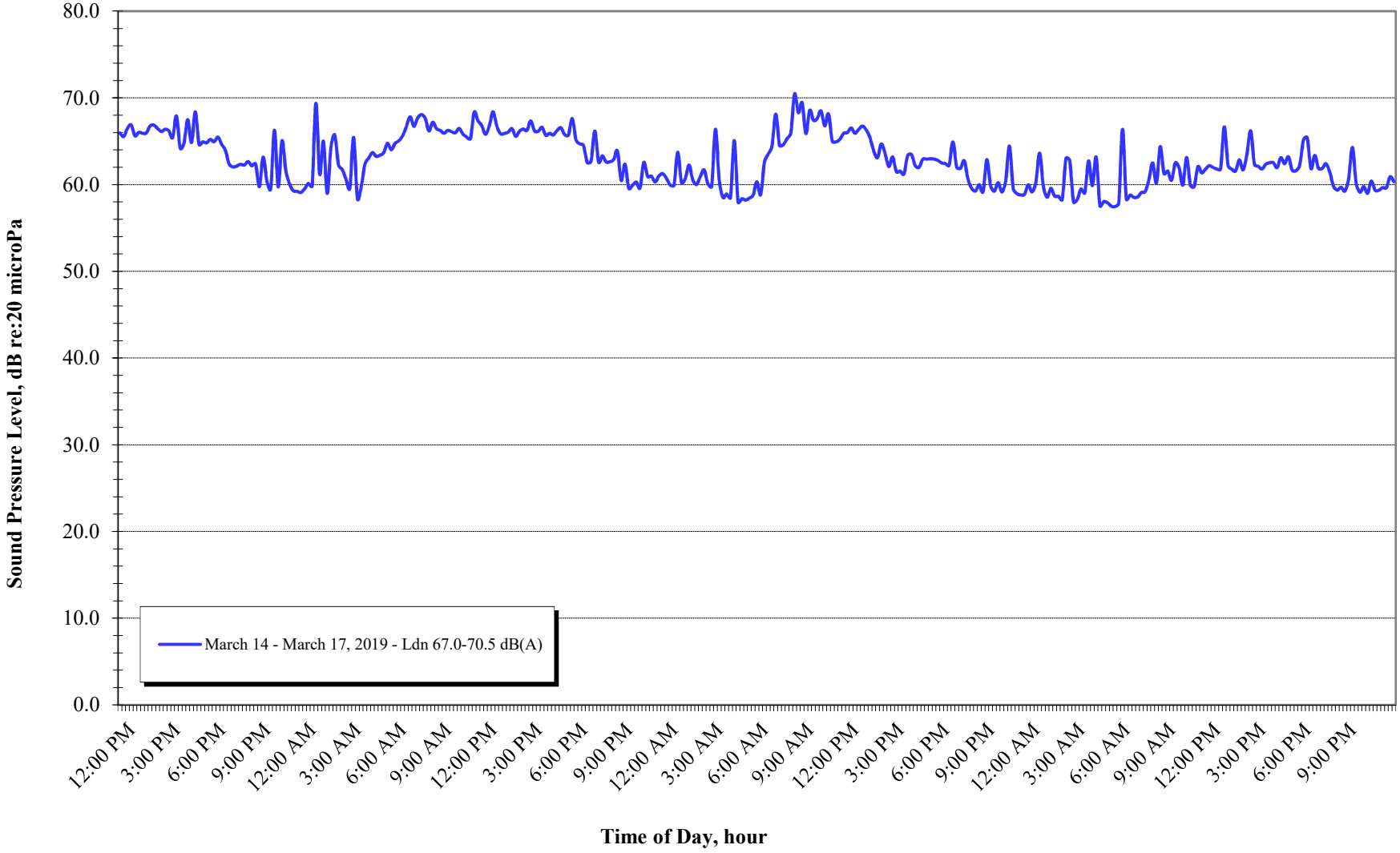
APPENDIX 1: Measured Hourly Ambient Noise Levels at Project Site

469 Stevenson Street - San Francisco, CA

15-Minute Noise Levels (Leq) at Long Term Measurement Location

Ambient Noise Levels - Thursday, March 14 - Sunday, March 17, 2019



APPENDIX 2: Noise and Vibration-Sensitive Receivers Within 300-ft of Project Site

\\Us1304f02\workgroup\1857\active\185704245\03_data\gis\mxd\fig_20_noise_receptors.mxd Revised: 2019-09-30 By: kaejohnson

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

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

469 Stevenson Street Project

Case No. 2017-014833ENV.

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

APPENDIX 3: Peak Hour Traffic Count Noise Calculation Results

469 Stevenson
Traffic Counts
27-Sep-19

Market between 5th and 6th

PM Peak without Project	PM Peak with Project	Estimated dB Increase
580	580	
580	580	
	0%	0

6th between Stevenson and Market

PM Peak without Project	PM Peak with Project	Estimated dB Increase
1844	1859	
1844	1859	
	1%	0.0

Stevenson Street between 6th and 5th

PM Peak without Project	PM Peak with Project	Estimated dB Increase
108	152	
108	152	
	41%	1.6

5th Street between Stevenson and Market

PM Peak without Project	PM Peak with Project	Estimated dB Increase
1402	1430	
1402	1430	
	2%	0.08

1180 Main Street
Cumulative Traffic Counts
27-Sep-19

Market between 5th and 6th

PM Peak without Project	Cumulative PM Peak with Project	Estimated dB Increase
580	400	
580	400	
	-31%	-1.24

6th between Stevenson and Market

PM Peak without Project	Cumulative PM Peak with Project	Estimated dB Increase
1844	1561	
1844	1561	
	-15%	-0.6

Stevenson Street between 6th and 5th

PM Peak without Project	Cumulative PM Peak with Project	Estimated dB Increase
108	244	
108	244	
	126%	5.04

5th Street between Stevenson and Market

PM Peak without Project	Cumulative PM Peak with Project	Estimated dB Increase
1402	2448	
1402	2448	
	75%	3

APPENDIX 4: Property Plane and Interior Residential Calculation Results

Project Name:	469 Stevenson	**Tag:**	Rooftop Mechanical	**Created by:**	TJF	**Date:**	7/26/2019
Proj. Num:	185704245	**Area Served:**	--			**Revised:**	
Phase:	--	**Run:**	Estimated Exterior Noise to 6th Street Property Plane			**Revised:**	
Mech Set Date:	--	**Notes:**	Property Plane is 57'-10" From Equipment Area			**Revised:**	
			Noise levels used in analysis are 75 dB(A) Lp at 50 ft from the equipment.				

Tag	Side	Type	Size	CFM	SP	MANF	Side	dBA	63	125	250	500	1000	2000	4000	8000
Estimated Rooftop Eq.		--	--	--	--	--	Outside	75	79	72	71	72	70	68	63	54

Barrier Attenuation, POINT SOURCE - HARRIS (Acoustical Measurements and Noise Control, p. 3.19)

Does not include distance attenuation

$A_{bar} = 10*\log(3+10NK)-A_{ground}$

Elevation of Source	272.4	**Path-Length (DIRECT), r_d**	57.8
Source-to-Barrier	27.4	**Path-Length (BARRIER), r_b**	57.8
Top of Barrier	273.3	**Path-Length Difference, r_b - r_d = d_{diff}**	0.0 (NO OBSTRUCTION)
Barrier-to-Receiver	30.4		
Elevation of Receiver	274.5		

Hz	63	125	250	500	1000	2000	4000	8000								
Wave, λ	17.89	9.02	4.51	2.25	1.13	0.56	0.28	0.14								
Fresnel No.				**$(2/\lambda)(d_{diff})$ = N**												
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
Ground Atten.				**A_{ground}**												
	0	0	0	0	0	0	0	0								
								>>	0	0	0	0	0	0	0	0

Distance, POINT SOURCE

	Q2	R1(ft)	R2(ft)	Lp1-Lp2 = -10*LOG(Q)+20*LOG(R2/R1)									
Lp1-Lp2 (in far field & free field)	2	50'	58'										
				>>	-2	-2	-2	-2	-2	-2	-2	-2	

1. Predicted Lp:			**dBA**	**76.7**	81	74	73	74	72	70	65	56	
2. Design Criteria:	**dB(A)**	**60.0**											

Project Name:	469 Stevenson	**Tag:**	Rooftop Mechanical	**Created by:**	TJF	**Date:**	7/26/2019
Proj. Num:	185704245	**Area Served:**	--			**Revised:**	
Phase:	--	**Run:**	Estimated Exterior Noise to 5th Street Property Plane			**Revised:**	
Mech Set Date:	--	**Notes:**	Property Plane is 66'-1" From Equipment Area			**Revised:**	
			Noise levels used in analysis are 75 dB(A) Lp at 50 ft from the equipment.				

Tag	Side	Type	Size	CFM	SP	MANF	Side	dBA	63	125	250	500	1000	2000	4000	8000
Estimated Rooftop Eq.		--	--	--	--	--	Outside	75	79	72	71	72	70	68	63	54

Barrier Attenuation, POINT SOURCE - HARRIS (Acoustical Measurements and Noise Control, p. 3.19)

Does not include distance attenuation

$A_{bar} = 10*\log(3+10NK)-A_{ground}$

Elevation of Source	272.4	**Path-Length (DIRECT), r_d**	66.1
Source-to-Barrier	28.0	**Path-Length (BARRIER), r_b**	66.1
Top of Barrier	273.3	**Path-Length Difference, r_b - r_d = d_{diff}**	0.0 (NO OBSTRUCTION)
Barrier-to-Receiver	38.1		
Elevation of Receiver	274.5		

Hz	63	125	250	500	1000	2000	4000	8000
Wave, λ	17.89	9.02	4.51	2.25	1.13	0.56	0.28	0.14
Fresnel No. $(2/\lambda)(d_{diff}) = N$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ground Atten. A_{ground}	0	0	0	0	0	0	0	0
>>	0	0	0	0	0	0	0	0

Distance, POINT SOURCE

	Q2	R1(ft)	R2(ft)	Lp1-Lp2 = -10*LOG(Q)+20*LOG(R2/R1)								
Lp1-Lp2 (in far field & free field)	2	50'	66'									
>>				-1	-1	-1	-1	-1	-1	-1	-1	

1. Predicted Lp:			**dBA**	**75.5**	80	73	72	73	71	69	64	55
2. Design Criteria:	**dB(A)**	**62.5**										

Project Name:	469 Stevenson	**Tag:**	Rooftop Mechanical	**Created by:**	TJF	**Date:**	7/26/2019
Proj. Num:	185704245	**Area Served:**	--			**Revised:**	
Phase:	--	**Run:**	Estimated Exterior Noise to Stevenson Street Property Plane			**Revised:**	
Mech Set Date:	--	**Notes:**	Property Plane is 77'-0" From Equipment Area			**Revised:**	
			Noise levels used in analysis are 75 dB(A) Lp at 50 ft from the equipment.				

Tag	Side	Type	Size	CFM	SP	MANF	Side	dBA	63	125	250	500	1000	2000	4000	8000
Estimated Rooftop Eq.		--	--	--	--	--	Outside	75	79	72	71	72	70	68	63	54

Barrier Attenuation, POINT SOURCE - HARRIS (Acoustical Measurements and Noise Control, p. 3.19)

Does not include distance attenuation

$A_{bar} = 10*\log(3+10NK)-A_{ground}$

Elevation of Source	272.4	**Path-Length (DIRECT), r_d**	77.0
Source-to-Barrier	27.0	**Path-Length (BARRIER), r_b**	77.0
Top of Barrier	273.3	**Path-Length Difference, r_b - r_d = d_{diff}**	0.0 (NO OBSTRUCTION)
Barrier-to-Receiver	50.0		
Elevation of Receiver	275.0		

Hz	63	125	250	500	1000	2000	4000	8000
Wave, λ	17.89	9.02	4.51	2.25	1.13	0.56	0.28	0.14
Fresnel No.				**$(2/\lambda)(d_{diff}) = N$**				
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ground Atten.				**A_{ground}**				
	0	0	0	0	0	0	0	0

>>	0	0	0	0	0	0	0	0

Distance, POINT SOURCE

	Q2	R1(ft)	R2(ft)	Lp1-Lp2 = -10*LOG(Q)+20*LOG(R2/R1)
Lp1-Lp2 (in far field & free field)	2	50'	77'	

>>	1	1	1	1	1	1	1	1

1. Predicted Lp:			**dBA**	**74.2**	78	71	70	71	69	67	62	53
2. Design Criteria:	**dB(A)**	**62.5**										

Project Name:	469 Stevenson	**Tag:**	Rooftop Mechanical	**Created by:**	TJF	**Date:**	7/26/2019
Proj. Num:	185704245	**Area Served:**	--			**Revised:**	
Phase:	--	**Run:**	Estimated Exterior Noise to Jessie Street Property Plane			**Revised:**	
Mech Set Date:	--	**Notes:**	Property Plane is 37'-0" From Equipment Area			**Revised:**	
			Noise levels used in analysis are 75 dB(A) Lp at 50 ft from the equipment.				

Tag	Side	Type	Size	CFM	SP	MANF	Side	dBA	63	125	250	500	1000	2000	4000	8000
Estimated Rooftop Eq.		--	--	--	--	--	Outside	75	79	72	71	72	70	68	63	54

Barrier Attenuation, POINT SOURCE - HARRIS (Acoustical Measurements and Noise Control, p. 3.19)

Does not include distance attenuation

$A_{bar} = 10*\log(3+10NK)-A_{ground}$

Elevation of Source	272.4	**Path-Length (DIRECT), r_d**	37.0
Source-to-Barrier	27.0	**Path-Length (BARRIER), r_b**	37.0
Top of Barrier	273.3	**Path-Length Difference, r_b - r_d = d_{diff}**	0.0 (NO OBSTRUCTION)
Barrier-to-Receiver	10.0		
Elevation of Receiver	274.0		

Hz	63	125	250	500	1000	2000	4000	8000
Wave, λ	17.89	9.02	4.51	2.25	1.13	0.56	0.28	0.14
Fresnel No. $(2/\lambda)(d_{diff}) = N$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ground Atten. A_{ground}	0	0	0	0	0	0	0	0
>>	0	0	0	0	0	0	0	0

Distance, POINT SOURCE

	Q2	R1(ft)	R2(ft)	Lp1-Lp2 = -10*LOG(Q)+20*LOG(R2/R1)								
Lp1-Lp2 (in far field & free field)	2	50'	37'									
>>				-6	-6	-6	-6	-6	-6	-6	-6	

1. Predicted Lp:			**dBA**	**80.5**	85	78	77	78	76	74	69	60
2. Design Criteria:	**dB(A)**	**60.0**										

Project Name:	469 Stevenson	**Tag:**	Rooftop Mechanical	**Created by:**	TJF	**Date:**	7/26/2019
Proj. Num:	185704245	**Area Served:**	--			**Revised:**	
Phase:	--	**Run:**	Estimated Exterior Noise to 47 6th Street Residential			**Revised:**	
Mech Set Date:	--	**Notes:**	Property Plane is 57'-10" From Equipment Area			**Revised:**	

Noise levels used in analysis are 75 dB(A) Lp at 50 ft from the equipment.
Equipment is at 272.4' elevation, Receiver is at 85' elevation.

Tag	Side	Type	Size	CFM	SP	MANF	Side	dBA	63	125	250	500	1000	2000	4000	8000
Estimated Rooftop Eq.		--	--	--	--	--	Outside	75	79	72	71	72	70	68	63	54

Barrier Attenuation, POINT SOURCE - HARRIS (Acoustical Measurements and Noise Control, p. 3.19)

Does not include distance attenuation

$A_{bar} = 10*\log(3+10NK)-A_{ground}$

Elevation of Source	272.4	**Path-Length (DIRECT), r_d**	196.1
Source-to-Barrier	27.4	**Path-Length (BARRIER), r_b**	218.1
Top of Barrier	273.3	**Path-Length Difference, r_b - r_d = d_{diff}**	22.0
Barrier-to-Receiver	30.4		
Elevation of Receiver	85.0		

Hz	63	125	250	500	1000	2000	4000	8000
Wave, λ	17.89	9.02	4.51	2.25	1.13	0.56	0.28	0.14
Fresnel No. $(2/\lambda)(d_{diff}) = N$	2.46	4.88	9.76	19.51	39.03	78.05	156.10	312.20
Ground Atten. A_{ground}	0	0	0	0	0	0	0	0
								>>

	14	17	20	23	26	29	32	35

Distance, POINT SOURCE

	Q2	R1(ft)	R2(ft)	Lp1-Lp2 = -10*LOG(Q)+20*LOG(R2/R1)
Lp1-Lp2 (in far field & free field)	2	50'	196'	

>>	9	9	9	9	9	9	9	9

1. Predicted Lp:			**dBA**	**41.5**	56	46	42	40	35	30	22	10
2. Design Criteria:	**dB(A)**	**45.0**										

Project Name:	469 Stevenson	**Tag:**	Rooftop Mechanical	**Created by:**	TJF	**Date:**	7/26/2019
Proj. Num:	185704245	**Area Served:**	--			**Revised:**	
Phase:	--	**Run:**	Estimated Exterior Noise to 973 Market Residential			**Revised:**	
Mech Set Date:	--	**Notes:**	Property Plane is 77'-0" From Equipment Area			**Revised:**	

Noise levels used in analysis are 75 dB(A) Lp at 50 ft from the equipment.
Equipment is at 272.4' elevation, Receiver is at 101' elevation.

Tag	Side	Type	Size	CFM	SP	MANF	Side	dBA	63	125	250	500	1000	2000	4000	8000
Estimated Rooftop Eq.		--	--	--	--	--	Outside	75	79	72	71	72	70	68	63	54

Barrier Attenuation, POINT SOURCE - HARRIS (Acoustical Measurements and Noise Control, p. 3.19)
Does not include distance attenuation

$A_{bar} = 10*\log(3+10NK)-A_{ground}$

Elevation of Source	272.4	**Path-Length (DIRECT), r_d**	192.2
Source-to-Barrier	27.0	**Path-Length (BARRIER), r_b**	209.4
Top of Barrier	273.3	**Path-Length Difference, r_b - r_d = d_{diff}**	17.2
Barrier-to-Receiver	60.0		
Elevation of Receiver	101.0		

Hz	63	125	250	500	1000	2000	4000	8000
Wave, λ	17.89	9.02	4.51	2.25	1.13	0.56	0.28	0.14
Fresnel No. $(2/\lambda)(d_{diff}) = N$	1.92	3.82	7.63	15.26	30.52	61.04	122.08	244.16
Ground Atten. A_{ground}	0	0	0	0	0	0	0	0
>>	13	16	19	22	25	28	31	34

Distance, POINT SOURCE

Lp1-Lp2 = -10*LOG(Q)+20*LOG(R2/R1)

	Q2	R1(ft)	R2(ft)	63	125	250	500	1000	2000	4000	8000
Lp1-Lp2 (in far field & free field)	2	50'	192'	9	9	9	9	9	9	9	9

1. Predicted Lp:			**dBA**	**42.7**	57	47	43	41	36	31	23	11
2. Design Criteria:	**dB(A)**	45										

APPENDIX 5: Roadway Construction Noise Model Output Results

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/19/2019
Case Description: 469 Stevenson Construction Noise - Site Preparation / Demolition

		---- Receptor #1 ----		
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dump Truck	No	40		76.5	20	0
Dump Truck	No	40		76.5	20	0
Excavator	No	40		80.7	20	0

			Results											
	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	84.4	80.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck	84.4	80.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	88.7	84.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	91.1	87.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 7/26/2022
Case Description: 469 Stevenson Construction Noise - Excavation and Shoring

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

Equipment

Description		Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Drill Rig Truck		No	20		79.1	20	0
Dump Truck		No	40		76.5	20	0
Excavator		No	40		80.7	20	0
Front End Loader	(Steer Skid Loader)	No	40		79.1	20	0
Backhoe		No	40		77.6	20	0
Man Lift	(Aerial Lift)	No	20		74.7	20	0
Dump Truck		No	40		76.5	20	0
Dump Truck		No	40		76.5	20	0
Jackhammer		Yes	20		88.9	20	0
Mounted Impact Hammer (hoe ram)		Yes	20		90.3	20	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Drill Rig Truck		87.1	80.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck		84.4	80.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator		88.7	84.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	(Steer Skid Loader)	87.1	83.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		85.5	81.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	(Aerial Lift)	82.7	75.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck		84.4	80.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck		84.4	80.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Jackhammer		96.8	89.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mounted Impact Hammer (hoe ram)		98.2	91.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	**101.6**	**95.3**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/19/2019
Case Description: 469 Stevenson Construction Noise - Foundation and Below Grade Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Pump Truck	No	20		81.4	20	0
Man Lift	No	20		74.7	20	0
Dump Truck	No	40		76.5	20	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Pump Truck	89.4	82.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	82.7	75.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck	84.4	80.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	91.2	85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/19/2019
Case Description: 469 Stevenson Construction Noise - Building Constructior

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

Description		Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	(Aerial Lift)	No	20		74.7	20	0
Crane		No	16		80.6	20	0
Tractor	(Forklift)	No	40	84		20	0
Tractor	(Rough Terrain Forklift)	No	40	84		20	0
Welder / Torch		No	40		74	20	0
Concrete Saw		No	20		89.6	20	0
Concrete Saw		No	20		89.6	20	0
Dump Truck		No	40		76.5	20	0
Man Lift		No	20		74.7	20	0
Man Lift	(Scissor Lift)	No	20		74.7	20	0
Man Lift	(Scissor Lift)	No	20		74.7	20	0
Man Lift	(Scissor Lift)	No	20		74.7	20	0
Welder / Torch		No	40		74	20	0

Results

Equipment		Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Man Lift	(Aerial Lift)	82.7	75.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane		88.5	80.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	(Forklift)	92	88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	(Rough Terrain Forklift)	92	88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		82	78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw		97.5	90.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw		97.5	90.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck		84.4	80.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		82.7	75.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	(Scissor Lift)	82.7	75.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	(Scissor Lift)	82.7	75.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	(Scissor Lift)	82.7	75.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		82	78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	102.2	96.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/19/2019
Case Description: 469 Stevenson Construction Noise - Exterior Finishing

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	20	0
Tractor (Forklift)	No	40	84		20	0
Man Lift	No	20		74.7	20	0
Welder / Torch	No	40		74	20	0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Compressor (air)	85.6	81.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor (Forklift)	92	88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	82.7	75.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	82	78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	93.6	89.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/19/2019
Case Description: 469 Stevenson Construction Noise - Sitework / Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
43 6th Street	Residential	66.2	61.7	62.2

Equipment

Description		Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck		No	40		78.8	20	0
Paver		No	50		77.2	20	0
Paver	(Paving Equipment)	No	50		77.2	20	0
Compressor (air)	(Pressure Washer)	No	40		77.7	20	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck		86.8	82.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver		85.2	82.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	(Paving Equipment)	85.2	82.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	(Pressure Washer)	85.6	81.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	91.8	88.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX I

[Findings Reversing the Final Environmental Impact Report Certification - 469 Stevenson Street Project]

Motion adopting findings to reverse the Planning Commission's certification of the Final Environmental Impact Report prepared for the proposed 469 Stevenson Street project.

WHEREAS, The site of the proposed project at 469 Stevenson Street (Assessor's Block 3704, Lot 45) is a through lot located in the South of Market neighborhood, within the boundaries of the C-3-G (Downtown General Commercial) Zoning District and the Downtown Plan Area in a 160-F Height and Bulk District; the average height of buildings in the immediate area ranges from one to seven stories; it is approximately 28,790 square feet (0.66-acre) in size and currently developed as a public surface parking lot with 176 parking spaces with no existing onsite structures; and

WHEREAS, The proposed project at 469 Street would demolish the existing surface parking lot and construct a new 27-story mixed-use building that is approximately 274 feet tall (with an additional 10 feet for rooftop mechanical equipment), totaling approximately 535,000 gross square feet and including 495 rental dwelling units with a dwelling mix of approximately 192 studios, 149 one-bedroom units, 96 two-bedroom units, 50 three-bedroom units, and 8 five-bedroom units; approximately 4,000 square feet of commercial retail use on the ground floor; and approximately 25,000 square feet of private and common open space ("Project"); and

WHEREAS, The Project would provide three below-grade parking levels with 166 vehicular parking spaces; 200 class 1 bicycle spaces; two service delivery loading spaces; one on-site freight loading space located on the ground floor; and twenty-seven class 2 bicycle parking spaces placed along Jessie Street; and

WHEREAS, The Project would require 55,850 cubic yards of excavation and Project construction would span approximately 36 months; and

WHEREAS, The Project would use the State Density Bonus Program and provide 73 affordable housing units onsite; and

WHEREAS, Under the State Density Bonus Law, a housing development that includes on-site affordable housing is entitled to additional density, concessions and incentives, and waivers from development standards that might otherwise preclude the construction of the project. Specifically, the Project sought a density bonus of 42.5% and invoked an incentive/concession from Height (Section 250 of the Planning Code), and waivers of the following development standards of the Code: 1) Maximum Floor Area Ratio (Section 123); 2) Rear Yard (Section 134); 3) Common Useable Open Space (Section 135); 4) Dwelling Unit Exposure (Section 140); 5) Ground-Level Wind Current (Section 148); and 6) Bulk (Section 270); and

WHEREAS, The Planning Department prepared an Initial Study, released on October 2, 2019, that concluded that the Project could result in potentially significant environmental impacts related to air quality, wind, and shadow and that only those three topics would be discussed further in an Environmental Impact Report (hereinafter "EIR") as required by the California Environmental Quality Act (“CEQA”), Public Resources Code, Section 21000 et seq., the CEQA Guidelines, 14 California Code of Regulations, Section 15000 et seq., and San Francisco Administrative Code, Chapter 31; with respect to other topics, such as land use and planning, population and housing, cultural resources, tribal cultural resources, transportation and circulation, noise, greenhouse gas emissions, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral resources, energy resources, agriculture and forestry resources, and wildfire, the Initial Study determined the potential individual and

cumulative environmental effects would be less than significant, or reduced to less than significant with mitigation measures, and therefore the EIR did not study these issues beyond the initial review undertaken in the Initial Study; and

WHEREAS, The Draft EIR was published on March 11, 2020, and circulated to governmental agencies and to interested organizations and individuals for a 60-day public review period that began March 12, 2020, and concluded on May 11, 2020; and

WHEREAS, The Planning Commission held a virtual public hearing on the Draft EIR on April 16, 2020; during their deliberations, Commissioners expressed concern about the size of the Project and its potential impacts on historic resources and gentrification and displacement; and

WHEREAS, The Planning Department prepared a Responses to Comments document ("RTC") to respond to environmental issues raised in written comments received during the public comment period and in writing or presented orally at the public hearing for the Draft EIR, and published the RTC on May 26, 2021; and

WHEREAS, On July 29, 2021, the Planning Commission held a virtual public hearing to consider the adequacy of the Final Environmental Impact Report ("Final EIR"); among other issues, commenters noted the project's displacement impacts and significant adverse impacts on adjacent historic resources such as the Mint Conservation District and the Filipino Conservation District, not sufficiently acknowledged by the Final EIR; commissioners noted that the RTC did not adequately address some of their previous questions, particularly about the potentially incompatible scale of the proposed tower in a setting that is comprised of not just simply one, but a number of historic districts; another issue discussed at the Commission hearing was the failure of the Final EIR project description to describe the proposed Project foundation; the Project sponsor testified that he did not know whether piers would be required, that that decision would be made with the design of the foundation, which had not been

completed to date. He added that the Project would either use piers or a mat, depending on what is appropriate for the building; and

WHEREAS, By Motion No. 20963, on July 29, 2021, the Planning Commission certified a Final Environmental Impact Report ("Final EIR") for the proposed Project, by a vote of 4-2; and

WHEREAS, By letter to the Clerk of the Board, dated August 27, 2021, the Brandt-Hawley Law Group, on behalf of the Yerba Buena Neighborhood Consortium ("Appellant"), appealed the Final EIR certification; and

WHEREAS, The Planning Department's Environmental Review Officer, by memorandum to the Clerk of the Board dated September 2, 2021, determined that the appeal had been timely filed; and

WHEREAS, On October 26, 2021, this Board held a duly noticed public hearing to consider the appeal of the Final EIR certification filed by Appellant; and,

WHEREAS, At the hearing, Appellant and members of the public presented evidence and testimony that the Project may have significant impacts that were not adequately studied in the Initial Study, the Draft EIR, or the Final EIR; these included the Project's potential impacts on adjacent historical resources; geotechnical impacts of the Project foundation; and physical impacts resulting from likely gentrification of the Project area and resulting displacement of current residents; and

WHEREAS, At the hearing, during the public comment and this Board's questions to the Appellant, the Project sponsor, and Planning Department staff, a majority of members of this Board found that the EIR had treated these impact areas in a conclusory manner; specifically, the Final EIR had concluded that there will be no significant impacts (therefore failing to analyze the impacts or identify feasible mitigation measures and alternatives to those

impacts) but failed to provide substantial evidence or a reasoned explanation as to why that conclusion was reached; and

WHEREAS, At the hearing, individual members of the Board of Supervisors:

- Explained that despite evidence of potentially significant impacts identified by qualified experts, some areas of potentially significant environmental impact were addressed only in the Initial Study, and were not further analyzed in the EIR, and were not mitigated as required by CEQA, including: (1) impacts relating to adjacent historical resources and districts, despite the recognition of the Planning Department that the Project may have an impact on the setting for those districts; (2) geotechnical impacts that should have received further EIR analysis for the benefit of decisionmakers; and (3) physical impacts resulting from potential gentrification of the Project area and displacement of current residents, and an inadequate range of reasonably feasible mitigation measures and alternatives to avoid or reduce those impacts; and
- Provided detailed comments objecting to the lack of objective analysis in the EIR of gentrification and displacement that would result from the large number of market-rate units proposed in the Project, noting concerns with the credibility of the research provided in a report relied upon by the Planning Department in the absence of further analysis in the EIR, and explained that the EIR's lack of analysis to determine whether the Project would result in gentrification and displacement prevented adequate analysis of the significance of foreseeable physical impacts resulting from those socio-economic impacts; and
- Expressed the opinion that the analysis of housing impacts based on displacement was inadequate; and

- Expressed the opinion that the Planning Department's approach to cumulative impacts of gentrification was fundamentally flawed, and that gentrification and displacement impacts should be considered in a holistic, thorough manner; and
- Stated there is no question that the Project will cause significant displacement on the 6th Street corridor, Filipino community, and the broader low-income community; and
- Stated that surrounding taller buildings do impact historic districts; and

WHEREAS, With regards to historic resources, the Initial Study acknowledged that the Project would include the construction of a building that is directly adjacent to the National Register-eligible Market Street Theatre and Loft Historic District, National and California-Register eligible Sixth Street Lodging House Historic District, and the Mint-Mission article 11 Conservation District, and a property within the Pacific Gas and Electric (PG&E) City Beautiful Substations Discontinuous Thematic Historic District; however, the EIR included no further analysis of the impacts of the 27-story Project on adjacent historic districts as required by CEQA, in light of substantial record evidence of potentially significant impacts; absent that analysis, the Final EIR's conclusions that the Project's setbacks would avoid significant impacts on adjacent districts were premature and were inadequately supported by evidence; and

WHEREAS, In the area of geotechnical impacts, the EIR did not conduct adequate analysis, as the Initial Study concluded that the Project would not result in any impacts to geology and soils and relied on future compliance with the California and San Francisco Building Codes as a basis to reach its conclusion; CEQA requires that the EIR analyze and determine whether the Project would have significant geotechnical impacts, beyond those conclusory statements; and

WHEREAS, The Project's physical effects relating to gentrification of the surrounding area and displacement of current residents were not studied in the EIR; the Final EIR (in the RTC) acknowledged that these socio-economic effects, in themselves, are not considered environmental impacts under CEQA, absent a related physical change in the environment. The Final EIR noted that "some displacement may occur," but without benefit of study or explanation, concluded that "the proposed project is not likely to result in residential displacement and gentrification" and therefore improperly dismissed any potential physical environmental impacts that may result from gentrification or displacement; and

WHEREAS, In reviewing the appeal of the Final EIR certification, this Board reviewed and considered the Final EIR, including the Draft EIR and the RTC, the appeal letter, the responses to the appeal documents that the Planning Department prepared, the other written records before the Board of Supervisors and the Planning Commission and all of the public testimony made in support of and opposed to the Project and the appeal; and

WHEREAS, The purpose of CEQA is to inform the public and decision-makers of the environmental consequences of projects, before those projects are approved; and

WHEREAS, Following the public hearing, in Motion No. M21-146 (File No. 210921), the Board of Supervisors conditionally reversed the Final EIR certification, subject to the adoption of written findings in support of such determination based on the written record before the Board of Supervisors as well as all of the testimony at the public hearing in support of and opposed to the appeal; and

WHEREAS, The written record and oral testimony in support of and opposed to the appeal and deliberation of the oral and written testimony at the public hearing before the Board of Supervisors by all parties and the public in support of and opposed to the appeal is in the Clerk of the Board of Supervisors File No. 210919 and is incorporated in this motion as though set forth in its entirety; now, therefore, be it

MOVED, That this Board of Supervisors finds that the Final EIR contains inadequate analysis and information regarding potential impacts to historic resources; potential geotechnical impacts resulting from construction of the Project; potential physical impacts resulting from gentrification and displacement of local residents; and potentially feasible mitigation measures and alternatives to address significant impacts in those impact areas, all of which were either improperly and prematurely scoped out of the EIR and studied only in the Initial Study, or studied in the EIR with insufficient analysis and evidence; and, be it

FURTHER MOVED, That based on the above findings this Board finds that the Final EIR does not comply with CEQA, because it is not sufficient as an informational document; and be it

FURTHER MOVED, That this Board reverses the EIR Certification by the Planning Commission; and, be it

FURTHER MOVED, That this Board finds that as to all other topics studied in the final EIR, that document complies with CEQA; is adequate, accurate and objective; is sufficient as an informational document; its conclusions are correct; and it reflects the independent judgment of the City; and, be it

FURTHER MOVED, That this Board remands the Final EIR to the Planning Department to undertake further environmental review of the Project consistent with this Motion, before further consideration of EIR Certification and any Project approvals.

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APPENDIX J

Supplemental Analysis of 469 Stevenson Street

Regarding Potential Gentrification and Displacement Impacts

Prepared for

San Francisco Planning Department

Prepared by

Seifel Consulting, Inc.

October 2022

Executive Summary

On July 29, 2021, the San Francisco Planning Commission (Planning Commission) certified the final EIR for the proposed mixed use development at 469 Stevenson Street (Proposed Project or project). On August 27, 2021, a letter was filed with the Clerk of the San Francisco Board of Supervisors (Board of Supervisors) appealing certification of the final EIR. The Board of Supervisors held a public hearing on October 26, 2021 to consider the appeal of the certified final EIR. The Board of Supervisors granted the appeal and reversed the final EIR certification. On December 14, 2021, the Board of Supervisors adopted findings (Motion No. M21-182) in support of its decision to grant the appeal of the final EIR certification. The findings state:

> *"MOVED, That this Board of Supervisors finds that the Final EIR contains inadequate analysis and information regarding potential impacts to historic resources; potential geotechnical impacts resulting from construction of the project; potential physical impacts resulting from gentrification and displacement of local residents; and potentially feasible mitigation measures and alternatives to address significant impacts in those impact areas, all of which were either improperly and prematurely scoped out of the EIR and studied only in the Initial Study, or studied in the EIR with insufficient analysis and evidence…"*

This report provides analysis prepared by Seifel Consulting, Inc. (Seifel) to address the Board of Supervisors' findings and direction to the Planning Department to further study the potential physical impacts resulting from potential gentrification and displacement impacts of the Proposed Project. In response to the Board's findings, the Planning Department directed Seifel to conduct a peer review of the 2020 Socioeconomic Report prepared by ULH Regional & Urban Economic and conduct further analysis of the Proposed Project's potential gentrification and displacement effects. Seifel's peer review concludes that the 2020 Socioeconomic Report's key findings are thoroughly documented and accurately reflect the socioeconomic analysis available at the time of its preparation. However, new research provides a different perspective on these findings, and Seifel's peer review indicated that supplemental research and analysis should be performed to address the findings by the Board of Supervisors. That supplemental analysis has been prepared and is presented in the accompanying report.

As indicated in research reviewed for this report, displacement and gentrification are the result of a complex set of social and economic forces at both the local and regional scale. The construction of insufficient new housing over the past three decades, coupled with strong economic and job growth in the Bay Area region, including San Francisco, has intensified housing demand, which has led to increases in home prices and rents. These changes have contributed to gentrification and intensified displacement pressures throughout the region and in the City.

Researchers, planners and policy makers use different definitions to describe and measure gentrification and displacement, as well as to categorize the various types of displacement that may occur. The research indicates that gentrification may happen without displacement, and displacement may happen without gentrification. It also indicates that the process of gentrification can have both negative and positive impacts on residents, businesses and community organizations.

The California Environmental Quality Act (CEQA) guidelines section 15382 states, "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 analysis evaluates the potential for gentrification and displacement to occur from the Proposed Project, including any potential residential displacement and potential cultural displacement associated with the SoMa Pilipinas Filipino Cultural Heritage District. This report does not evaluate whether any potential physical effects on the environment could result from any potential gentrification and displacement caused by the Proposed Project.

The analysis in this report presents a broad variety of anti-displacement strategies that are being implemented by the City and through development projects in the SoMa and Tenderloin neighborhoods surrounding the Proposed Project (referred to as the "Surrounding Area"). These anti-displacement strategies include, but are not limited to, the protection of about three-quarters of residential units in the Surrounding Area through their status as affordable housing subject to long term regulatory restrictions or units subject to rent control, as well as the planned production of about 2,700 units of affordable housing in the Surrounding Area, including the 73 inclusionary units that would be provided by the Proposed Project and the 27-40 additional affordable units that the Proposed Project would help fund, as further described in the analysis below.

Table 1 below contains a summary of the findings presented in this report.

Table 1: Summary of Gentrification and Displacement Analysis Findings	
Subtopic	**Finding**
Gentrification[1]	Several subareas within the Surrounding Area around the Proposed Project have experienced early/ongoing gentrification or advanced gentrification according to the Urban Displacement Project (UDP). These are existing conditions not attributable to the Proposed Project. – The Proposed Project could increase the number of upper income households in the Surrounding Area (approximately 400 renter households of above moderate income earning $150,000 or more based on a typical average occupancy level of 95 percent for market rate units). However, the distribution of renter households by income level would not shift substantially in the Surrounding Area as the result of the Proposed Project. Instead, the shift in household income level as the result of the Project would likely range from about 0% to 1% within each major income group. For example, the proportion of above moderate income households in the Surrounding Area is projected to shift from 17% to 18% with the Proposed Project, which would continue to be substantially less than the proportion of above moderate income households in the City as a whole (18% versus 36% citywide). – Of note, above moderate income households may have moved into existing housing in the Surrounding Area or could continue to move there with or without the Proposed Project. Lastly, the planned pipeline of affordable housing in the Surrounding Area coupled with other residential anti-displacement strategies would address both gentrification and displacement pressures, as further described below.
Physical (direct) displacement[2]	No direct, physical displacement would occur from the Proposed Project as it is currently a parking lot without any buildings that house residents or culturally significant institutions, community organizations or businesses.

[1] Gentrification is defined as a broad pattern of neighborhood change typically characterized by increases in the number of higher income households and increases in home values and/or rents over an extended period of time, for example ten years or more. Gentrification results from both flows of capital and people. The extent to which gentrification is linked to racial transition and other socioeconomic indicators differs across neighborhoods contexts.

[2] Physical (direct) displacement occurs as the result of eviction, acquisition, rehabilitation, or demolition of a property, or the expiration of covenants on rent- or income-restricted housing.

Economic (indirect) displacement[3]	Economic displacement has likely occurred historically within the Surrounding Area of the Proposed Project. These are existing conditions not attributable to the Proposed Project. – While the Planning Department had previously determined that substantial evidence did not establish a correlation between market rate housing development and the rate of involuntary displacement, UDP's March 2022 Policy Brief 1 studies how new market rate housing production affects residential displacement in the Bay Area and finds that new market rate housing production may increase displacement for lower income people under certain circumstances.[4] – UDP's research indicates that a new market rate housing development may slightly increase displacement for lower income households in its immediate vicinity, but the increase in rates of displacement (involuntary moves) for very low to moderate socio-economic groups are not as high as commonly believed. – UDP found this rate to be 0.5 percent to 2 percent above normal annual rates of neighborhood churn (i.e., people moving out of the neighborhood and people moving in) for a four year period, while stating that more research is needed to understand these effects in different contexts and over the long term. – Based on applying the research methodology described in UDP's Policy Brief 1, the projected range of residential displacement impacts from the Proposed Project could be less than 10 to 41 households, when assuming that all households living nearby are lower to moderate income households who would be vulnerable to displacement.[5] As indicated in Policy Brief 1, this range of displacement impacts could be addressed by one mid-size apartment building with entirely affordable or subsidized units. On site, affordable inclusionary units would also address the potential displacement impacts. – UDP also found that new market rate construction neither worsens nor eases the rates of people moving out of gentrifying areas, and the portion of the Surrounding Area where the Proposed Project is located is experiencing early/ongoing gentrification according to UDP.[6] – Given the residential anti-displacement strategies of the Proposed Project and those being implemented by the City, including affordable housing production, housing preservation and protection of about 75% of units in the Surrounding Area, residential displacement from the project would likely be addressed. However, it cannot be concluded with certainty that a particular household or households would or would not be displaced as a result of the Proposed Project.

[3] Economic (indirect) displacement occurs when residents, businesses or organizations can no longer afford escalating rents or property taxes (and must move out). Residential displacement is a subset of economic displacement that occurs when residents can no longer afford to stay in their homes or are forced to move because of conditions beyond their control.

[4] https://www.urbandisplacement.org/wp-content/uploads/2022/03/IGS_1_New-Production_Brief_03.01.22.pdf

[5] UDP's Policy Brief 1 analyzes household movement from market rate development based on its effect on households living nearby within the surrounding census block group. The Proposed Project is located in block group 2 of census tract 176.02 according to the 2020 Census.

[6] https://www.urbandisplacement.org/blog/does-new-market rate-housing-displace-low-income-people/

Exclusion or exclusionary displacement[7]	Based on an analysis of historical CoStar data on market rate rents in the Surrounding Area, average monthly rents for market rate units in the Surrounding Area are more affordable than the City as a whole and have increased at a slower pace than inflation over the past two decades. These market conditions coupled with the relatively high vacancy rate of 7.1% indicate that the Surrounding Area is not experiencing a rapid rise in market rents or exclusionary pressures. – While market rents are more affordable in the Surrounding Area than citywide, the average market rent in the Surrounding Area is currently affordable to moderate income households and not lower income households, which indicates some level of exclusion. This is true for many neighborhoods across San Francisco and in the Bay Area. – The Proposed Project would include 73 onsite inclusionary units that would be affordable to very low, low, and moderate income households, and 422 market rate units that would likely have market rents that are affordable to above moderate income households. As the building of 73 affordable units onsite would not occur without its development, the Proposed Project could increase inclusion as the total number of affordable units in the Surrounding Area would increase. – While the market rate units in the project would likely only be affordable to above moderate income households, the residential anti-displacement strategies of the Proposed Project and those being implemented in the Surrounding Area by the City would provide housing affordable at lower incomes and address potential displacement effects. Furthermore, the production of new market rate and affordable housing in the Proposed Project and the Surrounding Area will help alleviate displacement pressures by increasing housing supply, and market rents in the Surrounding Area may stabilize or decrease as additional housing becomes available.
Cultural Displacement[8]	A review of academic research indicates that research studies use different definitions and methodologies to measure cultural displacement, and comparatively few research studies have been done to measure cultural displacement impacts compared with research that has been conducted to analyze and measure residential displacement impacts. – This report presents information regarding non-residential cultural assets that are part of the SOMA Pilipinas Filipino Cultural Heritage District (SOMA Pilipinas Filipino CHD or District). The cultural assets within the District are composed of community landmarks, nonprofit organizations and businesses, per their District map. The report then analyzes whether the cultural assets may have some form of protection that would preserve their cultural heritage, for example if the asset is located on publicly owned property, property that is owned or ground leased by a nonprofit entity or designated as an historic resource. – All of the non-residential community landmarks and almost all of the nonprofit organizations in the District are located on publicly owned property or on property that is owned by or ground leased to a nonprofit, which helps to protect these cultural assets

[7] Exclusion or exclusionary displacement occurs when a lower income household cannot afford to move into an area given the cost of housing relative to their household income, which typically is the result of rising rents and/or home prices that contribute to the area becoming exclusive.

[8] Displacement that occurs when there is a loss of historically and culturally significant institutions, organizations and businesses associated with a particular race, ethnicity, or other culturally significant group, which could occur either directly or indirectly. Such loss could also contribute to the loss of residents associated with that culture in the area, as the institution, organization, or business may serve as an anchor, place of employment, gathering place, place of commercial activity, etc. for that culture.

	from displacement. Two of the Filipino businesses are located in Bayanihan House, owned by the local nonprofit Tenant and Owners Development Corporation (TODCO). – Most of the businesses do not appear to have been in the District for more than a decade, and none appear to be listed as a legacy business. This indicates that business turnover has likely occurred historically and will likely continue to occur irrespective of the Proposed Project. – All of the residential cultural assets that consist of buildings with a significant Filipino population in the District or Surrounding Area are either located in affordable housing developments or in residential buildings subject to rent control that provide protections to existing tenants. – Based on an analysis of US Census data, the Filipino population size has likely remained stable or grown over the past two decades in the Surrounding Area, and the Surrounding Area has a higher proportion of Filipino residents (about 8.7%) compared to the City average (about 5.3%) in 2020.[9] – However, it cannot be concluded with certainty that a cultural asset would or would not be displaced as a result of the Proposed Project.
Residential Anti-Displacement Strategies[10]	Numerous residential anti-displacement strategies are being implemented by the Proposed Project and the City in the Surrounding Area, which were recommended by the research studies reviewed for this report to address potential residential displacement impacts from market rate housing, as summarized below. – **Proposed Project–** The Proposed Project would incorporate both required and voluntary housing production strategies including the required provision of 73 onsite affordable units,[11] required payment of $8 million in housing fees that could potentially support between 27-40 units of additional affordable housing units in the Surrounding Area, voluntary donation of property in the vicinity of the Proposed Project at 59 6th Street for community benefit use that could include affordable housing, and voluntary efforts to negotiate a lease for an urban rest and sleep center Helen Hotel at 166 Turk Street. – **Housing Production**– The City is in the process of approving numerous housing developments within the Surrounding Area, which would include about 1,600 housing units in 100% affordable housing developments. – **Housing Preservation**– The City has implemented a broad range of preservation strategies including preservation of federally subsidized housing, no-net-loss, one-for-one replacement strategies, Single Room Occupancy (SRO) residential rent and conversion controls, property rehabilitation and preservation programs (that include buildings with high proportions of Filipino tenants), and facilitation of community land banking/community control.

[9] The US Census Bureau has not yet released 2020 Census data regarding the distribution of the Asian population by ethnicity, including Filipino. As further described in the report, historical 2000 and 2010 Census data on the Filipino population is compared with estimates of the 2020 Filipino population that were prepared using 2020 Census population data in combination with survey data regarding the proportion of the Filipino population in the Surrounding Area from the 2020 American Community Survey. The Filipino population estimate for 2020 indicates that the Filipino population has likely remained relatively stable or grown from 2000 to 2020 in the Surrounding Area, although it may have declined since 2000 if the 2020 Filipino population estimate is overstated.

[10] The collection of policies, programs, strategies, components, actions, and laws that are focused on counteracting residential displacement pressures by addressing potential impacts on residents.

[11] The Proposed Project would develop 495 residential units and must provide at least 13 percent of the base project's residential units as onsite affordable units.

	– **Tenant Protection and Housing Stabilization**– In addition to the housing preservation strategies described above, the City has funded and facilitated tenant protection and housing stabilization strategies including tenant rental assistance to lower income households, rent stabilization and control, tenant counseling and right to legal counsel, the Code Enforcement Outreach and SRO Collaborative Programs, tenant right to purchase, foreclosure assistance, and other homeowner assistance programs.
Cultural Anti-Displacement Strategies[12]	Numerous cultural anti-displacement strategies are being implemented by the Proposed Project and the City, as recommended by publications that were reviewed for this report and would address potential cultural displacement impacts in the Surrounding Area as summarized below. – **Proposed Project–** The Proposed Project would include both required and voluntary cultural anti-displacement strategies focused on arts and culture protection, business retention and stabilization, and workforce development and education in the Surrounding Area. These include the required provision of public art (which would voluntarily include art that recognize the Filipino community's history, culture, and contributions), first source hiring programs and about 4,000 square feet of ground floor commercial space. The Project Sponsor has voluntarily committed to provide this commercial space at below market rents to community-serving retail and community organizations (accompanied by the donation of skilled labor services to improve the space for occupancy), provide funding for local community organizations and promote local hiring and workforce development. – **Community, Arts and Cultural Stabilization**– The City has implemented a variety of strategies to help stabilize and preserve arts and culture including the Cultural District initiative, historic resource and landmark designations, Community Investment Program, Nonprofit Sustainability Initiative, Community Cornerstones (which includes grants for property acquisition and lease stabilization), health and social services for vulnerable populations (including Filipino children and youth), provision of public art, improvement of the public realm, and the citywide Public Space Initiative. – **Community, Business and Workforce Stabilization**– The City has implemented a variety of strategies to support and grow local businesses and the local workforce including the Legacy Business Program,[13] other programs and initiatives by the Office of Economic and Workforce Development (OEWD) and its Office of Small Business programs to sustain local businesses and commercial corridors (such as Invest in Neighborhoods) and the SoMa West Community Benefit District(CBD), which is the largest of the City's CBDs and surrounds the project.

[12] The collection of policies, programs, strategies, components, actions, and laws that are focused on counteracting cultural displacement pressures by addressing impacts on businesses and organizations that are critical to a community's culture.

[13] As indicated earlier, none of the Filipino businesses identified as cultural assets appear to be listed on the City's Legacy Business website, which would align with the City's Cultural District goals to support legacy businesses and serve as a cultural anti-displacement strategy for long standing Filipino businesses.

Conclusion

The portion of the Surrounding Area where the Proposed Project is located is experiencing early/ongoing gentrification according to UDP. Based on the research publications reviewed for this report and the analysis presented in Section G, the Proposed Project might contribute to gentrification and economic (indirect) displacement because the Proposed Project would add approximately 400 new above moderate-income households to the Surrounding Area and could potentially indirectly displace between 10 and 41 households. However, research indicates that new market rate construction neither worsens nor eases the rates of people moving out of gentrifying areas.

As described in Section H of the report, while most cultural assets in the SOMA Pilipinas Filipino CHD have some level of protection (e.g., are located on publicly owned property or on property that is owned or ground leased to a nonprofit or have a historic resource designation), some cultural assets do not. Thus, some cultural assets would be more vulnerable to cultural displacement pressures. However, it is not possible to quantify or know if the Proposed Project would displace cultural assets.

The Proposed Project includes residential and cultural anti-displacement strategies that would likely lessen potential gentrification, exclusion, and indirect displacement effects from the Proposed Project in the Surrounding Area, and the City is implementing numerous complementary anti-displacement strategies in the Surrounding Area that are recommended by the publications reviewed for this report. Specifically, the anti-displacement strategies of the Proposed Project include the project's provision of 422 market rate units and the required provision of 73 on-site affordable housing units, approximately $8 million in affordable housing funds, incorporation of public art, first source hiring programs, and designation of two ground floor spaces at approximately 4,000 square feet, which would voluntarily be provided at below market rate rents for community-serving retail and community spaces.

The City is implementing numerous housing production, housing preservation, tenant protection and housing stabilization strategies that would address residential displacement along with cultural, arts, business, workforce development, and other community stabilization strategies that would address cultural displacement. However, even with the provision of anti-displacement strategies described above, this report cannot conclude with certainty that indirect displacement would not occur as a result of the Proposed Project.

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A. Introduction

This report provides a supplemental analysis regarding potential gentrification and displacement impacts from a proposed mixed use development in the City of San Francisco (City) at 469 Stevenson Street (Proposed Project or project). The Proposed Project would be developed on a surface parking lot in the South of Market neighborhood in San Francisco (Assessor's Block 3704, Lot 045) and includes 495 mixed income apartment units and ground floor commercial space. Seifel Consulting, Inc. (Seifel) performed this supplemental analysis to support the preparation of a recirculated Draft Environmental Impact Report (EIR) for the Proposed Project at the request and direction of the San Francisco Planning Department (Planning Department), as a subcontractor to the project's environmental consultant, Stantec.

1. Purpose of Analysis

On July 29, 2021, the San Francisco Planning Commission (Planning Commission) certified the final EIR for the project. On August 27, 2021, a letter was filed with the Clerk of the San Francisco Board of Supervisors (Board of Supervisors) appealing certification of the final EIR. The Board of Supervisors held a public hearing on October 26, 2021 to consider the appeal of the certified final EIR. The Board of Supervisors granted the appeal and reversed the final EIR certification. On December 14, 2021, the Board of Supervisors adopted findings (Motion No. M21-182) in support of its decision to grant the appeal of the final EIR certification. The findings state:

> *"MOVED, That this Board of Supervisors finds that the Final EIR contains inadequate analysis and information regarding potential impacts to historic resources; potential geotechnical impacts resulting from construction of the project; potential physical impacts resulting from gentrification and displacement of local residents; and potentially feasible mitigation measures and alternatives to address significant impacts in those impact areas, all of which were either improperly and prematurely scoped out of the EIR and studied only in the Initial Study, or studied in the EIR with insufficient analysis and evidence…"*

Generally speaking, CEQA does not require an analysis of socioeconomic issues or conditions such as displacement, gentrification, environmental justice, or effects on "community character." CEQA guidelines section 15382 states, "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." While socioeconomic effects are not routinely included in Environmental Impact Reports (EIRs) prepared for projects pursuant to the California Environmental Quality Act (CEQA), the purpose of this analysis is to address the Board of Supervisors findings and direction to the Planning Department to provide additional analysis of the Proposed Project's potential gentrification and displacement impacts. The Planning Department will use the findings of this analysis to evaluate whether the Proposed Project could result in potential physical impacts stemming from any identified gentrification and displacement impacts.

This report addresses the following topics raised in the above-noted findings by the Board of Supervisors:

- Potential for the Proposed Project to result in gentrification and displacement of local residents.
- Potential for the Proposed Project to result in cultural displacement impacts to the Sixth (6th) Street corridor, Filipino community, and the broader low-income community, if any.

The Planning Department will use the findings of this analysis to evaluate whether the proposed project could result in potential physical impacts stemming from any identified gentrification and displacement

impacts. Should significant physical impacts be identified, the EIR will identify potentially feasible mitigation measures and alternatives to address any significant physical impacts in those impact areas.

2. Report Organization

The report begins with an introduction that summarizes the purpose of the analysis and the report organization. As researchers, planners and policy makers use different terms to describe and measure gentrification and displacement, the next section presents relevant definitions used in the analysis. The report then describes the Proposed Project and presents the supplemental research and analysis that was performed along with a final conclusion. The contents of each chapter of the report and the technical appendices, which are also integral to the report, are summarized below:

Executive Summary– summarizes the key findings of the report.

A. Introduction– introduces the report, describes the purpose of the analysis and summarizes how the report is organized.

B. Definitions of Gentrification and Displacement– presents the definitions of gentrification and displacement used in the report, which are based on research reviewed for this report.

C. Description of Proposed Project and Surrounding Geographic Areas –describes the Proposed Project at 469 Stevenson Street that is being proposed by 469 Stevenson Property Owner LLC, the Project Sponsor.

D. Peer Review of 2020 Socioeconomic Report– summarizes and peer reviews the September 2020 analysis that was prepared for the Proposed Project by ALH Urban & Regional Economics (2020 Socioeconomic Report) to evaluate the potential socioeconomic impacts on residential gentrification and displacement as they relate to potential physical changes in the environment.

E. Review of Supplemental Research and City Reports– summarizes relevant findings from additional research and reports regarding potential displacement and gentrification impacts in urban neighborhoods that were not addressed in the 2020 Socioeconomic Report, with a particular focus on those that apply to the City and publications from 2020 onward.

F. Neighborhood Conditions– summarizes neighborhood conditions from recent reports that are relevant to the analysis of displacement and are supplemental to the 2020 Socioeconomic Report, with a focus on the areas surrounding the Proposed Project.

G. Evaluation of Potential Gentrification and Residential Displacement Impacts from Proposed Project– evaluates potential gentrification and residential displacement impacts from the Proposed Project to address the Board of Supervisors' findings reversing the Planning Commission's certification of the final EIR.

H. Evaluation of Potential Cultural Displacement Impacts from Proposed Project– evaluates potential cultural displacement impacts from the Proposed Project to address the Board of Supervisors' findings reversing the Planning Commission's certification of the final EIR.

I. Conclusion

Appendices

- Attachment A– Glossary of Terms
- Attachment B– Supplemental Research Literature Summary
- Attachment C– Research Bibliography
- Attachment D– Residential Development Pipeline in One Mile Radius
- Attachment E– Residential and Cultural Anti-Displacement Measures
- Attachment F– Qualifications of Seifel Consulting, Inc.

B. Definitions of Gentrification and Displacement

Researchers, planners and policy makers use different terms to describe and measure gentrification and displacement, as well as to categorize the various types of displacement that may occur. As indicated by the Urban Displacement Project (UDP) and other researchers, the forces driving neighborhood change, including gentrification and displacement pressures, involve an interplay between the movement of people, public policy decisions and the availability of capital.

- Gentrification is generally described as a broad pattern of neighborhood change typically characterized by increases in the number of higher income households and increases in home values and/or rents over an extended period of time, for example ten years or more.
- Displacement refers to the involuntary movement or relocation of residents or businesses and organizations of cultural importance from their current location.
  - Displacement takes many different forms—direct and indirect, physical, economic, and exclusionary—and may result from either investment or disinvestment.
  - Displacement can affect residents and/or historically and culturally significant institutions, organizations and businesses.

For purposes of this report, the key terms used to define gentrification and the different types of displacement that are analyzed in this report are presented in Exhibit B-1 on the next page, which are based on a review of research prepared by the UDP and other researchers and as determined by the Planning Department.

- Please refer to Attachment A Glossary of Terms for further information regarding these definitions and other terms used in this report.

Table B-1 Key Terms Regarding Displacement and Gentrification Used in This Analysis

Gentrification	Broad pattern of neighborhood change typically characterized by increases in the number of higher income households and increases in home values and/or rents over an extended period of time, for example ten years or more. Gentrification results from both flows of capital and people. The extent to which gentrification is linked to racial transition and other socioeconomic indicators differs across neighborhood contexts.
Displacement	Displacement refers to the involuntary movement or relocation of residents or businesses and organizations of cultural importance from their current locations. *Various types of displacement may occur, and the following terms are used to define them.*
Physical (direct) Displacement	Displacement that occurs as the result of eviction, acquisition, rehabilitation, or demolition of a property, or the expiration of covenants on rent- or income-restricted housing.
Economic (indirect) displacement	Displacement that occurs when residents, businesses or organizations can no longer afford escalating rents or property taxes (and must move out).
Exclusion or exclusionary displacement	Exclusion or displacement that occurs when a lower income household cannot afford to move in to an area given the cost of housing relative to their household income, which typically is the result of rising rents and/or home prices that contribute to the area becoming exclusive.
Residential displacement	Displacement that occurs when residents can no longer afford to stay in their homes or are forced to move because of conditions beyond their control.
Cultural displacement	Displacement that occurs when there is a loss of historically and culturally significant institutions, organizations and businesses associated with a particular race, ethnicity, or other culturally significant group, which could occur either directly or indirectly. Such loss could also contribute to the loss of residents associated with that culture in the area, as the institution, organization, or business may serve as an anchor, place of employment, gathering place, place of commercial activity, etc. for that culture.
Anti-displacement strategies	The collection of policies, programs, strategies, components, actions, and laws that are focused on counteracting displacement pressures. Residential anti-displacement strategies address potential impacts on residents, while cultural anti-displacement strategies address impacts on businesses and organizations that are critical to a community's culture.

Please refer to Attachment A– Glossary of Terms for further information regarding these definitions and other terms used in this report.

Source: Urban Displacement Project and San Francisco Planning Department.

C. Description of Proposed Project and Surrounding Geographic Areas

The Project Sponsor, 469 Stevenson Property Owner LLC, is proposing to build the Proposed Project on a 28,790 square foot surface parking lot located at 469 Stevenson Street in the South of Market (SoMa or SOMA) area of the City, mid-block between 5th and 6th Streets and one block south of Market Street. The site has no existing buildings and consists of paved parking surrounded by a chain link fence.

The Proposed Project consists of a 27-story mixed income residential tower with 495 apartment units, including 73 units that would be leased at below market rate (BMR) rents to very low, low and moderate income households. The ground floor would include approximately 4,000 square feet of commercial retail space. The sponsor has entered into an agreement with the community that the space would be designated for community serving retail or services that would be leased at below market rate (BMR) rents to local businesses and organizations.[1]

1. Development Program for Proposed Project and Project Alternatives

The recirculated Draft EIR will describe a reasonable range of potentially feasible alternatives to the Proposed Project that could attain most of the basic project objectives while reducing the significant impacts that would be caused by the Proposed Project. The key characteristics and the development program for the Proposed Project and the three Project Alternatives that will be considered in the recirculated Draft EIR are summarized below in Table C-1. The analysis presented in this report is solely focused on analyzing the Proposed Project. The Proposed Project includes both required and voluntary components as described in the next sections. As further described in this report, the Proposed Project would include onsite affordable housing, payments and other contributions to provide affordable housing and address homelessness, and other community benefits that serve as anti-displacement strategies.

Table C-1 Development Program for Proposed Project and Project Alternatives

		Project Alternatives		
	Proposed Project	Alternative A: No Project	Alternative B: Code Compliant	Alternative C: No Residential Parking/Tower
Number of Stories	27	N/A	17	28
Residential				
Apartment Units	495	N/A	346	467
Market Rate Units	422	N/A	280	398
Inclusionary Affordable Units	73	N/A	66	69
Average Unit Size (NSF)	732 NSF	N/A	621 NSF	753 NSF
Ground Floor Commercial				
Community Retail and Community Space	4,000 GSF	N/A	6,000 GSF	4,000 GSF
Parking / Below Grade Structure				
Below Grade Levels	3	N/A	2	1
Total Parking Spaces	178	176	156	5
Bicycle Parking				
Total Bicycle Spaces	**227**	**N/A**	**215**	**218**

Source: 469 Stevenson Street Project Draft Environmental Impact Report (March 11, 2020), Project Sponsor.

[1] Mid-Market Coalition, Letter of Support for the Proposed 469 Stevenson Street Project, October 20, 2021.

2. Required Components of the Proposed Project

As shown on Table C-2 on the next page, the Proposed Project would provide 422 market rate units. The Proposed Project would also include 73 affordable, BMR units within the proposed development that would be affordable to very low, low and moderate income households in compliance with the City's inclusionary housing requirements, as well as payments toward affordable housing, public art, and first source job opportunities for economically disadvantaged individuals. The following features are the required components of the Proposed Project based on City code requirements:

- **Provision of Onsite Housing–** 73 affordable BMR housing units that are required based on the total number of units (495 units) proposed by the Project Sponsor, which will be subject to a regulatory covenant that governs their affordability to very low, low and moderate income households based on percentage of unadjusted area median income (AMI).[2]
- **Payment of In-Lieu Affordable Housing Fees–** Approximately $8 million payment of in-lieu affordable housing fees (with Mayor's Office of Housing and Community Development (MOHCD) intention to direct funding toward affordable housing in SoMa).[3]
- **Public Art Projects–** Expenditure of one percent (%) of the construction cost of the Proposed Project on public art (i.e., the 1%-for-art program or Public Art Fee). To help fulfill this requirement, the Project Sponsor would provide $250,000 to support public art projects at 469 Stevenson that recognize the Filipino community's history, culture, and contributions in addition to enhance and enliven urban spaces and places.[4]
- **First Source Hiring–** Provision of employment opportunities for economically disadvantaged individuals during construction and operations.[5]

3. Voluntary Components of the Proposed Project

The voluntary components are features of the Proposed Project that the Project Sponsor has agreed to provide through agreements with private parties, including the Community Benefits Agreement (CBA) developed in collaboration with the Mid-Market Coalition[6] or agreed to provide as indicated in correspondence with the Planning Department.[7]

All voluntary components would be funded by the Project Sponsor unless otherwise noted. Each of the voluntary components is described following Table C-2:

2 In 2022, the Unadjusted San Francisco AMI is $110,850 for a two person household at 100% AMI according to the Mayor's Office of Housing and Community Development (MOHCD). https://sfmohcd.org/sites/default/files/Documents/MOH/Asset Management/2022 AMI-IncomeLimits.pdf

3 Mayor's Office of Housing and Community Development, Letter to Director of San Francisco Planning Department, May 25, 2021.

4 Mid-Market Coalition, Letter of Support for the Proposed 469 Stevenson Street Project, October 20, 2021

5 https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_admin/0-0-0-20483

6 Mid-Market Coalition, Letter of Support for the Proposed 469 Stevenson Street Project, October 20, 2021

7 Vettel, Steven, Counsel for Project Sponsor, email correspondence with the San Francisco Planning Department, August 31, 2022.

Table C-2 Required and Voluntary Components of Proposed Project at 469 Stevenson Street

Category	Description	Sources
Required Components of Proposed Project		
On-Site Housing (Including Affordable Units) **Market Rate Apartments (422 units)** **Affordable Apartments (73 units)** Very Low Income (50% AMI) Low Income (80% AMI) Moderate Income (110% AMI)	 Provision of 422 market rate apartment units, which will address housing need for above moderate income households. Provision of 73 on-site inclusionary, affordable apartments, which will address housing need for very low, low and moderate income households. 45 units 14 units 14 units	1, 2
Payment of In-Lieu Affordable Housing Fees	$8,000,000 (with MOHCD intention to direct funding toward affordable housing in SoMa).	2, 3
Public Art Projects	As part of required 1%-for-art program, contribute $250,000 to support on-site public art projects that recognize the Filipino community's history, culture, and contributions.	2, 4
First Source Hiring	Provision of employment opportunities for economically disadvantaged individuals during construction and operations.	2
Voluntary Components of Proposed Project		
Use of In-Lieu Affordable Housing Fees	Potential use of the required in-lieu affordable housing fees described above to help fund a new 100% affordable housing senior development at 967 Mission Street.	2, 3, 4
Land Donation for Community Benefit Use	Donation of property at 59 6th Street for community benefit use, such as affordable housing, open space and recreation, or a community facility.	2, 4
Assistance for Persons at Risk of Homelessness	Efforts to either negotiate a lease of the ground floor of the Helen Hotel, located at 166 Turk Street, for use as an Urban Rest and Sleep Center, or a purchase option for the entire building. Should the negotiation be successful, assign the lease or purchase option to a local community group and fund a) 12 months of rent for the ground floor space and b) ground floor tenant improvements subject to a cap of $35/sf of leased space, for a total of up to $122,500 in tenant improvements.	2, 4
Community Serving Spaces	Designation of two ground floor spaces of about 4,000 square feet at below market rent for community-serving SoMa retail and community spaces, which are intended to be used for community programs and promotion of community-serving local businesses that would not otherwise have access to retail spaces in SoMa.	1, 2, 4
Tenant Improvements at Community Serving Spaces	Donation by the Building and Construction Trades Council of skilled labor for the construction of the tenant improvements for community serving non-profits.	2
Community Programming Fund Donation	$578,700 to benefit resident-led projects and organizations in SoMa and Tenderloin and help fund programs to promote community, public safety, sanitation, and resident wellness.	2, 4
Local Employment Programs	Development of employment programs for local residents of SoMa and Tenderloin in conjunction with OEWD 6th Street Employment Program, including residents in zip codes 94103 and 94102.	2, 4
Impact Assessment	Funding for an independent impact assessment/study to evaluate the extent of the construction impact, including impact to social equity, livelihoods, health, and the general SoMa population, which would help inform current and future community programming.	2, 4
Mint Plaza Maintenance	In-kind contribution (valued at $50,000/year) by the Project's on-site maintenance and administration staff's labor to help maintain Mint Plaza, which will begin upon the hiring of these staff members and no later than final certificate of occupancy.	2, 5

Note: Area Median Income (AMI) = In 2022, the Unadjusted San Francisco AMI is $110,850 for a two person household at 100% AMI.

Key to Sources:

1. San Francisco Planning Case 2017-014833PRJ, which presents the residential and commercial components of the Proposed Project.
2. Vettel, Steven, Counsel for Project Sponsor, email correspondence with the San Francisco Planning Department, August 31, 2022.
3. Mayor's Office of Housing and Community Development, Letter to Director of San Francisco Planning Department, May 25, 2021.
4. Mid-Market Coalition, Letter of Support for the Proposed 469 Stevenson Street Project, October 20, 2021
5. 469 Stevenson Property Owner, LLC, 469 Stevenson (SF Planning Case 2017-014833PRJ) Contribution for Maintenance and Repair of Mint Plaza, July 29, 2021

- **Use of In-Lieu Affordable Housing Fees–** Potential use of the approximately $8 million payment of required in-lieu affordable housing fees that are described above to help fund a new 100% affordable housing senior development at 967 Mission Street (Assessor's Block 3725, Lot 086) near to the Proposed Project. [8,9]
- **Land Donation for Community Benefit Use–** Donation of property at 59 6th Street (Assessor's Block 3704, Lot 049) for a community benefit use, such as affordable housing, open space and recreation, or a community facility.
- **Community Serving Spaces–** Designate two ground floor spaces of 3,985 square feet at BMR rents for community-serving, SoMa retail and community spaces.
- **Assistance for Persons at Risk of Homelessness**– Efforts to negotiate either a lease of the ground floor of the Helen Hotel at 166 Turk Street (Assessor's Block 0339 Lot 009) for an "urban rest and sleep center" or a purchase option for the entire building. Should the negotiation be successful, the Project Sponsor would assign the lease or purchase option to a local community group and fund a) 12 months of rent for the ground floor space and b) ground floor tenant improvements subject to a cap of $35/sf of leased space, for a total of up to $122,500 in tenant improvements.[10]
- **Community Serving Spaces**– Designation of two ground floor spaces of about 4,000 square feet at the project site provided at below market rent for community-serving retail or services that will provide community programs and promote community-serving local businesses that would otherwise not have access to retail spaces in SOMA.
- **Tenant Improvements at Community Serving Spaces**– Donation by the Building and Construction Trades Council of skilled labor for the construction of the tenant improvements for community serving non-profits.
- **Community Programming Fund Donation**– Donation of $578,700 to a Community Programming Fund that would benefit resident-led projects and organizations in SoMa and Tenderloin and help fund programs to promote community, public safety, sanitation, and resident wellness.
- **Local Employment Programs–** Employment programs for local residents of SOMA and Tenderloin residing in 94103 and 94102 zip codes in conjunction with the Office of Economic and Workforce Development (OEWD) 6th Street Employment Program.
- **Impact Assessment**– Funding for an independent impact assessment/study to evaluate the extent of the construction impact, including impact to social equity, livelihoods, health, and the general SOMA population, which will help inform current and future community programming.
- **Mint Plaza Maintenance–** In-kind contribution (valued at $50,000/year) of the Project's on-site maintenance and administration staff's labor to help maintain Mint Plaza. Maintenance will begin upon the hiring of these staff members and no later than final certificate of occupancy.

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[8] Mid-Market Coalition, Letter of Support for the Proposed 469 Stevenson Street Project, October 20, 2021. Per the agreement letter, the Project Sponsor agrees to work with the Mid-Market Coalition and Mayor's Office of Housing and Community Development to redirect relevant impact fees to 967 Mission Street.

[9] In a letter from the Mayor's Office of Housing and Community Development (MOHCD) to the Planning Department, May 25, 2021, the director of MOHCD confirmed a commitment to allocating affordable housing fees generated by the proposed project to affordable housing investments in the South of Market neighborhood.

[10] Kepler, Tyler, Representative for Project Sponsor, email correspondence with the San Francisco Planning Department, September 28, 2022.

4. Description of Geographic Areas Surrounding the Proposed Project

The Proposed Project is located one-half block south of Market Street within the South of Market (SoMa or SOMA) neighborhood in the mid-block of Stevenson Street between 5th Street and 6th Street (also known as Fifth Street and Sixth Street). The area of SoMa immediately surrounding the Proposed Project site is generally comprised of buildings between 1 and 7 stories tall that have commercial, residential, hotel, single room occupancy (SRO) residential, and/or industrial uses and other surface parking areas. Mint Plaza is located to the northeast of the site, which is a public open space adjacent to the historic San Francisco Mint building and across the street from the San Francisco Center.

The Tenderloin neighborhood is located immediately to the north of Market Street from the Proposed Project and has a similar mix of land uses. The northern portion of Sixth Street in SoMa and the Tenderloin neighborhood have a substantial concentration of the City's SRO residential buildings.

a. Surrounding Area

The City of San Francisco and the Planning Department uses "Analysis Neighborhood" geographies that are correspond to U.S. Census tract boundaries to study and report on housing and socioeconomic characteristics of the City's neighborhoods.[11] As described above, the Proposed Project is located within the SoMa neighborhood and about a half block south of Market Street from the Tenderloin neighborhood, so these two neighborhoods surround the project site.

For this analysis, the SoMa and Tenderloin neighborhoods are collectively referred to as the "Surrounding Area," which consists of the census tracts[12] within the South of Market and Tenderloin Analysis Neighborhoods.[13] The **Surrounding Area** is the primary geography used to analyze neighborhood conditions and the socioeconomic characteristics of residents who live in the areas surrounding the Proposed Project. The Surrounding Area also includes:

- The portion of Sixth Street that has numerous residential SROs buildings is located in the northern area of the South of Market Analysis Neighborhood.
- The of the City's cultural heritage districts:
  - SOMA Pilipinas – Filipino Cultural Heritage District (SOMA Pilipinas CHD), which is largely coterminous with the South of Market Analysis Neighborhood.
  - LEATHER & LGBTQ Cultural District, which is located in the South of Market Analysis Neighborhood.
  - Transgender Cultural District, which is located in the Tenderloin neighborhood.

[11] https://data.sfgov.org/Geographic-Locations-and-Boundaries/Analysis-Neighborhoods/p5b7-5n3h

[12] https://www.census.gov/programs-surveys/geography/about/glossary.html

[13] https://data.sfgov.org/Geographic-Locations-and-Boundaries/Analysis-Neighborhoods/p5b7-5n3h

b. One Mile Radius

As analyzed in the previously circulated Draft EIR, a significant amount of development has occurred and is planned (in the development pipeline) within a one mile radius area around the Proposed Project. This geography, referred to as the "One Mile Radius," includes the following neighborhoods in addition to SoMa and Tenderloin: Western Addition, Japantown, Hayes Valley, Mission, Mission Bay, Chinatown, Nob Hill, and Financial District/South Beach and the census tracts within them.[14]

- The **One Mile Radius** is the primary geography used to analyze the development of market rate and affordable housing located within one mile of the Proposed Project and is also used to describe housing market conditions in these eastern areas of San Francisco. Figure 1 shows an overlay of the Analysis Neighborhoods within the One Mile Radius area.

c. Project Area, Census Tracts and Block Groups

The U.S. Census uses specific geographies to collect and analyze demographic data across the United States, which are called census tracts, blocks and block groups.[15]

- According to the 2020 Census, the Proposed Project is located in **census tract 176.02** and within **block group 2 of census tract 176.02,** which is referred to as the "**Project Area**."
  - The **Project Area** is the geography used to analyze the potential displacement impacts of the Proposed Project based on the methodology in UDP's March 2022 Policy Brief 1.[16]
- For the prior 2000 and 2010 Census, the Proposed Project was located in **census tract 176.01**, which had a larger geographic area that ran further south along Market Street and was subdivided in the 2020 Census to include **census tracts 176.02, 176.03 and 176.04** given population growth in this area over the past decade. (As described above, the Proposed Project is now in census tract 176.02.)

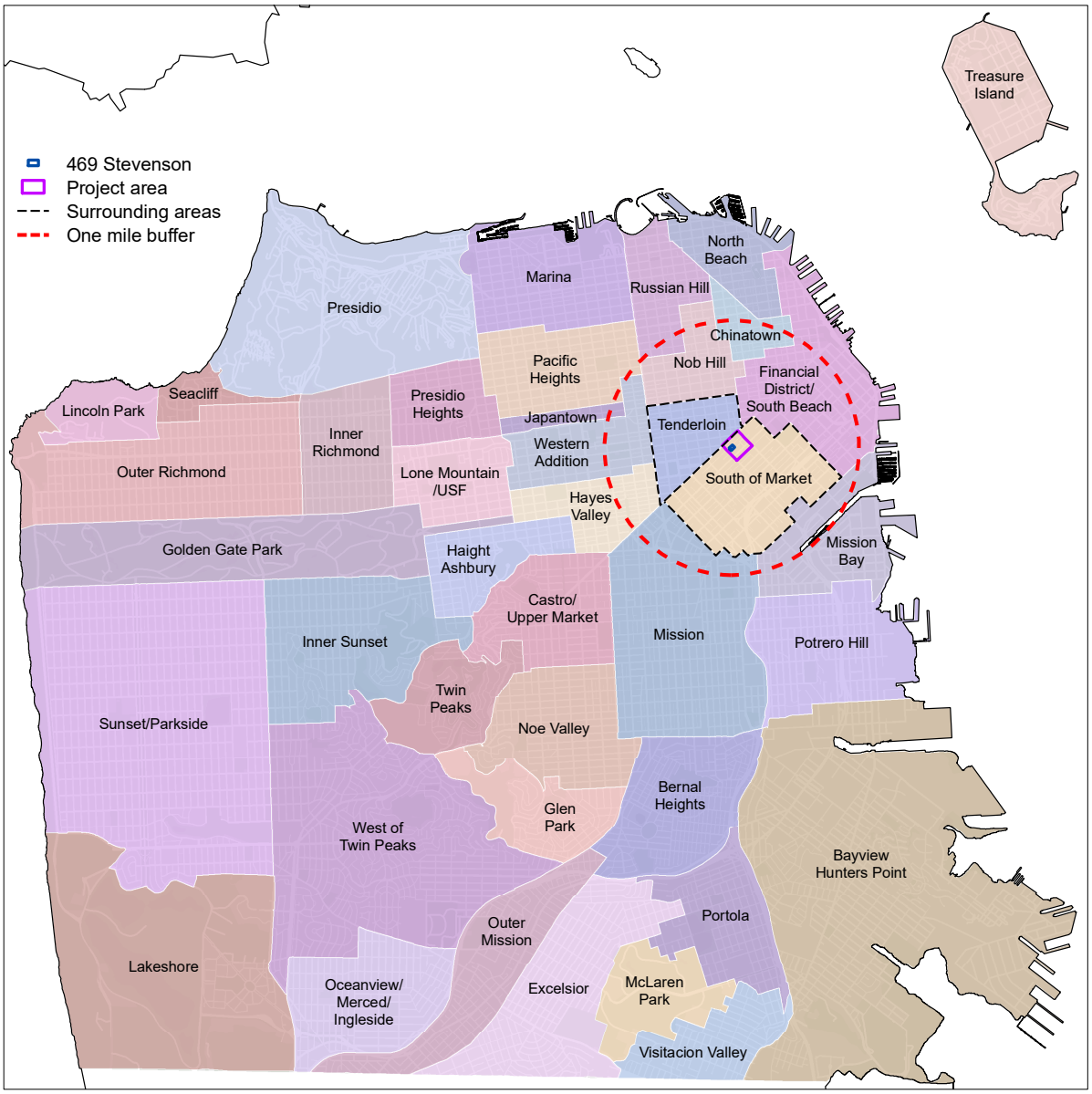
Figure C-1 below shows the boundaries of the Analysis Neighborhoods in the City, as well as the location of the Proposed Project, Surrounding Area, One Mile Radius and Project Area, as described above.

[14] For purposes of analyzing housing production and the development pipeline, all of the census tracts within the one mile radius are included in the analysis. For purposes of performing socioeconomic analysis, census tracts that include 10 percent or more of area within the one mile radius are included, and the population, housing and household counts are adjusted by the percentage of area within the one mile radius. The entire area in the census tracts and related block groups in SoMa and Tenderloin (100%) are located within the one mile radius, so socioeconomic data from these census tracts is fully counted in the socioeconomic analysis of the one mile radius.

[15] Census Tracts are small, relatively permanent statistical subdivisions of a county or statistically equivalent entity that can be updated by local participants prior to each decennial census as part of the Census Bureau's Participant Statistical Areas Program (PSAP). Block Groups (BGs) are statistical divisions of census tracts. https://www.census.gov/programs-surveys/geography/about/glossary.html

[16] https://www.urbandisplacement.org/wp-content/uploads/2022/03/IGS_1_New-Production_Brief_03.01.22.pdf

Figure C-1 Geographic Areas Surrounding the Proposed Project



Analysis Neighborhoods Located Within One-Mile Radius of Proposed Project

Figure C-1

SAN FRANCISCO

0 0.5 1 2 Miles

The project area is defined as block group 2 of census tract 176.02 according to the 2020 Census

Source: DataSF Analysis Neighborhoods Map

Source: San Francisco Planning Department.

D. Peer Review of 2020 Socioeconomic Report

The 2020 Socioeconomic Report analyzes residential development patterns in San Francisco and within a one mile radius of the 469 Stevenson Street Project to assess the amount of development occurring in this area historically and presently in conjunction with the Proposed Project.[17] The report also evaluates historic and current San Francisco rents to provide perspective on the existing market in which the proposed rental units will be developed. Based on a review of research literature available at the time of the analysis, the report assesses whether market-rate rental units such as those included within the Proposed Project would make rental housing less affordable for existing residents. In summary, the 2020 Socioeconomic Report presents the following socioeconomic analysis and review of research literature to develop its conclusions:

Socioeconomic Analysis

- Identifies residential pipeline projects within a 1.0-mile radius of 469 Stevenson Street (including the Proposed Project and other residential projects that may have a cumulative impact).
- Reviews historical development trends in San Francisco and key surrounding areas.
- Presents historical trends in San Francisco's rental housing market.

Review of Research Literature

- Reviews eleven research publications on the relationship between housing production and housing costs, as well as the effect of market rate development on rents in the surrounding area.[18]
- Reviews twelve research publications regarding potential gentrification and displacement from new market-rate development.[19]
- Presents representative case studies that explore the relationship between housing production and the cost of market rate housing.

As further described below, while the conclusions of the 2020 Socioeconomic Report reflect this research and analysis, several recent reports prepared by the City of San Francisco, including the Housing Element 2022 Update, and recent academic research provide a different perspective on its conclusions, and the peer review indicates that supplemental research and analysis should be performed to augment its socioeconomic analysis in order to address the findings by the Board of Supervisors. That supplemental analysis has been prepared and is presented in this report.

1. Summary of the Socioeconomic Analysis

Based on the socioeconomic analysis and data presented in the 2020 Socioeconomic Report, the report concludes the following:

- The Proposed Project is being developed in a portion of the City historically characterized by the greatest amount of residential development over the past two decades as well many other new multifamily residential projects in the planning process.

[17] Socioeconomic Effects of 469 Stevenson Street Market-Rate Development, ALH Urban & Regional Economics, September 2020.

[18] Representative research studies are summarized in Appendix C of the 2020 Socioeconomic Report: Housing Production Impacts on Housing Costs Literature Overview.

[19] Representative research studies are summarized in Appendix D of the 2020 Socioeconomic Report: Gentrification and Displacement Literature Overview.

- Apartment rents in San Francisco increased through 2019 but moderated and then sharply softened since the onset of the Covid pandemic in 2020.
- A high percentage of existing San Francisco apartment residents living in older units are insulated from rental increases due to San Francisco's rent control provisions.
- No specific trends were identified for the City, South of Market, or Downtown, suggesting that housing production neither has an impact on increases in rent nor rent suppression.

2. Summary of the Research Review and Case Studies

The review of research literature and the case studies generally coalesce around the following key take-aways, which are consistent with the research and analysis presented in the 2020 Socioeconomic Report:

- Housing production does not result in increased costs of the existing housing base, but rather helps suppress increases in rents and home prices in existing buildings.
- Failure to increase housing stock to accommodate demand resulting from job growth and increasing population will result in greater competition for existing housing, with higher income households outbidding lower income households and otherwise exerting upward price pressure on existing housing.
- Both market-rate and affordable housing development help to suppress price appreciation and reduce displacement.
- Based on research presented in two 2019 research studies that analyzed the localized impact of the effects of development, rents of existing apartment projects immediately near new market-rate apartment development declined upon completion of the market-rate units in the surrounding area for a duration of up to three years after completion of the new units.[20]
- Based on research regarding the causal relationship between gentrification and displacement, experts in the field generally appear to unite around the understanding that there is weak causation between gentrification and displacement.
- Displacement can occur without gentrification, and displacement is not inevitable, with public policy tools available to stabilize communities.
- In some instances, studies suggest that existing low-income households in a gentrifying neighborhood may benefit from gentrification because of neighborhood improvements perceived to be of value and increased housing satisfaction.
- Finally, some experts also conclude that the ability for residents to relocate or move (i.e., mobility rates) are not distinguishable between neighborhoods experiencing gentrification and neighborhoods not experiencing gentrification.

[20] The 2020 Socioeconomic Report also indicates that research studies prior to 2019 suggest that further analysis on the relationship between development, affordability, and displacement at the highly localized level is required to understand the rate at which displacement occurs in very small, localized areas. The 2019 research studies reviewed are summarized in numbers 10 and 11 in Appendix C: Housing Production Impacts on Housing Costs Literature Overview of the 2020 Socioeconomic Report.

3. Summary of Report Conclusions

In summary, the 2020 Socioeconomic Report concludes the following:

- Case study research in San Francisco as well as academic and related research suggests that market-rate housing production such as the 469 Stevenson Street Project is not likely to cause an increase in rents in nearby housing units.
- Some research even suggests interim reductions in rents among nearby units. These and other literature findings suggest there is no evidence to support concern that new market-rate development will cause gentrification or displacement.
- Therefore, the 2020 Socioeconomic Report concludes that the evidence indicates that development of the Project is not likely to result in residential displacement and gentrification that will lead to socioeconomic impacts warranting further review under CEQA.

4. Peer Review Findings

Based on a peer review of the 2020 Socioeconomic Report, the key findings in the 2020 Socioeconomic Report are thoroughly documented and reflect the socioeconomic analysis and the research that was presented in the report. While the 2020 Socioeconomic Report conclusions reflect the analysis and research presented in the report, and recent academic research provide a different perspective on these conclusions as further discussed in this report. Furthermore, while the 2020 Socioeconomic Report includes socioeconomic analysis and findings with respect to residential displacement, the report does not address potential cultural displacement impacts other than as part of the literature review. In conclusion, the peer review indicates that supplemental research and analysis should be performed to augment the 2020 Socioeconomic Report in order to address the findings by the Board of Supervisors.

E. Review of Supplemental Research and City Reports

Recent reports published by the City of San Francisco are relevant to the analysis of potential displacement impacts from the Proposed Project, which are supplemental to what was presented in the 2020 Socioeconomic Report. This section begins with a summary of information from the following reports prepared by the City regarding displacement pressures and risks that are occurring in areas within San Francisco as well as the City's housing needs and potential strategies to address them:

1. Community Stabilization initiative and accompanying reports (2020)
2. Housing Affordability Strategies (2020)
3. Jobs Housing Fit Report 2020 (2021)
4. Housing Element 2022 Update and accompanying reports (2022)

Researchers have published numerous studies that analyze potential impacts from displacement and gentrification in the City of San Francisco and other similar urban areas. While many of these research reports were summarized in the 2020 Socioeconomic Report, recent reports published by UDP and other researchers indicate that areas with vulnerable populations like those surrounding the Proposed Project may be at risk of displacement although residential displacement impacts are much less than what many have feared. Furthermore, residential anti-displacement strategies can substantially reduce or eliminate displacement impacts on residents.

While more than 50 research studies were reviewed as part of this analysis, almost all of the research studies have studied residential displacement impacts, while only a limited number of studies have reviewed and measured cultural displacement impacts because most displacement research focuses on impacts on residents who live in an area instead of displacement impacts on businesses, non-profit organizations or other cultural institutions. The research reviewed indicates that potential cultural displacement impacts can be substantially reduced through cultural anti-displacement strategies, and new market rate development may offer some positive benefits to existing businesses and organizations, as well as residents.

The last two sub-sections summarize research regarding gentrification and residential displacement as well as cultural displacement:

5. Summary of Supplemental Gentrification and Residential Displacement Research
6. Summary of Supplemental Cultural Displacement Research

Attachment B presents a summary of the key research literature referenced for this analysis, and Attachment C presents a bibliography of research reports that were reviewed for this analysis, including all of the reports cited in the 2020 Socioeconomic Report.

1. Community Stabilization Initiative

The City's Community Stabilization initiative is a multi-agency effort to assess the City's existing portfolio of tools, unify fragmented efforts into one comprehensive inventory, and identify priorities for the future.[21] The initiative seeks to mitigate the impacts of ongoing displacement and help vulnerable populations thrive and contribute to the City's economy and culture. The Community Stabilization Report

[21] A description of the Community Stabilization Initiative and related reports can be found here: https://sfplanning.org/community-stabilization-strategy

and the accompanying Policy and Program Inventory Report were prepared to inform the Community Stabilization initiative. [22]

The Community Stabilization Report indicates that San Francisco is experiencing increasing income inequality and a lack of affordable housing. These realities are leading to a loss of the middle class and displacement for many communities while the economy booms for others. Tied to economic growth, the City's population has grown, and housing stock has not kept pace with job growth, pushing prices up for a limited supply of housing units, which intensifies displacement and gentrification pressures. The mismatch between the City's production of new housing units and job growth is also described and documented in the Jobs-Housing Fit 2020 Report, which is summarized in Section E3.

As summarized in the Community Stabilization Report, researchers are undertaking extensive analysis regarding the complex web of contributing factors that lead to residential and commercial displacement in areas within a City, region or nation. While researchers recognize the many data and analytical challenges that are involved in measuring displacement and determining its direct cause, researchers report that one or more of the following factors contribute to displacement in an area:

- Strong economy with many more jobs created than new housing units.
- Market imbalance between housing supply and demand.
- Rising cost of rent and home prices, and significant gaps between what typical households can afford to pay for housing.
- Growing income disparities.
- History of land use discrimination such as redlining and racial covenants.[23]
- Close proximity to job centers and transit centers.
- Older and historic housing stock, with relatively low values and rents.

The Community Stabilization Report indicates that the City of San Francisco experienced significant demographic changes between 1990 and 2015, particularly in neighborhoods where communities of color live. Some of the changes observed in these neighborhoods were not "natural" demographic shifts resulting from individual households choosing to move elsewhere, but resulted from eviction, large rent increases, or other reasons otherwise known as displacement.

One of the key research studies referenced in the Community Stabilization Report was performed by the Urban Displacement Project (UDP) and California Housing Preservation (CHPC), which analyzes demographic changes that occurred in San Francisco's neighborhoods between 2000 and 2015.[24] The findings from this research indicate that rising housing costs are leading to resegregation in some of the City's neighborhoods, and several of the census tracts in the Surrounding Area of the Proposed Project

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[22] This section presents excerpts and summaries from the Community Stabilization Report. All of the research references in the Community Stabilization Report were reviewed as part of the analysis presented in this memorandum. https://default.sfplanning.org/plans-and-programs/community-planning/stabilization-strategy/cs_report.pdf

[23] Redlining and racially restrictive covenants are defined in Appendix A Glossary of the Draft 3: Goals, Objectives, Policies and Actions of the Housing Element 2022 Update. https://www.sfhousingelement.org/draft-3-goals-objectives-policies-and-actions Redlining is an explicitly discriminatory federal policy that color-coded Black and nearby neighborhoods in red, deeming them "hazardous" to potential mortgage lenders. Racially restrictive covenants refer to clauses that were written in to property deeds used by white property owners and subdivision developers to forbid the resale and sometimes rental of such property to non-whites, particularly African Americans.

[24] Urban Displacement Project and CHPC, Rising Housing Costs and Re-Segregation of San Francisco, 2018. https://www.urbandisplacement.org/sites/default/files/images/sf_final.pdf

have experienced growth in low income households of color, particularly among Asian and African American (Black) households.

San Francisco's increasing income inequality and housing and business costs have been linked to changes in the city's socioeconomic composition and displacement of communities of color and the businesses and organizations that serve them and low-income households. Displacement can surface as residential, commercial, or psychological and can be direct and indirect, physical or economic and exclusionary.[25]

Vulnerable populations tend to be most at risk of displacement, and renters are often considered to experience greater risks than homeowners. Vulnerable groups include people of color (American Indian or Alaskan Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or other Pacific Islander),[26] people living with disabilities, lower income households, people experiencing homelessness, seniors, youth, immigrants, LGBTQ+ people, refugees, linguistically isolated households, small businesses, veterans, and nonprofit organizations. (Persons and organizations from many of these vulnerable groups are located in areas surrounding the Proposed Project according to data provided by the Planning Department.)

Pressures from displacement cause vulnerable populations to move within San Francisco or leave the city entirely. Vulnerable residents may be pushed from their neighborhood into higher poverty, lower-resourced neighborhoods. Residential displacement of low income households to other lower income neighborhoods intensifies poverty conditions, creates new patterns of segregation and reduces access to opportunities. The movement into other housing may also increase the transportation and/or housing cost burden on the migrating household (who moves out of their prior home), especially if they move far away from where they work or need services or if their prior housing was more affordable.

In addition to residential displacement, businesses, non-profit organizations (NPOs) and service providers are similarly struggling to stay in San Francisco. Business closures and location changes have increased significantly in the last 20 years. Although commercial displacement is difficult to quantify, a significant number of commercial corridors have higher and longer periods of vacancy. The high cost of opening and operating a business, higher rent speculation, and online retail sales, among other factors may lead to empty storefronts and underutilized retail spaces throughout the City.[27]

In 2016, a survey of non-profit organizations showed that those with at least one location in San Francisco are more likely to be very concerned about the real estate market having a negative impact on their futures. The implications not only include non-profits losing their space, but also constituents, who are often from vulnerable populations, losing valuable services and gathering space. Non-profits in the survey with at least one location in San Francisco are more likely to have to decide about relocation compared to non-profit organizations in other Bay Area cities.[28]

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[25] UC Berkeley and UCLA, Zuk et al, Gentrification, Displacement and the Role of Public Investment: A Literature Review. March 3, 2015. https://www.frbsf.org/community-development/publications/working-papers/2015/august/gentrification-displacement-role-of-public-investment/

[26] These racial and ethnic categories for people of color are used by the 2020 Census, as required by the US Office of Management and Budget (OMB), and generally reflect social definitions. https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/release/faqs-race-ethnicity.html
Historically, race and ethnicity has been categorized and/or defined differently in the US Census and in academic research. For example, some publications will use the term Black, others will use African American, and some use both terms. People of color may self-identify in one or more of these racial and ethnic categories.

[27] https://oewd.org/sites/default/files/Invest In Neighborhoods/State of the Retail Sector - Final Report.pdf

[28] https://ncg.org/sites/default/files/files/news/NCG_NPO_survey report.pdf

Although not specifically defined in the Community Stabilization Report, cultural displacement occurs when there is as a loss of historically and culturally significant institutions, organizations and businesses associated with a particular race, ethnicity, or other marginalized group, which could occur either directly or indirectly. The Community Stabilization Report and the accompanying Policy and Program Inventory report discuss key considerations and City programs that would prevent cultural and residential displacement.[29]

The Policy and Program Inventory report provides City agencies, decision-makers, and the public with summaries of the City's existing policies and programs to prevent displacement, which includes an inventory of 22 policy and program summaries. The Mayor's Office and City agencies identified key priorities that were informed by input by City staff, community organizations, and the public, which focus on strengthening policies and programs that are currently underway and assessing potential programs and policies for the future.

These reports recommend priorities for future City actions to stabilize housing, protect arts and culture, address displacement of vulnerable populations. In summary, these priorities include the following residential and cultural anti-displacement strategies:

Residential Anti-Displacement Strategies

- Tenant Protection and Housing Stabilization
- Housing Production
- Housing Preservation

Cultural Anti-Displacement Strategies

- Arts and Culture Protection (including the Cultural Districts Initiative)
- Business Retention and Stabilization (including commercial district planning and management)
- Workforce Development and Education

The policies and programs within each of these priorities, which include many existing City policies and programs that are being deployed in San Francisco, are focused on stabilizing communities and addressing potential residential and cultural displacement impacts. These strategies build upon and are consistent with anti-displacement policies and strategies that are presented by researchers such as UDP, as further described below.

2. Housing Affordability Strategies

Along with the Community Stabilization initiative, the City's Housing Affordability Strategies (HAS) report examines how the City can improve housing affordability over the next 30 years, particularly for low- and moderate-income households.[30] The purpose of the HAS is to help residents, City staff, and policy makers understand how different policies and funding strategies work together to address affordability and foster the City's diversity.

Led by the Planning Department, the HAS also incorporates input from other City agencies, including the Mayor's Office of Housing and Community Development (MOHCD), San Francisco Office of Housing Delivery, and the Office of Economic and Workforce Development (OEWD), and was informed by

[29] https://default.sfplanning.org/plans-and-programs/community-planning/stabilization-strategy/cs_policy_program_inventory_draft01.pdf

[30] https://default.sfplanning.org/publications_reports/Housing_Affordability_Strategies_Report.pdf

feedback from the community, advocates, researchers, and policy experts. The analysis and outreach conducted for the HAS has also informed the Housing Element 2022 Update, which is described below.

The HAS report analyzes residential development feasibility, City policies, and public investments needed to achieve the City's housing targets created through both Mayoral and voter action: to build 5,000 new housing units per year, at least one third of which should be permanently affordable at low and moderate incomes. In addition, the HAS analyzed programs to preserve affordable housing and to protect and stabilize residents.

As indicated in the HAS report, the Mayor's Office and City agencies identified key priorities that were informed by input from City staff, community organizations, and the public, which focus on strengthening policies and programs that are currently underway and assessing potential programs and policies for the future. Four overarching strategies represent a comprehensive approach to improving housing affordability over the next 30 years and complement the residential anti-displacement policies in the Community Stabilization Initiative:

Affordable Housing Strategies and Residential Anti-Displacement Strategies

- Increase housing development potential with a focus on equitable development
- Streamline approvals and permitting and reduce construction costs
- Expand and sustain funding to produce and preserve affordable housing
- Protect vulnerable residents and stabilize and preserve existing affordable housing

The strategies presented in the HAS are informing the Housing Element 2022 Update policies and actions and are consistent with residential anti-displacement strategies presented in relevant research as further described below.

3. Jobs-Housing Fit Report 2020

The Jobs-Housing Fit Report 2020 was prepared by the Planning Department in 2021 to analyze the fit between the housing needed by workers of new jobs located in San Francisco and housing produced in San Francisco by affordability and to identify the need for housing based on job growth.[31] The analysis revealed the following key points and indicated a significant unmet housing need in San Francisco:[32]

- **Historical Deficit**– The exceptional job growth of the historical period 2009-2019 following the Great Recession created an overall housing deficit of 124,250 units (81% of total housing unit need) and an affordable unit deficit of 53,500 (87% of affordable unit need). This deficit may be an overestimate because some job growth was filled by existing residents or by new residents who found housing in vacant units, neither needing new housing.
- **Future Balance**– Anticipated future development from 2020-2040 will meet and exceed overall housing need by 18,500 units (35%) and have a substantially smaller affordable housing deficit at 3,000 units (14%), compared to 87% for the 2009-2019 period).
- **Overall Deficit**– Yet the better performance expected of the growth period will not reverse the historical deficits, yielding a period total 2009-2040 deficit of 106,000 units (51%) and affordable

[31] The Jobs-Housing Fit 2020 Report was prepared pursuant to San Francisco Administrative Code Section 10E.41(b)(4) and released in November 2021.

https://sfplanning.org/sites/default/files/resources/2021-11/Jobs-Housing_Fit_Report_2020.pdf

[32] This echoes the findings in the Community Stabilization Report and Housing Element 2022 that historical production of housing has not kept pace with job growth in the City and Bay Area region, which has intensified displacement pressures.

deficit of 56,500 units (68%). Meeting this need would require increasing housing production many times greater than the City's historical production capacity (2,950 units per year, 765 affordable).

As of 2019, prior to construction of the Proposed Project, the City is reported to have a housing deficit exceeding 124,000 units, which includes a substantial affordable housing deficit. The City's historical deficit of both market rate and affordable housing is contributing to displacement pressures as indicated in the Community Stabilization Report. Therefore, the City needs to produce substantial amounts of new market rate and affordable housing in the future as also indicated in the Housing Element 2022 Update.

4. Housing Element 2022 Update

The Housing Element 2022 Update is San Francisco's housing plan for the next 8 years (2022-2030), which will include policies and programs that express the City's collective vision and values for the future of housing in San Francisco.[33] Draft 3 of the Housing Element 2022 Update was released in March 2022 and includes a series of draft reports that assess the City's housing needs and present various City goals, objectives, policies and actions to address these housing needs and potential priorities for decision making and resource allocation for housing programs, development, and services. One of these reports is the Draft Housing Needs Assessment and Assessment of Fair Housing Report (Draft Housing Needs Report), which includes detailed data and analysis regarding the City's housing needs. [34]

The Draft Housing Needs Report describes the Regional Housing Needs Assessment (RHNA) methodology that was used to establish San Francisco's RHNA for the 2023-2031 period, which is 82,067 units (or 10,248 units per year) with a distribution by income group that is very similar to the region. The RHNA for 2023-2031 is about three times the prior RHNA requirement for the 2015-2022 period.[35]

While the bulk of the RHNA increase is attributable to the overall increase in the total RHNA for the Bay Area, which takes into consideration statewide and regional housing conditions, the RHNA increase is also attributable to higher forecasted growth in San Francisco as well as the City's relatively high scores for job proximity and access to higher opportunity areas compared to the region.

The higher RHNA for the 2023-2031 period means that San Francisco will need to do more to produce and preserve housing across all income groups. The annual target is twice the highest year of the City's housing production in the last forty years so a variety of strategies will be needed to achieve RHNA targets. The policies and actions of the draft Housing Element update and accompanying sites inventory and constraints analysis describe how the City can do more to meet the RHNA housing needs and address racial and social equity.

The Draft Housing Needs Report also analyzes the socioeconomic characteristics and housing needs of people who live in San Francisco, including those who live near the Proposed Project, and presents detailed data and analysis regarding:

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[33] This section of this memorandum presents excerpts and summaries from the Housing Element 2022 Update website and the Draft Housing Needs Assessment and Assessment of Fair Housing Report (March 2022) related to this update. https://www.sfhousingelement.org/

[34] https://www.sfhousingelement.org/draft-housing-needs-assessment-and-assessment-fair-housing.
The analysis in this report is based on Draft 3 of the Housing Element 2022 Update, released March 2022. Draft 4 of the Housing Element 2022 Update was released in October 2022 after the analysis in this report was substantially prepared. While the text of the policies referenced in this section have been revised and/or updated in Draft 4, none of the policies have been removed, and the overall intent of the policies is consistent with the version in Draft 3.

[35] San Francisco's 2015-2022 RHNA had a RHNA target of 28,869 total units. While about 27,000 housing units have been produced, the City has not yet met its RHNA targets for very low, low and moderate income households.

- Population and employment trends.
- Existing housing characteristics.
- Equity analysis including displacement, fair housing, and environmental justice challenges.
- Overall housing needs, including special needs groups.

Consistent with the Community Stabilization Report, the analysis in the Draft Housing Needs Report also indicates that people of color, lower income households and special needs groups are more likely to face housing insecurity and vulnerability, and these vulnerable City residents are at greater risk of residential displacement. The draft Housing Element 2022 Update contains several policies that are focused on addressing Housing Element Objective 3c, which seeks to: "Eliminate community displacement within areas vulnerable to displacement."[36] The following policies and related actions are focused on addressing residential displacement:

- Policy 1. Minimize all no-fault and at-fault evictions for all tenants and elevate direct rental assistance as an eviction protection strategy.
- Policy 2. Preserve affordability of existing subsidized housing, government-owned or cooperative-owned housing, or SRO hotel rooms where the affordability requirements are at risk or soon to expire.
- Policy 3. Reform and support the City's acquisition and rehabilitation program to better serve areas and income ranges underserved by affordable housing options and areas vulnerable to displacement.
- Policy 4. Preserve the affordability of unauthorized dwelling units while improving their safety and habitability.
- Policy 5. Improve access to the available Affordable Rental and Homeownership units especially for racial and social groups who have been disproportionately underserved or for American Indian, Black, Japanese, Filipino, and other communities directly harmed by past discriminatory government actions including redlining, Redevelopment and Urban Renewal, the Indian Relocation Act or WWII Japanese incarceration based on a reparation's framework.
- Policy 15. Expand permanently affordable housing investments in Priority Equity Geographies to better serve American Indian, Black, and other People of color within income ranges underserved, including extremely-, very low-, and moderate-income households.
- Policy 19. Enable low and moderate-income households, particularly American Indian, Black, and other people of color, to live and prosper in Well-resourced Neighborhoods by increasing the number of permanently affordable housing units.
- Policy 21. Prevent the potential displacement and adverse racial and social equity impacts of zoning changes, planning processes, or public and private investments especially in areas vulnerable to displacement. (Objectives: 3.c, 2.c, 4.c)[37]

These policies are focused on strengthening the City's anti-displacement policies, which will reduce both direct and indirect displacement of vulnerable communities. In addition, the overall objective of the Housing Element 2022 Update is to increase housing production for all income levels to accommodate projected population growth and to shift a greater share of the City's future housing growth from the

[36] Further information regarding the proposed goals, objectives, policies and actions is contained in Draft 3: Goals, Objectives, Policies and Actions of the Housing Element 2022 Update. https://www.sfhousingelement.org/draft-3-goals-objectives-policies-and-actions

[37] The Planning Department is currently conducting a race and social equity analysis for the update and will use the results of this study to inform the creation of guidelines to avoid displacement for future zoning changes and development projects, among other items as called for in Policy 21.

communities that are most vulnerable to displacement impacts on the east side of the city to well-resourced areas along transit corridors and within low-density areas that are primarily located on the west and north sides of the City.

5. Summary of Supplemental Gentrification and Residential Displacement Research

This section of the report summarizes key findings from recent reports published by the Urban Displacement Project (UDP) and other researchers that have analyzed gentrification and residential displacement, which is organized into the following key findings based on a review of this research:

- The mismatch between housing production and demand intensifies displacement risk
- Gentrification may happen without displacement, and displacement may happen without gentrification.
- The production of both market rate and affordable housing help address displacement.
- Residential anti-displacement strategies reduce or eliminate displacement.

a. Mismatch Between Housing Production and Demand Intensifies Displacement Risk

As indicated in the City reports described in this section as well as research by UDP, CHPC and other researchers, housing production in the City and broader region hasn't kept pace with the growth in population and workers, with job growth outpacing new housing production and resulting in supply shortages and spikes in housing prices and rents that date back at least 30 years.

- Many households are increasingly unable to compete in the housing market and face declining real purchasing power, with lower income renters often facing the most significant displacement pressures. These trends have contributed to racial segregation in the region and led to gentrification and displacement of lower income households across the Bay Area.[38]
- In this context, a key mechanism for providing housing affordability for all but the lowest income households—filtering—is broken.[39] With traditional filtering– the process by which communities produce most affordable housing– lower-income households move into older units as the cost and quality of older market rate housing decreases over time, and higher income people move to new market rate housing.
  - Housing markets are diverse, as are neighborhoods, which complicates studies of filtering.
  - Although evidence is mixed on whether nearby housing prices or rents rise or fall with new residential development, studies have generally concluded that rents will decrease. However, they may not decrease for everyone– for older buildings catering to low-income renters, new construction may raise rents, with even higher spikes for buildings closest to the new construction. The process of moving into market-rate housing initiates multiple rounds of

[38] https://www.urbandisplacement.org/wp-content/uploads/2021/08/bay_area_re-segregation_rising_housing_costs_report_2019.pdf

[39] The Urban Displacement Project Policy Brief 1 was published in March 2022, which summarized findings from its research for the Federal Reserve Bank of San Francisco regarding displacement impacts from new market-rate housing production.

https://www.urbandisplacement.org/wp-content/uploads/2022/03/IGS_1_New-Production_Brief_03.01.22.pdf

The full research study is called: Housing Market Interventions and Residential Mobility in the San Francisco Bay Area. https://www.frbsf.org/community-development/publications/working-papers/2022/march/housing-market-interventions-and-residential-mobility-san-francisco-bay-area/?utm_source=referral&utm_medium=partnerreport&utm_campaign=regionalequity

migration, i.e., vacancy chains, which ultimately free up housing supply in low-income areas in just a few years, creating a critical infusion of lower cost housing.[40]

  - Using fine-grained data on new market-rate housing production and household mobility, UDP finds that when new market-rate housing is built, there is a slight increase in both people moving out of the neighborhood and people moving in (churn) across most socioeconomic status (SES) groups. All but the lowest-SES residents experience increased outmigration rates, and the highest-SES groups move out at lower rates and move in at higher rates than others. In other words, market-rate housing production shifts outmigration and in-migration patterns only very slightly, and primarily benefits high-SES groups.[41]

- UDP also found that new market rate construction neither worsens nor eases the rates of people moving out of gentrifying areas (areas with both fast-rising housing prices/rents and a large influx of high-income or highly-educated residents). New market rate construction increases rates of people moving in across all socio-economic groups, particularly high socio-economic residents.[42]
- According to the Urban Displacement Project (UDP) website as of July 2022, areas throughout the Bay Area region and in San Francisco have experienced displacement pressures or are at risk of displacement, gentrification or exclusion due to increasing housing costs, the high cost of housing in comparison to household incomes (especially for lower income households) and lack of new housing supply (including affordable housing), among other factors.[43]
- UDP uses the following metrics to measure the degree of displacement, gentrification and exclusion in census tracts in San Francisco, Bay Area and other regions across the country:[44]
  - Gentrification is measured based on changes in the income mix of an area and increase in housing costs or above regional median change in rents and home prices.
  - Displacement is measured based on the proportion of low income households or the loss of low income households.
  - Exclusion is evaluated according to risk factors for becoming exclusive based on housing affordability (including whether lower income households can afford typical market rents) and rapid increases in home prices and rents that will inhibit affordability.
- UDP recently developed an Estimated Displacement Risk (EDR) model for California that identifies varying levels of displacement risk for low income renter households in all census tracts in the state.

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[40] Ibid.

[41] Ibid.

[42] UDP summary of Policy Brief 1 published on March 15, 2022: https://www.urbandisplacement.org/blog/does-new-market-rate-housing-displace-low-income-people/

[43] As indicated in the Housing Element Update 2022 Report, the UDP displacement and gentrification maps have been created to better understand and predict where gentrification and displacement was happening and would likely occur in the Bay Area through a community-engaged research process. The gentrification and displacement typology maps summarize housing market dynamics and displacement and gentrification risk into categories ("typologies") at the census tract level. These maps are based on 2018 American Community Survey data, and these maps are undergoing another update in 2022 to incorporate new data on migration patterns. https://www.urbandisplacement.org/maps/sf-bay-area-gentrification-and-displacement/

[44] UDP revised its urban displacement project typology in recent years and reported on the reasons for the modifications in the following report: Urban Displacement Project, UC Berkeley Center for Community Innovation, SPARCC, The Urban Displacement Replication Project. October 2020. https://www.urbandisplacement.org/wp-content/uploads/2021/08/udp_replication_project_methodology_10.16.2020-converted.pdf

The EDR model is a conservative estimate of low income loss and is considered by UDP to be a tool to help identify housing vulnerability.[45]

- As displacement may occur because of either investment or disinvestment, and this risk assessment does not identify the causes of displacement, UDP does not recommend that the EDR model be used to assess vulnerability to investment such as new housing construction or infrastructure improvements but rather refers to their recent research published in March and April 2022 instead.[46]
- UDP also recommends combining the EDR tool and map with on-the-ground accounts of displacement to achieve a full understanding of the issue. [47]
- The analysis of residential displacement presented in Chapter G of this report is based on UDP's March 2022 Policy Brief 1 and the analysis of neighborhood conditions in Chapter F.

b. Gentrification May Happen Without Displacement, and Displacement May Happen Without Gentrification.

Research indicates that while displacement may occur, it is not the inevitable result of gentrification, and that many factors influence whether or not gentrification and/or displacement occurs.

- Displacement happens to individual people; gentrification happens to places.[48]
  - Some experts have found that the ability for residents to relocate or move (i.e., mobility rates) are not distinguishable between neighborhoods experiencing gentrification and neighborhoods not experiencing gentrification.
  - While this finding is substantiated by some researchers, other researchers have found that mobility rates vary depending on the specific characteristics of the neighborhoods and the households living there, as well as other factors including market rate housing construction.
- The forces driving neighborhood change, including gentrification and displacement pressures, involve an interplay between the movement of people, public policy decisions and the availability of capital. Consequently, gentrification is a subject that requires analysis of social, political and economic circumstances.[49]
- While community perceptions of gentrification range from hope for better living conditions to anxiety and even hostility, research on gentrification is divided on whether displacement is an inevitable outcome. This divergence of opinion could be because both the scale and type of gentrification vary from place to place. The urban form, or patterns of land-use in U.S. cities, differ considerably in size

[45] The UDP Estimated Displacement Risk model was released in June 2022. Displacement risk according to UDP's EDP model means that in 2019—the most recent year with reliable census data—a census tract had characteristics that are strongly correlated with more low-income renter population loss than gain. In other words, the model estimates that more low-income households left these neighborhoods than moved in. The model uses 2015 – 2019 data, which means that correlations between tract characteristics and low-income renter population loss are based on this time period. https://www.urbandisplacement.org/maps/california-estimated-displacement-risk-model/

[46] To understand the relationship between housing construction and displacement, UDP references their research that was released in March 2022, which is summarized in Policy Brief 1: https://www.urbandisplacement.org/maps/housing-by-block/ To understand the relationship between infrastructure and displacement, UDP references their April 2022 research report on the unintended effects of climate change mitigation: https://www.urbandisplacement.org/maps/examining-the-unintended-effects-of-climate-change-mitigation/

[47] https://www.urbandisplacement.org/maps/california-estimated-displacement-risk-model/

[48] https://www.gwern.net/docs/economics/2020-pennington.pdf

[49] https://ncrc.org/gentrification/

and structure, and the process of gentrification can involve neighborhoods in a rapid process of change or unfold over decades in larger districts.[50]

- Published research indicates a broad range of potential outcomes from gentrification on existing residents, businesses and organizations.
- Depending on the circumstances, gentrification can contribute to three types of displacement that may affect a subset of existing residents and can cause negative outcomes for these residents:[51]
  - Direct (physical) displacement, in which existing residents are forced to move out because of rent increases, building rehabilitation, building demolition, or a combination of these factors.
  - Exclusionary displacement, in which affordable housing choices for lower income residents are limited, which can lead to higher rent burdens.
  - Displacement pressures (economic or indirect displacement) when the entire neighborhood changes, and the services and support system that existing households relied upon on are no longer available to them.
- Positive outcomes from gentrification include the following:[52]
  - Neighborhood improvements that help residents according to a variety of indicators such as reduction in violent crimes, better educational outcomes and employment opportunities. This finding is also supported by a study regarding the improved health and well-being of residents who remain in the neighborhood through the development of a higher opportunity community.[53]
  - Greater access to services and retail establishments that can occur alongside new development. This is often associated with increased neighborhood business activity, which increases local buying power, employment and economic activity.
  - Deconcentration of poverty, where the exposure to neighborhood poverty is reduced for adults and children who continue to live in an area compared to those who move away and/or where per capita incomes increase for residents that stay.[54] This finding is also supported by a study that evaluated neighborhood changes in 100 largest metropolitan areas in the US.[55]
- Displacement can occur without gentrification, and displacement is not inevitable. Even studies that found some evidence that gentrification and displacement are linked found only a modest relationship, at best.[56]
- As further described below, public policy tools in the form of anti-displacement strategies are critical to stabilizing communities and preventing displacement, particularly of lower income households who are often most affected.

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[50] Ibid.

[51] https://www.huduser.gov/portal/sites/default/files/pdf/displacementreport.pdf

[52] Ibid.

[53] https://www.healthaffairs.org/do/10.1377/hpb20200724.106767/full/brief-gentrification-health-captanian.pdf

[54] Deconcentration of poverty occurs when households with incomes above the poverty level move in to an area or when incomes for some or all of the existing households increase above the poverty level, which can occur without the displacement of existing households with incomes at or below the poverty level.

[55] https://www.philadelphiafed.org/-/media/frbp/assets/working-papers/2019/wp19-30.pdf?la=en

[56] https://www.huduser.gov/portal/sites/default/files/pdf/displacementreport.pdf

c. Market Rate and Affordable Housing Production Help Address Gentrification and Displacement

As described earlier, the failure to build new housing to accommodate increased housing demand resulting from job, population and economic growth results in greater competition for existing housing, with higher income households outbidding lower income households and exerting upward price pressures on existing housing, which intensifies displacement and gentrification pressures.

- The acute housing shortage in the Bay Area and California has resulted in an increased regional housing needs allocation to cities across the State including San Francisco. As indicated in the prior section, San Francisco is now expected to plan for the production of over 82,000 units during the next eight year RHNA period from 2023 to 2031.[57] The statewide RHNA policy to encourage the production housing at all levels of affordability serves as a key anti-displacement strategy.
- Some researchers have found that market-rate housing production is not likely to cause an increase in rents in nearby housing units, while other researchers have found that rents of existing apartment projects immediately near new market-rate apartment buildings declined upon completion of the market rate units in the immediate surrounding area for a duration of up to three years after completion of the new units.
- Two recent UDP policy briefs published in March 2022 specifically analyze how new market-rate housing production affects displacement in the San Francisco Bay Area and evaluate how tenant protections can help low income households avoid displacement. These studies specifically analyze and track the movements of individuals and households by income and financial stability in areas within the Bay Area and in the cities of San Francisco, Oakland and San Jose.
  - Policy Brief 1 concludes that building new housing creates modest churn: some households leave and others move in, and the net impact on mobility is minimal, at least over the four-year period studied. The fact that new housing encourages newcomers at all income levels to move in suggests that market rate construction is easing housing market pressures.[58]
  - Policy Brief 1 also finds that new construction may increase displacement for lower income people under certain circumstances, but the increase in rates of residential displacement (involuntary moves) for very low- to moderate-socio-economic groups are not as high as previously suspected at 0.5 to 2 percent above normal rates.
  - For example, while in a normal year, 10% of households might move out, after completion of construction for a market-rate project, this will mean that up to 12% move out per year for the next four years. If a block group houses 500 households, then 50 move out in a typical year, but 60 might move out each year post construction, for a total of 40 displaced households over four years. Thus, displacement impacts could be avoided with one mid-size apartment building with entirely affordable or subsidized units.
  - UDP's companion Policy Brief 2 indicates that tenant protections alone cannot improve access to housing to address the housing affordability crisis and mitigate displacement and exclusion. Tenant protections must be accompanied by other anti-displacement strategies including housing initiatives that substantially expand affordable, social housing, which is affordable to lower and moderate income households.[59]

[57] https://www.sfhousingelement.org/housing-element-2022-update-highlights

[58] https://www.urbandisplacement.org/wp-content/uploads/2022/03/IGS_1_New-Production_Brief_03.01.22.pdf

[59] https://www.urbandisplacement.org/wp-content/uploads/2022/03/IGS_2_Tenant-Protections_Brief_03.01.22.pdf

- Another recent study was published by Pennington at the end of 2020, which explores the spillover effects of new housing construction in San Francisco. Pennington finds that market rate housing differentially decreases nearby rents and displacement risk, while affordable housing has no spillover effects on the surrounding people and neighborhoods.[60]
  - Pennington's research suggests that increasing the supply of market rate housing has beneficial spillover effects for existing residents, reducing rents and displacement pressures while improving neighborhood quality. However, the spillover effects from market rate housing may not reduce gentrification, and they may not continue to reduce displacement in the long term.
  - While Pennington's research indicates that new market rate housing reduces displacement in San Francisco overall, a hyperlocal demand effect exists within a narrow radius of 100m, i.e., within eyeshot of the new construction. Within this narrow band, building renovations and business turnover increase. The upgrade in neighborhood quality attracts higher-income newcomers, so that when incumbents move out, they are more likely to be replaced by wealthier newcomers.
  - The study concludes that policymakers who want to slow displacement and gentrification should accelerate both market rate and affordable housing construction.
  - Pennington summarizes her findings "as emphasizing that building more market-rate housing and building more affordable housing are complementary policy levers. Affordable housing, obviously, is much better targeted at the people who are actually at a high risk of displacement."[61]

d. Effectiveness of Residential Anti-Displacement Strategies

UDP has done an extensive literature review to evaluate the effectiveness of anti-displacement strategies and recommends that policy makers consider adopting a three-pronged set of residential anti-displacement strategies to address displacement:[62]

- **Production**– The development of affordable housing decreases displacement by retaining or increasing the affordable housing stock. Housing production policies that incentivize new market rate and mixed income housing address housing demand and provide affordable housing through inclusionary units and/or payment of housing fees.
- **Preservation**– Given that most lower income households with housing they can afford live in unsubsidized units, housing preservation programs for housing that is affordable at lower incomes have the most potential for a substantial impact in preventing displacement of residents from those buildings.
- **Neighborhood Stabilization**– Neighborhood stabilization and tenant protection strategies have a direct and immediate effect on reducing displacement but need to be accompanied by other anti-displacement strategies such as affordable housing for lower to moderate income households.

Figure E-1 presents the summary matrix included in Table 1 of UDP's 2021 White Paper that summarizes and evaluates anti-displacement policies in terms of their effectiveness, market type, implementation scale, and timeframe.[63] All of these strategies are focused on residential anti-displacement strategies, which is the focus of this research paper.

[60] https://www.gwern.net/docs/economics/2020-pennington.pdf

[61] https://citymonitor.ai/housing/how-does-new-construction-affect-nearby-housing-prices

[62] https://www.urbandisplacement.org/wp-content/uploads/2021/08/19RD018-Anti-Displacement-Strategy-Effectiveness.pdf

[63] Ibid.

Figure E-1 Literature Review Summary Table

Table 1 From UDP White Paper on Anti-Displacement Strategy Effectiveness

TABLE 1: LITERATURE REVIEW SUMMARY TABLE

Category	Policy Name	Literature Coverage Level	Potential to Prevent Displacement*	Market Type**	Implementation Scale	Timeframe to Prevent Displacement
Production	Housing Production	HIGH	HIGH+	Strong	Local, State	Long-term
Production	Inclusionary Zoning + Developer Incentives	MEDIUM	MEDIUM	Strong	Local, State	Long-term
Production	Accessory Dwelling Units	LOW	MEDIUM	Neutral	Local, State	Long-term
Production	Impact + Linkage Fees	MEDIUM	LOW	Strong	Local	Long-term
Production	Housing Overlay Zones	LOW	MEDIUM	Strong	Neighborhood, Local	Long-term
Production	Land Value Recapture	LOW	LOW	Strong	Local, State	Long-term
Preservation	Unsubsidized Affordable Housing	LOW	HIGH	Neutral	Local, State	Short-term
Preservation	Federally-Funded Housing Developments	MEDIUM	MEDIUM	N/A	Local, Federal	Short-term
Preservation	Housing Rehabilitation	MEDIUM	LOW	N/A	Local, State, Federal	Short-term
Preservation	Condominium Conversion Restrictions + Tenant Opportunity to Purchase	MEDIUM	MEDIUM	Strong	Local	Short-term
Preservation	Community Control of Land	LOW	HIGH	Neutral	Neighborhood, Local	Short-term
Neighborhood Stabilization	Rent Control	HIGH	MEDIUM	Strong	Local, State	Short-term
Neighborhood Stabilization	Community Benefits Agreements	MEDIUM	LOW	Strong	Neighborhood, Local, State	Long-term
Neighborhood Stabilization	Rental Assistance Programs	MEDIUM	HIGH	Neutral	Local	Short-term
Neighborhood Stabilization	Foreclosure Assistance	MEDIUM	HIGH	Neutral	Local, State, Federal	Short-term
Neighborhood Stabilization	Tenant Right to Counsel	MEDIUM	HIGH	Strong	Local	Short-term
Neighborhood Stabilization	"Just Cause" Evictions	MEDIUM	HIGH	Strong	Local	Short-term

** Potential: If we adopt this policy, how likely is it that displacement will be reduced directly or indirectly?*
*** For some policies, a strong market is necessary for feasibility, while for others, it makes them more effective.*
+ Although both market-rate and subsidized housing production may successfully reduce indirect displacement, the effectiveness of a particular development depends on its context and scale.

Source: https://www.urbandisplacement.org/wp-content/uploads/2021/08/19RD018-Anti-Displacement-Strategy-Effectiveness.pdf

6. Summary of Supplemental Cultural Displacement Research

Researchers utilize different definitions for cultural displacement, which makes it difficult to analyze and draw conclusions from these research efforts. For example, some researchers that have studied cultural displacement exclusively focus on residential displacement impacts on specific racial and ethnic groups, such as Black or African American and Hispanic or Latino households, as they typically have the lowest incomes and may live in areas that have higher concentrations of their racial and ethnic groups. Others focus on how gentrification and displacement may affect commercial businesses and/or cultural characteristics of neighborhoods associated with a particular race, ethnicity, or other marginalized group. While research regarding gentrification and displacement discusses the types of changes that may occur to the cultural fabric of the neighborhood, this research is typically focused on a specific neighborhood or set of neighborhoods, and very few studies have analyzed neighborhoods in San Francisco.

Most of the relevant research that has been prepared focuses on the potential impacts of gentrification on residents or commercial displacement of local businesses. No directly comparable research studies were found that analyzed cultural displacement impacts for San Francisco neighborhoods like SoMa or cultural assets such as those in the SOMA Pilipinas Filipino Cultural Heritage District, although several research studies recommend anti-displacement measures to address impacts from cultural displacement, gentrification and other forms of neighborhood change.

a. Commercial Gentrification and Displacement

While researchers have given significant attention to the dramatic changes that gentrification and residential displacement bring, the phenomenon of commercial change remains relatively unexplored. This may be in part because business turnover—or churn—is a common sight, so the changes lack the novelty of residential displacement. Because of the understudied nature of commercial gentrification and displacement, interesting questions remain about their relationship with residential change and how commercial gentrification affects existing businesses and residents.[64]

- Researchers find it difficult to unpack the mechanism by which commercial gentrification relates to residential gentrification or which (if either) comes first. Indeed, changes in commercial districts have been noted as both a causal factor of and an outcome of residential demographic change. Rather than sort out this "chicken and egg" question, some researchers suggest that commercial and residential gentrification work together and are complicated to disentangle.
- In commercial districts, gentrification and displacement are at their most visible. Few miss the intrusion of new businesses that force out favorite local stores because of higher rents, or the influx of hip cafés, trendy retail boutiques, and art galleries—places that change the meaning of a neighborhood for better or worse.
- While commercial gentrification can also transform a neighborhood's meaning, research is mixed on whether it is positive or negative for existing residents and businesses.
- Gentrification has implications for the economic survival and growth of businesses as well as impacts on existing residents, including those who own local businesses.
  - Increased rents may lead to displacement and business closures, although research indicates that it is challenging to detect the extent to which business loss stems from displacement because of rent increases, as businesses open and close regularly for a variety of reasons.

[64] https://mitpress.mit.edu/books/transit-oriented-displacement-or-community-dividends (See Chapter 7, Commercial Gentrification and Displacement, which is summarized in this section.)

- Increased foot traffic and buying power from new residents, workers or visitors may expand the local customer base, increase business revenues, facilitate business growth, or enable existing businesses to pay higher rents.
  - A growing customer base may attract much-needed businesses, goods and services to residents of "retail deserts," particularly if these new businesses fulfill immediate, every day needs.
  - Local residents may also benefit from expanded job and business opportunities, although there is the risk that local entrepreneurs, including owners of minority-owned businesses, may be negatively impacted by rising rents and/or a shifting customer base.
- Cultural displacement of a neighborhood—defined at least partly by the mix of shops and restaurants—is another often-cited critique of gentrification. Recent research provides only mixed support for this concern.[65]
  - Small businesses do not appear to be at heightened risk of displacement from gentrifying neighborhoods, and retention rates among small businesses are generally higher than exit rates in both gentrifying and non-gentrifying neighborhoods. However, gentrifying neighborhoods have a somewhat higher share of businesses that leave without any replacement.
  - When businesses are replaced, they are generally in a different sector than the original, with the highest gains in businesses providing services, such as art and entertainment venues and employee placement services, and losses in goods-producing industries, such as manufacturing.

b. Pandemic's Impact on Minority Owned Business

Recent UDP research indicates that the COVID pandemic has affected minority owned businesses that are owned by people of color (POC) as defined by UDP. These businesses were disproportionately affected by the pandemic because they are likely to be concentrated in industries immediately affected by the pandemic (including arts and entertainment, personal services, construction, and restaurants). These businesses are also facing systemic inequalities that make it difficult to stay afloat.[66]

- About 29% of Bay Area businesses are estimated to be minority owned businesses, with the majority concentrated in San Francisco (37%) followed by Oakland (29%) and San Jose (26%). Most are concentrated within predominantly POC neighborhoods and within ethnic business districts.
- Approximately one-third of minority owned businesses identified across the six cities studied own their commercial properties. Property ownership rates are relatively consistent across minority groups ranging from 34% for Black-owned businesses and 38% for Latinx-owned businesses.
- Food and beverage services has the lowest owner-occupancy rate at 30%, which means that 70% of food and beverage services businesses rent their current premises. Therefore, food and beverage services are likely to be at greater risk of displacement if rents were to increase, for example.
- This study highlights programs being undertaken in Bay Area cities to help small businesses and recommends strategies to help business owners, many of which are similar to the anti-displacement strategies referenced in other UDP research and included in the Community Stabilization report.

[65] https://www.huduser.gov/portal/sites/default/files/pdf/displacementreport.pdf

[66] UDP, Schmahmann, Laura et al, Mapping POC-owned Business Vulnerability in the Wake of COVID-19, December 2021. https://www.urbandisplacement.org/wp-content/uploads/2022/01/UDP-Business-Vulnerability-Report-Final.pdf

c. Cultural Anti-Displacement Strategies

Impacts from cultural displacement and gentrification are best addressed by undertaking anti-displacement and community stabilization strategies that are designed to preserve and stabilize cultural, community, arts and business organizations. In the research reviewed, including the findings from the City's Community Stabilization Report and UDP's research, cultural anti-displacement strategies build upon and leverage strategies and programs that promote equitable development, environmental justice and smart growth, collectively referred to as cultural anti-displacement strategies in this report.

The U.S. Department of Housing and Urban Development (HUD) Office of Policy and Research has sponsored research regarding displacement and gentrification, which presents the following strategies to address cultural displacement impacts based on case studies from communities across the nation:[67]

- Engage existing community residents and organizations
- Provide support for community-led organizations
- Retain existing neighborhood businesses by assisting small business owners
- Help families achieve economic self-sufficiency, by connecting priority populations to targeted employment, preparing them for long-term success and by providing affordable childcare
- Improve access to quality education through early learning centers, adult education and services for the youth and arts, and stimulating economic development
- Support healthy environments through services by providing medical care, food and nutrition, and services for seniors

The U.S. Environmental Protection Agency (EPA) recommends strategies to advance environmental justice, smart growth, and equitable development, which are grouped into common elements and are also focused on minimizing displacement:[68]

- Facilitate meaningful community engagement in planning and land use decisions
- Promote public health and a clean and safe environment
- Strengthen existing communities
- Provide housing choices and transportation options
- Improve access to opportunities and daily necessities
- Preserve and build on the features that make a community distinctive

The most relevant research report regarding anti-displacement strategies that can help preserve Asian Pacific American culture including Filipino culture was prepared by the National Coalition for Asian Pacific American Community Development & Council for Native Hawaiian Advancement, which compiled 24 anti-displacement strategies with case study examples of their effectiveness to address impacts on the Asian American and Pacific Islander (AAPI) communities.[69] Several of the featured case study strategies are being successfully deployed in San Francisco and other Bay Area cities.

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[67] https://www.huduser.gov/portal/sites/default/files/pdf/displacementreport.pdf

[68] https://www.epa.gov/smartgrowth/creating-equitable-healthy-and-sustainable-communities

[69] National Coalition for Asian Pacific American Community Development & Council for Native Hawaiian Advancement, Asian American and Pacific Islander (AAPI) Anti-Displacement Strategies, May 2016 https://www.nationalcapacd.org/wp-content/uploads/2017/08/anti_displacement_strategies_report.pdf

- One featured strategy being deployed in San Francisco is the in-language tenant counseling program to prevent evictions provided by the Bill Sorro Housing Program of the Veteran's Equity Center (VEC) located in SoMa and focused on the Filipino community. This program serves 1,000 tenants, predominantly Filipino elders and families, with counseling and a weekly drop-in clinic. Bilingual counselors help seniors apply for housing opportunities, and help tenants fight unfair evictions and rent increases through a care-giving case management approach that is culturally appropriate and holistic. VEC has also been part of a coalition that helped pass stronger eviction protections in addition to "just cause eviction" and rent control in San Francisco, which includes requiring that a substantial violation be stated in eviction notices with a tenant chance to cure violations.
- A second featured strategy focuses on helping residents in Chinatown. The Chinese Progressive Association of San Francisco (CPA SF), in partnership with the Chinatown Community Development Center's SRO Organizing Project, has organized residents in Chinatown's SROs, first providing much-needed services to about 475 families and then working with families to organize for better living conditions, fight unjust evictions, and advocate for systemic policies. CPA SF uses a peer organizer model, where SRO residents work part-time to outreach to other families to provide resources and information and operate as a member-led organization. CPA SF focuses on developing career pathways and training programs for workers and is advocating for a Beacon Center to help children in SROs succeed in school toward living wage jobs to be able to move to better housing.

The report also recommends a series of national anti-displacement strategies, which include strategies to be implemented at the local level, several of which are underway in San Francisco:

- Create a Cultural District designation that implements a series of protections for neighborhoods which serve as economic survival hubs for low-income and otherwise marginalized communities
- Invest in housing preservation through tenant services and education and acquisition for permanent affordability to stabilize housing stock
- Create funding incentives for cities to establish inclusionary zoning and rent control to ensure diverse cities and fair access to housing, particularly for family units with multiple bedrooms
- Encourage cities to prioritize at least 50% use of public land for affordable housing in hot markets.

The anti-displacement strategies recommended in these research reports were combined with strategy recommendations from the City's community stabilization and affordable housing reports to inform the following cultural anti-displacement strategies that are further described in Chapter H and complement the residential anti-displacement strategies:

- Community, arts and cultural stabilization (including the Cultural Districts Initiative)
- Business and workforce stabilization (including business retention and workforce development)

F. Neighborhood Conditions

As described earlier, the Proposed Project is located in the South of Market neighborhood about one block south of the Tenderloin neighborhood. These two neighborhoods are collectively referred to as the Surrounding Area, as they include the surrounding areas that may be most affected by the Proposed Project. This chapter of the report summarizes and compares existing neighborhood conditions in the Surrounding Area to the City as a whole, and it also compares housing conditions in the Surrounding Area, One Mile Radius and the City as a whole. (See section C.4 for further information about the geographic areas used in the analysis presented in this report.)

This review of neighborhood conditions evaluates changes that have occurred in the Surrounding Area over the past two decades to inform the analysis of gentrification and displacement. As defined earlier, gentrification occurs when there is a broad pattern of neighborhood change typically characterized by increases in the number of higher income households and rapid increases in home values and/or rents over an extended period of time, for example ten years or more. The extent to which gentrification is linked to racial transition and other socioeconomic indicators differs across neighborhood contexts. Thus, this section of the report presents relevant housing and socioeconomic data regarding neighborhood and housing conditions prior to development of the Proposed Project, as well as describes anticipated future growth of affordable and market rate housing in the development pipeline.

1. Summary of Key Findings on Neighborhood Conditions

In summary, this analysis of neighborhood conditions and housing market trends finds that recent trends in population and housing have contributed to substantial neighborhood change in the Surrounding Area:

- Population and housing units have grown at a much faster pace in the Surrounding Area as compared to the City for the past two decades. Due to the large growth in housing since 2000, an increasing share of the City's housing is in the Surrounding Area (about 9% of citywide units as of 2020).
  - The Surrounding Area has a much higher percentage of renters than the City (about 90% in the Surrounding Area compared to 62% citywide in 2020). Renters, particularly lower income renters, are often more susceptible to displacement.
- About 3,500 affordable units were produced between 2005 to 2021 in the Surrounding Area, which represents about 27% of all units produced during that period in the Surrounding Area. About 70% of the affordable units produced since 2005 in the Surrounding Area are in 100% affordable housing developments while about 30% are in mixed income developments with onsite inclusionary units.
- The increase in production of both affordable and market rate housing in the Surrounding Area and One Mile Radius have contributed to neighborhood change as a diverse mix of new households at all income levels have occupied the new housing that has been built.
- Many existing residents in the Surrounding Area are protected from displacement. As of 2021, about three-quarters of housing units (about 27,000 units) in the Surrounding Area are "protected units," which consist of affordable units subject to regulatory agreements or units in older buildings (including apartments and SROs) that are subject to rent control. The Surrounding Area has a much higher proportion of protected units (75%) compared to the citywide average of 50%.
  - A substantial proportion of the "unprotected units" in the Surrounding Area are new market rate units that were built since 2005 (about 9,300 units), many of which are market rate apartments.
- Average rents for market rate apartments in the Surrounding Area are relatively more affordable than average rents citywide, which is partially due to the smaller average size of units compared to the

citywide average. While the rental market in the City is starting to recover since the pandemic, market rents as of Spring 2022 in the Surrounding Area and the City are still below 2019 market rent levels.

  - While a moderate or above moderate income household can afford the average market rent in the Surrounding Area, a lower income household cannot afford average market rents.
  - Average rents have not increased as rapidly in the Surrounding Area compared to what has occurred in the City and the One Mile Radius from 2000 to 2022, indicating the relative affordability of the Surrounding Area. Furthermore, average rents in the Surrounding Area have increased at a much slower rate than inflation over the past decade.

- Correlated with the large proportion of affordable housing and rent controlled units, about two thirds (67%) of households within the Surrounding Area have incomes below $75,000 (considered lower income households), which includes low, very low and extremely low income households.
  - The Surrounding Area has a higher proportion of lower income households with incomes below $75,000 compared to the City and a lower proportion of above moderate income households earning at least $150,000.
- The population of all racial and ethnic groups has grown in the Surrounding Area between 2000 to 2020, which indicates that the new residents who have moved to the Surrounding Area are culturally diverse. The Asian population experienced the largest increase in population in the Surrounding Area, followed by the Hispanic/ Latino population during this time period.
  - The Surrounding Area has maintained its diverse population, with about three quarters of residents being people of color as of 2020, which is a higher proportion than the City as a whole.
  - Similar to the City, the Asian population represents the largest share of population in the Surrounding Area. The Surrounding Area has higher proportions of residents that identify as Black or African American and as Hispanic or Latino than the city as a whole.
- Based on an analysis of the best available data from the US Census on the Filipino population from 2000 to 2020, the size of the Filipino population has likely remained stable or grown over the past two decades in the Surrounding Area, and the Surrounding Area has a higher proportion of Filipino residents (about 8.7%) compared to the City average (about 5.2%) in 2020.[70]
- As described above, a large proportion of existing residents in the Surrounding Area are protected from displacement as they live in affordable housing or in buildings subject to rent control.
- New development of affordable housing within the Surrounding Area and the One Mile Radius will provide additional affordable housing resources in both 100% affordable housing developments and as inclusionary housing units within new mixed income developments.
  - About 3,800 new affordable housing units (exclusive of ADUs) are in the housing pipeline to be built within the One Mile Radius, including about 2,600 new affordable units within the Surrounding Area.
  - About 29% of all units in the housing pipeline within the Surrounding Area are affordable units, which is a higher percentage than in the City and the One Mile Radius.

[70] The US Census Bureau has not yet released 2020 Census data regarding the distribution of the Asian population by ethnicity, including Filipino. As further described in this chapter, historical 2000 and 2010 Census data on the Filipino population is compared with estimates of the 2020 Filipino population that were prepared using 2020 Census population data in combination with survey data regarding the proportion of the Filipino population in the Surrounding Area from the 2020 American Community Survey. The Filipino population estimate for 2020 indicates that the Filipino population has likely remained relatively stable or grown from 2000 to 2020 in the Surrounding Area, although it may have declined since 2000 if the 2020 Filipino population estimate is overstated.

2. Population and Housing Growth Over Past Two Decades

Both the City and the Surrounding Area have experienced substantial growth in population and housing over the past two decades, as shown in Table F-1. According to recently released data from the US Census, the 2020 population in San Francisco was about 874,000, which is an increase of about 97,000 people since 2000, with most of the growth (about 69,000 people) occurring between 2010 to 2020. While housing has increased citywide by about 60,000 housing units from 2000 to 2020 to about 407,000 units, citywide housing growth was almost evenly split between the two decades, which may have contributed to pent up housing demand from the City's significant population increase since 2010.

Table F-1 Comparison of Population and Housing Growth From 2000 to 2020 in Surrounding Area and San Francisco

	Surrounding Area			Change Between 2000-2020	
Demographic Summary	**2000**	**2010**	**2020**	**Difference**	**Percent Change**
Population	43,025	51,431	64,573	21,548	50%
Housing Units	24,014	30,786	36,720	12,706	53%
Households	22,194	27,261	32,637	10,443	47%
Renter Households*	21,174	24,957	29,504	8,330	39%
Percent Renter Households*	*95%*	*92%*	*90%*	*-5%*	*-5%*
	City of San Francisco			**Change Between 2000-2020**	
Demographic Summary	**2000**	**2010**	**2020**	**Difference**	**Percent Change**
Population	776,733	805,235	873,965	97,232	13%
Housing Units	346,527	376,942	406,628	60,101	17%
Households	329,700	345,811	371,851	42,151	13%
Renter Households*	214,385	222,165	230,480	16,095	8%
Percent Renter Households*	*65%*	*64%*	*62%*	*-3%*	*-5%*
Share of Housing in Surrounding Area	*7%*	*8%*	*9%*	*21%*	*N/A*

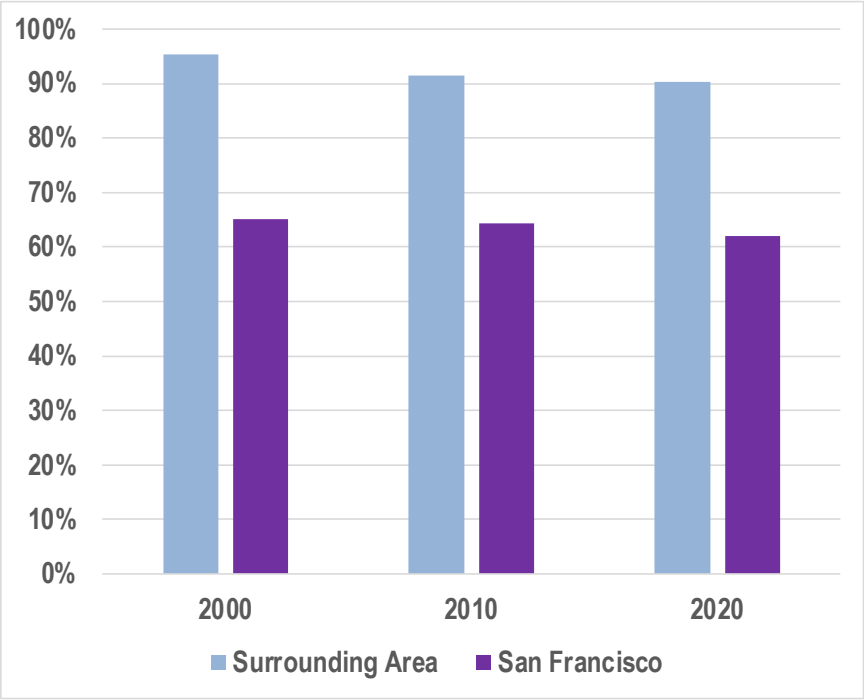
* Renter household data is not yet available from the 2020 Census as of August 2022. Thus, the number of renter households for 2020 is estimated based on the percentage of renter households in SoMa, Tenderloin and San Francisco based on data from the 2020 5-Year ACS.

Source: U.S. Decennial 2000, 2010 and 2020 Census and 2020 5-Year American Community Survey (ACS).

Population and housing units have grown at a much faster pace in the Surrounding Area compared to the City for the past two decades. Due to the large growth in housing since 2000, an increasing share of the City's housing is now located in the Surrounding Area. The Surrounding Area has about 37,000 housing units in 2020, which represents about 9% of all housing units in the City (up from a 7% share in 2000). From 2000 to 2020, 21% of the citywide growth in housing units occurred in the Surrounding Area according to the US Census.

The Surrounding Area continues to have a much higher percentage of renters than the City (about 90% in 2020 in the Surrounding Area compared to 62% citywide). Renters, particularly lower income renters, are often more susceptible to displacement, although those who live in affordable housing subject to regulatory agreements or live in units that are protected by rent control are less vulnerable to displacement, as further discussed in Section F.4 below.

Graph F-1 Percent of Renter Households From 2000 to 2020 in Surrounding Area and San Francisco



Source: U.S. Decennial 2000 and 2010 Census and 2020 5-Year American Community Survey (ACS).

3. Housing Production

As indicated in the Housing Element 2022 Update,[71] most of the City's housing growth since 2005 (also referred to as housing production) has occurred in the eastern parts of San Francisco, including areas within the Surrounding Area and One Mile Radius, as illustrated in Figure F-1 below.[72] (Geocoded housing production data by neighborhood and housing type is only available from 2005 onward.)[73]

These recent patterns of housing growth are consistent with City policies to focus and intensify housing growth along transit corridors and near the City's growing centers of employment. This substantial new housing growth from both affordable and market rate housing has contributed to neighborhood change in the Surrounding Area and One Mile Radius, which has occurred prior to development of the Proposed Project and is thus considered an existing condition.

[71] The figures shown in this chapter have been prepared based on working draft documents of the Housing Element Update and updated maps provided by the Planning Department. https://www.sfhousingelement.org/draft-housing-needs-assessment-and-assessment-fair-housing

[72] According to the 2020 Census and illustrated on the figures in this chapter, the Proposed Project is located in census tract 176.02 and within block group 2 of census tract 176.02, which is referred to as the "Project Area." These figures also indicate the location of the Surrounding Area (consisting of the South of Market and Tenderloin Analysis Neighborhoods) and the One Mile Radius surrounding the Proposed Project. Please refer to section C4 for further information on these geographies.

[73] The geocoded housing production data is based on net housing units, which represent the net increase of housing units without counting existing housing units that were replaced on the site.

According to updated geocoded housing production data provided by the Planning Department and MOHCD for this analysis, more than half of the City's housing growth from 2005-2021 has occurred within the One Mile Radius, while about one quarter of the City's housing growth occurred within the Surrounding Area, as shown in Table F-2 below.[74] Housing growth (units produced) since 2005 is based on the net increase of housing units without counting existing housing units that were replaced on the site.

Table F-2 Distribution of Housing Growth From 2005 to 2021 by Affordability and Geographic Area

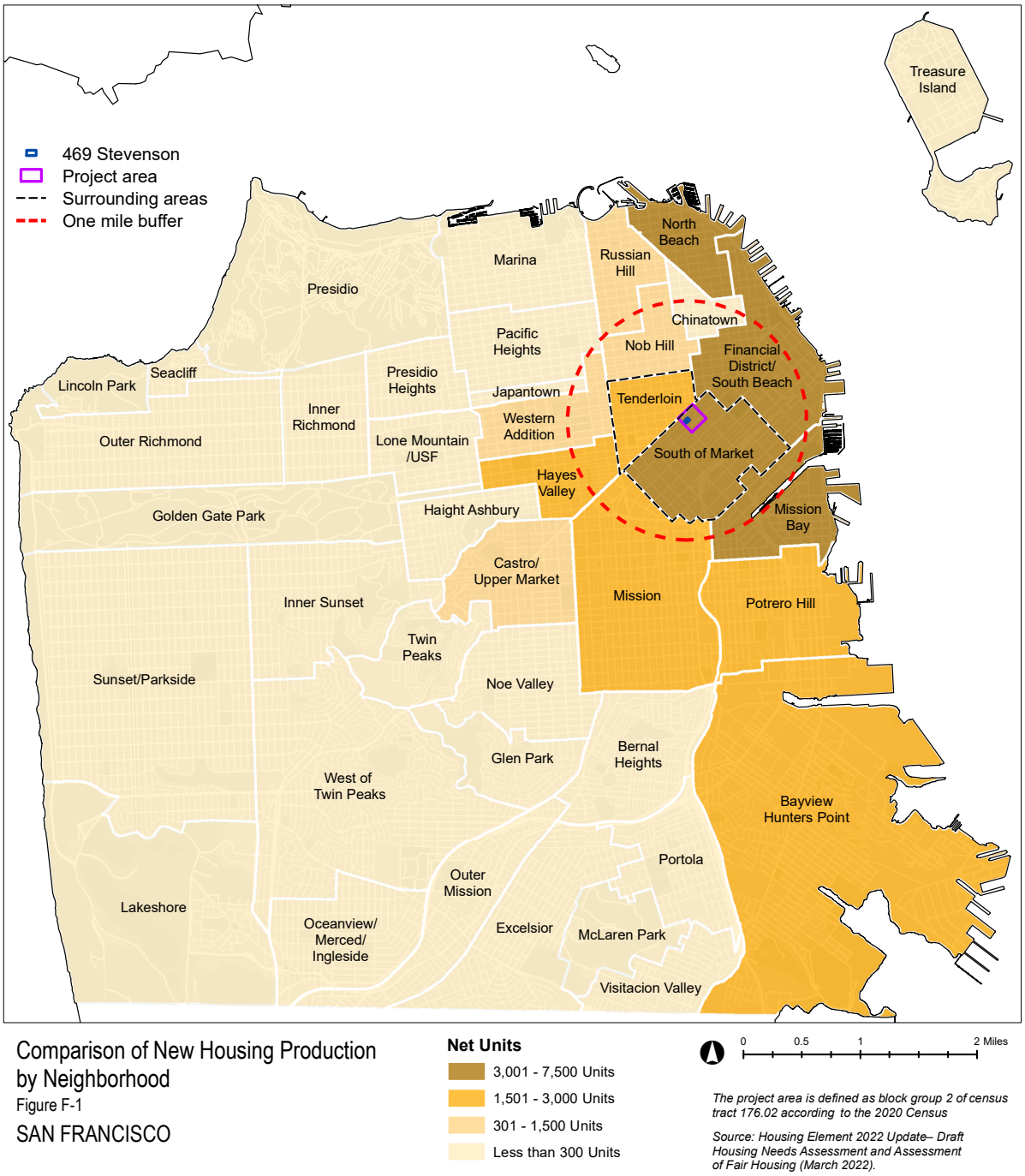
Production (Units Completed 2005-2021)	South of Market	Tenderloin	**Surrounding Area**	Remaining One Mile Radius	**One Mile Radius**	Remaining City Areas	**San Francisco**
100% Affordable Housing Units	1,412	955	**2,367**	1,489	**3,856**	4,964	**8,820**
Inclusionary Housing Units	865	218	**1,083**	1,301	**2,384**	1,259	**3,643**
Total (Net) Affordable Units	**2,277**	**1,173**	**3,450**	**2,790**	**6,240**	**6,223**	**12,463**
Affordable Units as Percent of Total (Net) Units in Geographic Area	*24%*	*35%*	***27%***	*19%*	***23%***	*25%*	***24%***
Affordable Units as Percent of Citywide Affordable Units Produced	*18%*	*9%*	***28%***	*22%*	***50%***	*50%*	***100%***
Accessory Dwelling Units (ADU)	9	10	**19**	39	**58**	1,108	**1,166**
Affordable Units (With ADUs)	**2,286**	**1,183**	**3,469**	**2,829**	**6,298**	**7,331**	**13,629**
Market Rate Units	7,145	2,128	**9,273**	11,717	**20,990**	17,952	**38,942**
Total (Net) Units Produced	**9,431**	**3,311**	**12,742**	**14,546**	**27,288**	**25,283**	**52,571**
Total (Net) Units in Geographic Area as Percent of Citywide Units Produced	*18%*	*6%*	***24%***	*28%*	***52%***	*48%*	***100%***

Note: Market rate developments may provide affordable inclusionary units on site or may choose alternative means of compliance that include providing units within 100% affordable housing developments, payment of in-lieu fees and/or land dedication. Housing growth or production of housing since 2005 is based on the net increase of housing units without counting existing housing units that were replaced on the site.

Source: San Francisco Planning Department, Mayor's Office of Housing and Community Development.

[74] As indicated in Table F-1, about 21% of the City's housing growth occurred in the Surrounding Area between 2000 to 2020, which is generally consistent with the share of housing growth reported for 2005 to 2021 in Table F-2.

Figure F-1 Comparison of New Housing Production by Neighborhood in San Francisco



Source: Housing Element 2022 Update– Draft Housing Needs Assessment and Assessment of Fair Housing (March 2022).

Table F-2 also shows the amount of housing growth– total (net) units produced– in each of the defined geographic areas within the City.[75]As further described below, total (net) housing production since 2005 in the One Mile Radius was about 27,000 units out of about 53,000 units produced citywide.

A substantial portion of this housing growth is attributable to the production of affordable housing that is affordable to very low, low and moderate income households based on Areawide Median Income (AMI) according to the following definitions that are used by Federal and State governments:[76]

- **Very low income households (VLI)–** incomes between 0% and 50% of AMI.
  - VLI includes extremely low income households (ELI) with incomes between 0%–30% of AMI.
- **Low income households (LI)** – incomes between 50% and 80% of AMI.
  - Lower income households include all households that are extremely low, very low or low income.
- **Moderate income households (MOD)** – incomes between 80% and 120% of AMI.

d. Affordable Housing Production Since 2005

About 6,300 units of affordable housing have been produced within the One Mile Radius since 2005, of which more than half has been built within the Surrounding Area (about 3,500 units). About 27% of units produced since 2005 in the Surrounding Area are affordable housing units, which consist of the following types of affordable units:

- **100% affordable housing units–** These affordable units are located within affordable housing developments where all units (other than those reserved for onsite property management) are subject to long term regulatory restrictions typically restricting their occupancy to lower income households, with a focus on very low and extremely low income households.[77]
  - About 2,400 units produced in the Surrounding Area out of about 3,900 units produced in the One Mile Radius are located in 100% affordable housing developments.
- **Inclusionary housing units**– These affordable units are onsite inclusionary units within mixed income developments that are subject to long term regulatory restrictions typically restricting their occupancy to lower and moderate income households.
  - About 1,100 inclusionary units have been produced in the Surrounding Area out of about 2,400 inclusionary units in the One Mile Radius.

[75] Refer to section C-4 for further information regarding the definitions and boundaries for the geographic areas (i.e., South of Market, Tenderloin, Surrounding Area and One Mile Radius) used in the tables and graphs in this chapter. "Remaining One Mile Radius" refers to the remaining area within the One Mile Radius outside of the Surrounding Area. "Remaining City Areas" refers to the remaining area outside of the One Mile Radius in the City.

[76] The U.S. Department of Housing and Urban Development (HUD) and State of California Department of Housing and Community Development (HCD) define households by Area Median Income (AMI) level. AMI is the midpoint of the household income distribution, which means that 50% of the households in San Francisco earn less than the AMI while the remaining 50% of households earn more.

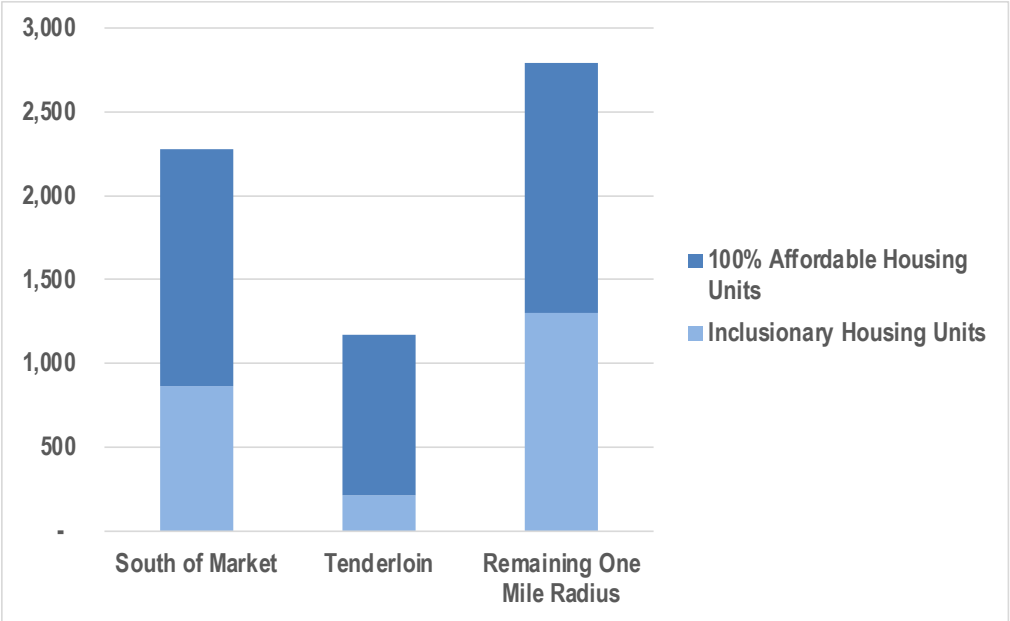
[77] 100% affordable housing developments are generally built by non-profit developers and usually require public subsidies. A high proportion of these developments in the City are rental developments that have been funded using Federal and/or State Low Income Housing Tax Credits, which limit occupancy to lower income households and include a large proportion of ELI and/or VLI households.

As illustrated in Graph F-2 below, most of the 6,300 units of affordable housing that have been completed within the One Mile Radius since 2005 have been built in the Surrounding Area:

- **Surrounding Area**– About 3,500 affordable units (56%) have been built in the Surrounding Area, which consists of 2,300 affordable units in SoMa and 1,200 affordable units in the Tenderloin.
  - About 70% of the affordable units produced in the Surrounding Area are located in 100% affordable housing developments.
- **Remaining One Mile Radius**– About 2,800 affordable units were built in the remaining areas within the One Mile Radius (outside of the Surrounding Area).
  - About half of the affordable units produced in the Remaining One Mile Radius are located in 100% affordable housing developments.

As indicated above in Table F-2, about half of the affordable units that have been produced in the City since 2005 are located within the One Mile Radius, while about 28% of affordable units have been produced in the Surrounding Area. While the City's production of affordable housing has been similarly focused on these geographic areas, the Surrounding Area has produced a higher share of affordable units compared to both the One Mile Radius and the City.[78]

Graph F-2 Comparison of Affordable Units Produced From 2005 to 2021 Within One Mile Radius



Source: San Francisco Planning Department, Mayor's Office of Housing and Community Development.

[78] As previously shown in Table F-2 above, 52% of the City's total (net) housing production from 2005-2021 has occurred within the One Mile Radius, while about 24% of the City's total (net) housing production occurred within the Surrounding Area.

e. Accessory Dwelling Unit Production Since 2005

As the result of State Legislation designed to expand housing production throughout California, Accessory Dwelling Units (ADUs) represent a growing share of housing growth in cities across the State. While about 1,200 ADUs have been produced in the City since 2015, only a very small number are located within the Surrounding Area and One Mile Radius:

- **Accessory Dwelling Units (ADUs)–** Accessory Dwelling Units are units added to existing and new residential buildings, which are also called secondary units, in-law units, or cottages. ADUs may or may not be subject to rent restrictions and are typically affordable to lower to moderate income households, which means that they may be considered affordable housing for the City's RHNA.
  - Only about 20 ADUs have been produced in the Surrounding Area out of about 60 ADUs in the One Mile Radius so ADUs have not significantly contributed to affordable housing in these areas, while they represent a significant proportion of affordable units developed elsewhere in the City.

f. Market Rate Production Since 2005

New market rate development has produced about 21,000 market rate apartments and condominiums in the One Mile Radius since 2005, of which about 9,300 units were built in the Surrounding Area:

- **Market rate units–** Recently built units are not subject to long term regulatory restrictions that restrict their occupancy and affordability to certain household income groups, although older units are often subject to rent restrictions. Market rate units are typically affordable to moderate or above moderate income households, although some units can be affordable to lower income households.
  - **Above moderate income households (Above MOD)** are households with incomes above 120% of AMI.

The substantial increase in production of both affordable and market rate housing in the Surrounding Area and One Mile Radius have contributed to neighborhood change as a diverse mix of new households at all income levels have occupied the new housing that has been built.

4. Protected Units of Housing

According to recent geocoded housing data provided by the Planning Department and MOHCD, about three-quarters (75%) of housing units in the Surrounding Area are either affordable housing units or protected by rent control, collectively referred to as "protected units" that consist of the following:

- **Affordable housing units**– These units are subject to long term regulatory restrictions that restrict their occupancy and affordability to households of very low, low and moderate income within 100% affordable housing developments or as inclusionary units within mixed income developments.[79]
- **Rent controlled apartment units**– These units are located in older residential buildings that are apartments or flats that are subject to the City's Residential Rent Stabilization and Arbitration Ordinance, which provides a series of protections for existing tenants including annual limitations in rent increases, rent arbitration, just cause eviction, tenant petitions, and tenant/landlord mediation.[80]

[79] As described earlier, only about 60 ADUs have been produced in the One Mile Radius since 2005. Although considered affordable units, ADUs do not represent a significant portion of protected units.

[80] The San Francisco Rent Ordinance (SF Administrative Code, Chapter 37) was enacted effective June 13, 1979 by the Board of Supervisors and signed by the Mayor as emergency legislation to alleviate the city's housing crisis, which has been amended since then numerous times. https://sfrb.org/sites/default/files/600 Ordinance 7-18-22.pdf

- **Single Room Occupancy (SRO) units**– These units are located in older residential hotels that are certified for residential occupancy and subject to the Residential Hotel Unit Conversion Ordinance (HCO), which preserves these units by preventing the loss of residential hotel units through conversion to tourist rooms or demolition.[81] SRO units that have been occupied by the same tenant for 32 or more continuous days are also subject to the Rent Stabilization and Arbitration Ordinance.

Protection of a housing unit is targeted at the unit, not the individual or household. For example, protected units does not mean an individual or a household living in a protected unit is protected from eviction. All other units not classified within the three categories defined above are referred to as "unprotected" units.[82] Table F-3 summarizes and compares the number of protected units within the three geographies, which indicates the following:[83]

- **Surrounding Area**– The Surrounding Area has about 37,000 housing units, of which about 27,000 housing units are protected (75%), which is a much higher percentage than in the City and higher than the One Mile Radius.
  - The Tenderloin has a greater number of housing units than SoMA, and most of the protected units in the Surrounding Area are located in the Tenderloin, which has higher numbers of affordable housing, rent controlled apartments, and SRO units than SoMa.
- **One Mile Radius**– The One Mile Radius has about 84,000 housing units, of which about 57,000 housing units are protected (68%), which is a much higher percentage than in the City.
- **San Francisco**– The City has about 407,000 housing units, of which about 203,000 units are protected (50%), a much lower percentage than in the Surrounding Area and One Mile Radius.

Table F-3 Distribution of Protected Units by Geographic Area as of December 2021

Protected Units	South of Market	Tenderloin	**Surrounding Area**	Remaining One Mile Radius	**One Mile Radius**	Remaining City Areas	**San Francisco**
Affordable Housing Units	4,719	6,163	**10,882**	4,997	15,879	20,012	35,891
Rent Controlled Apartment Units*	1,520	6,717	**8,237**	19,192	27,429	120,053	147,482
SRO Units*	2,010	6,277	**8,287**	5,163	13,450	5,695	19,145
Protected Units	**8,249**	**19,157**	**27,406**	29,352	**56,758**	145,760	**202,518**
Protected Units as Percent of Total Units in Geographic Area	*52%*	*92%*	***75%***	*62%*	***68%***	*45%*	***50%***
Prototected Units as Percent of Citywide Protected Units	*4%*	*9%*	***14%***	*14%*	***28%***	*72%*	***100%***
Total Units (per 2020 Census)	**15,913**	**20,807**	**36,720**	46,988	**83,708**	322,920	**406,628**
Total Units in Geographic Area as Percent of Citywide Total Units	*4%*	*5%*	***9%***	*12%*	***21%***	*79%*	***100%***

* Rent controlled apartment units include multifamily units in apartment buildings and flats. SRO units include single room occupancy units in residential hotels or other types of SRO buildings that are subject to rent control. In addition to rent controlled apartment and SRO units, other housing types may be subject to rent control, such as live work units, but they represent a small number of rent controlled units in the Surrounding Area and are not reflected in this table or analyzed in this report.

Source: San Francisco Planning Department, Mayor's Office of Housing and Community Development. U.S. Decennial 2020 Census.

[81] The Residential Hotel Unit Conversion and Demolition Ordinance (HCO) is to preserve affordable housing by preventing the loss of residential hotel units through conversion or demolition, and to prevent the displacement of low income, elderly, and disabled persons. https://sfdbi.org/sites/default/files/Chapter 41.pdf

[82] In addition to rent controlled apartment and SRO units, other housing types may be subject to rent control, such as live work units, but they represent a small number of rent controlled units in the Surrounding Area and are not analyzed in this report.

[83] US Census 2020 data is the most recent information available regarding the number of housing units in the City and each of these geographies, which is used for this analysis based on guidance from the Planning Department.

Graph F-3 graphically compares the percentage distribution of protected units in the Surrounding Area, One Mile Radius and the City. As it illustrates, the Surrounding Area has a higher proportion of protected units than the rest of the City of San Francisco. While about one quarter of units are unprotected in the Surrounding Area, market rate units built since 2005 represent a substantial share of these unprotected units. As shown previously in Table F-2, about 9,300 market rate units were built from 2005 to 2021 in the Surrounding Area, which are typically rented to moderate and above moderate income households.

Graph F-3 Comparison of Protected Units by Geographic Area as of December 2021

* Rent controlled apartment units include multifamily units in apartment buildings and flats. SRO units include single room occupancy units in residential hotels or other types of SRO buildings that are subject to rent control.
Source: San Francisco Planning Department, Mayor's Office of Housing and Community Development, Department of Building Inspection.

5. Affordability of Market Rate Apartments

As described above, about three quarters of the housing units in the Surrounding Area are protected units, which include affordable housing units, rent controlled units and SROs, and about two thirds of units in the One Mile Radius are protected.

The remaining unprotected units in the Surrounding Area and the One Mile Radius are market rate housing units, many of which are market rate apartments.[84] Some of these market rate apartments, typically those that are 15 years or older, are covered by Assembly Bill 1482, which imposes rent caps in certain circumstances and includes "just cause" eviction requirements that apply after residents have occupied the unit for a certain period of time.[85]

As further shown below, average rents for market rate apartments in the Surrounding Area are more affordable than average rents citywide, and the apartment market has not yet recovered from pre-pandemic levels according to historical CoStar data that has been analyzed to assess market conditions:

- While the rental market in the City is starting to recover since the pandemic, current rents are still below 2019 market rent levels in the Surrounding Area, One Mile Radius and the City.
- Average effective monthly rents in the Surrounding Area are more affordable than average monthly rents citywide and in the One Mile Radius, which is partially attributable to the higher proportion of smaller units in the Surrounding Area.
- A moderate income household can afford the average market rent in the Surrounding Area, One Mile Radius and the City while lower income households cannot afford average market rents.
- Average rents have not increased as rapidly in the Surrounding Area compared to what has occurred the City and the One Mile Radius, again indicating the relative affordability of the neighborhood. Furthermore, average rents in the Surrounding Area have increased at a much slower rate than inflation over the past decade.
- Vacancy rates are 7% in all three geographies as of May 2022, which is substantially higher than historical vacancy rates for multifamily apartments in the City as well as nationally.

Graph F-4 compares the average effective monthly rent (rent) for market rate units in the Surrounding Area and the One Mile Radius with citywide rent trends based on historical CoStar data for multifamily apartment buildings since 2000.[86] While rents have increased overall since 2000, rent levels have fluctuated over time. Notably, rents have declined in all three geographies since the COVID pandemic started in early 2020 and have only recently approached rent levels that were in place prior to the pandemic, although still lower than 2019 levels as of May 2022.

Historically rents in the Surrounding Area have been between 5% to 10% less than the citywide average, while they are currently about 14% less than the citywide average, which means that market rate apartments in the Surrounding Area are more affordable than many other locations in San Francisco. This

[84] Assembly Bill 1482 imposes rent caps on other residential rental properties in California, including "just cause" eviction requirements that apply after residents have occupied the unit for a certain period of time. The law exempts certain properties from the rent caps and just-cause requirements, including (1) most single-family homes and condominiums, and (2) housing built within the last 15 years. In cities that already have a rent control ordinance in place (under the Costa-Hawkins Rental Housing Act), AB 1482 extends rent caps to some additional housing that is otherwise not covered under the existing local ordinance.

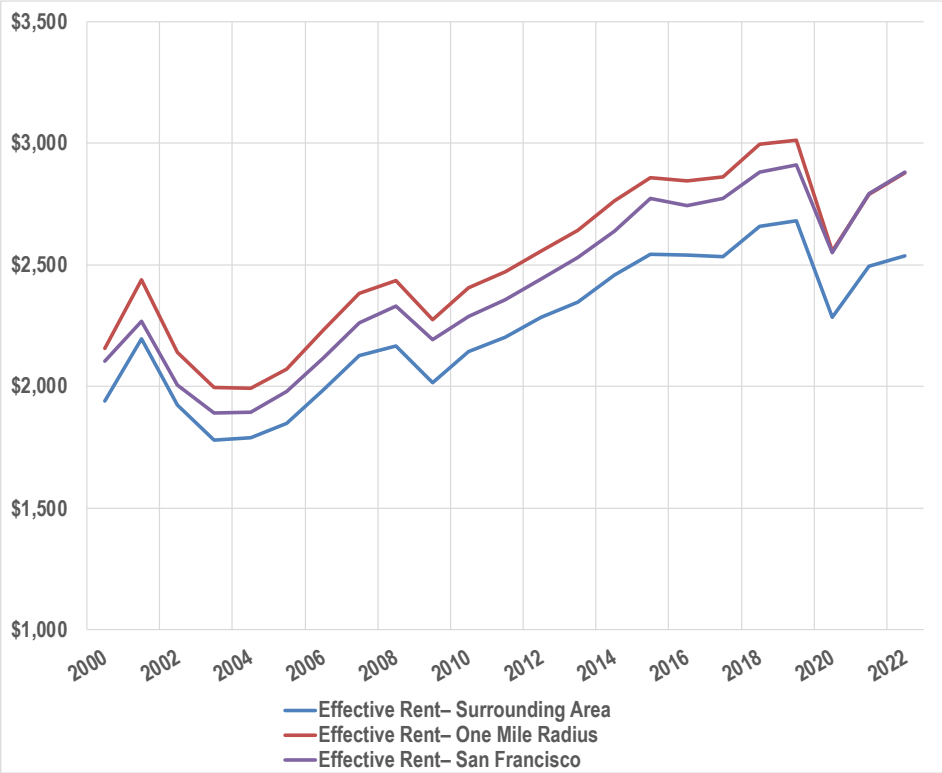
[85] As indicated previously in Table F-1, about 90% of households in the Surrounding Area are renters, which indicates that a high proportion of the housing in the Surrounding Area is rental housing.

[86] The average effective monthly rent (also called net effective rate or NER) is the average rent for all units within a geographic area based on data compiled by CoStar as of May 2022 that reflects what tenants are paying for rent during their lease term (taking into account any reported landlord concessions, such as one month free rent).

is partially attributable to the smaller average size of apartment units in the Surrounding Area compared to the City.[87]

While rents in the One Mile Radius have typically been higher than the citywide average over the past two decades, rents in the One Mile Radius are currently about the same as the citywide average, while rents in the Surrounding Area are about $350 per month less as of Spring 2022.

Graph F-4 Comparison of Apartment Rents for Market Rate Units From 2000 to 2022 by Geographic Area



Source: CoStar multifamily residential market data for the City of San Francisco (2000 through early 2022).

In the Surrounding Area, the effective rent[88] for a market rate apartment is about $2,540 per month as of Spring 2022. Based on 30% of income paid toward rent, a typical apartment is affordable to a moderate income household at about 95% of the Unadjusted Area Median Income (AMI) for a two person household per MOHCD. Effective rents citywide and in the One Mile Radius average about $2,900 per month, which would be affordable to moderate income households at about 110% AMI as of 2022.[89]

[87] According to data compiled by CoStar, the average size for market rent apartments in the Surrounding Area in 2000 was 567 square feet compared to 730 square feet in the City. While the average apartment size in the Surrounding Area has increased more than the City over the past two decades, the average apartment size in May 2022 for the Surrounding Area was 637 square feet compared to 747 square feet in the City according to CoStar. As of May 2022, about 82% of the units in the Surrounding Area are studio and one bedroom units compared to 75% in the City.

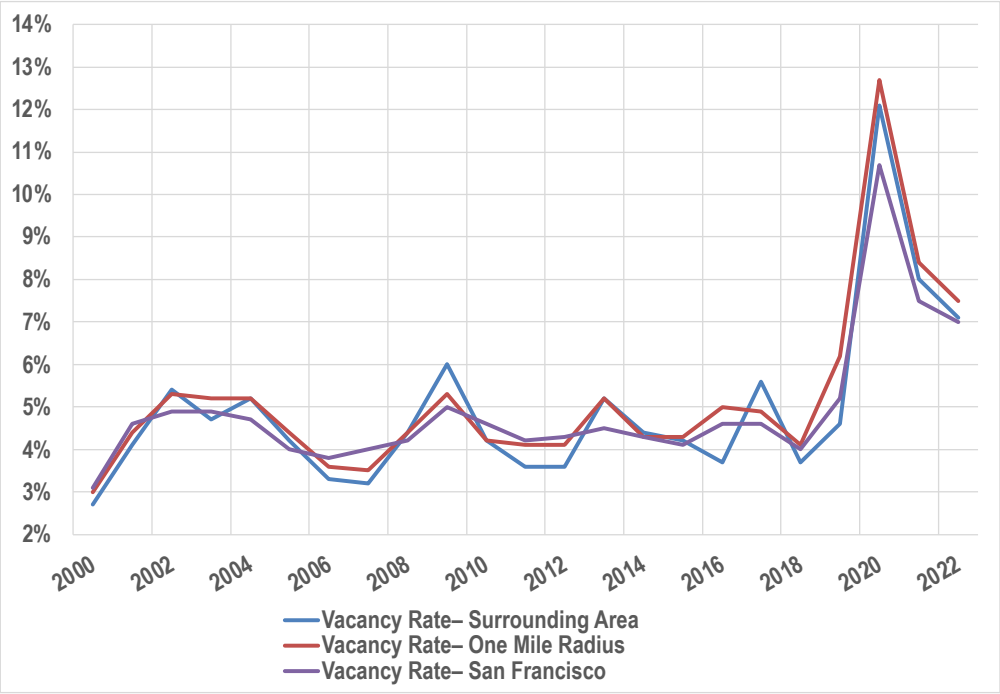
[88] Monthly effective rent is the average monthly rent over a lease term that reflects what tenants are paying for rent during their lease term taking into account any reported landlord concessions, such as one month free rent.

[89] The 30% affordability standard is used by the City, and the City's average renter household is 2.14 persons per household according to the 2020 5-year American Community Survey. The corresponding household income level is based on a one bedroom unit at "Tier 1" per MOHCD. https://sfmohcd.org/sites/default/files/2022 AMI-RentLimits-HMFA-ForMOHsf.pdf

The historical CoStar rent data also indicates that effective rents in the Surrounding Area have not increased as fast as the citywide average and the One Mile Radius between 2002 to 2022, increasing by about 32% in the surrounding area versus 44% citywide. In contrast, average median sales prices for existing single family homes in San Francisco have increased by over 300% since 2002 according to the California Association of Realtors.[90]

Historically, apartment vacancy rates fluctuated between 3% to 6% in all geographies until the pandemic occurred starting in 2020 when vacancy rates spiked to double digits as shown in Graph F-5. While vacancy rates have declined substantially as of May 2022, they are still averaging about 7%, which is higher than national vacancy rates according to the National Apartment Association of about 3% in Spring 2022[91] and above the target vacancy level of 5% for market rate multifamily apartments that is often used to underwrite apartment developments.[92]

Graph F-5 Comparison of Apartment Vacancy Rates from 2000 to 2022 by Geographic Area



Source: CoStar multifamily residential market data for the City of San Francisco (2000 through early 2022).

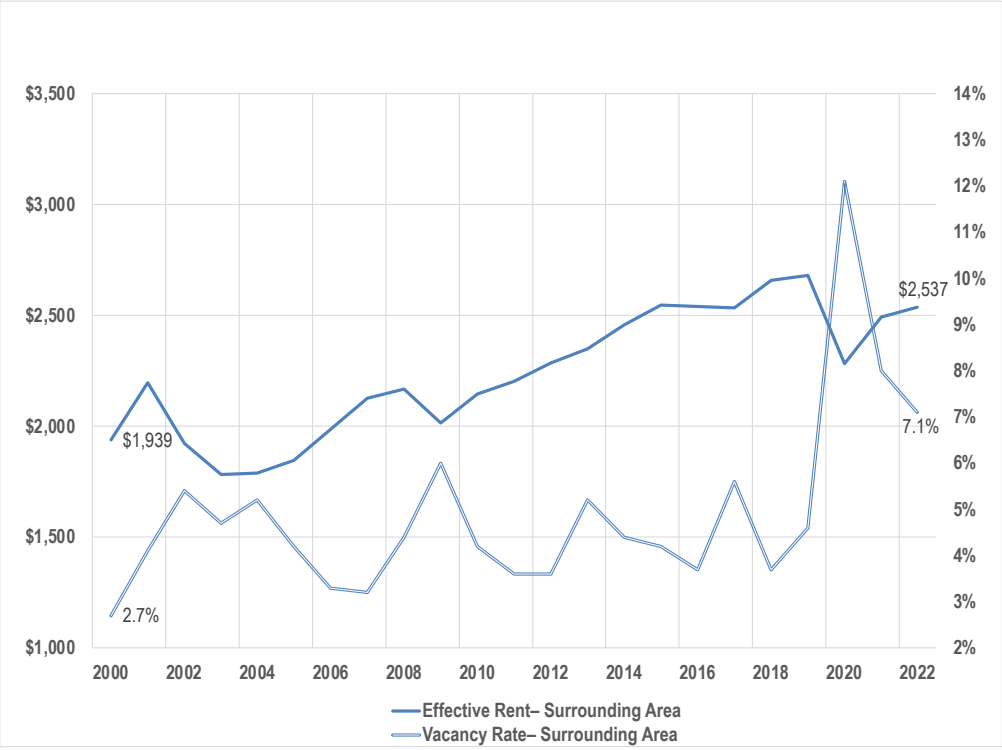
Graph F-6 shows the correlation between apartment vacancy rates and monthly effective rents in the Surrounding Area. This graph illustrates that rents tend to increase when vacancy rates are substantially below 5%, while rents decrease when vacancy rates climb above 5%, although there can be a time lag before this occurs. As vacancy rates spiked due to the pandemic, rents dropped substantially in all three geographies. As vacancy rates have declined from 2020 levels, rents have started to increase.

[90] Based on an analysis of data from the California Association of Realtors of historical median sales prices for existing single family homes from May 2002 to May 2022.

[91] Based on guidelines from HUD Exchange, which provides training and resources on multifamily underwriting. https://www.hudexchange.info/trainings/courses/2020-home-multifamily-underwriting-template-webinar/3682/

[92] https://www.naahq.org/spring-2022-apartment-market-pulse

Graph F-6 Correlation Between Apartment Vacancy Rates and Market Rents From 2000 to 2022 in Surrounding Area



Source: CoStar multifamily residential market data for the City of San Francisco (2000 through early 2022).

Over the past two decades, average rents in the Surrounding Area have increased less than the City as a whole and have remained more affordable with average rents about 14% less than the City as of Spring 2022. The average current vacancy rate of 7.1% indicates that market rate apartment supply is greater than demand.

Since 2000, average rents have increased by about 1.3% per year in the Surrounding Area, which is significantly less than the average annual inflation rate of 2.8% as measured by the Consumer Price Index (CPI) for approximately the same period.[93] The relative affordability of market rents, slow pace of rent increases and relatively high vacancy rate of 7.1% in the Surrounding Area indicates that the Surrounding Area is not currently experiencing strong gentrification and exclusionary displacement pressures.

[93] According to CoStar, the average monthly effective rent in the Surrounding Area in 2000 was $1,939 and was $2,537 as of May 2022. CoStar reports that average rents in the One Mile Radius and San Francisco increased at a faster rate during the same period. The U.S. Bureau of Labor Statistics reports that the Consumer Price Index (CPI) for All Urban Consumers– All Items in San Francisco-Oakland-Hayward, CA– had an annual average CPI in 2000 of 180.6, and the CPI was 324.9 in April 2022. This represents an average annual increase of 2.8% over a 21.33 year period. https://abag.ca.gov/tools-resources/data-tools/consumer-price-index

6. Lower Income and Special Needs Households

As described previously, the Surrounding Area has a high proportion of protected units, including 100% affordable developments and residential SROs that are typically occupied by very low and low income households. The Sixth Street area in SoMa and several streets in the Tenderloin have a high concentration of SROs that are occupied by extremely low income and very low income households, and a substantial number of homeless persons are visible on the streets surrounding the Proposed Project.

As indicated in the Housing Element 2022 Update, about 32% of households in San Francisco are extremely low income (ELI) and very low income (VLI), a similar share to the wider Bay Area (31%). As shown in Figure F-2 below, about 25-50% of households that reside in the Project Area and the census tract where the Proposed Project is located are extremely low and very low income while several of the census tracts immediately to the north and south of the Proposed Project in the Surrounding Area have a majority share of extremely low and very low income households. Four of the neighborhoods with the highest concentrations of lower to moderate income residents in the City – areas where these households represent more than 75% of the population – are located within the One Mile Radius of the project: Tenderloin, SoMa, Chinatown, and the Western Addition.[94]

As indicated earlier, about 90% of the households in the Surrounding Area are renter households, and the Sixth Street area in SoMa and several streets in the Tenderloin have a high concentration of SROs in the Surrounding Area. As shown in Graph F-7 below, the census tracts within the Sixth Street area and the Surrounding Area have a majority share of lower income renter households with incomes below $75,000 (indicated in shades of green) based on 2020 household income data published by MOHCD.[95]

- **Surrounding Area**– About two thirds (67%) of households within the Surrounding Area have incomes below $75,000 (considered low income households) as shown in Graph F-7.
  - A significant proportion of these households are VLI households with incomes below $50,000 (about 56% as shown in the bottom two green shaded bars), which includes ELI households with incomes below $25,000 (about 39% as shown in darkest green).[96]
  - **Sixth Street**– About 54% of households in the Sixth Street area are considered low income households, a significant proportion of which are VLI households (including ELI households).
    - The Surrounding Area likely has a higher proportion of VLI and ELI households compared to the Sixth Street area because the Tenderloin has a much higher number of SROs compared to SoMa, and the Census tracts include a larger geography than the Sixth Street corridor.
- **San Francisco**– The City has a lower proportion of extremely low, very low and low income households as compared to the Surrounding Area and Sixth Street.

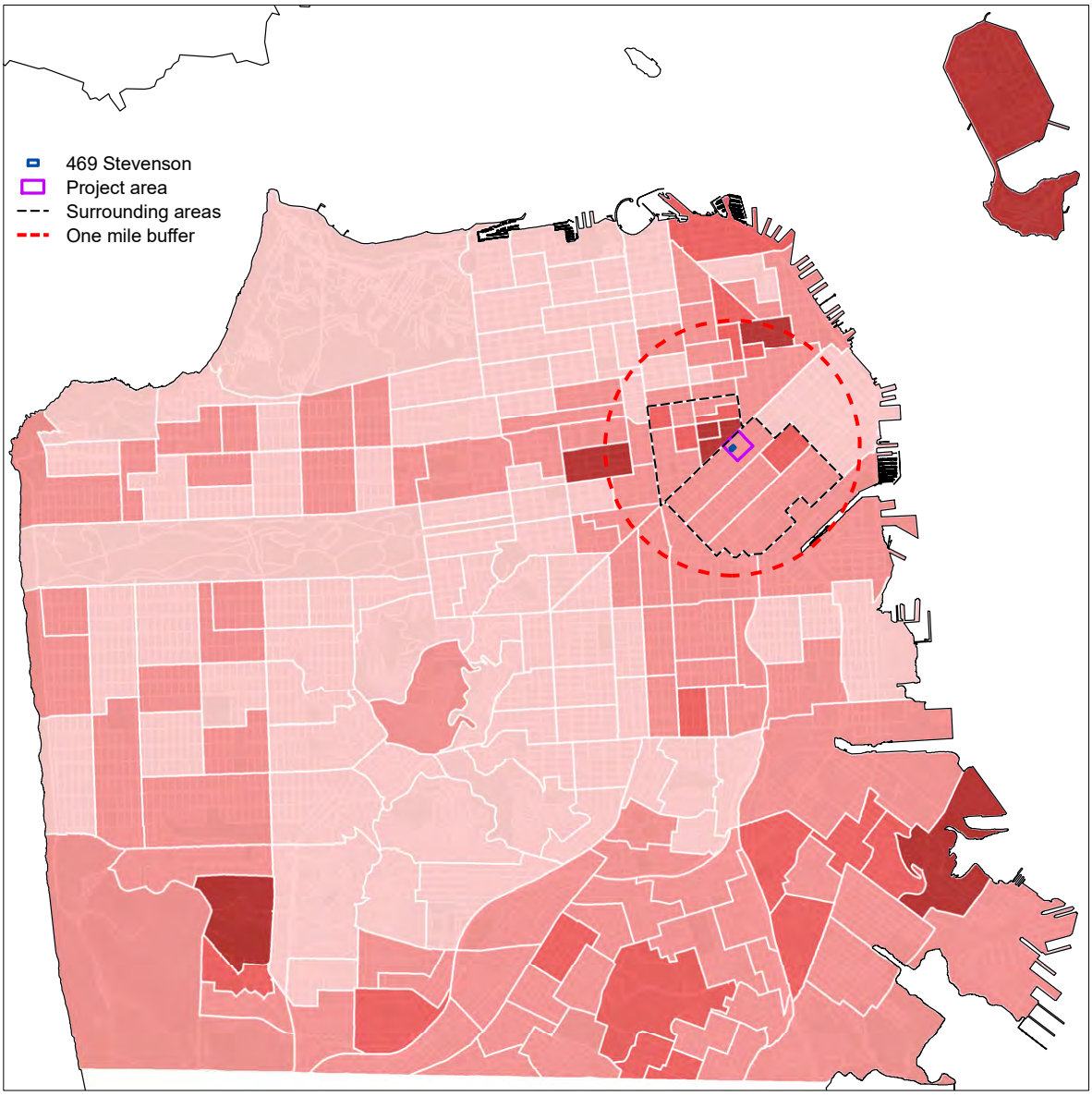
[94] https://www.sfhousingelement.org/draft-housing-needs-assessment-and-assessment-fair-housing

[95] The US Census presents data by household income tranches that were compiled for this analysis to generally correspond to household income levels according to MOHCD data. Based on a typical two person household size, a $74,999 income corresponds to about 73% of AMI according to MOHCD income data and is between 50% to 80% AMI, which is considered a low income household.

https://sfmohcd.org/sites/default/files/Documents/MOH/Asset Management/2020 AMI-IncomeLimits-HMFA_05-01-20.pdf

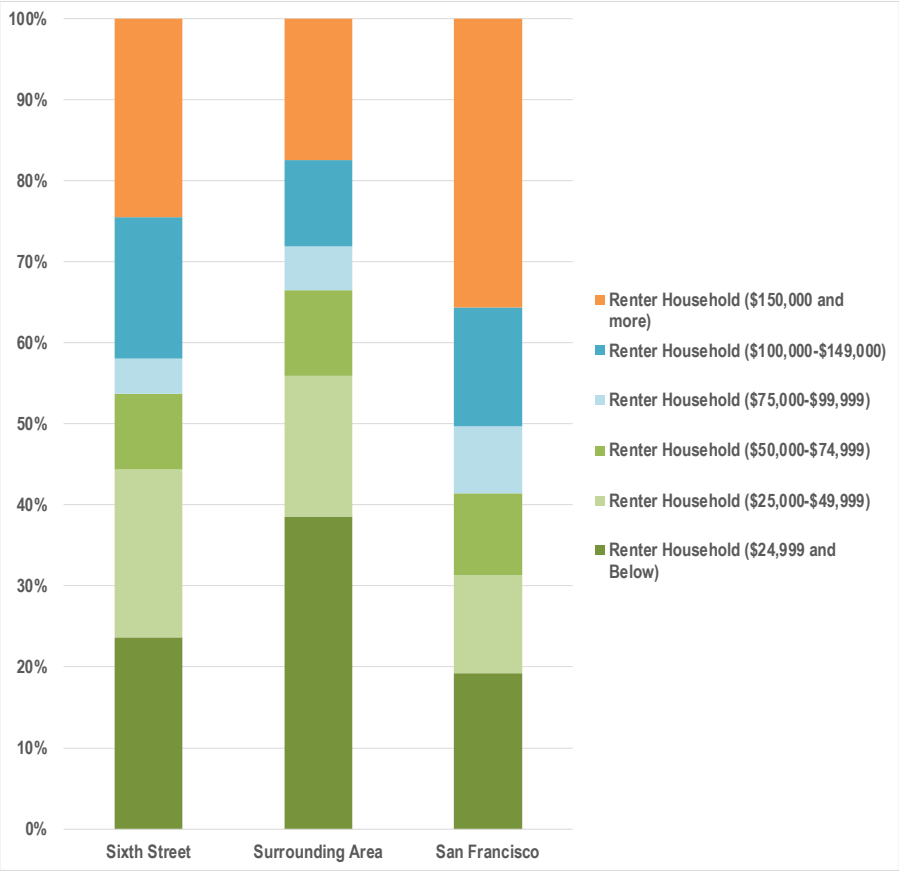
[96] Based on a typical two person household size and the MOHCD income data cited above, a $24,999 income corresponds to about 25% of AMI, which is considered an extremely low income household as below 30% AMI, and $49,999 income corresponds to about 48% of AMI, which is considered a very low income household as below 50% AMI.

Figure F-2 Concentration of Extremely Low and Very Low Income Households Within San Francisco



Source: Housing Element 2022 Update– Draft Housing Needs Assessment and Assessment of Fair Housing Report.

Graph F-7 Comparison of 2020 Renter Household Income Distribution by Geographic Area



Source: 2020 5-Year American Community Survey (ACS)

The Surrounding Area and Sixth Street have a much lower proportion of above moderate income households earning $150,000 and above as compared to the City, as shown by the orange bars.[97] The Surrounding Area and Sixth Street have more similar shares of moderate and above moderate income households earning between $75,000 to $149,000, as shown by the blue bars, as compared to the City.[98]

The Housing Element 2022 Update also indicates that the largest concentrations of people with disabilities are located in the Tenderloin, SOMA and Western Addition neighborhoods, which is related to the significant presence of permanent supportive housing, permanently affordable housing, and SROs.

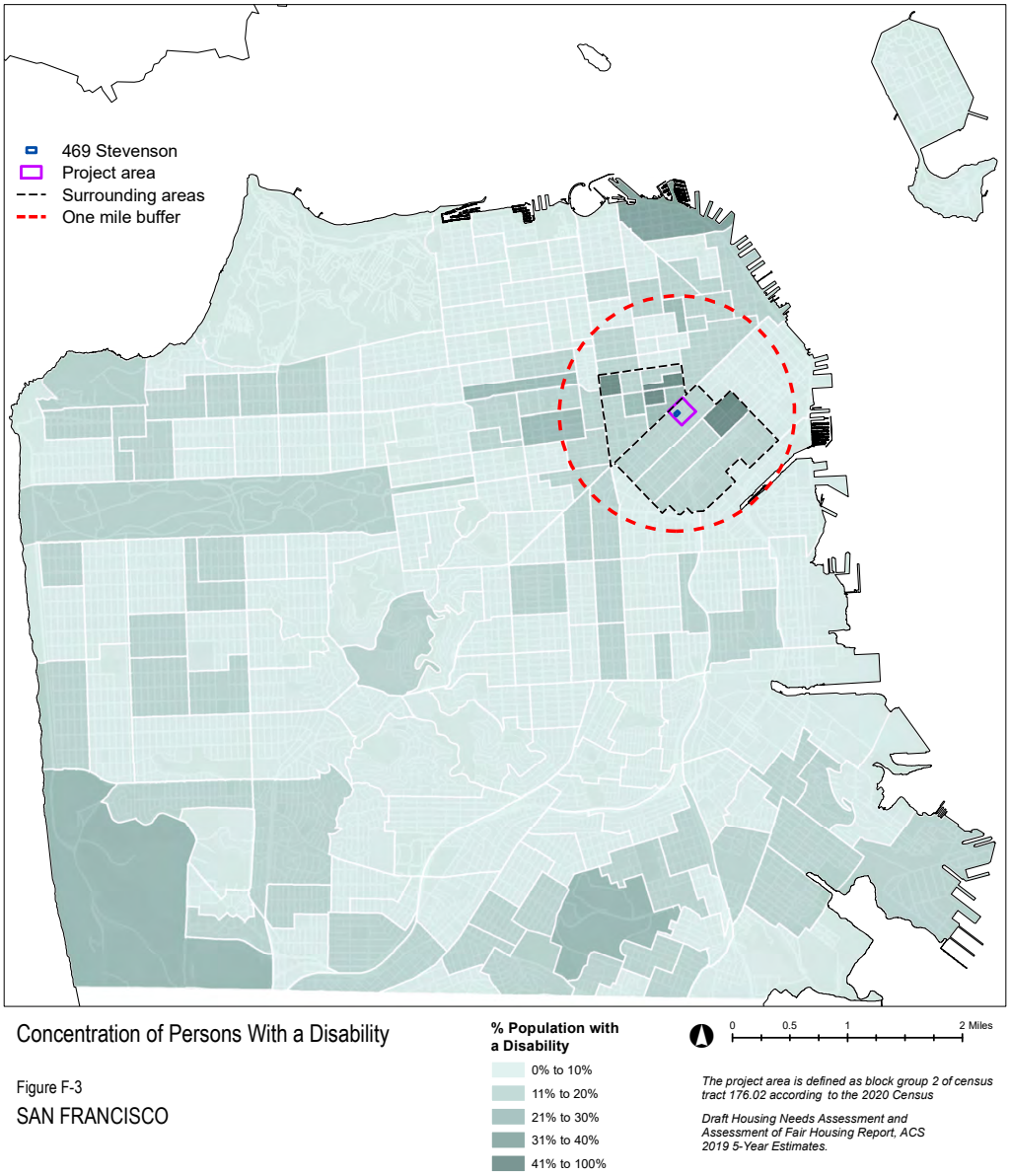
As indicated in the Housing Element 2022 Update, lower income households also include other special needs households including large families, female-headed households, immigrants and those linguistically isolated who are more likely to experience overcrowding and be housing cost-burdened. Groups with special housing needs face disproportionate housing challenges.

[97] Based on a typical two person household size and the MOHCD income data cited above, a $150,000 income corresponds to about 148% AMI, which is considered an above moderate income household as above 120% AMI.

[98] Based on a typical two person household size and the MOHCD income data cited above, a $99,999 income corresponds to about 98% of AMI, which is considered a moderate income household as between 80% to 120% AMI. The 2020 moderate income threshold of 120% AMI is $123,000 according to MOHCD, but the US Census only reports incomes in an income tier of $100,000 to $149,999, which corresponds to both moderate and above moderate income households.

People with disabilities, including developmental disabilities, the elderly/seniors, and persons with HIV/AIDS and who are chronically ill are challenged with meeting the high cost of housing and amidst limited options. Census tracts with concentrations of people with disabilities overlap with high concentrations of extremely low and very low income households, low resource areas, and other disadvantaged groups. Figure F-3 shows concentrations of people with disabilities in the City, which shows similar patterns to Figure F-2.

Figure F-3 Concentration of Persons With a Disability Within San Francisco



Source: Draft Housing Needs Assessment and Assessment of Fair Housing Report, ACS 2019 5-Year Estimates.

7. People of Color

As indicated earlier, the population in both the Surrounding Area and the City has grown substantially over the past two decades. The population of all racial and ethnic groups has grown in the Surrounding Area between 2000 to 2020 according to the US Census, which indicates that the new residents who have moved to the Surrounding Area are culturally diverse as shown below in Table F-4.

San Francisco's population continues to be culturally diverse, and both Asian and Hispanic or Latino groups have increased in population over the past two decades. In contrast to the Surrounding Area, the City has experienced a loss in people of color in certain racial and ethnic groups over the past two decades according to the US Census, with the Black or African American population experiencing the greatest loss in population.[99] However, some of the changes in a racial or ethnic group may be attributable to changes in the US Census survey methodology as it continually evolves how it gathers and reports data on race and ethnicity, and how people self-identify in each survey. Notably, both the Surrounding Area and the City have experienced a substantial increase in people of color who identify as Two or More Races or Some Other Race.[100]

Table F-4 Distribution by Race and Ethnicity From 2000 to 2020 in Surrounding Area and San Francisco

	Surrounding Area			Change Between 2000-2020	
Race and Ethnicity	2000 Census	2010 Census	2020 Census	Difference	Percent Change
Non-Hispanic or Latino, White	15,380	17,694	19,547	4,167	27%
Asian	13,704	15,731	21,037	7,333	54%
Hispanic or Latino	6,462	9,683	13,184	6,722	104%
Two or More Races	2,510	2,574	6,106	3,596	143%
Some Other Race	2,674	4,684	7,780	5,106	191%
Black or African American	5,125	6,201	7,081	1,956	38%
American Indian or Alaskan Native	1,038	544	1,135	97	9%
Native Hawaiian or Pacific Islander	183	201	338	155	85%
	San Francisco			**Change Between 2000-2020**	
Race and Ethnicity	**2000 Census**	**2010 Census**	**2020 Census**	**Difference**	**Percent Change**
Non-Hispanic or Latino, White	338,909	337,451	361,382	22,473	7%
Asian	239,565	267,915	296,505	56,940	24%
Hispanic or Latino	109,504	121,774	136,761	27,257	25%
Two or More Races	33,255	37,659	86,233	52,978	159%
Some Other Race	50,368	53,021	73,169	22,801	45%
Black or African American	60,515	48,870	46,725	(13,790)	-23%
American Indian or Alaskan Native	8,971	4,024	6,475	(2,496)	-28%
Native Hawaiian or Pacific Islander	3,844	3,359	3,476	(368)	-10%

Source: U.S. Decennial 2000, 2010 and 2020 Census.

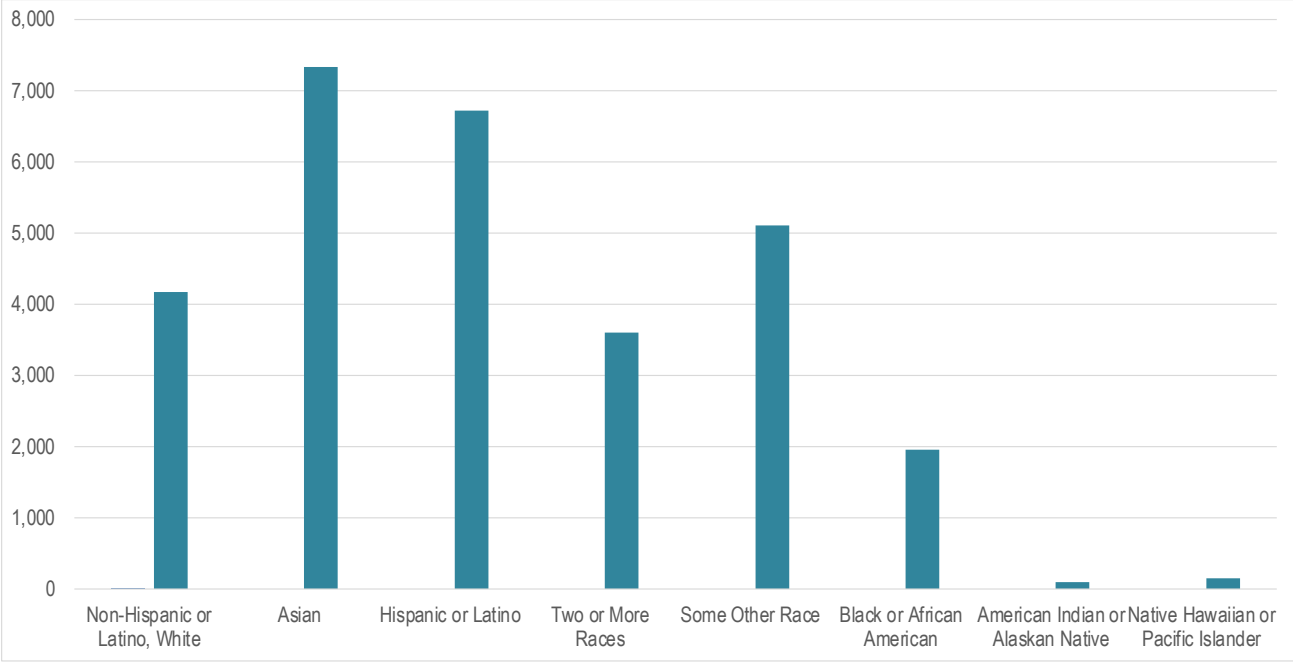
[99] The US Census categories of race and ethnicity are used to describe people of color in this analysis, which differs from what the Planning Department uses in some of its analysis. Starting in Census 2000, individuals were presented with the option to self-identify with more than one race and this continued with the 2010 Census and has evolved in 2020. People who identify with more than one race may choose to provide multiple races in response to the race question. The Census data on race and ethnicity used in this section is based on population data indicating race alone and not in combination with other races. https://www.census.gov/topics/population/race/about.html

[100] The population group of "Two or More Races" (also referred to as the Multiracial population) has changed considerably over the past decade in the nation from 9 million people in 2010 to 33.8 million people in 2020, a 276% increase. The population group of "Some Other Race" alone or in combination has also increased significantly nationally by 129%. https://www.census.gov/newsroom/press-releases/2021/population-changes-nations-diversity.html

As the US Census survey methodology has evolved over the past decade, an increasing number of people of color across the United States are identifying as Two or More Races or Some Other Race, and the national population has become more diverse. As shown in Table F-4 above, this has also occurred in the City and the Surrounding Area.

As shown below in Graph F-8, the Asian population has experienced the largest increase in population in the Surrounding Area over the past two decades, followed by the Hispanic or Latino population.[101] The Surrounding Area has also experienced a substantial increase in people of color who identify as Two or More Races or Some Other Race, along with increases in the Non-Hispanic or Latino, White population.

Graph F-8 Comparison of Population Change From 2000 to 2020 by Race and Ethnicity in Surrounding Area



Source: U.S. Decennial 2000, 2010 and 2020 Census.

As indicated in the Housing Element 2022 Update, certain areas within San Francisco have higher concentrations of race and ethnicity. Figure F-4 shows areas that are heavily dominated by one racial or ethnic group either by plurality (the largest share of the population) or majority (more than 50% of the population in the area). The color shading in Figure F-4 indicates the extent to which one group is more heavily present compared to another racial or ethnic group, with the darkest shades indicating a more significant presence of a particular racial or ethnic group.[102]

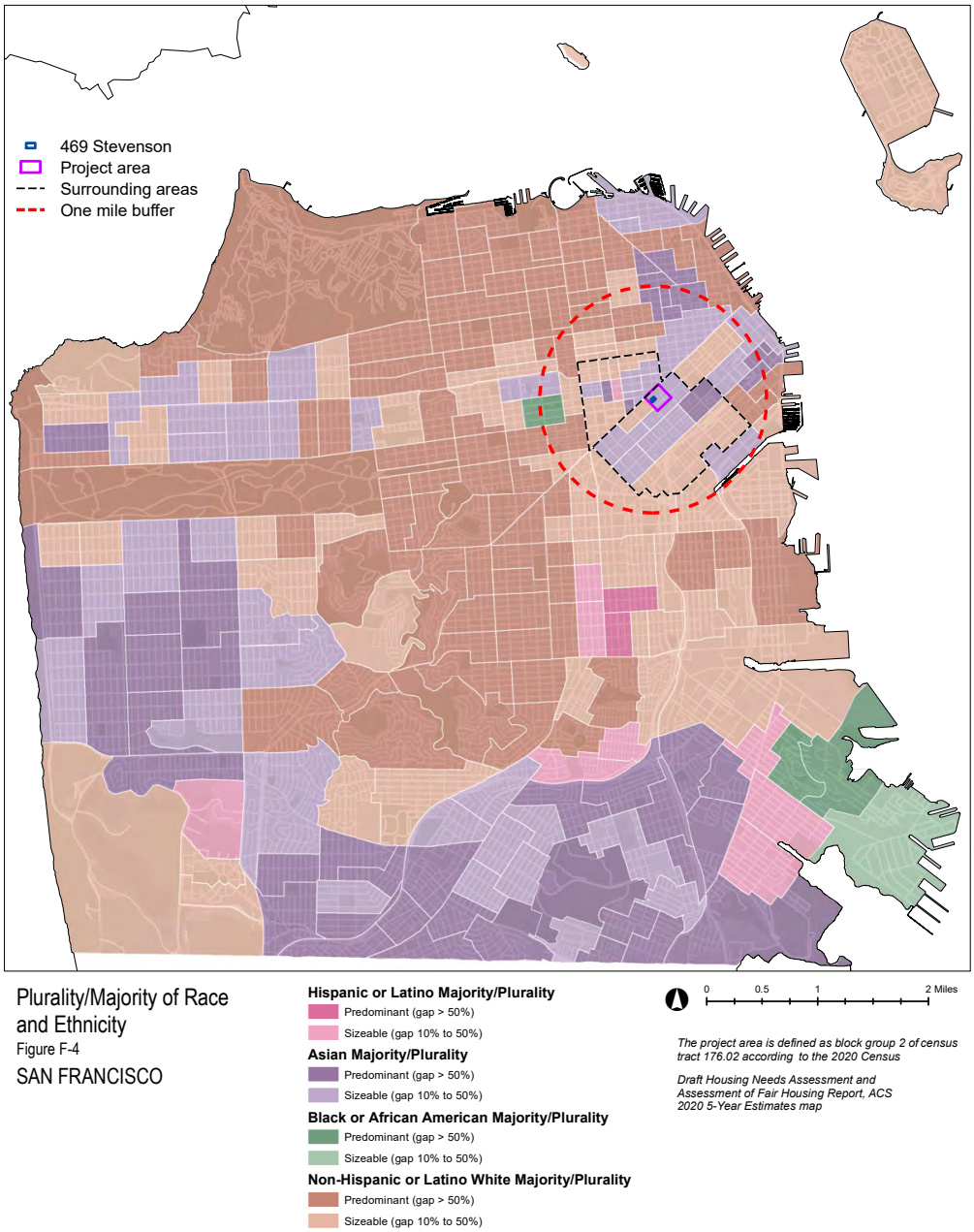
As shown below in Figure F-4, the Proposed Project is located in an area with an Asian Majority/Plurality according to data in the Housing Element Update, as shown by the purple shading in the Project Area, as

[101] The US Census has also evolved its survey methodology with respect to Hispanic or Latino origin, which also may contribute to relative growth or declines in this ethnic group. https://www.census.gov/topics/population/hispanic-origin/about/comparing-race-and-hispanic-origin.html

[102] https://www.sfhousingelement.org/draft-housing-needs-assessment-and-assessment-fair-housing

well as the purple shading in other nearby areas in the Surrounding Area. Most of the other areas within the Surrounding Area have a Non-Hispanic or Latino White Majority/Plurality.

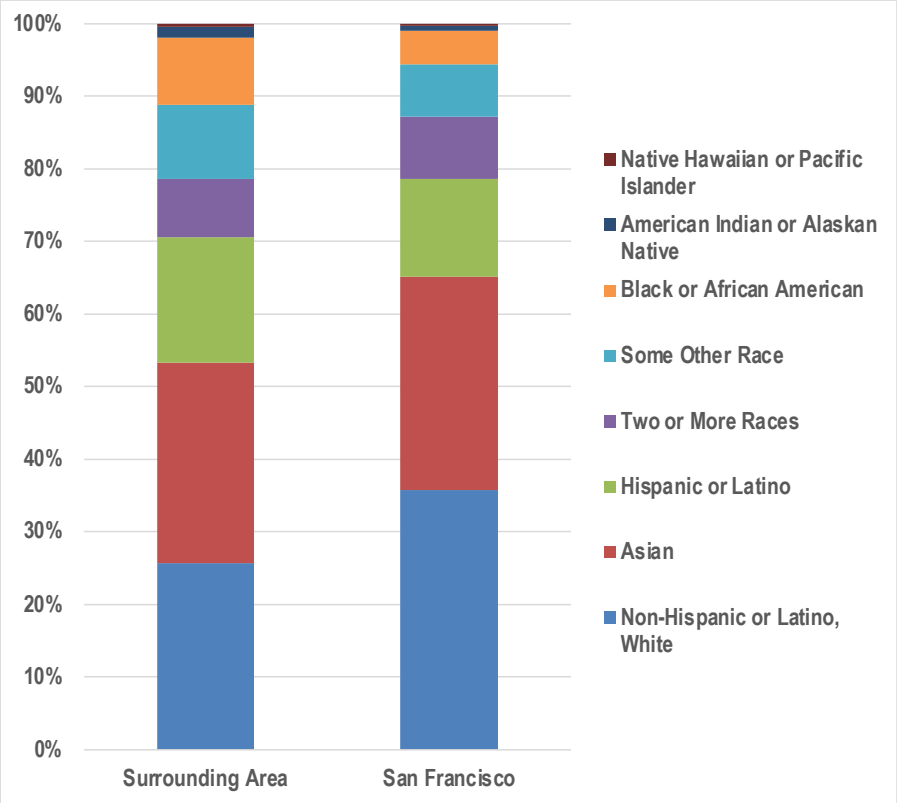
Figure F-4 Plurality/Majority of Race and Ethnicity Within San Francisco



Source: Housing Element 2022 Update– Draft Housing Needs Assessment and Assessment of Fair Housing Report (March 2022), ACS 2020 5-Year Estimates.

The Surrounding Area has maintained its diverse population, with about three quarters of residents being people of color as of 2020, which is a higher proportion than the City as a whole, as shown in Graph F-9. Similar to the City as a whole, the Asian population represents the largest share of population in the Surrounding Area, while the Surrounding Area has higher proportions of residents who identify as Black or African American and as Hispanic or Latino.

Graph F-9 Comparison of Race and Ethnicity by Geographic Area in 2020



Source: U.S. Decennial 2020 Census.

As indicated in the Housing Element 2022 Update, patterns in the concentration of extremely low and very low income residents in San Francisco match patterns in the distribution of the people of color. With the largest shares of people of color being situated in similar areas to those with large shares of extremely low and very low income populations, showing clear links between race and ethnicity, and income.

8. Filipino Community

The Housing Element 2022 Update includes a description of the history and displacement pressures facing various racial and ethnic groups within the City including the Filipino community. The following section on the Filipino community is an excerpted summary from this assessment.[103]

[103] See pages 78 through 79 of the Draft Housing Needs Assessment and Assessment of Fair Housing Report, which reference numerous historical documents that were used as sources for this summary.

The first Filipino immigrants arrived in the United States in the early 1900s, following the annexation of the Philippines after the Spanish-American War and Philippine-American War. While Filipinos were recruited to the United States to provide low cost agricultural labor, they were denied the ability to naturalize and were only considered American nationals. At first, most immigrated to Hawaii to pursue work on sugar plantations, but many arrived in California by the 1920s to pursue agricultural and service work. Filipino immigrants in San Francisco, largely single men, established the enclave of Manilatown on the eastern border of Chinatown. Many others settled in SoMa, adjacent to a small Japanese enclave. They primarily lived in single-occupancy residential hotels. Excluded from many jobs by white Americans and limited in entrepreneurship by already established Chinese and Japanese business owners, Filipino Americans established fraternal societies, barbershops, and restaurants serving the Filipino community.

In the wake of WWII, new laws granted some Filipinos the opportunity to naturalize and others to own property in the US, although employment opportunities remained largely limited to service and agricultural work. Additionally, the expansion of the Financial District in the 1950s and 60s, encouraged by the city, caused the outpricing and displacement of Filipino Americans living in residential hotels in Manilatown. This displacement reached a peak in 1978, when residents from the last remaining residential hotel in Manilatown, the International Hotel, were finally evicted after a nearly decade long fight from residents, Filipino Americans, and allied community members.

Displaced Filipino residents resettled in SoMa, Mission, Excelsior, or outside of San Francisco entirely. The growth of a Filipino community in SoMa in the 1960s and 70s, however, was also threatened due to the Yerba Buena Redevelopment in central city. Community activists, including Filipino SoMa residents, successfully organized and won concessions from the San Francisco Redevelopment Agency, including the right to replacement housing and relocation. Despite these struggles, Filipino Americans established businesses, cultural and art collectives, and organizations dedicated to advocating for housing and social justice across the city, and the Filipino community has a strong cultural history and large number of cultural activities in the SoMa neighborhood within the Surrounding Area.

In order to understand how the total Filipino population may have changed in the Surrounding Area over the past two decades, an analysis was performed using the best available data from the US Census regarding the Filipino population. While 2000 and 2010 Census has published data regarding the Filipino ethnic group, the 2020 Census data on the Filipino ethnic group has not yet been released, although the 2020 Census has published data by major groups of race and ethnicity. The most current data on the Filipino population is published in the 2020 5-year American Community Survey (2020 ACS), which provides a representative survey of the Filipino population.

Due to the relatively small population and sample size for the Filipino population within individual census tracts in the Surrounding Area, the 2020 ACS data is not statistically reliable for the Filipino ethnic group by census tract due to the large sampling error. When the population data regarding the Filipino ethnic group is aggregated across all census tracts within the Surrounding Area, the data is more statistically reliable, with a summated margin of error of approximately +/- 20%, and this aggregated population data is used to estimate the 2020 Filipino population in the Surrounding Area.[104]

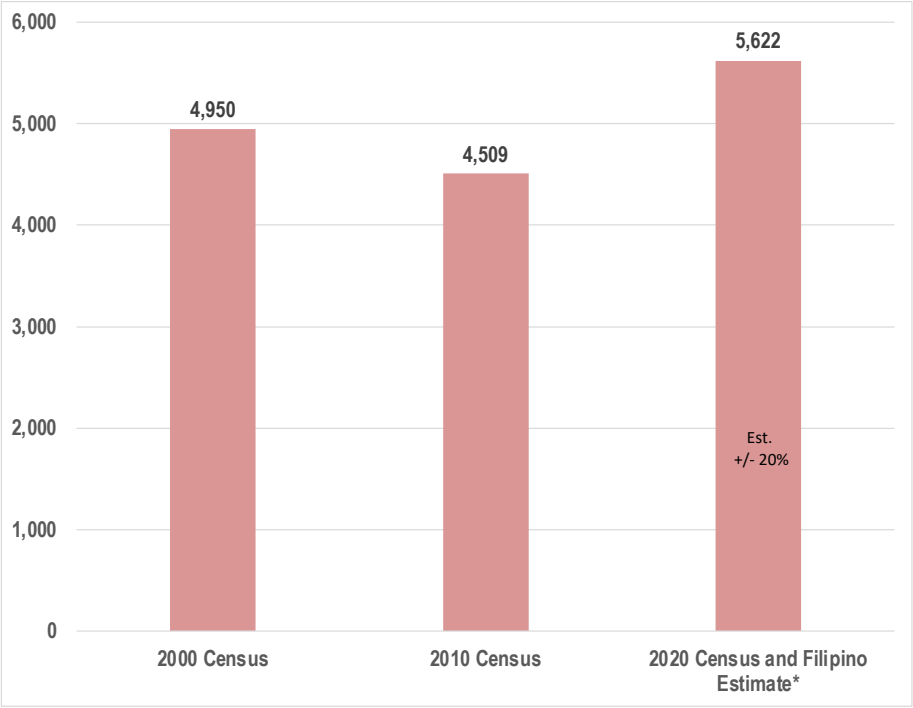
[104] Sampling error is the uncertainty associated with an estimate that is based on data gathered from a sample of the population rather than the full population. Sample-based estimates will vary depending on the specific population sample. Measures of the magnitude of sampling error, such as the variance and standard error (square root of the variance), reflect the variation in the estimates over all possible samples that could have been selected from the population using the same sampling methodology. https://www.census.gov/programs-surveys/acs/methodology/design-and-methodology.html

Graph F-10 shows the estimated growth in the Filipino population in the Surrounding Area using reported data on its Filipino population from the 2000 and 2010 Census and an estimate of the 2020 Filipino population based on the percentage of Filipino population (8.7%) in the Surrounding Area according to the 2020 5-year ACS multiplied by the population in the Surrounding Area from the 2020 Census.

The Filipino population estimate for 2020 indicates that the Filipino population has likely remained relatively stable or grown from 2000 to 2020 in the Surrounding Area, although it may have declined since 2000 if the 2020 Filipino population estimate is overstated. (As described above, the 2020 Filipino estimate is based on data from the 2020 5-year ACS with a summated margin of error of +/-20%, which indicates that it could range from about 4,500 persons to 6,700 persons.) As described earlier, a portion of the population change within an ethnic group, like Filipino, may be attributable to changes in the US Census survey methodology as it has evolved and how people self-identify in each survey.

The Surrounding Area also has a higher proportion of Filipino residents (8.7%) than the City, as about 5.2% of the City's 2020 population is Filipino according to the 2020 5-year ACS.[105]

Graph F-10 Estimated Change in Filipino Population from 2000 to 2020 in Surrounding Area



Note: The Filipino population includes those that identify as Filipino alone or in any combination with another group. The 2020 estimate of the Filipino population is based on the total population in the Surrounding Area according to the 2020 Census multiplied by the Filipino population's percentage share of total population (8.7%) from the 2020 5-Year ACS, which reports a statistical count and resulting in a summated margin of error of approximately +/- 20%.

Source: U.S. Decennial 2000, 2010 and 2020 Census and 2020 5-Year ACS.

[105] The Filipino population includes those that identify as Filipino alone or in any combination with another group. As described above, the 2020 estimate of the Filipino population is based on data from the 2020 5-year ACS with a summated margin of error of 20% for the Surrounding Area.

9. Housing Pipeline

The Proposed Project would contribute to the future development of housing in the City, as would many other developments across the City. The San Francisco housing pipeline consists of development projects that would add housing units, applications for which have been formally submitted to the Planning Department or the Department of Building Inspection (DBI).[106] Housing pipeline projects are at various stages of development, including applications having been filed to entitlements secured, as well as from building permits approved and issued to projects under construction as of Q4 2021. This analysis primarily relies on data provided by the Planning Department and DBI, but also incorporates updated data from MOHCD regarding 100% new construction, affordable housing developments that are in the planning process.[107] Please refer to Attachment D for a summary of residential developments in the housing pipeline in the One Mile Radius by various stages of planning, permitting and construction.

About 3,800 new affordable housing units (exclusive of ADUs) are in the housing pipeline to be built within the One Mile Radius, including about 2,600 new affordable units within the Surrounding Area, as indicated in Table F-5. About 29% of all housing units in the pipeline within the Surrounding Area are affordable units, which is a higher percentage than in the City and the One Mile Radius.

Overall, about 17,200 total units (net) are in the housing pipeline to be built within the One Mile Radius, including about 8,900 units within the Surrounding Area. About 24% of the City's housing pipeline is within the One Mile Radius, which includes about 13% in the Surrounding Area. These shares of the housing pipeline are significantly lower than the 52% share of historical production that occurred in the One Mile Radius and 24% share of historical production in the Surrounding Area that occurred since 2005, as previously shown in Table F-2. This indicates that other areas of the City will likely experience greater housing growth in the future than the Surrounding Area and One Mile Radius surrounding the Proposed Project.

Table F-5 Distribution of Housing Pipeline by Affordability and Geographic Area as of Q4 2021

Pipeline (Planned Units as of Q4 2021)	South of Market	Tenderloin	Surrounding Area	Remaining One Mile Radius	One Mile Radius	Remaining City Areas	San Francisco
100% Affordable Housing Units	1,266	314	**1,580**	467	**2,047**	3,308	**5,355**
Inclusionary Housing Units	594	380	**974**	778	**1,752**	9,691	**11,443**
Affordable Units (Net)	**1,860**	**694**	**2,554**	**1,245**	**3,799**	**12,999**	**16,798**
Affordable Units as Percent of Total (Net) Units in Geographic Area	*30%*	*26%*	***29%***	*15%*	***22%***	*24%*	***24%***
Affordable Units as Percent of Citywide Affordable Units in Pipeline	*11%*	*4%*	***15%***	*7%*	***23%***	*77%*	***100%***
Accessory Dwelling Units (ADU)	2	26	**28**	72	**100**	821	**921**
Pipeline Affordable Units (With ADUs)	1,862	720	**2,582**	1,317	**3,899**	13,820	**17,719**
Market Rate Units	4,373	1,929	**6,302**	7,034	**13,336**	39,739	**53,075**
Total Units (Net) in Pipeline	**6,235**	**2,649**	**8,884**	**8,351**	**17,235**	**53,558**	**70,793**
Total (Net) Units in Geographic Area as Percent of Citywide Units in Pipeline	*9%*	*4%*	***13%***	*12%*	***24%***	*76%*	***100%***

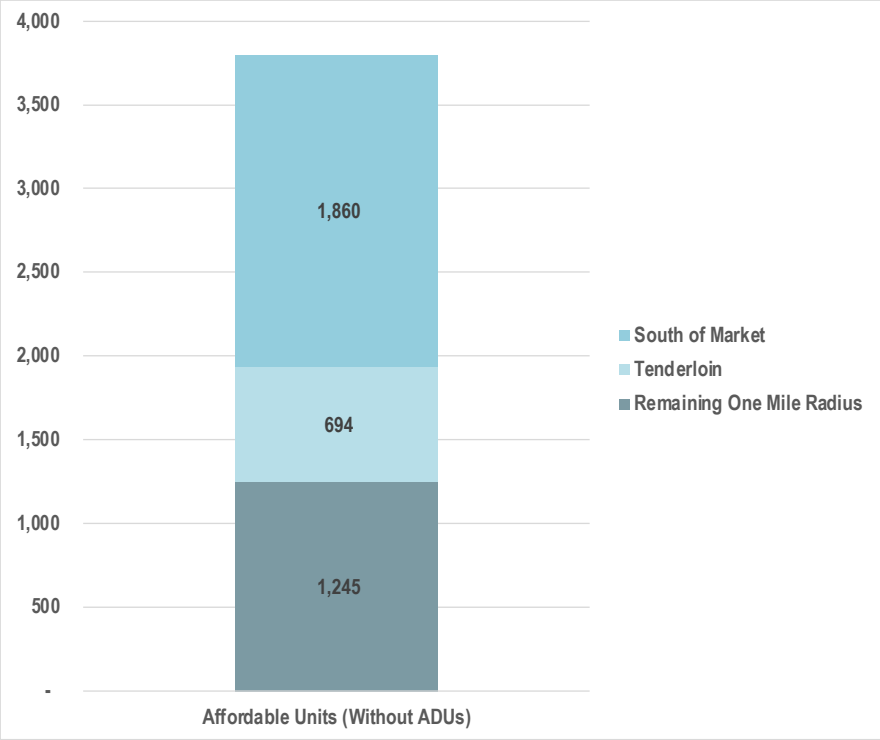
Source: San Francisco Planning Department, Department of Building Inspection, Mayor's Office of Housing and Community Development.

[106] The Planning Department and DBI data housing pipeline only includes those projects with a land use or building permit application, and projects vary in size from single units to larger multi-year development programs undergoing environmental review. https://sfplanning.org/project/pipeline-report The reported pipeline data is based on net housing units, which represent the net increase of housing units without counting existing housing units that were replaced on the site, and the reported number of net units exclude projects that had been constructed or were substantially constructed as of the end of 2021.

[107] Planning provided citywide data that it collected from MOHCD for the Housing Element Update site inventory analysis, which includes sites that were not included in the Q4 2021 pipeline. The pipeline analysis presented in this report includes updated data from MOHCD regarding planned units in new construction, 100% affordable housing developments, which are in the preliminary planning stages and anticipated to receive City approvals but were not included in the Q4 2021 pipeline report.

As described above, about 3,800 new affordable units (exclusive of ADUs) are in the housing pipeline to be built within the One Mile Radius, which includes about 1,900 affordable units in South of Market, about 700 affordable units in the Tenderloin and about 1,200 affordable units in the Remaining One Mile Radius outside of the Surrounding Area, as indicated in Graph F-9 below.[108]

Graph F-9 Distribution of Affordable Units in Pipeline Within One Mile Radius as of Q4 2021



Source: San Francisco Planning Department, Department of Building Inspection, Mayor's Office of Housing and Community Development.

About 63% of the affordable units in the housing pipeline in the Surrounding Area are proposed in 100% affordable housing developments– about 1,600 units of which about 1,300 units are located in South of Market and about 300 units are located in the Tenderloin.

[108] Refer to Attachment E for more information regarding the planning and construction status of housing units in the pipeline in the One Mile Radius and their affordability.

G. Evaluation of Potential Gentrification and Residential Displacement Impacts from Proposed Project

This section evaluates potential gentrification and residential displacement impacts that could occur due to the Proposed Project. In summary, this evaluation finds the following:

- Gentrification is a broad pattern of neighborhood change typically characterized by increases in the number of higher income households and increases in home values and/or rents over an extended period of time, for example ten years or more. Areas surrounding the Proposed Project have experienced early/ongoing gentrification or advanced gentrification according to the Urban Displacement Project, which is an existing condition. While the Proposed Project would likely add about 400 renter households of above moderate income, the distribution of renter households by income level would not change substantially, and the proportion of above moderate income households with incomes of $150,000 or more would be substantially less than the City as a whole. In addition, the planned pipeline of affordable housing in the Surrounding Area coupled with the residential anti-displacement strategies would address both gentrification and displacement pressures as further described below.
- Physical (direct) displacement occurs as the result of eviction, acquisition, rehabilitation, or demolition of a property, or the expiration of covenants on rent-restricted or income-restricted housing. No direct, physical residential displacement would occur from the Proposed Project as it is currently a parking lot without any buildings that house residents.
- Economic (indirect) displacement of residents has likely occurred historically within the Surrounding Area and the One Mile Radius of the Proposed Project, which is an existing condition. Thus, this section analyzes whether the Proposed Project could result in indirect displacement after its construction.
- As it is not known whether residential displacement may affect some existing residents, this report analyzes potential residential displacement impacts based on the research results and methodology presented in UDP's March 2022 Policy Brief 1 (Policy Brief 1), which was described in Section E of this report.[109]
- While the Planning Department had previously determined that substantial evidence did not establish a correlation between market rate housing development and the rate of involuntary displacement, UDP's March 2022 Policy Brief 1 studies how new market rate housing production may affect residential displacement in the Bay Area and finds that new market-rate housing production may increase displacement for lower income people under certain circumstances.
- UDP's research indicates that new market-rate housing production slightly increases displacement for lower income people, but the increase in rates of displacement (involuntary moves) for very low- to moderate-socio-economic groups are not as high as commonly believed, at 0.5 percent to 2 percent above normal rates, while stating that more research is needed to understand these effects in different contexts and over the long term.
- Based on applying the research methodology described in Policy Brief 1, the projected range of residential displacement impacts from the market rate units in the Proposed Project are 10 to 41 households, and this range of displacement impacts could be addressed by one mid-size apartment building with entirely affordable or subsidized units.

[109] https://www.urbandisplacement.org/wp-content/uploads/2022/03/IGS_1_New-Production_Brief_03.01.22.pdf

- Given the residential anti-displacement strategies of the Proposed Project and those being implemented in the Surrounding Area by the City, residential displacement from the Proposed Project will be largely addressed.
- In addition to physical displacement and economic displacement, lower income households can experience exclusion or exclusionary displacement, which occurs when these households cannot afford to move in to an area given the cost of housing relative to their household income, which typically is the result of rising rents and/or home prices that contribute to the area becoming exclusive.
  - As previously indicated by CoStar rent data, average rents for market rate units in the Surrounding Area are more affordable and have increased at a slower pace than inflation over the past two decades. These market conditions coupled with the relatively high vacancy rate of 7.1% compared to historical vacancies indicates that the Surrounding Area is not experiencing a rapid rise in rents.
  - While market rents are more affordable in the Surrounding Area, the average market rent in the Surrounding Area is currently only affordable to moderate income households and not lower income households, which indicates some level of exclusion. However, this is true for many neighborhoods across San Francisco and in the Bay Area and is considered an existing condition according to CEQA.
  - The Proposed Project would include 73 onsite inclusionary units that would be affordable to very low, low and moderate income households and 422 market rate units that would likely have market rents that are affordable to above moderate income households.
  - The building would provide 73 affordable units onsite that would not occur without its development. As such, the Proposed Project could increase inclusion as the total number of affordable units in the Surrounding Area would increase.
- As further described below, the residential anti-displacement strategies that are incorporated into the Proposed Project as well as those being implemented by the City would likely address potential economic (indirect) and exclusionary displacement impacts from the Proposed Project on existing residents living in the Surrounding Area.
  - These residential anti-displacement strategies include the protection of about three-quarters of residential units in the Surrounding Area that are affordable housing or subject to rent control, as well as the planned production of affordable housing units, including the provision of 73 onsite inclusionary units and payment of $8 million in housing fees by the Proposed Project that could potentially support between 27-40 units of additional affordable housing in the Surrounding Area based on MOHCD's intention to direct funding toward affordable housing in SoMa.[110]

[110] Mayor's Office of Housing and Community Development, *Letter to Director of San Francisco Planning Department,* May 25, 2021.

1. Gentrification Trends and Impacts From Proposed Project

According to maps published on the Urban Displacement Project (UDP) website as of July 2022, areas throughout the Bay Area region and in San Francisco have experienced or are at risk of gentrification, displacement or exclusion due to increasing housing costs, the high cost of housing in comparison to household incomes, especially for lower income households, and the lack of new housing supply (including affordable housing), among other factors. As described earlier, UDP revised its "typology" to describe these conditions in 2020.[111]

Figure G-1 below shows the components of the UDP 2020 typology, which include an evaluation of whether an area is at risk, susceptible or experiencing displacement, gentrification or exclusion, and Figure G-2 shows UDP's evaluation of areas throughout San Francisco according to this typology.

In summary, the UDP typology measures three different conditions that may be occurring in an area that is defined by census tract boundaries, as shown in Figure G-1:

- Gentrification is measured based on changes in the income mix of an area and increase in housing costs or above regional median change in apartment rents and home prices, as shown in purple shading on Figures G-1 and G-2.
- Displacement is measured based on the proportion of low income households or the loss of low income households, as shown in blue shading on Figures G-1 and G-2.
- Exclusion is evaluated according to risk factors for becoming exclusive based on housing affordability (including whether lower income households can afford typical market rents) and rapid increases in home prices and rents that will inhibit affordability, as shown in orange shading on Figures G-1 and G-2.

As shown in Figure G-2, all of the census tracts in the SoMa neighborhood and in the southern areas of the Tenderloin bordering Market Street in the Surrounding Area have experienced early/ongoing gentrification or advanced gentrification, as indicated by the medium and dark shades of purple.[112] The census tract surrounding the Proposed Project is experiencing early/ongoing gentrification. A few census tracts within the Tenderloin have experienced ongoing displacement or are low income areas that are susceptible to displacement as indicated in the medium to dark shades of blue.

While areas outside of the Surrounding Area within the One Mile Radius have also experienced or are susceptible to gentrification and displacement, other areas within the One Mile Radius are at risk of exclusion or experiencing exclusion as indicated in the different shades of orange in Figure G-2. The Transbay areas immediately to the east of SoMa and the Proposed Project are experiencing stable/advanced exclusiveness as indicated by the dark orange shades.

As indicated in Figure G-2, while gentrification has occurred historically within the Surrounding Area and the One Mile Radius according to the Urban Displacement Project, this is not directly attributable to the Proposed Project and is considered an "existing condition" according to CEQA.

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[111] https://www.urbandisplacement.org/wp-content/uploads/2021/08/udp_replication_project_methodology_10.16.2020-converted.pdf

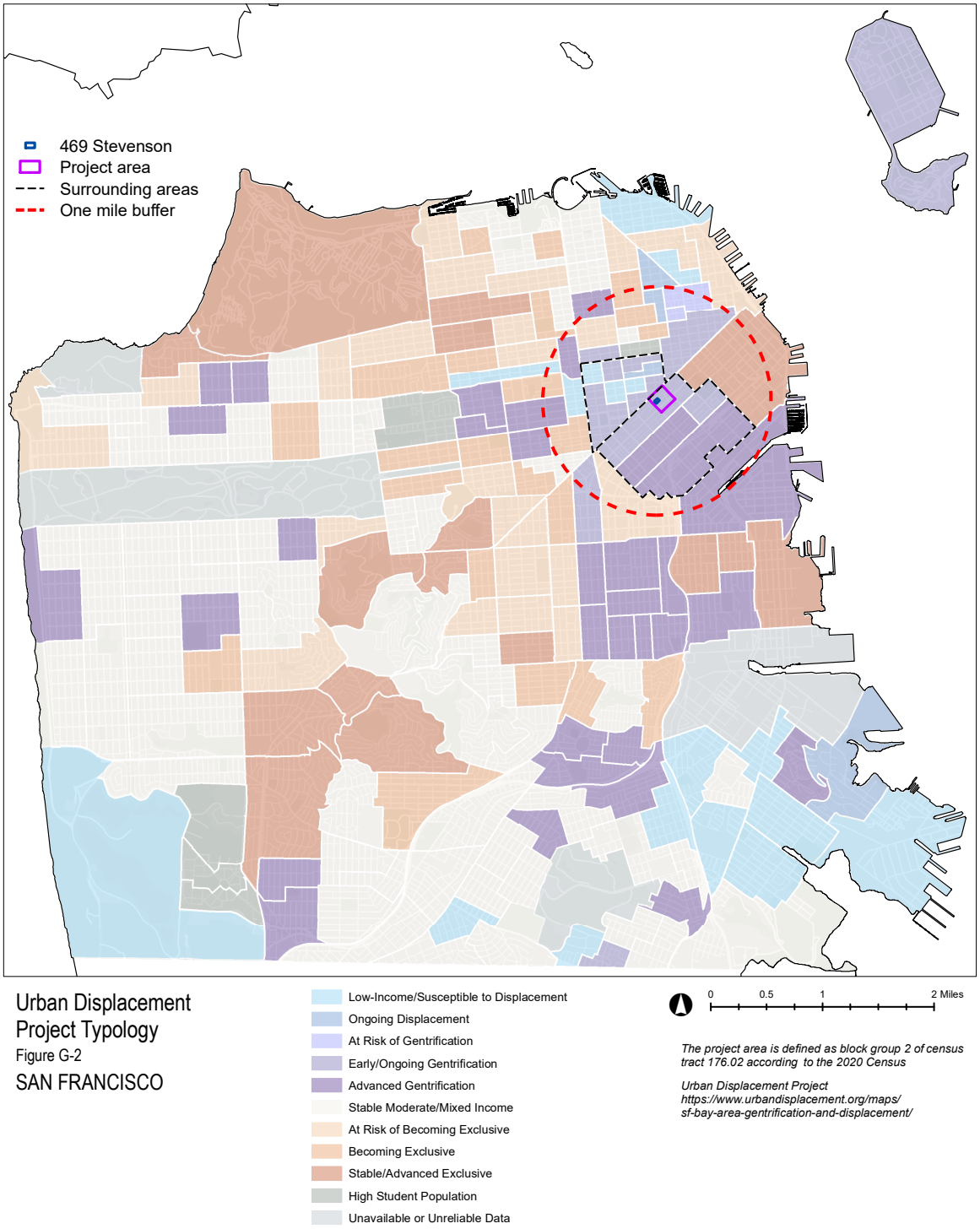
[112] As indicated in the Housing Element Update 2022 Report, the UDP displacement and gentrification maps have been created to better understand and predict where gentrification and displacement was happening and would likely occur in the Bay Area through a community-engaged research process. The gentrification and displacement typology maps summarize housing market dynamics and displacement and gentrification risk into categories ("typologies") at the census tract level. These maps are based on 2018 data, and these maps are undergoing another update in 2022 to incorporate new data on migration patterns. https://www.urbandisplacement.org/maps/sf-bay-area-gentrification-and-displacement/

Figure G-1 Urban Displacement Project Typology

MODIFIED TYPES	CRITERIA
LOW-INCOME/SUSCEPTIBLE TO DISPLACEMENT	• Low or mixed low-income tract in 2018
ONGOING DISPLACEMENT OF LOW-INCOME HOUSEHOLDS	• Low or mixed low-income tract in 2018 • Absolute loss of low-income households, 2000-2018
AT RISK OF GENTRIFICATION	• Low-income or mixed low-income tract in 2018 • Housing affordable to low or mixed low-income households in 2018 • Didn't gentrify 1990-2000 OR 2000-2018 • Marginal change in housing costs OR Zillow home or rental value increases in the 90th percentile between 2012-2018 • Local and nearby increases in rent were greater than the regional median between 2012-2018 OR the 2018 rent gap is greater than the regional median rent gap
EARLY/ONGOING GENTRIFICATION	• Low-income or mixed low-income tract in 2018 • Housing affordable to moderate or mixed moderate-income households in 2018 • Increase or rapid increase in housing costs OR above regional median change in Zillow home or rental values between 2012-2018 • Gentrified in 1990-2000 or 2000-2018
ADVANCED GENTRIFICATION	• Moderate, mixed moderate, mixed high, or high-income tract in 2018 • Housing affordable to middle, high, mixed moderate, and mixed high-income households in 2018 • Marginal change, increase, or rapid increase in housing costs • Gentrified in 1990-2000 or 2000-2018
STABLE MODERATE/MIXED INCOME	• Moderate, mixed moderate, mixed high, or high-income tract in 2018
AT RISK OF BECOMING EXCLUSIVE	• Moderate, mixed moderate, mixed high, or high-income tract in 2018 • Housing affordable to middle, high, mixed moderate, and mixed high-income households in 2018 • Marginal change or increase in housing costs
BECOMING EXCLUSIVE	• Moderate, mixed moderate, mixed high, or high-income tract in 2018 • Housing affordable to middle, high, mixed moderate, and mixed high-income households in 2018 • Rapid increase in housing costs • Absolute loss of low-income households, 2000-2018 • Declining low-income in-migration rate, 2012-2018 • Median income higher in 2018 than in 2000
STABLE/ADVANCED EXCLUSIVE	• High-income tract in 2000 and 2018 • Affordable to high or mixed high-income households in 2018 • Marginal change, increase, or rapid increase in housing costs

Source: Urban Displacement Project.
https://www.urbandisplacement.org/wp-content/uploads/2021/08/udp_replication_project_methodology_10.16.2020-converted.pdf

Figure G-2 Urban Displacement Project Typology Map for San Francisco



Source: Urban Displacement Project https://www.urbandisplacement.org/maps/sf-bay-area-gentrification-and-displacement/

The Proposed Project would include 422 market rate units and 73 onsite inclusionary units that would be provided at below market rate rents that are affordable to very low, low or moderate income households.

- While the rent levels of the 422 market rate units are not known at this time, average market rents would likely range between $3,350 to $4,350 per month based on information provided by ALH in the Revised 469 Stevenson Street Alternatives Economic Analysis in 2021.[113]
  - The lower end of the range reflects market rents based on a November 2020 survey performed by Greystar, which were substantially impacted due to the pandemic.
  - The higher end of the range is based on a 27% to 30% increase from the November 2020 market rent levels, which reflects more normalized market conditions.[114]
  - As indicated previously with CoStar data, while market rents have increased in San Francisco and the Surrounding Area since 2020, rent levels still have not recovered to pre-pandemic 2019 levels so the upper range may not be realized in the near term.
- Based on this range of market rent levels, average market rents in the Proposed Project would be affordable to above moderate income households, which would likely increase the number of above moderate income households (with incomes above $150,000) in the Surrounding Area by about 400 households based on a typical average occupancy level of 95% for market rate units.[115]
  - The average monthly rent level of $3,350 (low end of range) is affordable to a household income of $134,000, which is equivalent to a household at about 121% AMI as of 2022.
  - A rent level of $4,350 per month (high end of range) is affordable to a household income of $174,000, which is equivalent to a household at about 157% AMI as of 2022.
- The 73 onsite inclusionary units would increase the number of very low, low and moderate income households in the Surrounding Area by about 70 households based on a typical average occupancy level of 97% for affordable units.[116]

Although the addition of about 400 above moderate income households could intensify gentrification pressures in the Surrounding Area, the distribution of renter households by income level would not change substantially in the Surrounding Area with the Proposed Project, and the proportion of above moderate income households would be substantially less than the City as a whole.

- The shift in the distribution of household income level in the Surrounding Area as the result of the Proposed Project would likely range from about 0% to 1% within each household income bracket.
- For example, the proportion of above moderate income households in the Surrounding Area is projected to shift from about 17% to 18% with the Proposed Project, which would continue to be

[113] Revised 469 Stevenson Street Alternatives Economic Analysis, ALH Urban & Regional Economics, March 8, 2021.

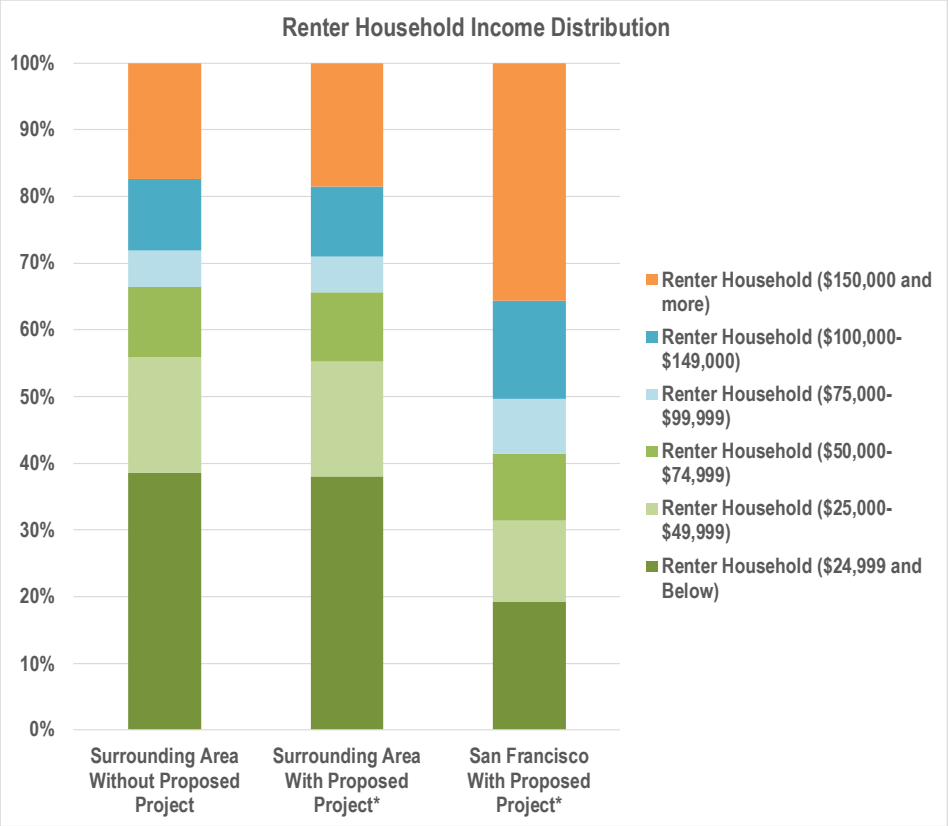
[114] The lower end of the rent range is based on the average market monthly rents shown in the market rate apartment section of Exhibit 2 of this revised analysis and reflects market rents based on a November 2020 survey performed by Greystar. The higher end of the range is based on a 27% to 30% increase in the November 2020 rent levels, which reflect more normalized market conditions according to ALH and were used to demonstrate improved financial feasibility as shown in Table 4 of the Revised 469 Stevenson Street Alternatives Economic Analysis.

[115] This analysis uses the 30% affordability standard and assumes a two person household corresponding with a 2022 household income level for a one bedroom unit at "Tier 1" per MOHCD and assumes a 5% vacancy rate for market rate units, consistent with the analysis in Chapter F. https://sfmohcd.org/sites/default/files/2022 AMI-RentLimits-HMFA-ForMOHsf.pdf

[116] The distribution of households by income level for affordable units assumes the distribution of units by affordability level (very low, low and moderate) shown in Table C-2 and uses the same methodology as described above for market rate units, with an assumed 3% vacancy rate for affordable units.

substantially less than the proportion of above moderate income households in the City as a whole (18% versus 36% citywide), as shown in Graph G-1 below.[117]

Graph G-1 Comparison of Renter Household Income Distribution in Surrounding Area With and Without Proposed Project and San Francisco



*The renter household income distribution with the Proposed Project is estimated based on the distribution of renter household incomes by income level assuming 30% of income toward rent and the distribution of market rate and affordable units in the Proposed Project.

Source: ALH Urban Economics, CoStar, U.S. Decennial 2020 Census 2020, 5-Year American Community Survey (ACS)

Of note, above moderate income households may have moved into existing housing in the Surrounding Area or could continue to move there with or without the Proposed Project. In addition, the planned pipeline of affordable housing in the Surrounding Area coupled with the residential anti-displacement strategies would address both gentrification and displacement pressures as further described below.

[117] The percentage distribution of renter households by income is based on 2020 5-year ACS data, which is multiplied by the number of renter households in the Surrounding Area and City of San Francisco from the 2020 Census, as shown in Table F-1. For example, the number of above moderate income households with incomes above $150,000 is estimated based on the percentage of these households in the Surrounding Area (17.42%) according to the 2020 5-year ACS multiplied by the number of renter households in the Surrounding Area from the 2020 Census (29,504 households). The number of renter households by income level from the Proposed Project is then added to the number of renter households in each income bracket within the Surrounding Area and San Francisco to estimate the distribution of renter households by income with the Proposed Project.

2. Range of Residential Displacement Impacts From Proposed Project

As indicated in Policy Brief 1, about 10% of the U.S. population moves each year. UDP's analysis indicates that new market rate housing production may increase displacement for lower income people under certain circumstances, but the increase in rates of residential displacement (involuntary moves) for very low to moderate income socio-economic groups are not as high as previously suspected, at 0.5 to 2 percent above normal rates.

As Policy Brief 1 indicates in its conclusion, the potential impacts from a new market rate development would be calculated as follows assuming the upper end of the range at 2 percent:

> *[W]hile in a normal year, 10% of households might move out, a construction year will mean that 12% move out per year for the next four years. If a block group houses 500 households, then 50 move out in a typical year, but 60 might move out each year post construction, for a total of 40 displaced households over four years. Thus, displacement impacts [from new development] could be mitigated with one mid-size apartment building with entirely affordable or subsidized units.*

The residential displacement impacts from the Proposed Project at 469 Stevenson Street were projected using the same methodology deployed in Policy Brief 1. Based on applying its methodology, the projected range of displacement impacts from the Proposed Project are 10 to 41 households, as shown in Table G-1 below.

Table G-1 Projected Range of Displacement Impacts From the Proposed Project

	Block Group 2 Census Tract 176.02[1]	Range of Annual Potential Displacement Impacts[2]		Projected Range of Displacement Impacts Over Four Years (Rounded)[2]	
		0.50%	2%	0.50%	2%
Number of Households	**510**	2.55	10.20	**10**	**41**

1. The Proposed Project is located in Block Group 2, Census Tract 176.02, which has 510 households according to the 2020 Census.

2. The potential range of displacement impacts is estimated based on the Urban Displacement Project methodology, which is contained in Policy Brief 1. https://www.urbandisplacement.org/wp-content/uploads/2022/03/IGS_1_New-Production_Brief_03.01.22.pdf

The methodology estimates displacement (involuntary moves) from new market rate development to range between .5% to 2% of existing households annually multiplied by the four year period post construction.

Source: Urban Displacement Project, US Decennial Census 2020.

As Policy Brief 1 indicates, this range of displacement impacts could be addressed by one mid-size apartment building with entirely affordable or subsidized units. As further described in Chapter C, the Proposed Project would be required to provide 73 onsite affordable housing units and $8 million in housing fees that could potentially support between 27-40 units of additional affordable housing in the Surrounding Area based on MOHCD's intention to direct funding toward affordable housing in SoMa. Furthermore, about three quarters of all housing units in the Surrounding Area are estimated to be protected from residential displacement, and numerous affordable housing developments are in the pipeline in the Surrounding Area as previously described in Chapter F.

Coupled with the residential anti-displacement strategies described below, the potential residential displacement impacts from the Proposed Project could be addressed by these strategies because the

residential anti-displacement strategies include substantially more than the production of one mid-sized affordable housing development with entirely affordable or subsidized units, which is the recommended mitigation in the UDP Policy Brief 1.

3. Residential Anti-Displacement Strategies of the Proposed Project

The Proposed Project would include required and voluntary residential anti-displacement strategies that are focused on the production of affordable housing and market rate housing as previously described in Chapter C and summarized below in Table G-2.

Table G-2 Description of Residential Anti-Displacement Strategies of Proposed Project

Strategy	Description	Proposed by the 469 Stevenson Project
Housing Production		
Affordable and market rate housing production	Production of affordable housing and market rate housing, including inclusionary housing, with rental housing application assistance by DAHLIA: San Francisco Housing Portal.	Required: Provision of 422 market rate and 73 affordable apartment units plus funding for additional affordable housing.
Inclusionary housing/zoning	Inclusion of affordable housing within mixed income/market rate developments.	Required: 73 on-site inclusionary housing units affordable to very low, low and moderate income households.
Affordable housing impact fees	Fees in-lieu of building units.	Required: $8,000,000 (with MOHCD intention to direct funding toward affordable housing in SoMa). Voluntary: Potential use of funds for affordable housing at 967 Mission Street.
Jobs-housing balance or commercial impact fees	Non-residential linkage fees.	Not required due to proposed size of retail.
Land dedication for affordable housing	San Francisco Public Land for Housing, California Surplus Land Act.	Voluntary: Donation of property at 59 6th Street for community benefit use, such as affordable housing, open space and recreation, or a community facility.
Homelessness prevention and supportive services and housing	Core programs to prevent homelessness and provide supportive housing include: permanent supportive housing, transitional housing, coordinated entry, shelter, street outreach, health care and support services.	Voluntary: Efforts to either negotiate a lease of the ground floor of the Helen Hotel, located at 166 Turk Street, for use as an Urban Rest and Sleep Center, or a purchase option for the entire building. Should the negotiation be successful, assign the lease or purchase option to a local community group and provide initial funding.

Note: See Chapter C for further information on the Proposed Project and Attachment E for further information regarding the anti-displacement strategies and relevant sources of information.

Source: City and County of San Francisco, Project Sponsor.

Housing Production– The required and voluntary residential anti-displacement strategies of the Proposed Project would consist of the following housing production strategies as further described in Figure G-1 and Section C of this report:

- Required provision of 73 onsite affordable housing units affordable to very low, low and moderate income households in addition to 422 market rate units that will help address market rate demand.
- Required payment of $8 million in housing fees that could potentially support between 27-40 units of additional affordable housing units in the Surrounding Area.
- Voluntary donation of property in the vicinity of the Proposed Project at 59 6th Street for community benefit use that could include affordable housing.
- Voluntary efforts to either negotiate a lease or purchase option for an urban rest and sleep center on the ground floor of the Helen Hotel at 166 Turk Street.

4. City-Led Residential Anti-Displacement Strategies

As described in prior sections of this report, the City of San Francisco is undertaking a Community Stabilization initiative and Affordable Housing Strategy to stabilize communities, address displacement impacts and produce more affordable housing. The draft Housing Element 2022 Update presents numerous policies and actions that are focused on addressing Housing Element Objective 3c, which seeks to: "Eliminate community displacement within areas vulnerable to displacement." The draft Cultural, History, Housing, and Economic Sustainability Strategy (CHHESS) for the SOMA Pilipinas Filipino Cultural Heritage District (SOMA Pilipinas CHD) also recommends several strategies aimed at addressing potential residential and cultural displacement impacts.[118]

As described in the research literature, residential anti-displacement strategies are generally characterized as follows, and the City is implementing strategies in all three categories in the Surrounding Area:

- **Housing Production** (including 100% affordable housing and inclusionary housing)– Numerous developments in the surrounding area of the SoMa and Tenderloin neighborhoods are in the City's development pipeline, which include about 1,500 affordable housing units in 100% affordable housing developments and about 1,200 inclusionary units (including the Proposed Project if built).
- **Housing Preservation**– The City has implemented a broad range of preservation strategies including preservation of federally subsidized housing, no-net-loss, one-for-one replacement strategies, SRO residential hotel rent and conversion controls, property rehabilitation and preservation programs (such as the PASS program), including buildings with high proportion of Filipino tenants, and facilitated land banking/community control.
- **Tenant Protection and Housing Stabilization–** In addition to the preservation strategies described above, the City has funded and facilitated programs tenant protection and housing stabilization strategies including tenant rental assistance to lower income households, rent stabilization and control, tenant counseling and right to legal counsel, the Code Enforcement Outreach Program (CEOP) and SRO Collaborative Program, tenant right to purchase, foreclosure assistance and other homeowner assistance programs, and Individual Development Accounts (IDA).

Working in collaboration with Planning staff, each of the City's residential anti-displacement strategies was analyzed to determine whether:

- The strategy is part of a City-led strategy that is being implemented in the Surrounding Area.
- A similar strategy is recommended in the draft SOMA Pilipinas CHD CHHESS.
- The strategy is being proposed by the Proposed Project, and whether it is a required component of the Proposed Project or being voluntarily proposed by the Project Sponsor.

As indicated in Table G-3 below, all of the City-led residential anti-displacement strategies that were identified by the research review are being implemented in the SoMa and Tenderloin neighborhoods.

[118] The June 2022 draft SOMA Pilipinas CHD CHHESS presents recommendations and strategies to preserve the cultural heritage of the Filipino community and was prepared based on a year-long community engagement process led by SOMA Pilipinas, which include focus groups, interviews and feedback from numerous residents. Cultural preservation is one of six areas of focus in the CHHESS strategies and recommendations, alongside tenant protections, arts and culture, economic and workforce development, place keeping and place making, and cultural competency. The Board of Supervisors passed a resolution adopting the CHHESS, which was signed by Mayor Breed on September 16, 2022. Resolution No. 369-22, Board File No. 220769.

Several similar housing preservation, tenant protection and housing stabilization strategies are also being recommended by the SOMA Pilipinas CHD CHHESS.

Table G-3 Summary of Residential Anti-Displacement Strategies
Surrounding Area, SOMA Pilipinas Filipino Cultural Heritage District and Proposed Project

Residential Anti-Displacement Strategies	City-Led Strategies Implemented in Surrounding Area (SoMa and Tenderloin)	Similar Strategy in SoMa Pilipinas Filipino Cultural Heritage District CHHESS	Proposed by the 469 Stevenson Project
Housing Production			
Affordable and market rate housing production	X	X	Required
Inclusionary housing/zoning	X	X	Required
Accessory dwelling units (ADUs)	X		
Affordable housing impact fees	X		Required
Jobs-housing balance or commercial impact fees	X		
Expedited permitting and developer incentives (including Housing Overlay Zones)	X		
Reduced parking requirements for affordable housing	X		
Land dedication for affordable housing	X		Voluntary
Homelessness prevention and supportive services and housing	X	X	Voluntary
Tax incentives and tax funded programs for affordable housing	X		
Voter Authorized Funding/Bonds	X		
Housing Preservation			
Preservation of federally subsidized housing	X	X	
Condominium conversion ordinances	X		
No-net-loss, one-for-one replacement strategies	X		
Single-room occupancy (SRO) hotels rent and conversion controls	X	X	
Property rehabilitation and preservation, including buildings with high proportion of Filipino tenants	X	X	
Land banking/community control	X	X	
Tenant Protection and Housing Stabilization			
Tenant rental assistance	X	X	
Rent stabilization/control	X	X	
Tenant counseling and right to legal counsel	X	X	
Code Enforcement Outreach Program (CEOP) and SRO Collaborative Program	X	X	
Just-Cause eviction policy	X	X	
Tenant right to purchase	X	X	
Foreclosure assistance	X	X	
Homeowner assistance programs and Individual Development Accounts (IDA)	X	X	

Note: See Chapter C for further information on the Proposed Project and Attachment E for further information regarding the anti-displacement strategies and relevant sources of information.

Key to indicators in table:

X= Indicates that this strategy is being undertaken or proposed.
Required= Indicates that this strategy is being proposed and is required for the Proposed Project.
Voluntary= Indicates that this strategy is being voluntarily proposed by the Project Sponsor.

Source: Urban Displacement Project, City and County of San Francisco, SOMA Pilipinas Filipino Cultural Heritage District CHHESS (June 2022 Draft)

The complete set of exhibits that describe each residential anti-displacement strategy are included in Attachment E. These exhibits include information regarding the City Program Lead(s), examples of how these strategies are being implemented in the Surrounding Area, and a summary description of the required and voluntary anti-displacement strategies of the Proposed Project. These exhibits also reference the sources that were used to compile these strategies, which are indicated by source number references in the last column of the exhibits that present the anti-displacement strategies.

H. Evaluation of Potential Cultural Displacement Impacts from Proposed Project

This section evaluates potential cultural displacement impacts associated with the SoMa Pilipinas–Filipino Cultural Heritage District (Soma Pilipinas Filipino CHD) that may occur from the Proposed Project. In summary, this evaluation finds the following:

- No physical (direct) displacement of historic resources or cultural assets associated with the Filipino community would occur from the Proposed Project as it is currently a parking lot without any buildings that house businesses or community organizations.
- Economic (indirect) displacement of cultural assets may have occurred historically in the SOMA Pilipinas Filipino CHD.
- A review of academic research indicates that research studies use different definitions and methodologies to measure cultural displacement, and comparatively few research studies have been done to measure cultural displacement impacts from new development on cultural assets, as compared with research regarding potential residential displacement. For these reasons, it is not possible to quantify or know with certainty if the proposed project will result in cultural displacement.
- As described earlier, cultural displacement occurs when there is a loss of historically and culturally significant institutions, organizations and businesses associated with a particular race, ethnicity, or other culturally significant group, which could occur either directly or indirectly. Such loss could also contribute to the loss of residents associated with that culture in the area, as the institution, organization, or business may serve as an anchor, place of employment, gathering place, place of commercial activity, etc. for that culture.
- Potential cultural displacement impacts from the Proposed Project need to be analyzed by an evaluation of non-residential and residential cultural assets that are associated with the Filipino community according to SOMA Pilipinas.
  - The evaluation analyzes the location of each cultural asset and its potential protection from displacement given its location on a public property or a nonprofit property that is owned or under a long term ground lease with a nonprofit organization because these locations would likely be less vulnerable to displacement given their public and/or nonprofit purpose and mission. Additionally, the evaluation identifies if any cultural asset is located on a property containing historic resources. The designation of a property as an historic resource can reduce the potential for cultural displacement as the buildings are more likely to be preserved and rehabilitated consistent with relevant Federal, State and/or local requirements, although these designations do not prevent changes in occupancy or use.
- The evaluation indicates that the Proposed Project would not likely increase the risk of cultural displacement on most non-residential and residential cultural assets because most are located on public or nonprofit property, which helps to protect them from displacement:
  - Almost all of the non-residential cultural assets that are nonprofit organizations appear to be located on nonprofit property.
  - All of the non-residential community landmarks are on public or nonprofit property.
  - None of the businesses identified as non-residential cultural assets are legacy businesses. Only three businesses appear to have been at the same location or located nearby in SoMa for more than nine years. This indicates that business turnover has likely occurred historically in the SOMA Pilipinas CHD and will likely continue to occur, with or without the Proposed Project.

Two Filipino businesses are located on nonprofit property, and three businesses are located on properties that are identified as historic resources and are associated with the Filipino community.

  - Residential cultural assets have a high proportion of Filipino residents according to SOMA Pilipinas, and all of these buildings are protected as affordable housing or rent controlled according to the San Francisco Rent Ordinance (SF Administrative Code, Chapter 37).

- The evaluation indicates that the following two historic resources associated with the Filipino community are located within the vicinity of the Proposed Project.
  - The Bayanihan House at 1010 Mission Street (80-96 6th Street) is owned by a nonprofit and is the location of several of the non-residential cultural assets, including five nonprofit organizations and two businesses.
  - The Mint Mall at 953 Mission Street (951-957 Mission) has been owned by the same private family for many years and is the location of two non-residential cultural assets, including a nonprofit senior resource center and a restaurant.
- The research literature also indicates that new development such as the Proposed Project can potentially benefit existing residents, as well as culturally significant organizations and businesses, when accompanied by anti-displacement strategies.
- As further described below, the cultural anti-displacement strategies that are incorporated into the Proposed Project as well as those being implemented by the City would likely address cultural displacement impacts of the Proposed Project.

1. Potential Cultural Displacement Impacts on Filipino Community

The Filipino community has a long history within the City and SoMa neighborhood as described in the Filipino Heritage Addendum to the South of Market Historic Context Statement (March 2013). As this Addendum describes, the South of Market neighborhood is emblematic of both the struggles and achievements of Filipino immigrants in the San Francisco Bay Area. While sizeable Filipino communities exist in other areas such as Daly City, Union City, and Vallejo, the South of Market neighborhood continues to serve as a touchstone for Filipinos seeking to connect with their cultural heritage. The neighborhood has traditionally served as a first stop for immigrants—particularly during the post-1965 wave of Filipino immigration.

The SoMa neighborhood continues to be the location where most important Filipino cultural celebrations are held in San Francisco.[119] The SOMA Pilipinas – Filipino Cultural Heritage District (SOMA Pilipinas CHD) was recognized as a district in 2016 prior to the creation of the City's cultural district program in 2018. The SOMA Pilipinas CHD is generally bounded by Market, Second, Brannan, and Eleventh streets, which is largely coterminous with the SoMa neighborhood and includes a few buildings of cultural significance that are outside the SoMa neighborhood– the International Hotel, Iloilo Circle Building Gran Oriente Filipino Masonic Temple, and Rizal Apartments (now known as San Lorenzo Ruiz Center). The SOMA Pilipinas CHD is one of nine cultural districts that have been established to "preserve, strengthen and promote cultural communities, and its goals are to support legacy businesses, nonprofits, community arts, and traditions."[120]

The 2013 Filipino Heritage Addendum to the South of Market Historic Context Statement (Filipino Heritage Addendum) lists and describes Filipino social heritage resources in SoMa based on research and

[119] https://default.sfplanning.org/Preservation/central_soma_hrs/SOMA_Filipino_Heritage_HCS_Final_Report-031313.pdf

[120] https://sfbos.org/sites/default/files/o0126-18.pdf

oral histories conducted by Page and Turnbull. The Filipino Heritage Addendum describes individual assets in the South of Market area that the Filipino community has identified as being a valuable and important part of the Filipino culture and history, while noting that some of these individual assets no longer exist or have relocated prior to its publication in March 2013.

Many of the Filipino social heritage resources listed in the Filipino Heritage Addendum have been identified by SOMA Pilipinas in the list of cultural assets on its website[121] and/or are included on the SOMA Pilipinas Filipino CHD Map, which is shown below on Figure H-1.[122]

SOMA Pilipinas also provided a list of non-residential and residential cultural assets to the Planning Department in 2022 as part of the preparation of the draft SOMA Pilipinas CHD CHHESS. Based on a review of buildings and parks on various lists of cultural assets, the cultural displacement analysis analyzes the cultural assets on the 2022 SOMA Pilipinas list and evaluates their protection from potential cultural displacement impacts from the Proposed Project.

The cultural displacement analysis focuses on two types of Filipino cultural assets provided by SOMA Pilipinas– non-residential and residential cultural assets. Residential cultural assets are residential buildings that have a high proportion of Filipino residents according to SOMA Pilipinas.

The cultural displacement analysis is based on the best available information that was provided by the Planning Department and the Mayor's Office of Housing and Community Development, as well as information contained in the Filipino Heritage Addendum to the South of Market Historic Context Statement, Draft SOMA Pilipinas CHD CHHESS, SOMA Pilipinas website, and the websites of the cultural assets.

a. Location of Filipino Cultural Assets

All of the Filipino cultural assets were analyzed in terms of their location, including whether they are located in the SoMa neighborhood, which is largely coterminous with the SOMA Pilipinas CHD, and in the vicinity of the Proposed Project within the SoMa neighborhood:

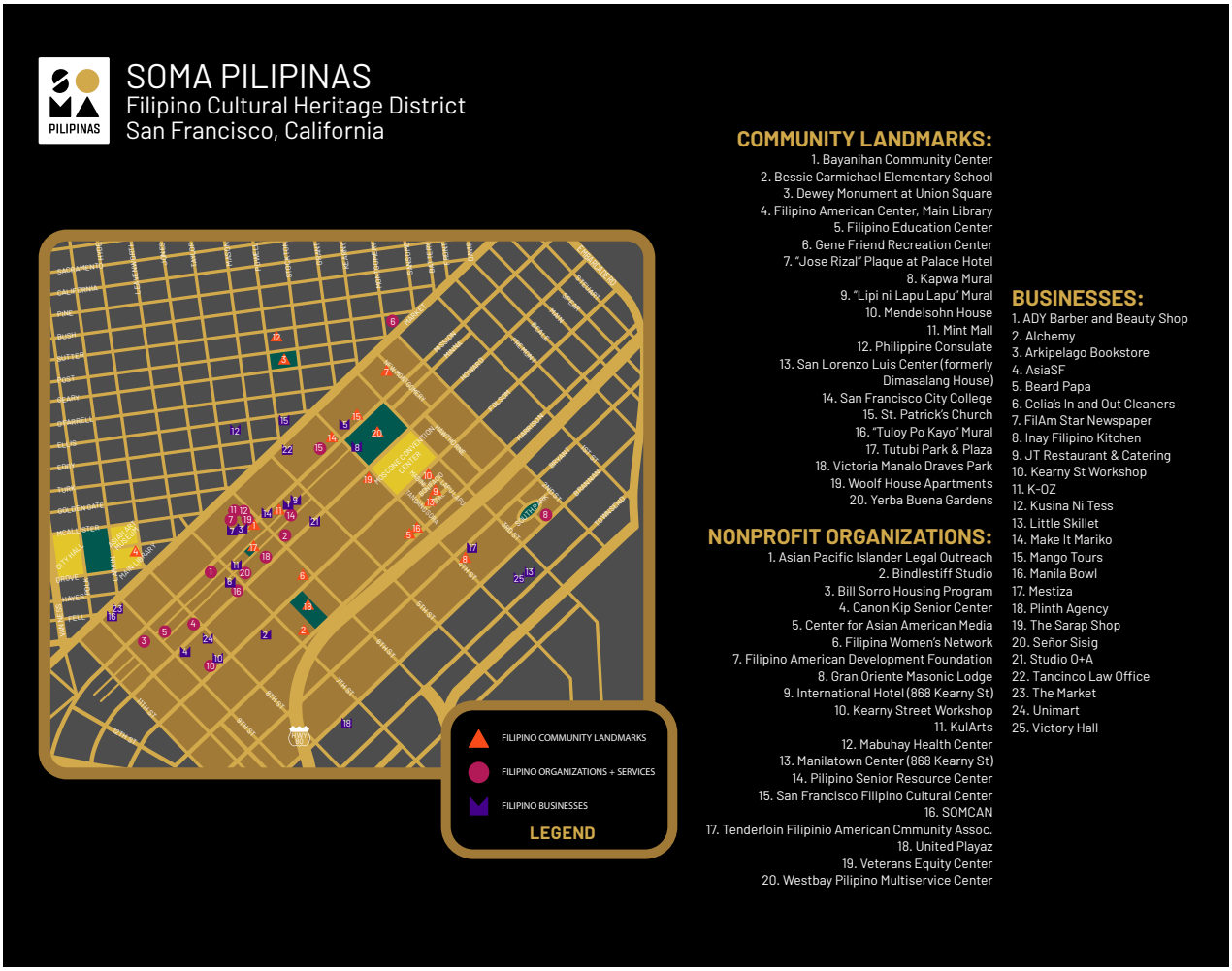
- SoMa (S)– As described earlier, the SOMA Pilipinas CHD is largely coterminous with the SoMa neighborhood and contains most of the Filipino cultural assets.
- SoMa in the vicinity of Proposed Project (S*)– The Proposed Project is located at 469 Stevenson Street in the SoMa neighborhood within the SOMA Pilipinas CHD between Market and Mission Streets and Fifth and Sixth Streets.
  - Voluntary cultural anti-displacement strategies would provide benefits in the vicinity of the Proposed Project.
- Tenderloin (T)– The Tenderloin neighborhood is not included in the SOMA Pilipinas CHD. Only the St. Boniface Church, and three Filipino businesses on the 2022 list of cultural assets are located in the Tenderloin neighborhood.[123]
- South Park (SP)– South Park has cultural significance to the Filipino community given the historical presence of Filipino organizations, such as the Gran Oriente Filipino Masonic Temple. South Park is not located near the Proposed Project and would not likely be affected by the Proposed Project.

[121] https://www.somapilipinas.org/cultural-assets

[122] https://static1.squarespace.com/static/5b2c30b58f51305e3d641e81/t/606735a1bda56a5896a81fee/1617376673646/SOMAPilipinas_map2021.pdf

[123] https://sfbos.org/sites/default/files/o0126-18.pdf

Figure H-1 Map of Cultural Assets
SOMA Pilipinas Filipino Cultural Heritage District



Source: SOMA Pilipinas
https://static1.squarespace.com/static/5b2c30b58f51305e3d641e81/t/606735a1bda56a5896a81fee/1617376673646/SOMAPilipinas_map2021.pdf

b. Analysis of Filipino Non-Residential Cultural Assets

As described above, SOMA Pilipinas provided a list of cultural assets to the Planning Department in 2022, which is considered the most up-to-date list of non-residential cultural assets from the Filipino community. The cultural assets are organized according to three categories– nonprofit organizations, community landmarks and businesses, which correspond with the designations on the SOMA Pilipinas CHD map in Figure H-1:[124]

- Nonprofit Organizations (NPO)– A broad variety of nonprofit organizations are considered Filipino cultural assets, which include arts, churches and service organizations.
- Community Landmarks (CL)– The SOMA Pilipinas CHD also includes community landmarks that consist of schools, parks, community centers, and arts-focused public buildings.
- Businesses (B)– Filipino businesses include eating and drinking establishments, retail stores and personal services, such as a barber shop and dry cleaners.

These non-residential cultural assets are summarized and evaluated in Table H-1 in terms of their location, type of cultural asset, potential protection according to their location in a public or nonprofit property, and whether they are located on a site containing a historic resource.[125] As shown in Table H-1, thirteen non-residential cultural assets are located in the vicinity of the Proposed Project (with location indicator of S*), most of which are located in an historic resource.

The non-residential cultural assets were also evaluated to understand how long they have been located in SoMa based on a comparison of their 2022 address with the address that was referenced in the Filipino Heritage Addendum published in 2013. Almost all of the nonprofit organizations and community landmarks have been located at the same address in SoMa for the past decade or moved nearby (within a few blocks in SoMa).[126]

Almost all of the Filipino businesses are retail establishments. Most of the Filipino businesses identified as cultural assets by SOMA Pilipinas in 2022 were not referenced in the Filipino Heritage Addendum or indicated on Figure H-1. Only Arkipelago Bookstore, JT Restaurant (under former name of Filipinas Restaurant) and Celia's In and Out Cleaners were referenced in the Filipino Heritage Addendum.

Retail businesses experience increasing closure rates as they age according to retail establishment data compiled by the US Bureau of Labor Statistics (BLS). While annual business closure and survival rates differ depending on the year when retail businesses are established and the economic conditions that occur thereafter, typically only about 70% of retail businesses survive more than two years of business, 50% survive after the first 6 to 7 years in business, and 25% to 30% survive more than 20 years.[127] This data indicates that business turnover has likely occurred historically in the SOMA Pilipinas CHD and will likely continue to occur, with or without the Proposed Project.

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[124] The 2022 list provided by SOMA Pilipinas is considered the most up-to-date list of cultural assets.

[125] While murals are an important part of the Filipino heritage, murals are not included in the cultural displacement analysis as they are at lower risk of displacement given their protections. Murals that highlight Filipino culture are located in Tutubi Park, Howard Langton Community Garden, Bessie Carmichael School, and several nonprofit properties in SoMA, including San Lorenzo Ruiz Apartments. Several City agencies oversee the review and preservation of murals, and murals have protections under the San Francisco Visual Artists Rights Act and the California Art Preservation Act. https://sfplanning.org/sites/default/files/documents/publications/GeneralInfo_Murals.pdf

[126] Several of the nonprofit organizations and most of the businesses on the 2022 SOMA Pilipinas list were not referenced in the Filipino Heritage Addendum. A few have moved nearby to their prior location. Kularts has moved to 1010 Mission Street on the ground floor of Bayanihan House, owned by a local nonprofit, TODCO. SOMCam has moved nearby to 1038 Mission Street, which is located on the ground floor of 1036 Mission Family Apartments owned by a local nonprofit, TNDC.

[127] https://www.bls.gov/bdm/us_age_naics_44_table7.txt

Table H-1 Analysis of Potential Protection of Non-Residential Cultural Assets
SOMA Pilipinas Filipino Cultural Heritage District

	Address	Same Address as 2013 Addendum?*	Cultural Asset Category	Location	SOMA Pilipinas Map Code	Potential Protection?	Historic Resource
Nonprofit Organizations							
Bindlestiff Studio	185 6th St	**Same address**	Arts	**S***	NP-2	NP	
Kularts	1010 Mission St	Different address	Arts	**S***	NP-11	NP	HR
Luggage Store Gallery	1007 Market St	Not referenced	Arts	**S***		NP	
SF Filipino Cultural Center	814 Mission St	Different address	Arts	S	NP-15	Unknown	
Balay Kreative Studios	863 Mission St	Not referenced	Arts	S		P	
Filipino American Development Foundation	1010 Mission St	**Same address**	Services	**S***	NP-7	NP	HR
Mabuhay Health Clinic	1010 Mission St	Not referenced	Services	**S***	NP-12	NP	HR
Pilipino Senior Resource Center	953 Mission St	**Same address**	Services	**S***	NP-14	Unknown	HR
Bayanihan Equity Center	1010 Mission St	**Same address**	Services	**S***	NP-19	NP	HR
Bill Sorro Housing Program	1110 Howard St	Not referenced	Services	S	NP-3	Unknown	
Canon Kip Senior Center	705 Natoma St	**Same address**	Services	S	NP-4	NP	
SOMCAN	1038 Mission St	**Moved nearby**	Services	S	NP-16	NP	
United Playaz	1038 Howard St	**Moved nearby**	Services	S	NP-18	NP	
West Bay Pilipino Multi-Service Center	175 7th St	**Same address**	Services	S	NP-20	NP	
St. Joseph's Church Art Society	1401 Howard St	**Same address**	Arts/Church	S		NP	HR
St. Patrick Church	756 Mission St	**Same address**	Church	S		NP	HR
St. Boniface Church	133 Golden Gate Ave	**Same address**	Church	T		NP	HR
Gran Oriente Filipino Masonic Temple	95 Jack London Alley	**Same address**	Church	SP		NP	HR
Community Landmarks							
Bayanihan Community Center	1010 Mission St	**Same address**	Services	**S***	CL-1	NP	HR
Bessie Carmichael School	375 7th St	**Same address**	School	S	CL-2	P	
Filipino Education Center	824 Harrison	**Same address**	School	S	CL-5	P	
Tutubi Park	539 Minna St	**Same address**	Park	**S***	CL-17	P	
Gene Friend Recreation Center	270 6th St	**Same address**	Park	S	CL-6	P	
Kapwa Gardens	967 Mission St	New park	Park	S	CL-8	P	
Victoria Manalo Draves Park	16 Sherman St	**Same address**	Park	S	CL-18	P	
Yerba Buena Gardens	750 Howard St	**Same address**	Park	S	CL-20	P	
Yerba Buena Center for the Arts	701 Mission St	**Same address**	Arts	S	CL-20	P	
Fil-Am Reading Room, Main Library	100 Larkin Street	**Same address**	Arts	-	CL-4	P	
Businesses							
You by Hu Barber Gallery	76 6th St	Not referenced	Business	**S***	CL-1	NP	HR
Arkipelago Bookstore	1010 Mission St	**Same address**	Business	**S***	B-3	NP	HR
JT Restaurant (Filipinas Restaurant)	953 Mission Street	**Same address**	Business	**S***	B-9	Unknown	HR
Plinth Agency	981 Mission St	Not referenced	Business	**S***	B-18	Unknown	
Celia's In and Out Cleaners	180 7th St	**Moved nearby**	Business	S	B-6	Unknown	
Make It Mariko	863 Mission St	Not referenced	Business	S	B-14	Unknown	
Mestiza	595 Bryant St	Not referenced	Business	S	B-17	Unknown	
Studio O+A	452 Tehama St	Not referenced	Business	S	B-21	Unknown	
Kona's Street Market	32 3rd St	Not referenced	Business	S		Unknown	
Perform 4 Life	650 Mission St	Not referenced	Business	S		Unknown	
Executive Order	868 Mission St	Not referenced	Business	S		Unknown	
Uncle Tito	59 9th St	Not referenced	Business	S		Unknown	
Victory Hall	360 Ritch St	Not referenced	Business	S		Unknown	
Kusina Ni Tess	235 Ellis St	Not referenced	Business	T	B-12	Unknown	
Ox and Tiger	552 Jones St	Not referenced	Business	T		Unknown	
Tilted Brim	706 Larkin St	Not referenced	Business	T		Unknown	

Key to Table:

* Evaluates if address is the same as in the Filipino Heritage Addendum to the South of Market Historic Context Statement (March 2013).

Neighborhood location: **S***= in the vicinity of the Proposed Project in SoMa, S=SoMa, T=Tenderloin, SP= South Park.

Potential Protection: P= Public, NP = Non-Profit, HR= Historic Resource (based on best available information)

SOMA Pilipinas Map Codes: NP= Nonprofit, CL= Community Landmark, B=Business

Source: San Francisco Planning Department, Filipino Heritage Addendum to the South of Market Historic Context Statement, Draft SOMA Pilipinas CHD CHHESS, and SOMA Pilipinas website.

All of the businesses listed as cultural assets were analyzed to determine whether they are part of San Francisco's Legacy Business program, as preservation of legacy businesses is a key goal of the City's Cultural District program and indicates business longevity.[128] Businesses that have operated in San Francisco for 30 years or longer (or meet other legacy criteria) and have contributed to the history and identity are certified as Legacy Businesses. Legacy businesses receive educational and promotional assistance from the Office of Small Business to support their continued viability and success and can apply for grants or receive legislative benefits.[129]

Based on a review of the businesses that are listed and mapped on the City's Legacy Business website,[130] none of the Filipino businesses listed in Table H-1 are included on the Legacy Business list, as confirmed by the Planning Department and Legacy Business Program.[131] This could indicate that these businesses do not meet the legacy business criteria or the business owners have not yet applied for designation as a legacy business, which could be provide a benefit to the businesses and is one of the citywide cultural anti-displacement strategies that is being used by other businesses in the Surrounding Area. (As noted earlier, only three businesses appear to have been in operation for nine years or more.) Each of these non-residential cultural assets is also analyzed according to whether the asset is likely to be protected given its location as follows:

- Public property (P), which is owned by a public agency.
  - Given its public ownership, the current use/occupancy is not likely to change.
- Nonprofit property (NP), which is owned by a nonprofit organization or subject to a long term lease for affordable housing.
  - Nonprofit organizations have a history of providing long term leases at below market rents, which helps to protect these uses.

Based on this analysis, most of the Filipino non-residential cultural assets are likely to be protected, including most of the non-residential cultural assets in the vicinity of the Proposed Project.

- All of the community landmarks and almost all of the nonprofit organizations are located on property that is owned or ground leased to a nonprofit for affordable housing or other nonprofit use.
  - One of the community landmarks and several nonprofit organizations are located in the Bayanihan House, which is a Filipino historic resource in the vicinity of the Proposed Project at the corner of Mission and 6th Street that includes storefronts with addresses at 1010 Mission Street and 76 through 96 Sixth Street.
    - The Bayanihan House is a residential SRO that is owned by a local nonprofit, TODCO, and houses both residents and the Bayanihan Equity Center (formerly known as the Veterans Equity Center), Filipino American Development Foundation, Kularts, and Mabuhay Health Clinic.
    - Most of the remaining nonprofit organizations are located in buildings that they own or in buildings that are nonprofit properties.
- Two of the businesses are also located in the Bayanihan House –Arkipelago Bookstore and You by Hu Barber Gallery– within the vicinity of the Proposed Project.

[128] As noted earlier, cultural districts were established by the Board of Supervisors to "preserve, strengthen and promote cultural communities, and its goals are to support legacy businesses, nonprofits, community arts, and traditions."

[129] https://legacybusiness.org/about

[130] https://legacybusiness.org/registry

[131] None of the businesses shown on Figure H-1, which shows the SOMA Pilipinas map of the CHD cultural assets, appear to be listed in the Legacy Business registry either.

- All of the other businesses listed as cultural assets, with the exception of the two located in the Bayanihan House, do not appear to be located on public or nonprofit property or designated as legacy businesses.

- The Pilipino Senior Resource Center (nonprofit organization) and the JT Restaurant (business) are located in the Mint Mall building at 953-957 Mission Street in the vicinity of the Proposed Project and have been at this location for more than a decade. As discussed further below, the Mint Mall building is designated as a historic resource.

In summary, this analysis demonstrates that most of the Filipino non-residential cultural assets have some form of protection, and all of the community landmarks are on public property or nonprofit property. These findings indicate that the Proposed Project is not likely to substantially increase the risk of cultural displacement of non-residential cultural assets given the cultural anti-displacement strategies of the Proposed Project and the city's cultural anti-displacement strategies that are described below. While many businesses have likely closed historically in the SOMA Pilipinas CHD and will likely continue to close over time given typical business patterns, this is not directly attributable to the Proposed Project.

Given the cultural anti-displacement strategies of the Proposed Project, the addition of new residents and related consumer buying power could provide positive benefits to local businesses by increasing the number of patrons to existing businesses and/or help alleviate commercial vacancies in the area, which would also allow a greater number of customers to arrive by foot or bicycle. While most cultural assets analyzed have some level of protection, it cannot be concluded with certainty that the Proposed Project would not result in any displacement of cultural assets.

c. Analysis of Filipino Residential Cultural Assets

Based on an analysis of the Filipino residential cultural assets identified by SOMA Pilipinas as having a high proportion of Filipino residents, all of these residential cultural assets are either located in affordable housing developments or in residential buildings subject to rent control that provide protections to existing tenants, as shown in Table H-2:

- Affordable housing developments– As described earlier, the SoMa and Tenderloin neighborhoods have many affordable housing developments, which are developed and owned by nonprofit organizations and are subject to long term regulatory restrictions as affordable housing.[132]
- Rent Controlled Buildings– Both neighborhoods also have many older residential buildings that are subject to rent control (including many with SRO units).[133]

Each of these residential cultural assets is analyzed according to whether the asset is likely to be protected as affordable housing on nonprofit property (NP) or subject to rent control (RC), which is true of all of the residential cultural assets as shown in Table H-2.

These findings indicate that the Proposed Project would not increase the risk of cultural displacement of residential cultural assets given their protection as affordable housing or rent controlled buildings, coupled with the residential and cultural anti-displacement strategies of the Proposed Project and the city's anti-displacement strategies that are described below.

[132] Data provided by the Planning Department and MOHCD was used to determine if the property is an affordable housing development owned by a nonprofit.

[133] Data provided by the Planning Department regarding rent controlled buildings and Assessor records was used to analyze the age of a residential building to evaluate whether it is subject to rent control pursuant to the San Francisco Rent Ordinance (SF Administrative Code, Chapter 37), which was enacted effective June 13, 1979.

Table H-2 Analysis of Potential Protection of Residential Cultural Assets
SOMA Pilipinas Filipino Cultural Heritage District

	Address	Same Address as 2013 Addendum?*	Cultural Asset Category	Location	SOMA Pilipinas Map Code	Potential Protection?	Historic Resource
Affordable Housing Developments							
Bayanihan House	1010 Mission St (80 -96 6th St)	**Same address**	Housing	**S***	CL-1	NP	HR
Mendelsohn House	737 Folsom St	**Same address**	Housing	S	CL-10	NP	
Woolf House	801 Howard St	**Same address**	Housing	S	CL-19	NP	
Gabreila Apartments	587 Natoma St	Not referenced	Housing	S	0	NP	
Ritz Hotel Apartments	210-216 Eddy Street	Not referenced	Housing	T	0	NP	
Alexander Residence	230 Eddy St	Not referenced	Housing	T	0	NP	
270 Turk	270 Turk St	Not referenced	Housing	T	0	NP	
Gran Oriente Filipino Hotel	126 Taber Pl	**Same address**	Housing	SP	0	NP	Potential HR
Gran Oriente Filipino Masonic Temple	95 Jack London Alley	**Same address**	Housing	SP	NP-8	NP	Potential HR
Rent Controlled Buildings							
Mint Mall	953-957 Mission St	**Same address**	Housing	**S***	CL-11	RC	HR
San Lorenzo Ruiz Center	50 Rizal St	**Same address**	Housing	S	0	RC	Potential HR
Trinity Apartments	1188 Mission St	Not referenced	Housing	S	0	RC	
155 Turk	155 Turk St	Not referenced	Housing	T	0	RC	
172 Turk	173 Turk St	Not referenced	Housing	T	0	RC	
285 Turk	286 Turk Street	Not referenced	Housing	T	0	RC	
345 Jones	345 Jones St	Not referenced	Housing	T	0	RC	
347 Eddy	348 Eddy St	Not referenced	Housing	T	0	RC	
415 Jones	416 Jones St	Not referenced	Housing	T	0	RC	
50 Golden Gate	51 Golden Gate Avenue	Not referenced	Housing	T	0	RC	
57 Taylor	57 Taylor St	Not referenced	Housing	T	0	RC	
225 Taylor	225 Taylor St	Not referenced	Housing	T	0	RC	

Key to Table:

* Evaluates if address is the same as in the Filipino Heritage Addendum to the South of Market Historic Context Statement (March 2013).

Neighborhood location: **S***= in the vicinity of the Proposed Project in SoMa, S=SoMa, T=Tenderloin, SP= South Park.

Potential Protection: P= Public, NP = Non-Profit, RC= Rent Controlled, HR= Historic Resource (based on best available information)

SOMA Pilipinas Map Codes: NP= Nonprofit, CL= Community Landmark, B=Business

Source: San Francisco Planning Department, Mayor's Office of Housing and Community Development, Filipino Heritage Addendum to the South of Market Historic Context Statement, Draft SOMA Pilipinas CHD CHHESS, and SOMA Pilipinas website.

d. Evaluation of Historic Resources Associated with Filipino Community

Each of the cultural assets is also analyzed based on whether it is currently identified as an historic resource (designated as a landmark or historic resource by the City) or considered to be a potential historic resource or district by the Planning Department or according to the Historic Resources Evaluation (HRE) Part II that has been prepared by Page and Turnbull. [134]

[134] Historic Resources Evaluation Part II, Page and Turnbull, October 2022.

The Planning Department has identified two individual historic resources that have been associated with the SoMa Filipino community for over 40 years within the vicinity of the Proposed Project:

- The former Delta hotel building at 1010 Mission Street (also encompassing 76-96 Sixth Street) is a five-story mixed-use building that is now called the Bayanihan House.
  - This building was built in 1912 and is located about one half block southwest of the Proposed Project at the corner of Sixth Street and Mission Street. While the building is a contributor to the Sixth Street Lodginghouse Historic District, its association with the Filipino community is more recent and includes its association with Dr. Borja who purchased the building and ultimately sold it to TODCO with deed restrictions focused on benefiting the Filipino community.[135]
  - As previously described, the Bayanihan House is a residential cultural asset, which is affordable housing owned by TODCO, a local nonprofit. The Bayanihan House houses several Filipino organizations that are non-residential cultural assets: Arkipelago Bookstore, Bayanihan Center, Bayanihan Equity Center (formerly known as the Veterans Equity Center), Filipino American Development Foundation, Kularts, Mabuhay Health Clinic, and You by Hu Barber Gallery.
- The Mint Mall at 953 Mission Street (also encompassing 951-957 Mission Street) is a five-story mixed-use building that is located to the southeast of the project site.
  - The building was built in 1916 and is a contributor to the Mint-Mission Article 11 Conservation District. The building is a certified residential SRO building according to City records, which houses Filipino residents, and is the location of two non-residential cultural assets– Pilipino Senior Resource Center and JT Restaurant.[136]

Additional individual historic resources associated with the Filipino community elsewhere in the SOMA Pilipinas CHD may be identified by the Planning Department in the future including:

- Saint Joseph's Church at 1401 Howard Street (Landmark 120), which identifies the association with the Filipino community in SoMa in its landmark resolution.[137]
- 50 Rizal Street, currently referred to as the San Lorenzo Ruiz Center, which housed Filipino cultural institutions beginning in the 1970s.
- Neither of these cultural assets is in the vicinity of the Proposed Project.

While no historic district associated with the SOMA Pilipinas Filipino CHD is located in the vicinity of the Proposed Project, the South Park area that is located approximately 0.8 miles east of the Proposed Project includes a California Register-eligible historic district. This eligible South Park Historic District

[135] The Bayanihan House is the site of the former Delta Hotel, a residential hotel that was owned by Dr. Mario Borja, a Filipino. In the 1970's, Dr. Borja purchased the Delta Hotel hoping that it may one day serve the Filipino population living in SOMA. By 1994, Dr. Borja took over the management of the hotel and provided affordable housing to low-income tenants, including the growing population of Filipino American WWII veterans. In 1999, Borja sold the hotel to an affordable housing developer, Tenant and Owners Development Corporation (TODCO) with specific conditions for the sale to TODCO to benefit the community. First, TODCO had to provide affordable housing to all displaced tenants, including the more than 100 elderly Filipino American WWII veterans. Second, the building would be renamed "Bayanihan House," a Filipino cultural value meaning mutual support and mutual caring. Third, TODCO would extend a 20-year lease to the Filipino American Development Foundation, which runs the Bayanihan Community Center, for $1/year for over 7,000 square feet of ground floor and basement space. https://www.bayanihancc.org/about.html

[136] According to the Filipino Heritage Addendum to the South of Market Historic Context Statement, the Mint Mall has been owned by the Nocon family since the 1970s. The Mint Mall has additional cultural significance as it formerly housed several different community organizations, such as Bayanihan Community Center, Bindlestiff Theater/Studios, West Bay Pilipino Multi-Service Center, South of Market Employment Center, and Arkipelago Bookstore.

[137] https://sfplanninggis.org/docs/landmarks_and_districts/LM120.pdf

represents the earliest, albeit small, community of Filipino immigrants in SoMa and includes the following cultural assets listed on Tables H-1 and H-2:

- Gran Oriente Filipino Hotel and Masonic Temple, which have been developed as affordable housing by Mission Housing.

The last column of Tables H-1 and H-2 shows the result of the historic resource analysis, which indicates whether the cultural asset is currently considered or could be designated an historic resource (HR).

The designation of historic resources, landmarks and historic districts help prevent cultural displacement as the buildings are more likely to be preserved and rehabilitated consistent with relevant Federal, State and/or local requirements to preserve their historic character, although these designations do not prevent changes in occupancy or use. Therefore, cultural assets that are located on historic sites or in buildings identified as an historic resource may be afforded some protection from displacement.

2. Cultural Anti-Displacement Strategies of Proposed Project

The Proposed Project would include both required and voluntary cultural anti-displacement strategies focused on arts and culture stabilization, business retention and stabilization, and workforce development and education in the Surrounding Area. As described in Chapter C, most of the voluntary cultural anti-displacement strategies are the subject of a Community Benefits Agreement (CBA) developed in collaboration with the Mid-Market Coalition.

These strategies are summarized in Table H-3, organized according to the following categories consistent with the research literature and the City's Community Stabilization initiative:[138]

- **Community, Arts and Cultural Stabilization**– The Proposed Project would dedicate the required 1% of construction cost on public art, which would include $250,000 to support public art projects at 469 Stevenson that recognize the Filipino community's history, culture, and contributions in addition to enhance and enliven urban spaces and places. About 4,000 square feet of retail space is voluntarily proposed to be provided at below market rents to community-serving retail and community spaces accompanied by donated skilled labor services to improve the space for occupancy. An-kind contribution (valued at $50,000/year) of the Project's on-site maintenance and administration staff's labor would also be contributed to help maintain Mint Plaza.
- **Community, Business and Workforce Stabilization**– The below market rate space in the Proposed Project would provide space for community serving retail businesses. Workforce employment programs would include the required first source hiring program and the voluntary collaboration on employment programs for local residents with the Office of Economic and Workforce Development (OEWD) 6th Street Employment Program. A voluntary donation of about $580,000 would be made to a Community Programming Fund that would benefit resident-led projects and organizations in the Surrounding Area among other programs to benefit the community.

[138] The voluntary land donation of property at 59 6th Street (Assessor's Block 3704, Lot 049) for a community benefit use could be used to support these efforts as well.

Table H-3 Description of Cultural Anti-Displacement Strategies of Proposed Project

Strategy	Description	Proposed by the 469 Stevenson Project?
Community, Arts and Cultural Stabilization		
Arts and culture protection	Ongoing support for arts and cultural organizations and historically underserved communities including grants for services, capital and capacity building.	Voluntary: Designate two ground floor spaces of about 4,000 square feet at below market rent for SoMa community-serving retail and community spaces. Building and Construction Trades Council will donate skilled labor for construction of tenant improvements for community serving non-profits.
Community investment, including support of arts and cultural organizations, such as Cultural	Funding for artists, arts organizations and historically underserved communities through grants, technical assistance and capacity building, economic development, education and cultural centers.	Voluntary: Same as above (designation of two community-serving and community spaces).
Community organization preservation - Nonprofit Sustainability Initiative (NSI), Community Cornerstones	Provision of financial assistance, professional services, assessment tools and other resources to address key challenges, including grants for property acquisition and lease stabilization.	Voluntary: Same as above (designation of two community-serving and community spaces).
Community organization support and retention	Support of community organizations that preserve culture and improve quality of life including health, public safety and resident wellness.	Voluntary: $578,700 to benefit resident-led projects and organizations in SoMa and Tenderloin and help fund programs to promote community, public safety, sanitation, and resident wellness.
Health and social services for vulnerable populations, including programs for Filipino children and youth	Health and social services to the City's most vulnerable populations and those who need language translation services.	Voluntary: Fund an independent impact assessment/ study to evaluate extent of construction impact, including impact to social equity, livelihoods, health, and the general SoMa population.
Public art, civic art and public realm improvements	Provision of public and civic art as well as improvement of the public realm, including street safety.	Required: As part of required 1%-for-art program, contribute $250,000 to support on-site public art projects that recognize the Filipino community's history, culture, and contributions.
Citywide Public Space Initiative and equitable recreation and park investments	Recreation and Parks' Equity Metrics endeavors to invest in open space and recreational investments in disadvantaged neighborhoods.	Voluntary: Provide in-kind contribution (valued at $50,000/year) by the Project's on-site maintenance and administration staff to help maintain Mint Plaza.
Business and Workforce Stabilization		
Business retention and stabilization	Resources to start, run, grow, and support local businesses in San Francisco, including technical assistance, low interest loans, façade improvements (SF Shines), CBDs, and other programs.	Voluntary: Same as above (designation of two community-serving and community spaces).
Sustain local businesses and commercial corridors (Invest in Neighborhoods)	Partnerships between City agencies, nonprofits and CBDs to enhance and strengthen neighborhood commercial corridors through small business support, improvements to physical	Voluntary: Same as above (designation of two community-serving and community spaces).
Workforce development and education	Workforce development, job placement and paid work experience opportunities, including workforce hiring programs and programs for young adults.	Voluntary: Develop employment programs for local residents of SoMa and Tenderloin in conjunction with OEWD 6th Street Employment Program.
First Source Hiring	San Francisco First Source Hiring Program per Chapter 83 of San Francisco Administrative Code.	Required: Provision of employment opportunities for economically disadvantaged individuals during construction and operations.
Local employment programs	San Francisco Local Hiring Policy per Chapter 6 of San Francisco Administrative Code.	Voluntary: Same as above (develop employment programs for local residents).
Minimum wage	Minimum Wage Ordinance per Chapter 12R of San Francisco Administrative Code.	Required: As required by City Administrative Code
Wage theft protections and enforcement of other labor laws	Enforcement of local labor laws that apply citywide as well as to City contractors, lessees, and others doing business with the City.	Required: As required by City Administrative Code

Note: See Chapter C for further information on the Proposed Project and Attachment E for further information regarding the anti-displacement strategies and relevant sources of information.
Source: Urban Displacement Project, City and County of San Francisco, SOMA Pilipinas Filipino Cultural Heritage District CHHESS (June 2022 Draft)

3. City-Led Cultural Anti-Displacement Strategies

The cultural anti-displacement strategies were compiled based on the City's Community Stabilization initiative and Racial and Equity plans; anti-displacement strategies currently being implemented by the City in the Surrounding Area are identified. These strategies are also informed by the draft SOMA Pilipinas CHD CHHESS, which presents recommendations and strategies to preserve the cultural heritage of the Filipino community in the SOMA Pilipinas CHD as described earlier. The cultural anti-displacement strategies are generally characterized as follows, and the City is implementing strategies in all of the categories in the Surrounding Area:

- **Initiatives, Plans and Agreements to Address Cultural Displacement**– The City has implemented a variety of initiatives, plans and community benefit agreements to preserve and stabilize community, arts and cultural organizations and preserve associated cultural assets.
- **Community, Arts and Cultural Stabilization**– The City has implemented a variety of strategies to achieve community, arts and cultural stabilization including the Cultural District initiative, historic resource and landmark designations, Community Investment Program, Nonprofit Sustainability Initiative, Community Cornerstones, which includes grants for property acquisition and lease stabilization,[139] health and social services for vulnerable populations, including programs for Filipino children and youth, provision of public and civic art as well as improvement of the public realm, and the citywide Public Space Initiative.
- **Community, Business and Workforce Stabilization**– The City has implemented a variety of policies, programs, actions and strategies including the Cultural District initiative, Legacy Business Program,[140] other programs and initiatives by OEWD and its Office of Small Business programs to sustain local businesses and commercial corridors (such as Invest in Neighborhoods) and SoMa West Community Benefit District (CBD), which is the largest of the City's CBDs and surrounds the Proposed Project. Many workforce programs are also being implemented in the Surrounding Area including the City's first source hiring program and the Sixth Street employment program.

As indicated in Table H-4 and further described in Attachment E, a large number of City-led cultural anti-displacement strategies are being implemented in the Surrounding Area, many of which are part of the City's Community Stabilization initiative. Working in collaboration with Planning staff, each of these anti-displacement strategies was analyzed to determine whether:

- The strategy is part of a City-led strategy that is being implemented in the SoMa and Tenderloin neighborhoods (surrounding area of the Proposed Project).
- A similar strategy is recommended in the SOMA Pilipinas CHD CHHESS.
- The strategy is being proposed by the Proposed Project, and whether it is a required component of the Proposed Project or being voluntarily proposed by the Project Sponsor.

[139] CAST has developed and preserved the Luggage Store Gallery in the vicinity of the Proposed Project and the nearby Dempster Building that is behind the Mint Mall building at 447 Minna Street, as further described below.

[140] As indicated earlier, none of the Filipino businesses identified as cultural assets appear to be listed on the City's Legacy Business website, which would align with the City's Cultural District goals to support legacy businesses and serve as a cultural anti-displacement strategy for long standing Filipino businesses.

Table H-4 Summary of Cultural Anti-Displacement Strategies
Surrounding Area, SOMA Pilipinas Filipino Cultural Heritage District and Proposed Project

Cultural Anti-Displacement Strategies	City-Led Strategies Implemented in Surrounding Area (SoMa and Tenderloin)	Similar Strategy in SoMa Pilipinas Filipino Cultural Heritage District CHHESS	Proposed by the 469 Stevenson Project?
Citywide Initiatives, Plans and Community Benefit Agreements			
Community Stabilization Initiative	X		
Racial Equity Plans	X	X	
Community Benefits Agreement (CBA)	X		Voluntary
Community, Arts and Cultural Stabilization			
Arts and culture protection	X	X	Voluntary
Cultural District Initiative, including support of local Cultural Districts	X	X	
Historic Resource and Landmark Designations	X	X	
Community investment, including support of arts and cultural organizations, such as Cultural Centers	X	X	Voluntary
Community organization preservation - Nonprofit Sustainability Initiative (NSI), Community Cornerstones	X	X	Voluntary
Community organization support and retention	X	X	Voluntary
Health and social services for vulnerable populations, including programs for Filipino children and youth	X	X	Voluntary
Public art, civic art and public realm improvements	X	X	Required
Citywide Public Space Initiative and equitable recreation and park investments	X	X	Voluntary
Business and Workforce Stabilization			
Business retention and stabilization	X	X	Voluntary
Sustain local businesses and commercial corridors (Invest in Neighborhoods)	X	X	Voluntary
Legacy Business Program	X		
Commercial vacancy tax	X		
Commercial district planning, management, safety, and vibrancy	X	X	Voluntary
Workforce development and education	X	X	Voluntary
First Source Hiring	X	X	Required
Local employment programs	X	X	Voluntary
Minimum wage	X	X	Required
Wage theft protections and enforcement of other labor laws	X		Required
Educational programs, including programs to support families and cultivate arts and culture	X	X	
Muni Service Equity Strategy	X		

Note: See Chapter C for further information on the Proposed Project and Attachment E for further information regarding the anti-displacement strategies and relevant sources of information.

Key to indicators in table:

X= Indicates that this strategy is being undertaken or proposed.
Required= Indicates that this strategy is being proposed and is required for the Proposed Project.
Voluntary= Indicates that this strategy is being voluntarily proposed by the Project Sponsor.

Source: Urban Displacement Project, City and County of San Francisco, SOMA Pilipinas Filipino Cultural Heritage District CHHESS (June 2022 Draft)

The complete set of exhibits that describe each cultural anti-displacement strategy are included in Attachment E. As noted earlier, these exhibits include information regarding the City Program Lead(s), examples of how these strategies are being implemented in the Surrounding Area, and a summary description of the required and voluntary anti-displacement strategies of the Proposed Project. These exhibits also reference the sources that were used to compile these strategies, which are indicated by source number references in the last column of the exhibits that present the anti-displacement strategies.

4. Future Protected Locations for Cultural Assets

Future development projects in SoMa and Tenderloin may provide additional resources for the protection of cultural assets and serve as cultural anti-displacement strategies. For example, the developer of 490 Brannan Street in SoMa is partnering with KULARTS, Filipino American Development Foundation (FADF) and Asian Pacific Islander Cultural Center (APICC) to create a Filipino performing arts theater, especially dedicated to dance. As part of this new development, these organizations would lease about 6,350 square feet of space at below market rates that will ultimately house two Filipino arts organizations listed on the Cultural Heritage District map prepared by SOMA Pilipinas, which are currently located in the Bayanihan House.

The 5M Project that is currently underway donated the historic Dempster Building as part of its proposed development, which is located on 447 Minna Street about one block south of the Proposed Project and immediately to the south of the Mint Mall. In 2019, CAST became the owners of this 10,200 square foot building and assembled funding in 2021 to transform the Dempster Building into a community arts and cultural hub. The Dempster offers affordable workspace (performance, exhibition, meeting and office spaces) to arts and culture groups ranging from youth arts and music education to local Filipino arts and community-based organizations. The Dempster is also located adjacent to the Parks at 5M, where outdoor performances and gatherings can also occur for the Filipino Community.[141]

[141] https://cast-sf.org/portfolio-type/447-minna/

I. Conclusion

The portion of the Surrounding Area where the Proposed Project is located is experiencing early/ongoing gentrification according to UDP. Based on the research publications reviewed for this report and the analysis presented in Section G, the Proposed Project might contribute to gentrification and economic (indirect) displacement because the Proposed Project would add approximately 400 new above moderate-income households to the Surrounding Area and could potentially indirectly displace between10 and 41 households. However, research indicates that new market rate construction neither worsens nor eases the rates of people moving out of gentrifying areas

As described in Section H of the report, while most cultural assets in the SOMA Pilipinas Filipino CHD have some level of protection (e.g., are located on publicly owned property or on property that is owned or ground leased to a nonprofit or have a historic resource designation), some cultural assets do not. Thus, some cultural assets would be more vulnerable to cultural displacement pressures. However, it is not possible to quantify or know if the Proposed Project would displace cultural assets.

The Proposed Project includes residential and cultural anti-displacement strategies that would likely lessen potential gentrification, exclusion, and indirect displacement effects from the Proposed Project in the Surrounding Area, and the City is implementing numerous complementary anti-displacement strategies in the Surrounding Area that are recommended by the publications reviewed for this report. Specifically, the anti-displacement strategies of the Proposed Project include the project's provision of 422 market rate units and the required provision of 73 on-site affordable housing units, approximately $8 million in affordable housing funds, incorporation of public art, first source hiring programs, and designation of two ground floor spaces at approximately 4,000 square feet, which would voluntarily be provided at below market rate rents for community-serving retail and community spaces.

The City is also implementing numerous housing production, housing preservation, tenant protection and housing stabilization strategies that would address residential displacement along with cultural, arts, business, workforce development, and other community stabilization strategies that would address cultural displacement. However, even with the provision of anti-displacement strategies described above, this report cannot conclude with certainty that no indirect displacement would occur as a result of the Proposed Project.

1. Limitations of Report

This report has been prepared for the sole purpose of providing a supplemental analysis to support the preparation of a recirculated draft Environmental Impact Report for the Proposed Project at the request and direction of the San Francisco Planning Department. As described throughout this report, it was prepared based on an analysis of publications and publicly available research and data from a wide variety of sources, which were assembled from May 2022 through September 15, 2022. Seifel has made reasonable efforts to ascertain that the sources are timely, accurate and comprehensive of the topic of this report. However, Seifel cannot represent the accuracy of such sources, particularly to the extent the sources used do not capture more qualitative data, such as oral histories, that may provide other perspectives on how the Surrounding Area has changed over time. That information is not readily available from public sources or the Planning Department and therefore not incorporated into this report. Therefore, Seifel makes no warranty or guarantee as to the accuracy or completeness of such sources or the analysis presented in this report, which relies on these sources.

Attachment A– Glossary of Terms

This glossary of terms primarily relies on the following four sources for use in this analysis, as determined by the San Francisco Planning Department.

- **Urban Displacement Project (UDP)** – The Urban Displacement Project is a research initiative based out of UC Berkeley in collaboration with UCLA and Portland State University. UDP researchers have developed interactive maps that analyze the timeline and location of neighborhood change, including gentrification and displacement, in the Bay Area and other metropolitan areas.[1]
- **Community Stabilization Initiative** – The Community Stabilization initiative is a multi-agency effort to assess the City of San Francisco's existing portfolio of tools, unify fragmented efforts into one comprehensive inventory, and identify priorities for the future. The initiative seeks to mitigate the impacts of ongoing displacement and help vulnerable populations thrive and contribute to the City's economy and culture.[2]
- **San Francisco Housing Element 2022 Update–** The Housing Element 2022 Update is San Francisco's housing plan for the next 8 years (2023-2031), and the first one that will center on racial and social equity. This update will determine what the city's housing needs are and how the city will work to address them, defining priorities for decision making and resource allocation for housing programs, development, and services.[3]
- **United States Census Bureau–** The United States Census Bureau, officially the Bureau of the Census, is a principal agency of the U.S. Federal Statistical System, responsible for producing data about the American people and economy.[4]

Terms Used to Define or Describe Gentrification and Displacement[5]

Gentrification: Gentrification refers to a broad pattern of neighborhood change typically characterized by increases in the number of higher income households and increases in home values and/or rents over an extended period of time, for example, ten years or more. Gentrification results from both flows of capital and people. The extent to which gentrification is linked to racial transition and other socioeconomic indicators differs across neighborhood contexts.[6]

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[1] https://www.urbandisplacement.org/

[2] https://sfplanning.org/community-stabilization-strategy

[3] https://www.sfhousingelement.org/
The analysis in this report is based on Draft 3 of the Housing Element 2022 Update, released March 2022. Of note, Draft 4 of the 2022 Update was released in October 2022, after preparation of the analysis in this report but prior to its publication.

[4] https://www.census.gov/

[5] These terms were developed based on a review of research literature on displacement and gentrification, as well as draft documents from the Housing Element 2022 Update, and have evolved based on conversations and direction by Planning staff.

[6] According to the supplemental research literature review performed in this report, researchers have defined gentrification and displacement in different ways over the years depending on the focus and content of their research and analysis. According to UDP's literature review of gentrification and displacement and the role of public investment published in 2015, the first documented use of the term "gentrification" was used by Ruth Lazarus Glass in 1964 to describe the influx of a "gentry" in lower income neighborhoods in London during the 1950s and 60s. As summarized by UDP, gentrification is now more commonly used to indicate a broad pattern of neighborhood change, which results from both flows of capital and people. The extent to which gentrification is linked to racial transition differs across neighborhood contexts.
https://www.frbsf.org/community-development/publications/working-papers/2015/august/gentrification-displacement-role-of-public-investment/

Displacement: Displacement refers to the involuntary movement or relocation of residents or businesses and organizations of cultural importance from their current locations. As indicated by UDP, displacement takes many different forms—direct and indirect, physical or economic, and exclusionary—and may result from either investment or disinvestment.[7] As various forms of displacement may occur, the following terms are used in this report to define the types of displacement pressures that may affect residents or historically and culturally significant institutions, organizations or businesses.

Physical (direct) displacement: Displacement that occurs as the result of eviction, acquisition, rehabilitation, or demolition of a property, or the expiration of covenants on rent- or income-restricted housing.

Economic (indirect) displacement: Displacement that occurs when residents and businesses can no longer afford escalating rents or property taxes (and must move out).

Exclusion or exclusionary displacement: Exclusion or displacement that occurs when a lower income household cannot afford to move in to an area given the cost of housing relative to their household income, which typically is the result of rising rents and/or home prices that contribute to the area becoming exclusive.

Residential Displacement: Displacement that occurs when residents can no longer afford to stay in their homes or are forced to move because of conditions beyond their control.

Cultural displacement: Displacement that occurs when there is a loss of historically and culturally significant institutions, organizations and businesses associated with a particular race, ethnicity, or other culturally significant group, which could occur either directly or indirectly. Such loss could also contribute to the loss of residents associated with that culture in the area, as the institution, organization, or business may serve as an anchor, place of employment, gathering place, place of commercial activity, etc. for that culture.

Residential anti-displacement strategies: The collection of policies, programs, strategies, and laws that are focused on counteracting residential displacement pressures by addressing the impacts on residents.

Cultural anti-displacement strategies: The collection of policies, programs, strategies, and laws that are focused on counteracting cultural displacement pressures by addressing the impacts on businesses and organizations that are critical to a community's culture.

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[7] As indicated by UDP in its 2015 literature review, research studies have failed to build a cumulative understanding of displacement because they have utilized different definitions, compared different populations, and there is not agreement on what constitutes a significant effect. UDP and other researchers often reference the following definition of displacement as historically significant, which was presented by Grier and Grier in 1978 and focuses on displacement impacts on households.

"Displacement occurs when any household is forced to move from its residence by conditions which affect the dwelling or immediate surroundings, and which:

1) are beyond the household's reasonable ability to control or prevent;

2) occur despite the household's having met all previously-imposed conditions of occupancy; and

3) make continued occupancy by that household impossible, hazardous or unaffordable."
https://www.frbsf.org/community-development/publications/working-papers/2015/august/gentrification-displacement-role-of-public-investment/

The following definitions of displacement were developed based on UDP's research typology that defines and measures the risks of displacement, gentrification and exclusion in census tracts across the Bay Area, as well as other research reviewed for this report. As indicated by UDP in its 2017 research study that developed a new methodology for analyzing potential displacement, "displacement takes many different forms—direct and indirect, physical or economic, and exclusionary—and may result from either investment or disinvestment."
https://communityinnovation.berkeley.edu/sites/default/files/developing_a_new_methodology_for_analyzing_potential_displacement.pdf?width=1200&height=800&iframe=true

Other Terms Used to Define or Describe Neighborhood Change[8]

Neighborhood churn: People moving into and out of neighborhoods on an annual basis.

Neighborhood succession: Overall change in neighborhood demographic composition over an extended period of time, for example, ten years or more.

Filtering process: The process by which older market-rate housing becomes more affordable as new units are added to the market.

Integration: Integration generally means a condition in which there is not a high concentration of persons of a particular race, color, religion, sex, familial status, national origin, or having a disability or a particular type of disability when compared to a broader geographic area.

Segregation: Segregation generally means a condition in which there is a high concentration of persons of a particular race, color, religion, sex, familial status, national origin, or having a disability or a type of disability in a particular geographic area when compared to a broader geographic area.

Terms Used to Define Historic Resources and Cultural Heritage[9]

Historic resource: A resource determined to be a historical resource according to the California Environmental Quality Act (CEQA) guidelines section 15064.5. Generally, a building, structure, site, object, or district that is 45 years or older. A historical resource is defined in CEQA guidelines section 15064.5 as a resource that falls into at least one of the following categories: a resource listed in or determined eligible for listing in the California Register of Historical Resources; a resource included in a local register of historical resources or identified as significant in a historical resource survey; or any object, building, structure, etc., that a lead agency determines to be historically significant.

Cultural heritage: As defined by ICOMOS, cultural heritage is an expression of the ways of living developed by a community and passed on from generation to generation, including customs, practices, places, objects, artistic expressions and values. Cultural heritage is often expressed as either intangible or tangible cultural heritage.[10]

Cultural assets: While the Planning Department has not defined what cultural assets encompass, it generally uses this term when referring to places that a cultural district associates with their cultural heritage. [11]

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[8] These terms are based on working draft documents from the San Francisco Housing Element Update.

[9] These terms are used by the Planning Department to define cultural heritage, historic resources and cultural assets:
https://sfplanning.org/cultural-heritage
https://sfplanning.org/preservation

[10] http://www.cultureindevelopment.nl/Cultural_Heritage/What_is_Cultural_Heritage
The Planning Department has used the following definition of cultural heritage, which builds on the ICOMOS definition: the expression of a way of living. It is developed by a community through objects, beliefs, traditions, practices, artistic interpretation, and significant places. Cultural heritage helps develop a shared bond and sense of belonging, inspires community pride and awareness, and emboldens a sense of identity and responsibility to society at large.

[11] The Planning Department began using the term as early as 2013 with the development of the Japantown Cultural Heritage and Economic Sustainability Strategy. In 2014, the HPC formed the Cultural Heritage Assets Committee to further explore the preservation of social and intangible cultural heritage. More recently, the term has been used in the Housing Element DEIR and in the San Francisco Administrative Code's cultural district definition.

Terms Used to Define Types of People, Groups or Areas[12]

Person or People of Color– Person of color is typically used to refer to a person or people that do not identify as Caucasian or White, also known as people of color (POC) or Black Indigenous and other people of color (BIPOC), which includes those who identify as Black, Latinx/Hispanic, Asian, Native American/American Indian, and/or Pacific Islander.

Household of Color– Households with a primary householder that identifies as POC or BIPOC.

Vulnerable Population(s)– Vulnerable people or groups who are at higher risk of displacement, which include people of color, people living with disabilities, low income households, people experiencing homelessness, seniors, youth, immigrants, LGBTQ+ people, refugees, and linguistically isolated households, small businesses, veterans and nonprofit organizations.

Community organization– A non-profit community organization (NPO) that is a legal entity organized and operated for a collective, public or community benefit, which may be exempt from paying certain taxes and may have a specific cultural focus.

Business– A business that generates revenues and profits to its owner, which may include BIPOC-owned businesses.

Filipino– A person, community organization or business that identifies as being of Filipino heritage. People who self-identify as Filipino are considered part of the Asian race in data from the US Census and American Community Survey.

Block Groups (BGs)– Statistical divisions of census tracts, are generally defined to contain between 600 and 3,000 people and are used to present data and control block numbering. Each census tract contains at least one BG, and BGs are uniquely numbered within the census tract.

Census Tracts– Small, relatively permanent statistical subdivisions of a county or statistically equivalent entity that can be updated by local participants prior to each decennial census as part of the Census Bureau's Participant Statistical Areas Program (PSAP). Census tracts generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people.

Terms Used to Define Types of Residential Units or Developments[13]

AMI (Area Median Income) – A metric used to benchmark different income levels based on percentage of area median income for a typical household size. In 2022, the Unadjusted San Francisco AMI is $110,850 for a two person household at 100% AMI according to the Mayor's Office of Housing and Community Development.[14]

[12] These terms are based on working draft documents for the San Francisco Housing Element Update and US Census definitions.

[13] These terms are based on working draft documents for the San Francisco Housing Element Update.

[14] https://sfmohcd.org/sites/default/files/Documents/MOH/Asset Management/2022 AMI-IncomeLimits.pdf

Below market rate units (BMR)– Deed restricted housing unit set aside for households in targeted income groups relative to area median income (AMI), which are typically rented or sold based on specified affordable housing cost standards that take into account household size and AMI levels:

- **Extremely low income**– Household income at or below 30% AMI
- **Very-low income**: Household income at or below 50% AMI
- **Low-income**: Household income between 50%-80% AMI
- **Lower income**: Household income at or below 80% AMI
- **Moderate-income**: Household income between 80-120% AMI
- **Above moderate-income**: Household income above 120% AMI, which is typically not subject to deed restrictions although some homeownership affordable housing programs do provide BMR units to households between 120% to 150% AMI.

Market rate unit – Unit that is not deed restricted for occupancy by households in targeted income groups or subject to specific affordable housing cost standards.

Rent controlled unit— Unit built prior to June 13, 1979 that is subject to San Francisco's Residential Rent Stabilization and Arbitration Ordinance, which restrict the annual increase in rent and provides other tenant protections.

Residential Single Room Occupancy (SRO) unit – Unit that typically consists of a room in a residential hotel, which is a small room with shared toilet and shower on each floor that is differentiated from tourist hotels because the room houses a resident or transient workforce for 30 days or longer, not tourists, and is certified for residential occupancy and governed by rent control depending on the age of the building.

Naturally occurring affordable housing (NOAH)– Market rate units may be affordable to households at various AMI levels.

100% affordable housing development – A developments where all housing units (except those associated with on-site property managers) are BMR units.

100% market rate development – Developments where all housing units are market rate units.

Mixed income development– Developments that include market rate and below market rate housing units on-site. (BMR units may be provided on-site subject to inclusionary zoning requirements and are sometimes referred to as inclusionary units.)

Inclusionary zoning and inclusionary units– San Francisco's Inclusionary Housing Program requires new market rate residential projects of 10 or more units to pay an Affordable Housing Fee or meet an inclusionary unit requirement by providing a percentage of the units in the project as BMR units.

In-lieu fees – A developer has the choice of paying a fee in-lieu of building on-site or off-site affordable housing as required by inclusionary zoning. In-lieu fees are not the same as impact or linkage fees.

Monthly effective rent– The average monthly rent over a lease term that reflects what tenants are paying for rent during their lease term taking into account any reported landlord concessions, such as one month free rent.

Attachment B– Supplemental Research Literature Summary

This Attachment B begins with a summary of selected research from the Urban Displacement Project, including research that was cited in key City's reports that are described in the report. Attachment B then presents the most relevant research on residential and cultural displacement and anti-displacement strategies that was used to prepare the supplemental analysis of 469 Stevenson Street. This literature review supplements the analysis and reports referenced in the 2020 Socioeconomic Report.

1. Rising Housing Costs and Re-Segregation in San Francisco (UDP/CHPC)

The Community Stabilization Report references the findings from a research study that analyzed neighborhood change in San Francisco that was prepared by the Urban Displacement Project and California Housing Partnership (CHPC) in collaboration with the City of San Francisco: "Rising Housing Costs and Re-Segregation in San Francisco."[1] The study builds upon research that UDP and CHPC conducted for counties across the Bay Area region and indicates the following:

> "This report finds that increases in housing prices in San Francisco were correlated with shifts in where low-income people of color lived between 2000 and 2015. It also provides evidence that these shifts contributed to new concentrations of poverty and racial segregation in San Francisco and perpetuating racial disparities in access to high-resource neighborhoods. By focusing explicitly on the racial and economic dimensions of neighborhood change in relationship to increases in housing prices, this report builds upon existing research on displacement, segregation, and the persistent legacies of urban disinvestment and exclusion.
>
> This report concludes that San Francisco and the region need policies and investments that support housing affordability and stability for low-income people of color, while also increasing their access to high-resource neighborhoods. To be successful, these policies and investments must account for both the legacies of racial segregation and recent patterns of re-segregation."

The report analyzes the change in Black, LatinX (Hispanic or Latino), and Asian low income households by census tract. The report indicates that there were positive gains in Black, LatinX and Asian low income households in the census tracts immediately surrounding the Proposed Project from 2000 to 2015. Tracts further away from the Proposed Project in SoMa and Tenderloin experienced both increases and decreases in Black, LatinX and or Asian low income households. The report indicates that some of these increases may have been related to the construction or rehabilitation of affordable housing units.

The report also states that tracts immediately surrounding the Proposed Project continued to be segregated and high poverty in both 2000 and 2015, while tracts further away from the Proposed Project in SoMa and Tenderloin were segregated and high poverty in either 2000 or 2015.

The conclusion of the report indicates there is an urgent need to increase access to affordable housing and stabilize communities and recommends that City policies and investments focus on the following:

- "Stabilize areas where rents are rising fastest and low-income people of color may be at risk of displacement, especially as these neighborhoods experience an influx of investments.

[1] Urban Displacement Project and California Housing Partnership. Rising Housing Costs and Re-Segregation in San Francisco. September 2018.
https://chpc.net/resources/rising-housing-costs-and-re-segregation-in-san-francisco/
A companion report was also prepared for the Bay Area region, which had similar findings.
https://www.urbandisplacement.org/wp-content/uploads/2021/08/bay_area_re-segregation_rising_housing_costs_report_2019.pdf

- Ensure economic opportunities and institutional supports for those living in high-poverty, segregated neighborhoods.
- Create new opportunities for low-income people of color to live in higher resource areas where they have historically been excluded."

2. New Development for Whom? How New Housing Production Affects Displacement and Replacement in the San Francisco Bay Area (UDP)

Researchers from UDP have recently studied how new market-rate housing production affects displacement in the Bay Area. As reported in UDP's March 2022 Policy Brief 1, the study measures individual and household mobility as a proxy for displacement, or forced moves, looking at the marginal increase in outward and inward migration when new construction occurs.[2] To measure displacement, the study tracks the movements of individuals and households by income and financial stability levels in and out of census block groups, using proprietary data on household characteristics and movement.[3]

Policy Brief 1 summarizes the following key take-aways from this research by UDP, which has particular relevance to the displacement analysis for 469 Stevenson Street:

- "Most renters (80%) don't live where there's new housing being built.[4]
- When new market-rate housing is built, there is a slight increase in both people moving out of the neighborhood and people moving in (churn) across most socio-economic groups.
- New market-rate housing production slightly increases displacement for lower income people, and slightly decreases moving out for high-income people.
- The increase in rates of displacement (involuntary moves) for very low- to moderate-socio-economic groups are not as high as commonly feared, at 0.5% to 2% above normal rates.
- The highest socio-economic groups move in at higher rates than other groups, and move out at lower rates. In other words, the highest-socio-economic groups experience disproportionate benefits of new market-rate housing production.
- Residents of extremely low and middle socio-economic status experience little change in moving out of their neighborhood.
- In gentrifying areas, new market-rate construction neither worsens nor eases rates of moving out. It increases rates of people moving in across all socio-economic groups, particularly high socio-economic residents.

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[2] Policy Brief 1– New Development for Whom? How New Housing Production Affects Displacement and Replacement in the San Francisco Bay Area, March 2022 https://www.urbandisplacement.org/wp-content/uploads/2022/03/IGS_1_New-Production_Brief_03.01.22.pdf

[3] As explained on pages 3 and 4 of the study, the researchers have built a unique block-level dataset on new market rate housing units constructed, as well as data on new subsidized housing units constructed and units currently protected by either just cause eviction ordinances or rent stabilization (used to control for policy). To measure mobility, the researchers use data from Infogroup and the Federal Reserve Bank of New York Consumer Credit Panel/Equifax (CCP) data, excluding data for individuals or households where the head is less than 25 years old. Running models separately for each dataset, the researchers examine mobility each year into and out of block groups, a census geographic unit typically containing between 600 and 3,000 residents; the number of blocks in a block group ranges from about six in a dense city to as many as 30 in an outlying suburb. (Appendix A of the study describes the data in more detail.)

[4] Most renters (80 percent) do not live in the same block group (about six blocks in dense areas) where new housing is being built.

- To help existing residents stay in their neighborhoods after new market-rate construction, we recommend either subsidized housing construction (with community preference) or housing preservation with continued protections.
- More research is needed to understand effects in different contexts and over the long term."

According to the study, about 10% of the U.S. population moves each year, and the study provides a relevant example in its conclusion of the potential impacts from a new construction project like 469 Stevenson Street:

> "[W]hile in a normal year, 10% of households might move out, a construction year will mean that 12% move out per year for the next four years. If a block group houses 500 households, then 50 move out in a typical year, but 60 might move out each year post construction, for a total of 40 displaced households over four years. Thus, displacement impacts [from new development] could be mitigated with one mid-size apartment building with entirely affordable or subsidized units."

The following two sections of the policy brief are particularly relevant to 469 Stevenson Street.

How Inappropriate Data and Models Have Muddied the Relationship Between Development and Displacement

"By increasing the supply of housing at the regional level, new housing production helps moderate housing costs, to make housing more affordable to more households, and relieve displacement pressures. But researchers still debate how this plays out at the level of a local neighborhood, or a particular block. When new developments are built, might rents actually increase because of their catalytic effect on surrounding blocks? And even if local policies are helping residents stay in place, who is able to move into the neighborhood as it changes?

Studies to date have fallen short largely because of an inability to distinguish the experience of low-income residents within their housing market or neighborhood, due to the lack of appropriate data. Although evidence is mixed on whether nearby housing prices rise or fall with new residential development, studies have generally concluded that rents will decrease. However, they may not decrease for everyone: for older buildings catering to low-income renters, new construction may raise rents, with even higher spikes for buildings closest to the new construction.

Thus, housing markets are diverse, and neighborhoods are as well. This complicates studies of filtering, the process by which we produce most affordable housing: as the cost and quality of older market-rate housing fall over time, higher-income people move to new market-rate housing, and lower-income households move into the older units. The process of moving into market-rate housing initiates multiple rounds of migration, i.e., vacancy chains, which ultimately free up housing supply in low-income areas in just a few years, creating a critical infusion of lower cost housing. But studies to date have only been able to establish that residents of low-income neighborhoods (measured by census tracts) are moving into these filtered units, not that it is actually low-income renters that are moving in. This "ecological fallacy" problem leaves open the possibility that high-income (rather than low-income) households are moving from low-income gentrifying areas to higher-income neighborhoods.

The ecological fallacy problem also occurs in studies that try to measure displacement by comparing the number of low-income residents in a neighborhood across two time periods, but cannot determine whether households actually moved out, moved within the neighborhood, or simply changed income level. The displacement identified in such studies turns out to have little relationship to involuntary household mobility.

Most studies overlook critical factors in the local context as well. Many focus on individual cities, even though housing markets operate regionally, and may function differently in city and suburban contexts.

Some only analyze rent levels, rather than examining household mobility per se. Few control for local housing policies, such as the presence of subsidized housing or rent stabilization. Few also examine the historical context of the local market, which is important since long-term shortages in supply (as is the case in California) may heighten displacement impacts. This study fills these gaps by using fine-grained data on development and residents aggregated to the block group level for the nine-county San Francisco region, while taking local housing policy into account."

Conclusion and Policy Implications

The report concludes with a summary of findings that indicate the following:

"Using fine-grained data on new market-rate housing production and household mobility, this study finds that when new market-rate housing is built, there is a slight increase in both people moving out of the neighborhood and people moving in (churn) across most socio-economic groups. All but the lowest-SES (socio-economic status) residents experience increased outmigration rates, and the highest-SES groups move out at lower rates and move in at higher rates than others. In other words, market-rate housing production shifts outmigration and inmigration patterns only very slightly, and primarily benefits high-SES groups.

Thus building new housing creates modest churn: some households leave and others move in, and the net impact on mobility is minimal, at least over the four-year period studied. The fact that new housing encourages newcomers at all income levels to move in suggests that market rate construction is easing housing market pressures. At the same time, some households may be moving out involuntarily. Even if they are replaced by others at similar income levels, there is cause for mitigation of displacement impacts, in order to avoid the disruption of lives and communities.

Our findings improve on those of other studies because we are able to examine the SES of households that move, rather than assuming that households have the same characteristics as their overall neighborhood (i.e., the ecological fallacy). Our own previous work examined only the aggregate change in low-income residents. By accounting separately for both in- and out-migration by SES, this new study is better able to pinpoint neighborhood change.

This study suggests a level of displacement associated with new construction that is at least partially mitigable. For example, while in a normal year, 10% of households might move out, a construction year will mean that 12% move out per year for the next four years. If a block group houses 500 households, then 50 move out in a typical year, but 60 might move out each year post construction, for a total of 40 displaced households over four years. Thus, displacement impacts could be mitigated with one mid-size apartment building with entirely affordable or subsidized units.

To help existing residents stay in their neighborhoods after new market-rate construction, we recommend either subsidized housing construction (with community preference) or housing preservation with continued protections. The most effective strategy may be acquiring multi-unit rental properties that are at risk of becoming unaffordable, via a program like San Francisco's Small Sites Acquisition and Rehab Program. Other potential approaches include tenant opportunity to purchase programs, property tax incentives for building owners, condominium conversion restrictions, and community land trusts.

Tenant protections will also help to mitigate displacement, but may increase exclusion for some low-SES groups without being coupled with these other strategies. Other policy briefs in this series explore the potential of tenant protections in more detail. Ultimately, policymakers must pursue not only new market-rate production, preservation, and tenant protections, but also bolder initiatives that substantially expand social housing.

The San Francisco Bay Area is an extreme case study, with job growth outpacing new housing production and resulting in supply shortages and price spikes that date back at least 30 years. In this context, the traditional mechanism for providing housing affordability for all but the lowest income households—filtering—is broken. In the face of this structural problem, the relatively few market rate units that are being built are only providing minimal relief, and their impacts may be distorted. Notably, in regions where there is no shortage of affordable housing to start with, market-rate construction may have different impacts, or may not be the appropriate approach to mitigate displacement."[5]

3. Who Benefits from Tenant Protections? The Effects of Rent Stabilization and Just Cause for Evictions on Residential Mobility in the Bay Area (UDP)

Researchers from UDP also recently studied how tenant protections, such as rent stabilization and just cause for evictions, can help low income households avoid displacement. The findings from UDP's companion March 2022 Policy Brief 2 reveal that tenant protections alone cannot improve access to housing to address the housing affordability crisis and mitigate displacement and exclusion. The study presents the following key take-aways from this research:[6]

- "Cities use tenant protection policies to help low-income households avoid displacement spurred by gentrification and the growing affordable housing crisis. However, due to the lack of fine-grained data, there is limited empirical evidence on the effectiveness of these policies on mitigating displacement– both direct and exclusionary. Our report overcomes previous data challenges for the first time by building unique and cross-validated datasets on mobility and linking them to a bespoke block-level housing construction database.
- With this novel data, we find that rent stabilization helps some – the lowest socio-economic status residents – to remain in a neighborhood. However, it discourages moving in for all socio-economic groups except moderate-middle. Thus, rent stabilization does not improve the ability of residents to access neighborhoods with greater coverage and may be exclusionary.
- While we do not find conclusive evidence that just cause protections prevent displacement, we do find that they help to keep residents of the lowest socio-economic status in place in gentrifying neighborhoods, where displacement pressures may be especially strong.
- Although tenant protection policies may help to keep existing low-socio-economic status tenants housed, they do not expand housing opportunities and may have exclusionary impacts.
- Our findings reveal that equitable solutions to the housing crisis will require more than tenant protection policies. To address the housing affordability crisis and mitigate displacement and exclusion, policy makers should consider pursuing not only the preservation of unsubsidized affordable housing, but also bolder initiatives that substantially expand social housing.
- Social housing is the provision of rental or homeownership units affordable at a moderate income or below, and is run by a public or nonprofit entity. To work, it would need to be widely implemented, requiring government investment at levels that match the urgency of the housing crisis."

Policy Brief 2 also recommends anti-displacement strategies that are being used in San Francisco to preserve unsubsidized affordable housing, such as acquiring multi-unit rental properties that are at risk of becoming unaffordable like the City's Small Sites Acquisition and Rehab Program, tenant or community

[5] The Bay Area region continues to experience a lack of affordable housing as indicated in multiple publications and reported by the Association of Bay Area Governments. https://abag.ca.gov/our-work/housing

[6] Policy Brief 2– Who Benefits from Tenant Protections? The Effects of Rent Stabilization and Just Cause for Evictions on Residential Mobility in the Bay Area, March 2022 https://www.urbandisplacement.org/wp-content/uploads/2022/03/IGS_2_Tenant-Protections_Brief_03.01.22.pdf

opportunity to purchase policies, transfer tax breaks for building owners when selling to a nonprofit or community land trust, condominium conversion restrictions, and community land trusts.

4. White Paper on Anti-Displacement Strategy Effectiveness (UDP)

As indicated in UDP's White Paper on Anti-Displacement Strategy Effectiveness, researchers have studied the impacts of public investment on displacement, which they have found generally yield mixed findings, with local policies and neighborhood context playing an outsize role in determining whether households can stay in place. The report reviews literature compiled by UDP in prior studies as well as additional research to evaluate the effectiveness of numerous anti-displacement strategies:[7]

> "Despite the push to implement anti-displacement policies, there is a dearth of evidence on the effectiveness of such approaches, i.e., their ability to reduce displacement either directly or indirectly.
>
> This white paper lays the groundwork to fill this evidence gap. Drawing on a review of more than 150 articles in the academic and gray literature, as well as interviews with 14 practitioners and academics, we summarize the literature on anti-displacement strategies and their effectiveness, specify a research agenda specifically for the State of California, and lay out some sample research designs. In total, we reviewed the literature on 17 distinct policies, summarized in Table 1. For each, based on the previous studies, we determined the potential to prevent displacement (asking by how much? how directly?), the type of market necessary to make it effective, the implementation scale, and the likely timeframe in which it works.
>
> In sum, neighborhood stabilization and tenant protection policies have the most direct and immediate effect on mitigating displacement. Given that most households with affordable housing live in unsubsidized units, housing preservation programs for naturally occurring affordable housing have the most potential for significant impact. Housing production strategies can help indirectly in decreasing displacement by retaining or adding to the affordable housing stock. However, housing production policies typically require strong markets, and longer time spans."

Table 1 from this White Paper is presented below, which summarizes and evaluates anti-displacement policies in terms of their effectiveness, market type, implementation scale, and timeframe.[8] This research paper informed the evaluation of anti-displacement measures in the memorandum.

[7] Karen Chapple (UC Berkeley) and Anastasia Loukaitou-Sideris (UCLA). White Paper on Anti-Displacement Strategy Effectiveness, 2021. https://www.urbandisplacement.org/wp-content/uploads/2021/08/19RD018-Anti-Displacement-Strategy-Effectiveness.pdf

[8] This White Paper builds upon the anti-displacement policies presented in a prior study performed by UDP researchers– Developing a New Methodology for Analyzing Potential Displacement (March 24, 2017), which was also used as a reference to develop the anti-displacement strategy framework presented in this memorandum. https://communityinnovation.berkeley.edu/sites/default/files/developing_a_new_methodology_for_analyzing_potential_displacement.pdf?width=1200&height=800&iframe=true

TABLE 1: LITERATURE REVIEW SUMMARY TABLE

Category	Policy Name	Literature Coverage Level	Potential to Prevent Displacement*	Market Type**	Implementation Scale	Timeframe to Prevent Displacement
Production	Housing Production	HIGH	HIGH+	Strong	Local, State	Long-term
Production	Inclusionary Zoning + Developer Incentives	MEDIUM	MEDIUM	Strong	Local, State	Long-term
Production	Accessory Dwelling Units	LOW	MEDIUM	Neutral	Local, State	Long-term
Production	Impact + Linkage Fees	MEDIUM	LOW	Strong	Local	Long-term
Production	Housing Overlay Zones	LOW	MEDIUM	Strong	Neighborhood, Local	Long-term
Production	Land Value Recapture	LOW	LOW	Strong	Local, State	Long-term
Preservation	Unsubsidized Affordable Housing	LOW	HIGH	Neutral	Local, State	Short-term
Preservation	Federally-Funded Housing Developments	MEDIUM	MEDIUM	N/A	Local, Federal	Short-term
Preservation	Housing Rehabilitation	MEDIUM	LOW	N/A	Local, State, Federal	Short-term
Preservation	Condominium Conversion Restrictions + Tenant Opportunity to Purchase	MEDIUM	MEDIUM	Strong	Local	Short-term
Preservation	Community Control of Land	LOW	HIGH	Neutral	Neighborhood, Local	Short-term
Neighborhood Stabilization	Rent Control	HIGH	MEDIUM	Strong	Local, State	Short-term
Neighborhood Stabilization	Community Benefits Agreements	MEDIUM	LOW	Strong	Neighborhood, Local, State	Long-term
Neighborhood Stabilization	Rental Assistance Programs	MEDIUM	HIGH	Neutral	Local	Short-term
Neighborhood Stabilization	Foreclosure Assistance	MEDIUM	HIGH	Neutral	Local, State, Federal	Short-term
Neighborhood Stabilization	Tenant Right to Counsel	MEDIUM	HIGH	Strong	Local	Short-term
Neighborhood Stabilization	"Just Cause" Evictions	MEDIUM	HIGH	Strong	Local	Short-term

** Potential: If we adopt this policy, how likely is it that displacement will be reduced directly or indirectly?*
*** For some policies, a strong market is necessary for feasibility, while for others, it makes them more effective.*
+ Although both market-rate and subsidized housing production may successfully reduce indirect displacement, the effectiveness of a particular development depends on its context and scale.

5. Does Building New Housing Cause Displacement? The Supply and Demand Effects of Construction in San Francisco (Pennington)

Economist Kate Pennington conducted economic research to explore the spillover effects of new housing construction in San Francisco from 2003-2017. Her research report, "Does Building New Housing Cause Displacement? The Supply and Demand Effects of Construction in San Francisco" indicates:[9]

> "San Francisco is gentrifying rapidly as an influx of higher income newcomers drives up housing prices and displace lower income incumbent residents. In theory, increasing the supply of housing should mitigate increases in rents. However, new construction could also increase demand for nearby housing by improving neighborhood quality….These findings suggest that increasing the supply of market rate housing has beneficial spillover effects for incumbent residents, reducing rents and displacement pressures while improving neighborhood quality."

Pennington writes that "displacement happens to individual people; gentrification happens to places." Gentrification may happen without displacement, and displacement may happen without gentrification.

The research paper's conclusions indicate that the accelerated construction of both new market rate and affordable housing is critical to slowing displacement and gentrification:

> "[T]he supply effect is larger than the demand effect at every distance from the new construction. However, a hyperlocal demand effect exists within a narrow radius of 100m, i.e., within eyeshot of the new construction. Within this narrow band, building renovations and business turnover increase. The upgrade in neighborhood quality attracts higher-income newcomers, so that when incumbents move out, they are more likely to be replaced by wealthier newcomers. In San Francisco, new market rate housing increases gentrification and reduces displacement.
>
> These findings highlight that market rate and affordable housing construction are complementary. Building more market rate housing benefits all San Francisco renters through spillover effects on rents. However, these spillover effects do not reduce gentrification and they may not continue to reduce displacement in the long term. If the city continues to gentrify over time, these reduced rents will become less effective at retaining lower-income people because there will be fewer low-income people to retain. Affordable housing can effectively reduce both displacement and gentrification by targeting people at higher risk of displacement and preserving housing for low-income people.
>
> In conclusion, policymakers who want to slow displacement and gentrification should accelerate both market rate and affordable housing construction. The high rent elasticity of displacement also suggests that policies like rental assistance and a universal basic income (UBI) could be efficient, cost-effective ways to meaningfully reduce displacement and preserve income diversity."

This report supports the UDP finding that new market rate and affordable housing construction is important to slowing displacement impacts.

[9] Pennington, Kate. "Does Building New Housing Cause Displacement? The Supply and Demand Effects of Construction in San Francisco." November 11, 2020. https://www.gwern.net/docs/economics/2020-pennington.pdf

Research on Cultural Displacement

As described in the memorandum, more than 50 research studies were reviewed as part of this analysis. Almost all of the research studies reviewed have studied residential displacement impacts, while only a limited number of studies have measured the impacts of cultural displacement. Furthermore, researchers use different definitions for cultural displacement and different ways to measure it. For example, some researchers focus on residential displacement impacts that affect specific race and ethnic groups, often evaluating impacts on Black/African American and/or Hispanic/Latino households, as they typically have the lowest incomes and may live in areas that have higher concentrations of their racial and ethnic groups. Others focus on how gentrification has affected commercial businesses. While a few studies have evaluated cultural and commercial shifts in neighborhoods that may affect cultural displacement, this research is typically focused on a specific neighborhood or set of neighborhoods, none of which were in San Francisco. Most of the relevant research that has been prepared focuses on the potential impacts of gentrification on neighborhoods or commercial displacement.

The following research reports are presented as they contain data on San Francisco or contain findings that are relevant to potential impacts from gentrification on communities of color.

6. Mapping POC-owned Business Vulnerability in the Wake of COVID-19 (UDP)

Researchers from the Urban Displacement Project have recently studied the impacts of the COVID pandemic on minority, black, indigenous people of color (BIPOC or POC) owned businesses in the Bay Area.[10] As indicated in this research, the COVID-19 pandemic has affected POC businesses disproportionately because they are likely to be concentrated in industries immediately affected by the pandemic (such as arts and entertainment, personal services, construction, repair, transportation, and restaurant industries). These businesses are also facing systemic inequalities that make it difficult to stay afloat. The first month of the shelter-in-place wiped out some 3.3 million businesses nationwide including 1.3 million BIPOC businesses.

Due to poor data availability, very little is known about the impacts of the pandemic on minority owned businesses in the San Francisco Bay Area, and this study maps changes that have occurred in these businesses using a mapping analysis with the following key findings:

- Twenty-nine percent of all businesses in the nine-county Bay Area region are estimated to be POC-owned.
- Nearly half of POC-owned small businesses identified across the six study areas are Asian-owned. Of the 6,238 identified POC small businesses within the database, 47% are Asian-owned, followed by 24% Black-owned and 19% Latinx-owned.
- The majority of POC-owned small businesses are concentrated in San Francisco (37%) followed by Oakland (29%) and San Jose (26%).
- POC-owned businesses across the six cities are concentrated within predominantly POC neighborhoods and within ethnic business districts. Black-owned businesses are concentrated in Downtown Oakland and Bayview Hunters Point, Asian-owned businesses are concentrated in Chinatown and Japantown in San Francisco and Chinatown in Oakland, and Latinx-owned businesses are concentrated in the Mission District in San Francisco and along International Boulevard and Downtown Oakland.

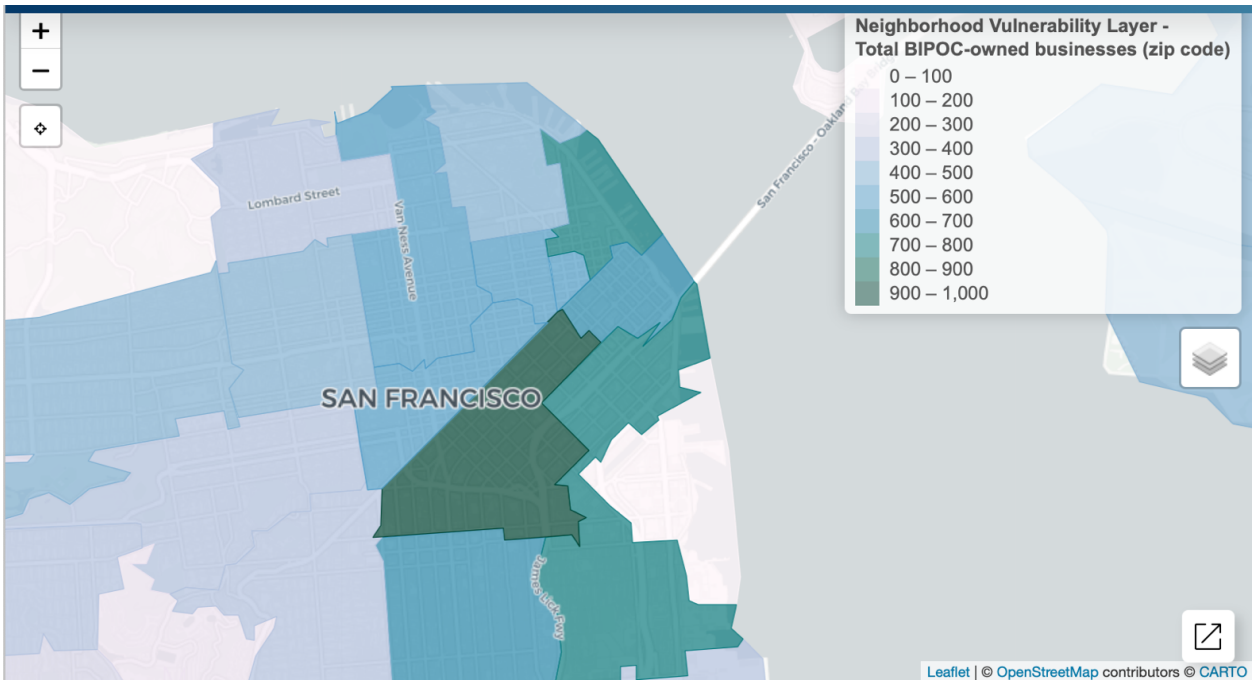
[10] Schmahmann, Laura et al, Mapping POC-owned Business Vulnerability in the Wake of COVID-19, December 2021. https://www.urbandisplacement.org/wp-content/uploads/2022/01/UDP-Business-Vulnerability-Report-Final.pdf

- Approximately one-third of POC-owned businesses identified across the six cities also own their commercial properties. Of the 3,143 businesses which were matched with a property ownership record in the ZTRAX data- base, 34% have been identified as owner-occupied, and therefore, 66% of businesses rent their current premises. Property ownership rates are relatively consistent across the minority groups ranging from 34% for Black-owned businesses and 38% for Latinx-owned businesses.
- Food and beverage services has the lowest owner-occupancy rate at 30%, which means that 70% of food and beverage services businesses rent their current premises. Therefore, food and beverage services are likely to be at greater risk of displacement if rents were to increase, for example.

The following map from the UDP website summarizes the number of BIPOC-owned businesses that are located in zip codes within San Francisco. As it indicates the Proposed Project is located in an area of South of Market with a significant number of BIPOC-owned businesses.

Figure 5

BIPOC-owned Businesses in San Francisco by Zip Code Near Proposed Project



Source: https://www.urbandisplacement.org/maps/minority-owned-business-vulnerability/

This study also highlights programs being undertaken in Bay Area cities to help small businesses and recommends strategies to help business owners, many of which are similar to the anti-displacement strategies referenced in other UDP research.

7. Commercial Gentrification and Displacement (UDP)

Researchers from the Urban Displacement Project published a book that evaluates the effects of smarter growth on communities, and Chapter 7 looks at the effects of commercial gentrification and displacement and indicates the following:[11]

> "In commercial districts, gentrification and displacement are at their most visible. Few miss the intrusion of new businesses that force out favorite local stores because of higher rents, or the influx of hip cafés, trendy retail boutiques, and art galleries—places that change the meaning of a neighborhood for better or worse. For many merchants, commercial gentrification has implications for economic survival, as increased rents lead to displacement and business closures. At the same time, these changes may bring much-needed goods and services to residents of "retail deserts" (Schuetz, Kolko, and Meltzer 2012).
>
> While researchers have given significant attention to the dramatic changes that residential gentrification and displacement bring, the phenomenon of commercial change remains relatively unexplored. This may be in part because business turnover—or churn—is a common sight, so the changes lack the novelty of residential displacement….
>
> It is difficult to unpack the mechanism by which commercial gentrification relates to residential gentrification or which (if either) comes first. Indeed, changes in commercial districts have been noted as both a causal factor of and an outcome of residential demographic change (Chapple and Jacobus 2009). Rather than sort out this "chicken and egg" question, Zukin, Kasinitz, and Chen (2015) suggest that commercial and residential gentrification work together and are complicated to disentangle."

The research and analysis in Chapter 7 indicate the challenges with correlating the relationship between residential and commercial gentrification as well as displacement indicating the following:

> "At a basic level, commercial gentrification denotes a replacement of existing lower-rent establishments in a neighborhood, which tend to serve long-standing, usually lower-income, groups, by more upscale, higher-rent establishments, which are typically patronized by a higher-income clientele. Since commercial gentrification occurs disproportionately in low-income communities of color, it grows out of deep-seated structural inequities—to some, a violent cultural appropriation.
>
> It is, however, challenging to detect the extent to which business loss stems from displacement because of rent increases, as businesses open and close regularly for a variety of reasons. Commercial gentrification may also be experienced differently in different neighborhoods. As the differences in factors influencing gentrification in Los Angeles and the Bay Area show, commercial gentrification is context-specific and may be influenced by local sociodemographic characteristics, features of existing business establishments, and a neighborhood's urban form. In certain cases, the characteristics of adjacent neighborhoods—especially if these neighborhoods have already experienced commercial or residential gentrification—also matter. Yet we also found deep similarities in gentrification processes across regions and methodologies, manifested by attraction to high-density rental markets and communities with a strong cultural identity, as evidenced by concentration of African American and foreign-born residents.

[11] Chapple, Karen and Anastasia Loukaitou-Sideris. Transit-Oriented Displacement or Community Dividends? Understanding the Effects of Smarter Growth on Communities. Chapter 7 Commercial Gentrification and Displacement. MIT Press, 2019. https://mitpress.mit.edu/books/transit-oriented-displacement-or-community-dividends

> The relationship and sequencing between residential and commercial gentrification also needs further exploration. As explained previously, the results of our quantitative study were mixed, and it is not clear when and where one type of gentrification follows the other, which comes first, or whether they appear simultaneously. Nevertheless, the relationship between residential and commercial gentrification is widely emphasized by local stakeholders, who see that an influx of new and wealthier residents may be followed by upscale retail or vice versa: that the opening of hip cafés and eateries may lead landlords to raise rents in search of wealthier tenants. Such cases are often anecdotal, but their incidence has proliferated in both the San Francisco Bay Area and Los Angeles, as evidenced by the number of newspaper articles, blogs, and social media stories about gentrification. We suspect there may not be a universal pattern, with such relationships changing from one neighborhood to another, depending on urban form, and in different regional contexts, depending on market strength….
>
> The merchants interviewed generally indicated that rising rent costs were the most significant aspect of neighborhood change putting pressure on their business's bottom line. Indeed, the primary reason for commercial displacement is the increase in commercial rents in a gentrified neighborhood. A second reason is that some businesses find themselves losing clientele, either because their merchandise is not appealing to the tastes of a new neighborhood demographic and/or because long-standing customers have been displaced."

8. Shifting Neighborhoods, Gentrification and Cultural Displacement in American Cities (NCRC)

Many of the 600+ member organizations of the National Community Reinvestment Coalition (NCRC) have raised concerns about gentrification, displacement and transformations in their communities. Researchers with NCRC conducted research to better understand where gentrification and displacement was occurring, and how to measure and monitor it. The researchers specifically addressed the question: Does gentrification also mean displacement? Using U.S. census and economic data, NCRC found that many major American cities showed signs of gentrification, and gentrification was most intense in the nation's biggest coastal cities.[12]

Cultural displacement was examined by calculating the reduction of Black (African American) and Hispanic or Latino residents in census tracts. While White residents increased in most tracts, there were instances in which the Asian and Hispanic residential population increased in tracts experiencing gentrification and Black residential population declined. The following are relevant findings to 469 Stevenson Street.

> "Gentrification is a powerful force for economic change in our cities, but it is often accompanied by extreme and unnecessary cultural displacement. While gentrification increases the value of properties in areas that suffered from prolonged disinvestment, it also results in rising rents, home and property values. As these rising costs reduce the supply of affordable housing, existing residents, who are often black or Hispanic, are displaced. This prevents them from benefiting from the economic growth and greater availability of services that come with increased investment. Gentrification presents a challenge to communities that are trying to achieve economic revitalization without the disruption that comes with displacement."

[12] NCRC, Richardson, Jason, et al. Shifting Neighborhoods, Gentrification and Cultural Displacement in American Cities. March 19, 2019.
https://ncrc.org/gentrification/

"Most low- to moderate-income neighborhoods did not gentrify or revitalize during the period of our study. They remained impoverished, untouched by investments and building booms that occurred in major cities, and vulnerable to future gentrification and displacement."

"While community perceptions of gentrification range from hope for better living conditions to anxiety and even hostility, research on gentrification is divided on whether displacement is an inevitable outcome. Some researchers assert that gentrification attendant with displacement is a complex issue and while mobility rates of low-income residents are equivalent in gentrifying and non-gentrifying areas, low-income families are unable to afford to move in and replace exited families as housing costs escalate (Ding, Hwang, and Divringi, 2015). Other researchers found that displacement was rare (Ellen and O'Regan, 2011; Freeman 2005), while others comment on its prevalence (Newman and Wyly, 2006)."

"This divergence of opinion could be because both the scale and type of gentrification vary from place to place. The urban form, or patterns of land-use in U.S. cities, differ considerably in size and structure, and the process of gentrification can involve neighborhoods in a rapid process of change or unfold over decades in larger districts. Additionally, while the residential and commercial aspects of a community are interwoven, gentrification of residential and commercial areas involve slightly different dynamics (Meltzer 2016). Displacement also may take different forms: either racial/ethnic or by class and culture. Finally, Marcuse (1986) argues that in many cases displacement due to systematic urban disinvestment, which resulted in the abandonment of many downtown neighborhoods, often precedes gentrification. For all of these reasons, it is helpful to be clear about the type of gentrification considered, how it is being studied and over what period."

"Gentrification is a complex form of neighborhood change…While the most basic understanding of gentrification involves the movement of people and investment to affect neighborhood change, it also involves broader political and economic forces. Policy decisions by governments impact both transportation and the availability of services and amenities in a community. The interplay between government and the public in decisions regarding zoning and the allocation of public resources, coupled with decisions by private developers on the investment of capital, deeply influence neighborhood desirability (Zuk et al. 2015). The forces driving neighborhood changes, like gentrification, also involve an interplay between the movement of people, public policy decisions and the availability of capital. Consequently, gentrification is a subject that requires analysis of social, political and economic circumstances."

9. Displacement of Lower-Income Families in Urban Areas Report (HUD OPR)

The HUD Office of Policy Development and Research (OPR) conducted research regarding gentrification and displacement that provides insights regarding both and indicates:[13]

"Gentrification is a form of neighborhood change that occurs when higher-income groups move into low-income areas, potentially altering the cultural and financial landscape of the original neighborhood…. Greater demand for centrally located housing, particularly amidst an existing affordability crisis, may be fueling community change in many American metropolitan areas. With increased demand and housing costs comes increased housing-cost burdens, the potential for

[13] U.S. Department of HUD, Office of Policy Development and Research. Displacement of Lower-Income Families in Urban Areas Report. May 2018. https://www.huduser.gov/portal/sites/default/files/pdf/displacementreport.pdf

displacement of long-term low-income residents, long-run resegregation of neighborhoods, and heightened barriers to entry for new low-income residents looking to move to places of opportunity."

"Cultural displacement of a neighborhood—defined at least partly by the mix of shops and restaurants—is another often-cited critique. Recent research by Meltzer (2016) on small business exit rates in changing New York neighborhoods provided only mixed support for this concern. Small businesses do not appear to be at heightened risk of displacement from gentrifying neighborhoods, and retention rates among small businesses are generally higher than exit rates in both gentrifying and nongentrifying neighborhoods. However, gentrifying neighborhoods have a somewhat higher share of businesses that leave without any replacement. When businesses are replaced, they are generally in a different sector than the original, with the highest gains in businesses providing services, such as art and entertainment venues and employee placement services, and losses in goods-producing industries, such as manufacturing. Replacements are also more often chain stores, changing the feel of a neighborhood entirely (Meltzer, 2016)."

According to the publication, three key benefits can occur from gentrification: deconcentration of poverty, neighborhood improvements, and greater access to services, and the cited research describes the following positive outcomes:

"In recent research on the outcomes for public housing residents in gentrifying tracts of New York City, Dastrup and Ellen (2016) found improvements in a variety of neighborhood indicators. They found that public housing developments in gentrifying tracts have lower neighborhood violent crime rates and are zoned for public elementary schools with higher standardized test scores than their counterparts in lower-income communities. Residents of these neighborhoods are also more often employed, have slightly higher incomes, and have greater educational attainment levels. Similarly, Ellen and O'Regan's (2011) work found increased satisfaction among original renters who stayed in gentrifying neighborhoods, likely due to the improved neighborhood conditions.

The report concludes with the following policy responses:

"The policy responses this report suggests attempt to amplify the benefits of gentrification, and the increased investments it brings, while minimizing the costs, such as potential displacement of low-income families and long-term resegregation of cities. Although greater housing production is necessary in communities struggling to keep up with the increased demand for affordable housing, for the outcome of community change to be shared opportunity, efforts at meaningful integration across socioeconomic and racial lines are just as important."

The report also presents the following strategies to address cultural displacement impacts based on case studies across the nation, which includes anti-displacement strategies that are similar to those described in other supplemental research literature:

- Engage existing community residents and organizations
- Provide support for community-led organizations
- Retain existing neighborhood businesses by assisting small business owners
- Help families achieve economic self-sufficiency, by connecting priority populations to targeted employment, preparing them for long-term success and by providing affordable childcare
- Improve access to quality education through early learning centers, adult education and services for the youth and arts, and stimulating economic development
- Support healthy environments through services by providing medical care, food and nutrition, and services for seniors

10. Creating Equitable, Healthy, and Sustainable Communities Strategies for Advancing Smart Growth, Environmental Justice, and Equitable Development (EPA)

The Environmental Protection Agency (EPA) prepared a report that presents a series of strategies to create equitable, healthy and sustainable communities that presents case studies of successful projects throughout the United States that advance smart growth, environmental justice and equitable development.[14] The recommended strategies are grouped under seven common elements that connect environmental justice, smart growth, and equitable development:

- Facilitate Meaningful Community Engagement in Planning and Land Use Decisions
- Promote Public Health and a Clean and Safe Environment
- Strengthen Existing Communities
- Provide Housing Choices
- Provide Transportation Options
- Improve Access to Opportunities and Daily Necessities
- Preserve and Build on the Features That Make a Community Distinctive

Chapter 3 begins with a special section on tools, policies, and programs that can help to minimize displacement, an important issue that cuts across the seven common elements. Without advance planning and strong community engagement, revitalization efforts in low-income and overburdened neighborhoods have the potential to displace long-time residents due to rising rents and other costs of living. However, a wide range of tools and strategies can be used to involve community members in planning and visioning, provide affordable homes and transportation choices, support local businesses, and minimize displacement in other ways. Many of the recommended strategies are similar to the anti-displacement strategies outlined in the City's Community Stabilization Initiative.

11. Asian American and Pacific Islander (AAPI) Anti-Displacement Strategies (National Coalition for Asian Pacific American Community Development & Council for Native Hawaiian Advancement)

The National Coalition for Asian Pacific American Community Development & Council for Native Hawaiian Advancement compiled 24 anti-displacement strategies with case study examples of their effectiveness to address impacts on the Asian American and Pacific Islander (AAPI) communities.[15]

The report features case studies from around the United States, several of which are strategies successfully deployed in San Francisco, such as in-language tenant counseling to prevent tenant evictions provided by the Veteran's Equity Center (VEC) Bill Sorro Housing Program in SoMa that serves 1000 tenants, predominantly Filipino elders and families, with know-your-rights counseling and a weekly drop-in clinic. Two other programs in San Francisco's Chinatown are also featured that address master plan regulations and deploy a peer organizer model, where SRO residents work part-time to provide outreach,

[14] U.S. Environmental Protection Agency (EPA). Creating Equitable, Healthy, and Sustainable Communities Strategies for Advancing Smart Growth, Environmental Justice, and Equitable Development. 2013. https://www.epa.gov/sites/default/files/2014-01/documents/equitable-development-report-508-011713b.pdf

[15] https://www.nationalcapacd.org/wp-content/uploads/2017/08/anti_displacement_strategies_report.pdf

resources and information and operate as a member-led organization to organize for better living conditions and to fight unjust evictions.

The report also recommends a series of national anti-displacement strategies, which include strategies to be implemented at the local level, several of which are underway in San Francisco:

- Create a Cultural District designation that implements a series of protections for neighborhoods which serve as economic survival hubs for low-income and otherwise marginalized communities
- Invest in housing preservation through tenant services and education and acquisition for permanent affordability to stabilize housing stock
- Create funding incentives for cities to establish inclusionary zoning and rent control to ensure diverse cities and fair access to housing, particularly for family units with multiple bedrooms
- Encourage cities to prioritize at least 50% use of public land for affordable housing in hot markets.

The following excerpted Table of Contents from the report lists the featured strategies and case studies.

Anti-Displacement Strategies 8-31

1) **Innovative Foreclosure Prevention** | HCA | Hawai'i 8
2) **Preserving Farmlands & Culture** | WHHA | Waimea, Hawai'i Island 9
3) **Community Development Loans** | CNHA | Hawai'i 10
4) **Accessory Dwelling Units** | FACE | Honolulu, Hawai'i 11
5) **Property Preservation** | SCIDpda | International District, Seattle, WA 12
6) **Homelessness Diversion** | InterIm | International District, Seattle, WA 13
7) **Equitable Transit-Oriented Planning** | HomeSight | Rainier Valley, Seattle, WA 14
8) **City-Wide Anti-Displacement Plan** | APANO | Jade District, Portland, OR 15
9) **Master Plan Regulations** | CCDC | Chinatown, San Francisco, CA 16
10) **Worker Organizing in SROs** | CPA SF | Chinatown, San Francisco, CA 17
11) **In-Language Tenant Counseling** | VEC | SoMa, San Francisco, CA 18
12) **Community Benefits Agreements** | APEN | Chinatown, Oakland, CA 19
13) **Healthy Neighborhoods** | EBALDC | Oakland, CA 20
14) **Cultural Eco-District** | LTSC | Little Tokyo, Los Angeles, CA 21
15) **Human Overlay Assessment** | Thai CDC | Thai Town, Los Angeles, CA 22
16) **Grassroots City Planning** | SEACA | Chinatown, Los Angeles, CA 23
17) **Arts-Driven Place-Making** | AEDA | Little Mekong, St. Paul, MN 24
18) **Section 8 Preservation** | APALRC | Chinatown, Washington DC 25
19) **Registered Community Organizations** | PCDC | Chinatown, Philadelphia, PA 26
20) **Small Business & Stabilization Microloans** | AAFE | New York City, NY 27
21) **Inclusive Re-Zoning** | CAAAV | Chinatown, New York City, NY 28
22) **The Basement Campaign** | Chhaya CDC | Jackson Heights, Queens, NY 29
23) **Public Land Use for Family Housing** | ACDC | Chinatown, Boston, MA 30
24) **Just Cause Eviction** | CPA Boston | Chinatown, Boston, MA 31

Attachment C– Research Bibliography

Attachment C presents a bibliography of research literature that was reviewed in the course of preparing this report, which supplements the analysis and reports referenced in the 2020 Socioeconomic Report. [1] The reports that were referenced in the 2020 Socioeconomic Report and reviewed as part of this report are highlighted with an asterisk (*) below.

Please refer to Attachment B for a summary of the most relevant research literature that was used to prepare the supplemental analysis of 469 Stevenson Street. As described in the report, the supplemental analysis also relies on information presented in various reports that are focused on San Francisco and the Bay Area region, which are listed in the first two sections below.

Reports Focused on San Francisco

- City and County of San Francisco, Office of the Controller- Office of Economic Analysis, "Potential Effects of Limiting Market- Rate Housing in the Mission," September 10, 2015* https://sfcontroller.org/sites/default/files/FileCenter/Documents/6742-mission_moratorium_final.pdf
- San Francisco Planning Department, "Affordable Housing Funding, Production, and Preservation White Paper prepared as part of the Housing Affordability Strategies," 2020 HAS_Affordable Housing White Paper_Final.pdf (sfplanning.org)
- San Francisco Planning Department, "San Francisco Housing Affordability Strategies– Final Report," March 2020 https://default.sfplanning.org/publications_reports/Housing_Affordability_Strategies_Report.pdf
- San Francisco Planning Department, "San Francisco Community Stabilization Strategies– Final Report," May 2020 https://default.sfplanning.org/plans-and-programs/community-planning/stabilization-strategy/cs_report.pdf
- San Francisco Planning Department, "San Francisco Community Stabilization Policy and Program Inventory Report, Public Draft," October 2019 https://default.sfplanning.org/plans-and-programs/community-planning/stabilization-strategy/cs_policy_program_inventory_draft01.pdf
- San Francisco Planning Department, "San Francisco Housing Needs and Trends Report," July 2018 https://sfplanning.org/resource/san-francisco-housing-needs-and-trends-report
- San Francisco Planning Department, "San Francisco Neighborhoods Socio-economic Profiles," September 2018 https://sfplanning.org/resource/san-francisco-neighborhoods-socio-economic-profiles-2012-2016
- San Francisco Planning Department, Housing Element 2022 Update and the "Summary of the Draft Needs Assessment of the Housing Element 2022 Update," March 2022 Update https://sfhousingelement.org/
- Urban Displacement Project and CHPC, "Rising Housing Costs and Re-Segregation of San Francisco," 2018. (Performed in collaboration with City of San Francisco) https://www.urbandisplacement.org/sites/default/files/images/sf_final.pdf

[1] Socioeconomic Effects of 469 Stevenson Street Market-Rate Development, ALH Urban & Regional Economics, September 2020.

Reports Focused on the Bay Area Region Reports

- Association of Bay Area Governments (ABAG), "Final Regional Housing Needs Allocation (RHNA) Plan San Francisco Bay Area, 2023-2031," December 2021 https://abag.ca.gov/sites/default/files/documents/2021-12/Final_RHNA_Allocation_Report_2023-2031-approved_0.pdf
- Bay Area Council Economic Institute, "Bay Area Economic Profile 2020 Tracking Impacts of the COVID-19 Recession on the Bay Area Economy," 2020 BayAreaEconomicProfile2020.pdf (bayareaeconomy.org)
- Bay Area Council Economic Institute, "Bay Area Homelessness A Regional View of a Regional Crisis," April 2019 Homelessness_Report_2019_web.pdf (bayareaeconomy.org)
- California Tax Credit Allocation Committee, 2022 TCAC/HCD Opportunity Map https://belonging.berkeley.edu/2022-tcac-opportunity-map
- Urban Displacement Project webpage, "Mapping Displacement, Gentrification, and Exclusion in the San Francisco Bay Area," https://www.urbandisplacement.org/maps/sf-bay-area-gentrification-and-displacement/
- Urban Displacement Project and CHPC, "Rising Housing Costs and Re-Segregation in the San Francisco Bay Area," February 2019 https://1p08d91kd0c03rlxhmhtydpr-wpengine.netdna-ssl.com/wp-content/uploads/2019/02/CHPC_UDP_RegionalReport_FINAL2.pdf
- Urban Displacement Project and CHPC, "Rising Housing Costs and Re-Segregation in the San Francisco Bay Area County Results Supplement," February 2019 https://1p08d91kd0c03rlxhmhtydpr-wpengine.netdna-ssl.com/wp-content/uploads/2019/02/CHPC_UDP_RegionalCountySupplement_FINAL.pdf
- Metropolitan Transportation Commission (MTC) Vital Signs webpage, updated April 2020.
  - "Where are construction permits being issued for new housing?"
  - https://www.vitalsigns.mtc.ca.gov/housing-permits
  - "Where are we building new homes?"
  - https://www.vitalsigns.mtc.ca.gov/housing-production
  - "Where do we work?"
  - https://www.vitalsigns.mtc.ca.gov/jobs
  - "Which industries are creating or losing jobs?"
  - https://www.vitalsigns.mtc.ca.gov/jobs-industry

Displacement Research Literature

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- Bates, Lisa K. "Gentrification and Displacement Study: Planning Implementing an Equitable Inclusive Development Strategy in the Context of Gentrification," May 2013 https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?article=1082&context=usp_fac
- Been, Vicki, Ellen et al., "Supply Skepticism: Housing Supply and Affordability," Housing Policy Debate, Volume 29, 2019 – Issue 1* https://www.tandfonline.com/doi/full/10.1080/10511482.2018.1476899
- California Legislative Analyst's Office, "California's High Housing Costs: Causes and Consequences," March, 2015* http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.pdf
- California Legislative Analyst's Office, "California's Homelessness Challenges in Context," February, 2020 https://lao.ca.gov/handouts/localgov/2020/California's-Homelessness-Challenges-in-Context.pdf
- California Legislative Analyst's Office, "Perspectives on Helping Low-Income Californians Afford Housing," February, 2016* http://www.lao.ca.gov/Reports/2016/3345/Low-Income-Housing-020816.pdf
- California Legislative Analyst's Office, "How Has Covid-19 Affected Renters and Homeowners," January, 2021 https://lao.ca.gov/reports/2021/4312/COVID-19-renters-homeowners-011921.pdf
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Attachment D
Residential Pipeline Development Within One Mile Radius

Exhibit D-1 Planned Residential Projects Under Construction
One Mile Radius from Proposed Project

Address	In One Mile Radius	In Surrounding Area	Project Status	Date of Status Update	Housing Units			Affordable Units			Percent Affordable
					Total	Net	Market Rate	Inclusionary	100% Affordable Houising	ADU	
Under Construction											
1430 LEAVENWORTH ST	Y		CONSTRUCTION	12/01/21	9	3	0	0	0	3	100%
30 VAN NESS AVE	Y	Tenderloin	CONSTRUCTION	10/21/21	333	333	250	83	0	0	25%
555 OFARRELL ST	Y	Tenderloin	CONSTRUCTION	08/18/21	48	7	0	0	0	7	100%
530 STOCKTON ST	Y		CONSTRUCTION	08/13/21	49	3	0	0	0	3	100%
311 GROVE ST	Y		CONSTRUCTION	05/13/21	8	8	8	0	0	0	0%
53 COLTON ST	Y		CONSTRUCTION	04/20/21	96	96	0	0	96	0	100%
1125 STEVENSON ST	Y		CONSTRUCTION	03/19/21	64	64	0	0	64	0	100%
UC Hastings Student Housing	Y	Tenderloin	CONSTRUCTION	09/01/20	656	656	553	103	0	0	16%
1522 BUSH ST	Y		CONSTRUCTION	07/21/20	3	3	3	0	0	0	0%
145 LEAVENWORTH ST	Y	Tenderloin	CONSTRUCTION	07/17/20	94	94	79	15	0	0	16%
1068 MISSION ST	Y	South of Market	CONSTRUCTION	06/26/20	254	254	0	0	254	0	100%
500 TURK ST	Y	Tenderloin	CONSTRUCTION	06/12/20	122	122	1	0	121	0	99%
42 OTIS ST	Y		CONSTRUCTION	06/10/20	24	24	21	3	0	0	13%
1298 HOWARD ST	Y	South of Market	CONSTRUCTION	04/01/20	155	130	121	9	0	0	7%
1546 - 1564 MARKET ST	Y		CONSTRUCTION	03/31/20	109	109	96	13	0	0	12%
1335 LARKIN ST	Y		CONSTRUCTION	03/24/20	20	20	20	0	0	0	0%
457 TEHAMA ST	Y	South of Market	CONSTRUCTION	03/12/20	1	1	1	0	0	0	0%
1244 LARKIN ST	Y		CONSTRUCTION	03/11/20	3	3	3	0	0	0	0%
1028 MARKET ST	Y	Tenderloin	CONSTRUCTION	03/10/20	186	186	161	25	0	0	13%
OCEANWIDE (MISSION ST TOWER)	Y		CONSTRUCTION	03/09/20	156	156	156	0	0	0	0%
1700 CALIFORNIA ST	Y		CONSTRUCTION	01/21/20	47	5	5	0	0	0	0%
1372 PINE ST	Y		CONSTRUCTION	09/11/19	30	3	0	0	0	3	100%
436 OFARRELL ST	Y	Tenderloin	CONSTRUCTION	08/28/19	9	9	9	0	0	0	0%
460 LYON ST	Y		CONSTRUCTION	05/22/19	14	2	0	0	0	2	100%
266 04TH ST	Y	South of Market	CONSTRUCTION	02/20/19	70	70	1	0	69	0	99%
272 CLARA ST	Y	South of Market	CONSTRUCTION	10/15/18	3	2	2	0	0	0	0%
Total					**2,607**	**2,363**	**1,490**	**251**	**604**	**18**	**37%**

Source: San Francisco Planning Department Development Pipeline (as of Q4 2021)

Exhibit D-2 Planned Residential Projects in Building Department Pipeline
One Mile Radius from Proposed Project

					Housing Units			Affordable Units			
Address	**In One Mile Radius**	**In Surrounding Area**	**Project Status**	**Date of Status Update**	Total	Net	**Market Rate**	Inclusionary	100% Affordable Houising	ADU	**Percent Affordable**
Building Permits Issued or Approved											
220 BATTERY ST	Y		BP APPROVED	12/17/21	2	2	2	0	0	0	0%
612 NATOMA ST	Y	South of Market	BP APPROVED	10/19/21	1	1	1	0	0	0	0%
481 TEHAMA ST	Y	South of Market	BP APPROVED	09/02/21	5	5	5	0	0	0	0%
130 RUSS ST	Y	South of Market	BP APPROVED	06/28/21	1	1	1	0	0	0	0%
265 SHIPLEY ST	Y	South of Market	BP APPROVED	08/23/20	9	9	9	0	0	0	0%
1228 FOLSOM ST / 723 - 725 CLEMENTINA	Y	South of Market	BP APPROVED	09/17/19	24	24	21	3	0	0	13%
280 07TH ST	Y	South of Market	BP APPROVED	08/20/19	17	17	15	2	0	0	12%
798 POST ST	Y		BP APPROVED	08/05/19	41	1	1	0	0	0	0%
1375 SACRAMENTO ST	Y		BP APPROVED	02/14/19	8	1	0	0	0	1	100%
40 CLEVELAND ST	Y	South of Market	BP APPROVED	12/06/18	3	3	3	0	0	0	0%
768 HARRISON ST	Y	South of Market	BP APPROVED	11/13/18	26	26	26	0	0	0	0%
430 EDDY ST	Y	Tenderloin	BP APPROVED	04/12/18	23	23	20	3	0	0	13%
240 VAN NESS AV	Y	Tenderloin	BP ISSUED	01/24/22	109	109	0	0	109	0	100%
1567 CALIFORNIA ST	Y		BP ISSUED	12/14/21	97	97	88	9	0	0	9%
600 07TH ST	Y	South of Market	BP ISSUED	11/22/21	221	221	0	0	221	0	100%
255 SHIPLEY ST	Y	South of Market	BP ISSUED	09/23/21	24	24	21	3	0	0	13%
1263 - 1265 CLAY STREET	Y		BP ISSUED	07/22/21	3	1	1	0	0	0	0%
780 POST ST	Y		BP ISSUED	07/02/21	42	6	0	0	0	6	100%
182 LANGTON ST	Y	South of Market	BP ISSUED	02/27/21	6	2	0	0	0	2	100%
921 HOWARD ST	Y	South of Market	BP ISSUED	02/01/21	203	203	0	0	203	0	100%
1621 MARKET ST	Y		BP ISSUED	01/11/21	185	185	156	29	0	0	16%
736 HYDE ST	Y		BP ISSUED	08/21/20	9	9	9	0	0	0	0%
78 HAIGHT ST	Y		BP ISSUED	07/21/20	63	63	0	0	63	0	100%
244 09TH ST	Y	South of Market	BP ISSUED	06/17/20	19	19	16	3	0	0	16%
450 OFARRELL ST	Y	Tenderloin	BP ISSUED	05/13/20	176	176	153	23	0	0	13%
711 EDDY ST	Y	Tenderloin	BP ISSUED	04/21/20	201	-1	-1	0	0	0	0%
1306 CALIFORNIA ST	Y		BP ISSUED	02/24/20	7	1	0	0	0	1	100%
1075 &1089 FOLSOM ST	Y	South of Market	BP ISSUED	12/20/19	48	48	36	12	0	0	25%
1440 WASHINGTON ST	Y		BP ISSUED	12/11/19	24	1	0	0	0	1	100%
1270 MISSION ST	Y	South of Market	BP ISSUED	10/17/19	299	299	235	64	0	0	21%
1575 SACRAMENTO ST	Y		BP ISSUED	10/03/19	14	1	0	0	0	1	100%
655 FOLSOM ST	Y		BP ISSUED	08/12/19	89	89	89	0	0	0	0%
135 HYDE ST	Y	Tenderloin	BP ISSUED	06/28/19	72	72	62	10	0	0	14%
33 NORFOLK ST	Y		BP ISSUED	06/26/19	11	11	9	2	0	0	18%
300 OCTAVIA ST	Y		BP ISSUED	06/21/19	12	12	11	1	0	0	8%
300 OCTAVIA ST	Y		BP ISSUED	06/20/19	12	12	10	2	0	0	17%
1350 PINE ST	Y		BP ISSUED	05/30/19	30	2	0	0	0	2	100%
268 CLARA ST	Y	South of Market	BP ISSUED	04/09/19	2	1	1	0	0	0	0%
1601 MISSION ST	Y		BP ISSUED	04/04/19	220	220	220	0	0	0	0%
301 06TH ST	Y	South of Market	BP ISSUED	03/26/19	95	95	82	13	0	0	14%
980 FOLSOM ST	Y	South of Market	BP ISSUED	02/27/19	34	34	30	4	0	0	12%
839 LEAVENWORTH ST	Y		BP ISSUED	02/27/19	52	2	0	0	0	2	100%
807 FRANKLIN ST	Y		BP ISSUED	12/31/18	48	47	42	5	0	0	11%
5TH ST / CLARA ST / SHIPLEY ST	Y	South of Market	BP ISSUED	12/21/18	123	123	105	18	0	0	15%
891 POST ST	Y	Tenderloin	BP ISSUED	12/18/18	49	2	0	0	0	2	100%
19 - 25 MASON ST & 2 - 16 TURK ST	Y	Tenderloin	BP ISSUED	12/05/18	155	155	155	0	0	0	0%
1740 MARKET ST	Y		BP ISSUED	12/05/18	100	100	88	12	0	0	12%
651 GEARY ST	Y	Tenderloin	BP ISSUED	12/04/18	52	52	46	6	0	0	12%
600 VAN NESS AV	Y		BP ISSUED	12/03/18	168	168	144	24	0	0	14%
469 EDDY ST	Y	Tenderloin	BP ISSUED	11/30/18	28	28	25	3	0	0	11%
377 06TH ST	Y	South of Market	BP ISSUED	11/30/18	90	90	78	12	0	0	13%
58 TEHAMA ST / 555 HOWARD ST	Y		BP ISSUED	11/28/18	80	80	67	13	0	0	16%
555 HOWARD STREET	Y		BP ISSUED	11/28/18	127	127	117	10	0	0	8%
51 PRIEST ST	Y		BP ISSUED	11/07/18	2	1	0	0	0	1	100%
245 LEAVENWORTH ST	Y	Tenderloin	BP ISSUED	10/01/18	50	2	0	0	0	2	100%
1515 LEAVENWORTH ST	Y		BP ISSUED	09/10/18	8	1	1	0	0	0	0%
1394 HARRISON ST	Y	South of Market	BP ISSUED	07/20/18	68	68	68	0	0	0	0%
1033 - 1037 WASHINGTON ST	Y		BP ISSUED	12/15/17	4	1	1	0	0	0	0%
1551 FRANKLIN ST	Y		BP ISSUED	09/11/17	5	2	0	0	0	2	100%
OCEANWIDE (FIRST ST TOWER)	Y		BP ISSUED	07/05/17	112	112	112	0	0	0	0%
325 FREMONT ST	Y		BP ISSUED	03/21/17	119	119	119	0	0	0	0%
Total					**4,124**	**3,405**	**2,500**	**286**	**596**	**23**	**27%**

Note: BP=Building Permit.
Source: San Francisco Planning Development Pipeline (as of Q4 2021) and Mayor's Office of Housing and Community Development.

Exhibit D-2 Planned Residential Projects in Building Department Pipeline (cont.)
One Mile Radius from Proposed Project

					Housing Units			Affordable Units			
Address	**In One Mile Radius**	**In Surrounding Area**	**Project Status**	**Date of Status Update**	Total	Net	**Market Rate**	Inclusionary	100% Affordable Houising	ADU	**Percent Affordable**
Building Permits Filed or Reinstated											
380 IVY ST	Y		BP Filed	12/20/21	0	3	3	0	0	0	0%
1369 HYDE ST	Y		BP Filed	07/23/21	99	17	0	0	0	17	100%
1061 FOLSOM ST	Y	South of Market	BP Filed	05/21/21	9	8	8	0	0	0	0%
1101 SUTTER ST	Y		BP Filed	05/10/21	201	201	169	32	0	0	16%
224-228 CLARA ST	Y	South of Market	BP Filed	02/27/21	9	8	8	0	0	0	0%
98 FRANKLIN ST	Y		BP Filed	02/18/21	345	345	276	69	0	0	20%
555 BRYANT ST	Y	South of Market	BP Filed	02/12/21	500	500	460	40	0	0	8%
923 PACIFIC AV	Y		BP Filed	12/28/20	3	1	0	0	0	1	100%
737 PINE ST	Y		BP Filed	12/10/20	46	6	0	0	0	6	100%
580 MINNA ST	Y	South of Market	BP Filed	12/01/20	20	20	17	3	0	0	15%
861 SUTTER ST	Y		BP Filed	10/30/20	69	9	0	0	0	9	100%
665 EDDY ST	Y	Tenderloin	BP Filed	10/25/20	51	4	0	0	0	4	100%
1728 LARKIN ST	Y		BP Filed	10/21/20	6	6	6	0	0	0	0%
535 LEAVENWORTH ST	Y	Tenderloin	BP Filed	10/06/20	27	3	0	0	0	3	100%
626 POWELL ST	Y		BP Filed	09/22/20	37	3	0	0	0	3	100%
969 BUSH ST	Y		BP Filed	09/01/20	33	4	0	0	0	4	100%
380 07TH ST	Y	South of Market	BP Filed	08/28/20	4	4	4	0	0	0	0%
3 MEACHAM PL	Y	Tenderloin	BP Filed	08/05/20	1	0	0	0	0	0	0%
1374 JACKSON ST	Y		BP Filed	06/03/20	3	1	0	0	0	1	100%
825 SUTTER ST	Y		BP Filed	03/13/20	111	-3	-3	0	0	0	0%
1153 BUSH ST	Y		BP Filed	02/14/20	16	1	1	0	0	0	0%
365 12TH ST	Y		BP Filed	12/30/19	6	5	5	0	0	0	0%
200 MAIN ST	Y		BP Filed	12/20/19	683	683	576	107	0	0	16%
159 FELL ST	Y		BP Filed	12/20/19	20	20	17	3	0	0	15%
400 - 416 02ND ST	Y		BP Filed	12/06/19	489	489	489	0	0	0	0%
725 HARRISON ST	Y	South of Market	BP Filed	11/15/19	120	120	1	0	119	0	99%
729 BUSH ST	Y		BP Filed	11/14/19	4	4	4	0	0	0	0%
426 IVY ST	Y		BP Filed	10/30/19	1	1	1	0	0	0	0%
1406 LEAVENWORTH ST	Y		BP Filed	10/29/19	3	1	1	0	0	0	0%
673 Brannan St, 683 Brannan St, 168	Y		BP Filed	10/08/19	60	12	2	0	10	0	83%
300 05TH ST	Y	South of Market	BP Filed	08/21/19	130	130	110	20	0	0	15%
200 LILY ST	Y		BP Filed	08/20/19	3	1	1	0	0	0	0%
36 GOUGH ST	Y		BP Filed	06/24/19	6	6	6	0	0	0	0%
10 HERON ST	Y	South of Market	BP Filed	06/18/19	9	9	9	0	0	0	0%
347 10TH ST	Y	South of Market	BP Filed	06/18/19	9	9	9	0	0	0	0%
220 09TH ST	Y	South of Market	BP Filed	12/27/18	74	74	62	12	0	0	16%
1363 CALIFORNIA ST	Y		BP Filed	12/13/18	1	1	1	0	0	0	0%
611 JONES ST	Y	Tenderloin	BP Filed	11/28/18	12	11	8	3	0	0	27%
661 NATOMA ST	Y	South of Market	BP Filed	09/27/18	3	3	3	0	0	0	0%
519 ELLIS ST	Y	Tenderloin	BP Filed	06/08/18	21	21	18	3	0	0	14%
108 SOUTH PARK *	Y		BP Filed	05/25/18	4	3	3	0	0	0	0%
774 NATOMA ST	Y	South of Market	BP Filed	04/04/18	1	1	1	0	0	0	0%
301 GROVE ST	Y		BP Filed	03/13/18	9	9	9	0	0	0	0%
1450 HOWARD ST	Y	South of Market	BP Filed	09/05/17	16	16	0	0	16	0	100%
820 POST ST	Y		BP Filed	07/24/17	12	12	11	1	0	0	8%
655 MONTGOMERY ST	Y		BP Filed	06/15/17	33	0	0	0	0	0	0%
953 - 955 FOLSOM ST	Y	South of Market	BP Filed	02/02/17	23	23	23	0	0	0	0%
2 SUMNER ST	Y	South of Market	BP Filed	01/20/17	1	1	1	0	0	0	0%
1540 MARKET ST	Y		BP Filed	12/09/16	304	304	304	0	0	0	0%
735 CLEMENTINA ST	Y	South of Market	BP Filed	11/17/16	1	1	1	0	0	0	0%
744 HARRISON ST	Y	South of Market	BP Filed	11/07/16	4	4	4	0	0	0	0%
918 GRANT AV	Y		BP Filed	09/29/16	2	1	1	0	0	0	0%
1200 VAN NESS AV	Y		BP Filed	09/26/16	107	107	107	0	0	0	0%
851 OFARRELL ST	Y	Tenderloin	BP Filed	09/02/16	32	5	0	0	0	5	100%
809 SACRAMENTO ST	Y		BP Filed	07/21/16	1	1	1	0	0	0	0%
1523 FRANKLIN ST	Y		BP Filed	07/01/16	7	7	7	0	0	0	0%
727 - 731 NATOMA ST	Y	South of Market	BP Filed	02/03/16	10	6	6	0	0	0	0%
525 HARRISON ST	Y		BP Filed	09/24/15	179	179	154	25	0	0	14%
1695 FOLSOM ST	Y		BP Filed	07/06/15	4	4	4	0	0	0	0%
1 BRADY ST	Y		BP REINSTATED	02/19/20	190	190	0	0	190	0	100%
757 GRANT AV	Y		BP REINSTATED	03/11/19	6	6	6	0	0	0	0%
850 BUSH ST	Y		BP REINSTATED	04/10/08	20	20	17	3	0	0	15%
Total					**4,324**	**3,641**	**2,932**	**321**	**335**	**53**	**19%**

Note: BP=Building Permit.
Source: San Francisco Planning Development Pipeline (as of Q4 2021) and Mayor's Office of Housing and Community Development.

Exhibit D-3 Planned Residential Projects in Planning Department Pipeline
One Mile Radius from Proposed Project

					Housing Units			Affordable Units			
Address	**In One Mile Radius**	**In Surrounding Area**	**Project Status**	**Date of Status Update**	Total	Net	**Market Rate**	Inclusionary	100% Affordable Houising	ADU	**Percent Affordable**
Planning Applications Approved											
229 ELLIS	Y	Tenderloin	PL Approved	05/22/18	52	52	52	0	0	0	0%
1320 CALIFORNIA ST	Y		PL Approved	01/24/18	7	2	0	0	0	2	100%
1401 MASON ST	Y		PL Approved	01/24/18	9	1	0	0	0	1	100%
1601 - 1637 MARKET ST / 53 COLTON ST	Y		PL Approved	10/20/17	44	44	0	0	44	0	100%
5M	Y	South of Market	PL Approved	01/04/16	386	386	386	0	0	0	0%
Total					**498**	**485**	**438**	**0**	**44**	**3**	**10%**

					Housing Units			Affordable Units			
Address	**In One Mile Radius**	**In Surrounding Area**	**Project Status**	**Date of Status Update**	Total	Net	**Market Rate**	Inclusionary	100% Affordable Houising	ADU	**Percent Affordable**
Planning Applications Filed											
101 Hyde St	Y	Tenderloin	PL Filed, pending*	06/01/22	85	85	1	0	84	0	99%
160 Freelon St	Y	South of Market	PL Filed, pending*	06/01/22	90	90	1	0	89	0	99%
71 Boardman PL	Y	South of Market	PL Filed, pending*	06/01/22	100	100	0	0	100	0	100%
967 Mission St	Y	South of Market	PL Filed, pending*	06/01/22	97	97	1	0	96	0	99%
841 POLK ST	Y	Tenderloin	PL Filed	12/22/21	40	40	33	7	0	0	18%
77 BEALE ST	Y		PL Filed	12/16/21	808	808	647	161	0	0	20%
1338 MISSION ST	Y	South of Market	PL Filed	09/02/21	287	287	243	44	0	0	15%
UDU Removal - 1360 WASHINGTON ST	Y		PL Filed	02/19/21	7	-1	-1	0	0	0	0%
1035 SUTTER ST	Y		PL Filed	01/13/21	36	2	2	0	0	0	0%
599 3rd St	Y		PL Filed	12/03/20	35	0	0	0	0	0	0%
1034 Folsom Street	Y	South of Market	PL Filed	09/25/20	6	6	6	0	0	0	0%
1025 Sutter Street	Y		PL Filed	08/21/20	22	1	1	0	0	0	0%
233 GEARY ST	Y		PL Filed	06/18/20	21	21	21	0	0	0	0%
1010 Mission Street	Y	South of Market	PL Filed	06/08/20	57	57	44	13	0	0	23%
618-630 Octavia ST	Y		PL Filed	05/19/20	50	46	36	10	0	0	22%
1240 BUSH ST	Y		PL Filed	04/22/20	21	5	5	0	0	0	0%
1025 POST ST	Y	Tenderloin	PL Filed	12/12/19	30	3	3	0	0	0	0%
1415 FOLSOM ST	Y	South of Market	PL Filed	11/25/19	8	8	8	0	0	0	0%
1324-1326 Powell ST	Y		PL Filed	11/05/19	17	17	15	2	0	0	12%
468 TURK ST	Y	Tenderloin	PL Filed	11/04/19	101	101	84	17	0	0	17%
667 Folsom St, 120 Hawthorne St, 12	Y		PL Filed	10/25/19	230	230	230	0	0	0	0%
600 MCALLISTER ST	Y		PL Filed	07/31/19	196	196	170	26	0	0	13%
598 BRYANT ST	Y	South of Market	PL Filed	04/10/19	353	353	299	54	0	0	15%
222 Dore ST	Y	South of Market	PL Filed	01/28/19	24	24	22	2	0	0	8%
1320 WASHINGTON ST	Y		PL Filed	12/20/18	25	25	25	0	0	0	0%
1233 FOLSOM ST	Y	South of Market	PL Filed	12/11/18	24	24	22	2	0	0	8%
457 Minna	Y	South of Market	PL Filed	11/28/18	270	270	127	143	0	0	53%
1560 FOLSOM ST	Y		PL Filed	10/29/18	244	244	210	34	0	0	14%
921 OFARRELL ST	Y	Tenderloin	PL Filed	10/26/18	40	40	28	12	0	0	30%
550 OFARRELL ST	Y	Tenderloin	PL Filed	10/15/18	111	111	89	22	0	0	20%
469 STEVENSON ST	Y	South of Market	PL Filed	08/23/18	495	495	422	73	0	0	15%
1333 GOUGH ST / 1481 POST ST	Y		PL Filed	07/30/18	400	231	203	28	0	0	12%
698 BUSH ST	Y		PL Filed	07/26/18	46	1	1	0	0	0	0%
550 LARKIN ST	Y	Tenderloin	PL Filed	07/17/18	26	3	0	0	0	3	100%
385 EDDY ST	Y	Tenderloin	PL Filed	04/16/18	67	-2	0	-2	0	0	100%
351 12TH ST	Y		PL Filed	04/06/18	48	48	40	8	0	0	17%
650 HARRISON ST	Y		PL Filed	04/04/18	245	245	210	35	0	0	14%
1501 CALIFORNIA ST	Y		PL Filed	01/10/18	42	0	0	0	0	0	0%
300 05TH ST	Y	South of Market	PL Filed	12/14/17	9	9	9	0	0	0	0%
755 BRANNAN	Y	South of Market	PL Filed	05/01/17	57	57	49	8	0	0	14%
451 - 453 TEHAMA ST	Y	South of Market	PL Filed	03/16/17	6	2	2	0	0	0	0%
TRANSBAY PARCEL F	Y		PL Filed	02/14/17	165	165	111	54	0	0	33%
1145 MISSION ST	Y	South of Market	PL Filed	12/29/16	25	25	21	4	0	0	16%
955 POST ST	Y	Tenderloin	PL Filed	12/09/16	69	69	52	17	0	0	25%
88 BLUXOME ST (645 05TH ST)	Y	South of Market	PL Filed	12/01/16	100	100	1	0	99	0	99%
95 HAWTHORNE ST	Y		PL Filed	09/28/16	392	392	337	55	0	0	14%
1331 WASHINGTON ST	Y		PL Filed	06/30/16	4	1	1	0	0	0	0%
630 GEARY ST	Y	Tenderloin	PL Filed	06/29/16	54	0	0	0	0	0	0%
655 04TH ST	Y	South of Market	PL Filed	05/17/16	960	957	957	0	0	0	0%
48 TEHAMA ST	Y		PL Filed	05/10/16	7	7	7	0	0	0	0%
1525 PINE ST	Y		PL Filed	05/09/16	21	21	19	2	0	0	10%
262 07TH ST	Y	South of Market	PL Filed	05/06/16	96	96	79	17	0	0	18%
828 BRANNAN ST	Y	South of Market	PL Filed	04/14/16	50	50	41	9	0	0	18%
10 SOUTH VAN NESS AV	Y		PL Filed	04/11/16	966	966	966	0	0	0	0%
1245 FOLSOM ST	Y	South of Market	PL Filed	03/22/16	37	37	30	7	0	0	19%
57 TAYLOR ST	Y	Tenderloin	PL Filed	10/23/15	190	78	48	30	0	0	38%
Total					**8,012**	**7,341**	**5,976**	**894**	**468**	**3**	**19%**

***** Unit count and project status based on data provided by the Mayor's Office of Housing and Community Development.
Note: PL=Planning Application.
Source: San Francisco Planning Development Pipeline (as of Q4 2021) and Mayor's Office of Housing and Community Development.

Attachment E– Exhibits on Anti-Displacement Strategies

Exhibit E-1 Draft Community Prioritized Strategies and Recommendations Summary From SOMA Pilipinas Filipino Cultural Heritage District CHHESS

SOMA PILIPINAS COMMUNITY PRIORITIZED STRATEGIES & RECOMMENDATIONS SUMMARY (FINAL DRAFT)

1 CULTURAL PRESERVATION

1. Develop and support SOMA Pilipinas Filipino cultural heritage archive and living legacy
2. Expand access to Filipino arts education & programs teaching Filipino languages, history, and culture
3. Expand and strengthen programs that empower, serve, and address the health of Filipino children and youth

2 TENANT PROTECTIONS

4. Protect and stabilize buildings that contain a high proportion of Filipino tenants and stabilize existing Filipino residents
5. Build capacity and Filipino cultural competence to support residential acquisition and rehabilitation in SOMA
6. Increase language and culturally competent housing readiness support for Filipinos to get into affordable, below market rate (BMR), and supportive housing

3 ARTS & CULTURE

7. Strengthen and stabilize the capacity of Filipino arts and cultural organizations and individual artists
8. Develop a SOMA Pilipinas arts master plan
9. Create SOMA Pilipinas special area design guidelines and public realm design toolkit
10. City support for cultural district public realm improvement, maintenance, and neighborhood cleaning and beautification
11. Development of a Cultural Conservator

4 ECONOMIC & WORKFORCE DEVELOPMENT

12. Strengthen non-profits' ability to sustain community workers
13. Further development of Mission St. as a commercial corridor for the cultural district
14. Support the development of a mutual-aid and mentorship-based merchant association to support the stabilization and attraction of Filipino businesses
15. Strategic planning to create Filipino access to family-sustaining jobs in public and private sectors

5 PLACE KEEPING & PLACE MAKING

16. Establish a working group to examine, strengthen, and expand the youth and family special use district
17. Increase community-based access, use, and stewardship of land, buildings, and space
18. Ensure that the historic and ongoing displacement of the Filipino community are part of the discourse in developing the Planning Department's racial and social equity plan initiative including the phase II action pla

6 CULTURAL COMPETENCY

19. Develop a barangay center/co-location services hub
20. Strengthen and expand language access for Filipino residents
21. Invest in the sustainability of Filipino community-based organizations
22. Develop a community health report on Filipinos in SF

Source: SOMA Pilipinas Filipino Cultural Heritage District Cultural, History, Housing, and Economic Sustainability Strategy (CHHESS), June 2022 Draft. The Board of Supervisors passed a resolution adopting the CHHESS, which was signed by Mayor Breed on September 16, 2022, Resolution No. 369-22, Board File No. 220769.

Exhibit E-2 Description of Residential Anti-Displacement Strategies

Strategy	Description	City Program Lead(s)	South of Market and Tenderloin Neighborhood Examples	Proposed by the 469 Stevenson Project	Sources*
Housing Production					
Affordable and market rate housing production	Production of affordable housing and market rate housing, including inclusionary housing, with rental housing application assistance by DAHLIA: San Francisco Housing Portal.	Planning, Mayor's Office of Housing and Community Development (MOHCD)	About 12,700 units produced in neighborhoods from 2005-2021, including 3,500 affordable units.	Required: Provision of 422 market rate and 73 affordable apartment units plus funding for additional affordable housing.	1, 2, 6
Inclusionary housing/zoning	Inclusion of affordable housing within mixed income/market rate developments.	Planning	About 1,100 units inclusionary units produced in neighborhoods from 2005-2021.	Required: 73 on-site inclusionary housing units affordable to very low, low and moderate income households.	1, 2, 6
Accessory dwelling units (ADUs)	Secondary house or apartment that shares the building lot of a larger, primary residential building.	Planning	Provision of 19 ADUs in neighborhoods from 2005-2021.	N/A	6
Affordable housing impact fees	Fees in-lieu of building units.	MOHCD	Payment of fees by market rate residential developments to fund affordable housing, which MOHCD uses to help fund production of affordable housing in the neighborhoods.	Required: $8,000,000 (with MOHCD intention to direct funding toward affordable housing in SoMa). Voluntary: Potential use of funds for affordable housing at 967 Mission Street.	2, 3, 4, 6, 7
Jobs-housing balance or commercial impact fees	Non-residential linkage fees.	MOHCD	Payment of fees by non-residential developments to fund affordable housing, which MOHCD uses to help fund production of affordable housing in the neighborhoods.	Not required due to proposed size of retail.	2, 3, 4, 7
Expedited permitting and developer incentives (including Housing Overlay Zones)	California Permit Streamlining Act (Government Code Sec. 65920-64) and Housing Accountability Act.	Planning	The Tahanan building with 146 permanent supportive housing units at 833 Bryant Street was completed using State Density Bonus and streamlining.	N/A	8, 9
Reduced parking requirements for affordable housing	City does not have minimum off-street parking requirements and has maximum parking requirements for some uses.	Planning	New affordable developments such as 921 Howard Street, 555 Larkin Street and 725 Harrison Street will not include off street parking.	Proposed Project does not have any minimum off-street parking requirements.	8
Land dedication for affordable housing	San Francisco Public Land for Housing, California Surplus Land Act.	Planning and Office of Economic and Workforce Development (OEWD)	Fourth and Folsom (266 Fourth St) City-owned property, 5M donation of property at 967 Mission Street for affordable housing.	Voluntary: Donation of property at 59 6th Street for community benefit use, such as affordable housing, open space and recreation, or a community facility.	2, 4, 10
Homelessness prevention and supportive services and housing	Core programs to prevent homelessness and provide supportive housing include: permanent supportive housing, transitional housing, coordinated entry, shelter, street outreach, health care and support services.	Department of Homelessness and Supportive Housing (HSH)	Coordinated access points: Episcopal Community Services, Saint Vincent de Paul Society, Swords to Plowshares, Larkin Street Youth Services. Hamilton Families provides rental assistance and case management for formerly homeless.	Voluntary: Efforts to either negotiate a lease of the ground floor of the Helen Hotel, located at 166 Turk Street, for use as an Urban Rest and Sleep Center, or a purchase option for the entire building. Should the negotiation be successful, assign the lease or purchase option to a local community group and provide initial funding.	2, 4, 11
Tax incentives and tax funded programs for affordable housing	Programs that dedicate tax revenues to affordable housing or provide property tax exemptions as incentives.	Treasurer's Office, Office of Community Infrastructure and Investment (OCII), MOHCD	Funds used by developers and community organizations to develop affordable housing and address homelessness in both neighborhoods.	N/A	12, 13
Voter Authorized Funding/Bonds	Voter approved bonds and allocation of General Funds.	MOHCD, OCII	Funds used by developers and community organizations to develop affordable housing (3,500 affordable units from 2005-2021).	N/A	13, 14
Housing Preservation					
Preservation of federally subsidized housing	Preservation and replacement of federally assisted housing, including public housing.	MOHCD, SF Housing Authority, HOPE SF	Senior and affordable housing developments funded with Federal HUD funds.	N/A	7, 14
Condominium conversion ordinances	The Ellis Act	Rent Board, State of California	Applies to condos in both neighborhoods.	N/A	15
No-net-loss, one-for-one replacement strategies	California Housing Crisis Act (as amended in 2021 by Senate Bill 8)	Planning	Applies to existing housing in both neighborhoods.	N/A	16
Single-room occupancy (SRO) hotels rent and conversion controls	Residential Hotel Unit Conversion and Demolition Ordinance (HCO), Chapter 41 of the San Francisco Administrative Code.	Rent Board, Planning	About 8,300 certified residential SRO units in SoMa and Tenderloin.	N/A	15, 17
Property rehabilitation and preservation, including buildings with high proportion of Filipino tenants	Preservation and Seismic Safety Program (PASS) provides low-cost and long-term access to debt financing to acquire, rehabilitate, and preserve existing buildings as permanently affordable housing, including Small Sites (e.g. 5 to 25 units), larger multifamily structures (e.g. 25+ units), or SROs of all sizes.	MOHCD, Housing Accelerator Fund (HAF)	Seven properties in MOHCD pipeline to be acquired and rehabilitated into 457 affordable units (including 224 SRO units) in SoMa and Tenderloin (including 270 Turk Street). Nine units on Natoma Street purchased through small sites program using HAF loan.	N/A	7, 9, 18
Land banking/community control	Create permanently affordable housing for low-to-moderate-income people through community ownership of land.	MOHCD, San Francisco Community Land Trust (SFCLT), Community Opportunity to Purchase Act (COPA)	SFCLT acquisition and preservation of 534-36 Natoma, 568-570 Natoma, 285 Turk Street, 308 Turk Street.	N/A	7, 19

* See Exhibit E-4 for list of sources used to describe each strategy, indicate City Program Lead(s), outline neighborhood examples and indicate what is proposed by 469 Stevenson Street.

Exhibit E-2 (Cont.) Description of Residential Anti-Displacement Strategies

Strategy	Description	City Program Lead(s)	South of Market and Tenderloin Neighborhood Examples	Proposed by the 469 Stevenson Project	Sources*
Housing Stabilization and Protection					
Tenant rental assistance	Housing Choice Voucher program for qualified lower income renters.	MOHCD, SF Housing Authority	Many neighborhood residents receive Housing Choice Vouchers.	N/A	7, 14
Rent stabilization/control	San Francisco Rent Ordinance (SF Administrative Code, Chapter 37) enacted and effective June 13, 1979.	Rent Board	About 8,100 rent controlled apartments and 8,300 SROs in SoMa and Tenderloin.	N/A	15
Tenant counseling and right to legal counsel	Tenants' rights education and counseling, tenant landlord mediation programs, and Tenant Right to Counsel (TRC), which provides legal representation to tenants facing eviction.	Rent Board	Rental counseling, tenant readiness, rental housing application assistance and/or legal representation for neighborhood tenants through Homeownership SF, Asian Pacific Islander Legal Outreach (APILO) and Eviction Defense Collaborative (EDC).	N/A	15
Code Enforcement Outreach Program (CEOP) and SRO Collaborative Program	Proactive code enforcement of SROs and older buildings working done in collaboration with local non-profit organizations that represent rental property owners and tenants.	Department of Building Inspection (DBI) Housing Inspection Services (HIS)	Expedited code enforcement of neighborhood apartments and SROs coordinated by following non profits: Tenderloin Housing Clinic, Housing Rights Committee of San Francisco, San Francisco Apartment Association, Central City SRO and SRO Families Collaborative.	N/A	15, 17
Just-Cause eviction policy	Citywide policy to provide tenant protections.	Rent Board	Protections and counseling for neighborhood tenants.	N/A	15
Tenant right to purchase	COPA gives qualified non-profit organizations the right of first offer, and/or the right of first refusal to purchase certain properties offered for sale in the City.	MOHCD, HAF, COPA	Five-unit property located at 566 Natoma Street in SoMa purchased by Mission Economic Development Agency and 4-unit property at 528 Natoma purchased by Novin Development Corporation using HAF loan.	N/A	9, 19
Foreclosure assistance	Housing counseling and loan advice.	MOHCD	Protections and counseling for neighborhood homeowners through Homeownership SF.	N/A	20
Homeowner assistance programs and Individual Development Accounts (IDA)	City's Downpayment Assistance Loan Program (DALP) is a downpayment loan up to $375,000 for a single unit that will become a primary residence; complementary programs available through Federal Home Loan Bank San Francisco.	MOHCD	Homeowner counseling, workshops and downpayment assistance for neighborhood residents through Homeownership SF and Asian Inc.	N/A	20, 21

* See Exhibit E-4 for list of sources used to describe each strategy, indicate City Program Lead(s), outline neighborhood examples and indicate what is proposed by 469 Stevenson Street.

Exhibit E-3 Description of Cultural Anti-Displacement Strategies

Strategy	Description	City Program Lead(s)	South of Market and Tenderloin Neighborhood Examples	Proposed by the 469 Stevenson Project	Sources*
Community Stabilization Initiative	Multi-agency effort to mitigate the impacts of ongoing displacement and help vulnerable populations thrive and contribute to the City's economy and culture.	Planning	SoMA Community Stabilization Fund, Tenderloin Development Without Displacement Initiative, SoMa Pilipinas Filipino CHHESS.	See descriptions below of anti-displacement strategies.	22
Racial Equity Plans	Development and implementation of Racial Equity Plans by City Departments.	Office of Racial Equity, Division of Human Rights Commission (HRC), Planning	Action plans that strengthen interagency collaboration and community engagement to advance racial and social equity in SoMa and Tenderloin.	N/A	23
Community Benefits Agreement (CBA)	Negotiated agreements that provide community benefits, including funding, services, community space, land dedication, and other benefits.	Office of Economic and Workforce Development (OEWD)	Negotiated CBAs with 5M, FITNESS SF, Lever, Spotify, and other large projects.	See descriptions below of anti-displacement strategies per voluntary community benefits agreement with Mid-Market Coalition and its constituent groups.	4, 24
Community, Arts and Cultural Stabilization					
Arts and culture protection	Ongoing support for arts and cultural organizations and historically underserved communities including grants for services, capital and capacity building.	San Francisco Arts Commission (SFAC), Grants for the Arts (GFTA), CAST (Culture Compass)	Representative buildings with arts and cultural organizations: Dempster Building, Old Mint Building, Bindlestiff Studio, Odd Fellows Building, Intersection for the Arts, San Francisco Chronicle Building.	Voluntary: Designate two ground floor spaces of about 4,000 square feet at below market rent for SoMa community-serving retail and community spaces. Building and Construction Trades Council will donate skilled labor for construction of tenant improvements for community serving non-profits.	2, 4, 25, 26, 27, 28, 29
Cultural District Initiative, including support of local Cultural Districts	Cultural District Initiative seeks to celebrate, strengthen, and coordinate the unique cultural identities of the city's communities.	Planning	SOMA Pilipinas – Filipino Cultural District, Leather & LGBTQ Cultural District, Transgender Cultural District.	N/A	30, 31, 32, 33
Historic Resource and Landmark Designations	Designations of landmarks and historic resources, particularly those associated with Cultural Districts, communities of color and vulnerable populations.	Planning	Designated landmarks per SF Planning Code. Potential Filipino historic resources per HRE Part II: 50 Rizal Street and California Register-eligible South Park Historic District.	N/A	30, 31, 32, 33, 34, 35
Community investment, including support of arts and cultural organizations, such as Cultural Centers	Funding for artists, arts organizations and historically underserved communities through grants, technical assistance and capacity building, economic development, education and cultural centers.	SFAC, Grants for the Arts (GFTA), Community Arts Stabilization Trust (CAST)	Yerba Buena Center for the Arts, SoMarts Cultural Center, which is also home to Asian Pacific Islander Cultural Center.	Voluntary: Same as above (designation of two community-serving and community spaces).	2, 4, 25, 26, 27, 28, 29
Community organization preservation - Nonprofit Sustainability Initiative (NSI), Community Cornerstones	Provision of financial assistance, professional services, assessment tools and other resources to address key challenges, including grants for property acquisition and lease stabilization.	SFAC, OEWD, Community Vision, CAST	Representative NSI acquisition or lease stabilization grants: United Playaz (UP), Healing WELL, Curry Senior Center, KULARTS, PUSH Dance Company (PUSH), SFFILM, Southeast Asian Development Center (SEADC), Southeast Asian Development Center (SEADC).	Voluntary: Same as above (designation of two community-serving and community spaces).	2, 4, 26, 27, 28, 29, 36, 37, 38, 39, 40, 41
Community organization support and retention	Support of community organizations that preserve culture and improve quality of life including health, public safety and resident wellness.	SFAC, OEWD, Community Vision, CAST	Variety of community organizations and centers including Bayanihan Community Center, Bayanihan Equity Center, Canon Kip Senior Center, Foundation For Filipina Women's Network, KULARTS, Kultivate Labs, Mabuhay Health Clinic, Renaissance Center, SEED Network, South of Market Community Action Network (SOMCAN), West Bay Pilipino Multi-Service Center, United Playaz.	Voluntary: $578,700 to benefit resident-led projects and organizations in SoMa and Tenderloin and help fund programs to promote community, public safety, sanitation, and resident wellness.	2, 30, 31, 32, 33, 36, 37, 38, 39, 40, 41
Health and social services for vulnerable populations, including programs for Filipino children and youth	Health and social services to the City's most vulnerable populations and those who need language translation services.	Department of Public Health (DPH), San Francisco Human Services Agency (HSA)	Variety of service organizations including Canon Kip Senior Center, Glide Health Services, Larkin Street Health Clinic, Mabuhay Health Clinic, Pilipino Senior Resource Center, South of Market Health Center, SoMa RISE (Recover, Initiate, Support, Engage) Center, Tenderloin Health Services, West Bay Multi-Service Center, United Playz.	Voluntary: Fund an independent impact assessment/ study to evaluate extent of construction impact, including impact to social equity, livelihoods, health, and the general SoMa population.	2, 31, 33, 42, 43, 44
Public art, civic art and public realm improvements	Provision of public and civic art as well as improvement of the public realm, including street safety.	SFAC, OEWD, Community Vision, CAST, SF Parks Alliance	Yerba Buena Gardens, Kapwa Gardens, Victoria Manalo Draves Park, Parks at 5M (Mary Court), Mint Plaza, Skybridge on Stevenson, StreetSmARTS Murals, SoMA Youth & Family Special Use District	Required: As part of required 1%-for-art program, contribute $250,000 to support on-site public art projects that recognize the Filipino community's history, culture, and contributions.	2, 31, 33, 45, 46
Citywide Public Space Initiative and equitable recreation and park investments	Recreation and Parks' Equity Metrics endeavors to invest in open space and recreational investments in disadvantaged neighborhoods.	San Francisco Recreation and Parks Department, SF Parks Alliance	Yerba Buena Gardens, Gene Friend Recreation Center, Tenderloin Recreation Center, Kapwa Gardens, Howard & Langdon Mini-Park, Parks at 5M (Mary Court), Boeddeker Park, Eagle Plaza, Jessie Street, Mint Plaza, UN Plaza, Victoria Manalo Draves Park.	Voluntary: Provide in-kind contribution (valued at $50,000/year) by the Project's on-site maintenance and administration staff to help maintain Mint Plaza.	5, 45, 46

* See Exhibit E-4 for list of sources used to describe each strategy, indicate City Program Lead(s), outline neighborhood examples and indicate what is proposed by 469 Stevenson Street.

Exhibit E-3 (Cont.) Description of Cultural Anti-Displacement Strategies

Strategy	Description	City Program Lead(s)	South of Market and Tenderloin Neighborhood Examples	Proposed by the 469 Stevenson Project	Sources*
Business and Workforce Stabilization					
Business retention and stabilization	Resources to start, run, grow, and support local businesses in San Francisco, including technical assistance, low interest loans, façade improvements (SF Shines), CBDs, and other programs.	OEWD, Office of Small Business, Main Street Launch	Mid Market, North of Market/Tenderloin, SoMa West, and Yerba Buena Community Benefit Districts (CBDs).	Voluntary: Same as above (designation of two community-serving and community spaces).	2, 4, 47, 48
Sustain local businesses and commercial corridors (Invest in Neighborhoods)	Partnerships between City agencies, nonprofits and CBDs to enhance and strengthen neighborhood commercial corridors through small business support, improvements to physical condition and quality of life, and capacity building.	OEWD, Office of Small Business, Main Street Launch	OEWD, Office of Small Business, Main Street Launch.	Voluntary: Same as above (designation of two community-serving and community spaces).	2, 4, 39, 48
Legacy Business Program	Funding and protections for City's longstanding businesses (30+ years) to stabilize anchor businesses and institutions that provide community-serving goods and services.	OEWD, Office of Small Business	Variety of legacy businesses as indicated in the Legacy Business Directory, such as Legal Assistance for Elderly and Mission Neighborhood Health Center.	N/A (none on site).	47, 50
Commercial vacancy tax	Commercial property owners must pay a tax to keep certain commercial space vacant for more than 182 days in a calendar year, with filing and payment to begin in 2023.	Treasurer's Office	Applies to the SoMa Neighborhood Commercial Transit District, which incorporates properties facing the street along Sixth Street, Ninth Street, Tenth Street and Folsom Street.	N/A (not in SoMa Neighborhood Commercial Transit District).	51
Commercial District Planning, Management, Safety, and Vibrancy	Customized support to stabilize neighborhood commercial corridors and investments in physical assets and civic spaces to promote a safe and vibrant environment.	OEWD	Mid Market, North of Market/Tenderloin, SoMa West, and Yerba Buena Community Benefit Districts (CBDs).	N/A	47, 48, 49
Workforce development and education	Workforce development, job placement and paid work experience opportunities, including workforce hiring programs and programs for young adults.	OEWD Workforce Development Division, HSA, MOHCD, Department of Children, Youth & Their Families (DCYF)	Job centers, occupational skills training and neighborhood and young adult access points such as Larkin Street Youth Services, SoMa Youth Collaborative, Program for Economic Advancement, Downtown Streets Team, 6th Street Employment Program. 5M project provided funding for workforce programs.	Voluntary: Develop employment programs for local residents of SoMa and Tenderloin in conjunction with OEWD 6th Street Employment Program.	2, 4, 52, 53, 54, 57
First Source Hiring	San Francisco First Source Hiring Program per Chapter 83 of San Francisco Administrative Code.	OEWD Workforce Development Division	SoMa Youth Programming, Program for Economic Advancement and related employment and training programs for neighborhood residents and workers.	Required: Provision of employment opportunities for economically disadvantaged individuals during construction and operations.	2, 55
Local employment programs	San Francisco Local Hiring Policy per Chapter 6 of San Francisco Administrative Code.	OEWD Workforce Development Division	Job Centers: Central City Hospitality, Southeast Asian Development Center, Upwardly Mobile. Occupational skills training resources: Homebridge, Episcopal Community Service.	Voluntary: Same as above (develop employment programs for local residents).	2, 4, 56
Minimum wage	Minimum Wage Ordinance per Chapter 12R of San Francisco Administrative Code.	Office of Labor Standards Enforcement (OLSE)	Required payment of minimum wages to neighborhood workers.	Required: As required by City Administrative Code	58
Wage theft protections and enforcement of other labor laws	Enforcement of local labor laws that apply citywide as well as to City contractors, lessees, and others doing business with the City.	Office of Labor Standards Enforcement (OLSE)	Protections for neighborhood workers.	Required: As required by City Administrative Code	59
Educational programs, including programs to support families and cultivate arts and culture	Education and family services, including early education/care and programs that cultivate arts and culture.	SF Department of Early Childhood (Formerly Office of Early Care & Education), San Francisco Unified School District (SFUSD)	Bessie Carmichael School, Filipino Education Center, Compass Children Center, Tenderloin Community Elementary School, West Bay Pilipino Multi-Service Center, United Playaz.	N/A	33, 59, 60, 61
Muni Service Equity Strategy	Provides service and transportation options to the City's most vulnerable populations and free transit rides for youth, seniors, and people with disabilities.	San Francisco Municipal Transportation Agency (SFMTA)	SFMTA service to neighborhood residents and workers, providing transit access to jobs, education and workforce programs.	N/A	62

* See Exhibit E-4 for list of sources used to describe each strategy, indicate City Program Lead(s), outline neighborhood examples and indicate what is proposed by 469 Stevenson Street.

Exhibit E-4 List of Key Sources for Figures and Exhibits on Anti-Displacement Strategies

1 San Francisco Planning Case 2017-014833PRJ, which presents residential and commercial components of the Proposed Project.
2 Vettel, Steven, Counsel for Project Sponsor, email correspondence with the San Francisco Planning Department, August 31, 2022.
3 Mayor's Office of Housing and Community Development, Letter to Director of San Francisco Planning Department, May 25, 2021.
4 Mid-Market Coalition, Letter of Support for the Proposed 469 Stevenson Street Project, October 20, 2021
5 469 Stevenson Property Owner, LLC, 469 Stevenson (SF Planning Case 2017-014833PRJ) Contribution for Maintenance and Repair of Mint Plaza, July 29, 2021
6 Geocoded databases compiled by San Francisco Planning Department regarding existing affordable housing, ADUs, SROs, and rent controlled apartments, as well as pipeline housing developments with both market rate and affordable units.
7 https://sfmohcd.org/housing-development-financing
8 https://sfgov.legistar.com/View.ashx?M=F&ID=6950192&GUID=EB1A5961-EEB1-4F4D-8863-90C0466ACDA2
9 https://www.sfhaf.org/projects/
10 https://sfplanning.org/public-land-housing
11 https://hsh.sfgov.org
12 https://sftreasurer.org/business/taxes-fees/homelessness-gross-receipts-tax-hgr
13 https://sfocii.org/housing
14 https://sfha.org https://cgoboc.sfgov.org/models/data/28Feb2022/docs/MOHCD%20CGOBOC%20Presentation%20Feb%202022_final.pdf
15 https://sfrb.org/fact-sheet-1-general-information; https://sfrb.org/laws-regulations
16 https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB8
17 https://sfdbi.org/SRO
18 https://sfmohcd.org/small-sites-program
19 https://sfmohcd.org/community-opportunity-purchase-act-copa
20 https://sfmohcd.org/affordable-homebuyer-programs
21 https://sfmohcd.org/dalp
22 https://sfplanning.org/community-stabilization-strategy
23 https://sfplanning.org/project/racial-and-social-equity-action-plan
24 https://www.racialequitysf.org
25 https://sfgov.org/ccsfgsa/centralmarketcac/community-benefit-agreements-2018
26 https://www.sfartscommission.org
27 https://sfgfta.org
28 https://cast-sf.org
29 https://culturecompass.org
30 https://sfplanning.org/cultural-heritage
31 https://www.somapilipinas.org
32 SoMa Pilipinas Filipino Cultural Heritage District Cultural, History, Housing, and Economic Sustainability Strategy Report (CHHESS), June 2022 Draft
33 https://static1.squarespace.com/static/5b2c30b58f51305e3d641e81/t/606735a1bda56a5896a81fee/1617376673646/SoMaPilipinas_map2021.pdf
34 https://sfplanning.org/landmark-designation-program
35 Historic Resources Evaluation Part II, Page and Turnbull
36 https://oewd.org/nonprofits-0
37 https://communityvisionca.org/sfsustainability/
38 https://communityvisionca.org/mayor-london-breed-announces-3-3-million-in-funding-to-support-community-nonprofit-organizations/
39 https://oewd.org/sites/default/files/ECN Racial Equity Plan_V1 12.31.20 Appendix E OEWD Vulnerable Populations Engagement Assessment.pdf
40 https://www.sfartscommission.org/content/2021-grantees
41 https://www.sfartscommission.org/content/2020-grantees
42 https://www.sfdph.org/dph/comupg/oservices/medSvs/hlthCtrs/default.asp
43 https://sf.gov/soma-rise-center
44 https://www.sfhsa.org/
45 https://sfrecpark.org/685/Recreation-Facilities
46 https://sanfranciscoparksalliance.org/our-community-partners/
47 https://sf.gov/departments/office-economic-and-workforce-development/office-small-business
48 https://oewd.org/resources-businesses
49 https://oewd.org/community-benefit-districts
50 https://legacybusiness.org/
51 https://sftreasurer.org/business/taxes-fees/commercial-vacancy-tax-vt
52 https://oewd.org/workforce
53 https://oewd.org/jobcenters
54 https://www.sfhsa.org/services/jobs-money
55 https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_admin/0-0-0-20483
56 https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_admin/0-0-0-2671
57 https://www.sfbuildingtradescouncil.org/news/top-stories/506-supervisors-approve-5m-development
58 https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_admin/0-0-0-8564
59 https://sfgov.org/olse/
60 https://sfdec.org
61 https://www.sfusd.edu
62 https://www.sfmta.com/projects/muni-service-equity-strategy

Attachment F– Statement of Qualifications– Seifel Consulting, Inc.

Seifel Consulting, Inc. (or Seifel) is an economic consulting firm that advises public and private clients on the planning, funding and development of high quality infill development. Since 1990, we have provided a range of real estate, economic and housing advisory services to more than 100 public agencies throughout California, completing over 1000 consulting assignments. The following page presents representative public and private sector clients that we have advised.

Real estate economics is the foundation for Seifel's work. We combine insight into the real estate market with a technical foundation in pro forma cash flow modeling, asset valuation, and other analytical methods. We use the analytical tools of real estate economics and urban planning to evaluate development strategies for client properties.

Our real estate services include evaluating the market and development potential for a broad range of real estate product types, including housing, office, retail, and lodging. We project potential market demand on local and regional levels, identify existing and future competition, and forecast revenues and absorption. We have extensive experience analyzing value premiums generated by proximity to transit. Our analyses support area planning efforts by helping clients to select among alternative land use scenarios and fine-tune development regulations (e.g., building heights and parking requirements), based on considerations such as economic feasibility, job generation potential, and fiscal impact.

We perform financial feasibility analysis for development alternatives and evaluate properties in terms of opportunities and constraints, market potential, and importance toward broader area planning goals. We project the long-term revenue potential of development and calculate net present value of future income using pro forma cash flow modeling. We identify catalyst development sites and formulate strategies to encourage redevelopment and attract additional neighborhood investment, including funding strategies to achieve development success. We also advise clients on how to select potential developers, help negotiate and structure deal terms, and perform due diligence on financial proposals.

Seifel has facilitated the construction of thousands of housing units for households of all income levels, helping clients leverage limited resources to meet the unique housing needs of their communities. We have developed, reviewed and/or helped implement housing programs for more than 50 communities related to 100% affordable housing and mixed income housing development, inclusionary housing, housing fee, housing forecasts, density bonus programs and first-time homebuyer programs. We have prepared studies that analyze displacement and disparate impacts on residents and workers in Bay Area cities to inform live work preference policies.

San Francisco Experience

For more than two decades, Seifel has provided a broad range of economic consulting services to the City and County of San Francisco as well as other public agencies, community organizations and developers actively engaged in planning and development projects in San Francisco. Seifel has advised the City's Planning Department, Office of Economic and Workforce Development, Mayor's Office of Housing and Community Development, Department of Building Inspection, Port of San Francisco, the former San Francisco Redevelopment Agency, the Office of Community Investment and Infrastructure, Public Utilities Commission, San Francisco Municipal Transportation Agency, San Francisco Housing Authority, Treasure Island Development Authority, and Transbay Joint Powers Authority.

This experience has equipped Seifel with deep knowledge and understanding of the economic and market conditions that affect existing and future development in San Francisco, with a particular specialty in the evaluation of residential, mixed use and affordable housing developments.

Representative Public Sector Clients of Seifel Consulting, Inc.	
Berkeley Rent Stabilization Board	San Diego Association of Governments
California Department of Real Estate	San Francisco Housing Authority
California Department of Justice	Santa Monica Rent Control Board
California Housing Finance Agency	Sunnyvale School District
Clovis Unified School District	The Presidio Trust
Hastings College of Law	Transbay Joint Powers Authority
Housing & Community Development Corporation of	Treasure Island Development Authority
Port of San Francisco	US General Services Administration
San Buenaventura (Ventura) Housing Authority	University of California

California Cities and Towns			
Alameda	Hercules	Petaluma	San Marcos
Albany	Hesperia	Pleasant Hill	San Rafael
Berkeley	Lafayette	Portola	Santa Cruz
Brentwood	Livermore	Rancho Cordova	Santa Monica
Capitola	Lodi	Richmond	Santa Rosa
Chico	Long Beach	Rocklin	Santee
Cloverdale	Los Angeles	Rohnert Park	Seaside
Concord	Los Gatos	Roseville	Soledad
Cupertino	Monterey	Sacramento	South San Francisco
Dublin	Moraga	Salinas	Stockton
East Palo Alto	Morgan Hill	San Carlos	Sunnyvale
El Cerrito	Mountain View	San Diego	Tehachapi
Elk Grove	Napa	San Fernando	Temple City
Emeryville	Novato	San Francisco	Truckee
Fairfield	National City	San Jose	Ukiah
Folsom	Oakdale	San Leandro	Union City
Fremont	Oakland	San Luis Obispo	Watsonville
Hayward	Palo Alto	San Mateo	West Sacramento

California Counties			
Alameda	Los Angeles	Nevada	San Joaquin
Butte	Marin	Placer	Santa Cruz
Contra Costa	Mendocino	Plumas	Sonoma
Fresno	Monterey	San Diego	Stanislaus
Kern	Napa	San Francisco	Yolo

Representative Private Sector Clients of Seifel Consulting, Inc.	
Asian Inc.	Kenwood Investment
Bay Area Council	Kilroy Realty Corporation
Best, Best & Krieger	Kronick Moskovitz Tiedemann & Girard
BRIDGE Housing	Legacy Partners
Carmel Partners	Lennar Communities
Catellus Development Corporation	LINC Housing
CCH of Northern California	Mercy Housing
Centex Homes	Meyers, Nave, Riback, Silver & Wilson
Chinatown Community Development Center	Mid-Peninsula Housing Coalition
Civic Center Associates	salesforce.com, inc.
Ford Foundation	Related California
Forest City Development Company	salesforce.com, inc.
Goldfarb & Lipman	Solano Affordable Housing Foundation
Grosvenor	Sobrato Development Company
Heritage Partners	The Real Estate and Land Use Institute
The John Stewart Company	The RREEF Funds

Seifel has advised on planning, housing and/or revitalization efforts in the Eastern Neighborhoods, Transit Center District, Northern and Southern Waterfront, Tenderloin neighborhood, and along the Market Street Corridor from Union Square to the Castro, as well as most of San Francisco's major public private partnership developments. Seifel has analyzed the market potential for a broad range of residential and non-residential uses—including retail, office, industrial and hotel/conference facilities. Seifel has provided real estate and economic advisory services to public agencies and private developers for the following representative San Francisco projects:

- 55 Laguna Street Mixed Use Development Financial Analysis
- 1500 Mission Street Mixed Use Development Financial Analysis
- Alcatraz Landing Real Estate, Economic and Lease Negotiation Support
- Balboa Park Mixed Use Development Financial Feasibility Assessment
- Balboa Reservoir Financial Analysis and Negotiation Support
- Boudin Lease Amendment Review and Financial Analysis
- Castro Retail Strategy
- Central SoMa Plan Economic Analysis
- Chinatown Economic Analysis of Potential Future Reuse for 838 Grant Street
- Eastern Neighborhoods Public Benefits and Economic Analysis Advisory Services
- Federal Court Expansion Valuation Study
- Fisherman's Wharf Retail Strategy
- Hunters Point Shipyard Fiscal Analysis and Developer Due Diligence
- India Basin Shoreline Market Study
- Japantown Cultural Heritage and Economic Sustainability Strategy
- Japantown Real Estate and Economic Development Advisory Services
- LGBTQ+ Cultural Heritage Strategy
- Market Octavia Plan Economic and Real Estate Analysis
- Mid-Market Redevelopment Feasibility Analysis
- Mission Bay Fiscal Analyses– 1450 Owen Street and Warriors Hotel/Residential Development
- Mixed-Use Development Financial Analysis for 901 16th Street
- Mixed-Use Development Financial Analysis for 1601 Mariposa Street
- North of Market Community Infrastructure Financing Advisory Services
- Northern Waterfront Transportation Survey Analysis
- Pier 70 Due Diligence Analysis and Negotiation Support
- Potrero 901 16th Street Financial Analysis
- Potrero 1601 Mariposa Street Financial Analysis
- Production, Distribution and Repair (PDR) Economic Analysis of Policy Alternatives
- San Francisco Overlook Residential Development Financial Analysis
- Seawall Lot 337 and Pier 48 (Mission Rock) Real Estate, Financial and Fiscal Advisory Services
- Seawall Lot 323 (Teatro Zinzanni/Hotel) Economic and Infrastructure Financing District Services
- Tenderloin/Central Market Housing Development Due Diligence Analysis
- Transferable Development Rights Program Evaluation and Market Analysis
- Transportation Sustainability Program Economic Analysis
- Transit Center District Plan Economic and Financial Advisory Services
- University of California Hastings College of Law Parking and Mixed Use Development Analysis
- Upper Market Plan Economic and Real Estate Analysis
- West SOMA Market Analysis
- West Crissy Development Advisory Services for the Presidio Trust

An Expert Team

Achieving success in the arenas of community revitalization and real estate development requires a realistic vision, skilled project management and a steady focus on objectives. Seifel Consulting guides our clients through the complexities of the planning and development process so that they can make sound decisions built upon a solid foundation of expert analysis and clear insight. Our objective is to help our clients transform their vision into measurable value and results.

Our professional staff is skilled in its approach to solving problems and committed to producing results. We offer a broad range of expertise in demographic and market research, financial analysis, public funding and financing, fiscal and economic impact analysis, planning, public policy evaluation and grant writing. Once we understand the requirements of a client's project, we assemble an interdisciplinary team of experts who have the skills and knowledge required to achieve client goals. Our integrated approach to strategic planning, economic analysis and project management is the key to our successful track record.

The firm President, Elizabeth (Libby) Seifel, is a certified planner (AICP) who has applied the principles of real estate economics and planning to property development and community revitalization for more than 30 years. Since founding her firm in 1990, she has advised private developers, investors and governments on residential, commercial, industrial and mixed-use projects ranging in value from $5 million to $4 billion, with a particular focus on urban infill, transit oriented development involving public private partnerships. She has guided the financing, development and planning of more than 20,000 affordable housing units in California and developed successful programs and strategies to achieve mixed income housing development.

Prior to founding her firm, Ms. Seifel was Associate-in-Charge of Williams-Kuebelbeck & Associates, overseeing their Bay Area real estate economic and management consulting practice. Ms. Seifel combines insight into the real estate market with a technical foundation in financial modeling and development feasibility testing. She has prepared financial, fiscal and economic analyses in order to evaluate and recommend a broad variety of plans, public policies and programs.

Ms. Seifel received her Bachelor of Science and Master in City Planning from the Massachusetts Institute of Technology (MIT). She is a certified planner with the American Institute of Certified Planners (AICP) and an elected member of Lambda Alpha International, the Honorary Society of Land Economists. Ms. Seifel was honored for her positive influence on real estate development, joining the Hall of Fame for Northern California Women of Influence in Real Estate.

Ms. Seifel actively promotes best practice in real estate development and urban revitalization through teaching and writing activities. She is a frequent speaker at professional conferences, having presented to the American Planning Association, California Association of Local Economic Development, Housing California, League of California Cities, and Urban Land Institute. She has chaired the Urban Land Institute (ULI) Urban Revitalization Council and SPUR Regional Policy Board. She currently serves on the Executive Committee for ULI's San Francisco District Council and served as the co-chair of the ULI Housing the Bay Steering Committee for five years.

Ms. Seifel served as the editor for *After Redevelopment: New Tools and Strategies to Promote Economic Development and Build Sustainable Communities* and the *California Affordable Housing Handbook*, among other publications. She has lectured at the UC Berkeley College of Environmental Design and taught a graduate-level course on Public Private Partnerships as part of its MRED+D program.

APPENDIX K

APPENDIX K1

PAGE&TURNBULL

HISTORIC RESOURCE EVALUATION - PART 2
469 STEVENSON STREET

SAN FRANCISCO, CALIFORNIA
[22021]

PREPARED FOR
CITY AND COUNTY OF SAN FRANCISCO
PLANNING DEPARTMENT

October 2022

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I. INTRODUCTION

This Historic Resource Evaluation (HRE) Part II has been prepared at the request of the San Francisco Planning Department for the proposed project at 469 Stevenson Street, San Francisco (APN 3704/045). The property is a surface parking lot located on a through lot on the block bounded by Stevenson, Fifth, Jessie, and Sixth streets in the South of Market neighborhood **(Figure 1)**.

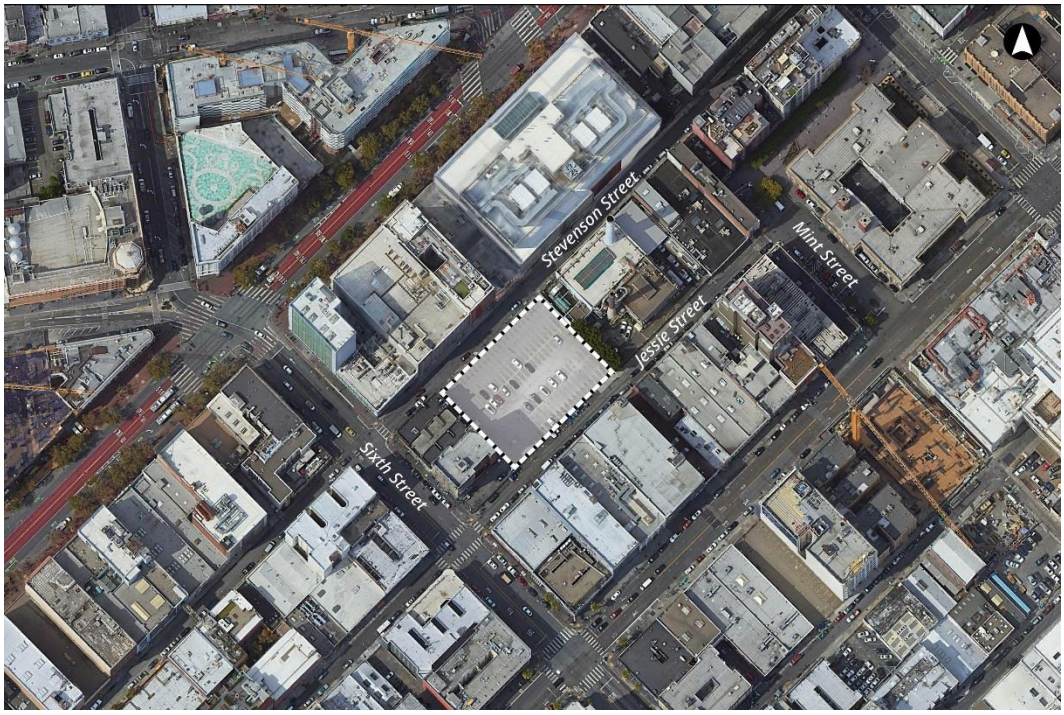

Figure 1. Location of 469 Stevenson Street, outlined with dashed line. Source: Google Maps, 2021. Edited by Page & Turnbull.

The subject property has a Planning Department Historic Resource Status of "B – Unknown / Age Eligible." The property does not include any resources listed in the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), or as a local San Francisco Article 10 Landmarks. The subject parcel is adjacent to or across the street from contributors to the National Register-listed Market Street Theater and Loft Historic District, the California Register-eligible Sixth Street Lodging House Historic District, the Mint-Mission Article 11 Conservation District, and the California Register-eligible PG&E City Beautiful Substations Discontinuous Thematic Historic District. It is not located within any of the historic districts. The project site is additionally located within the SoMa (South of Market) Pilipinas Filipino Cultural Heritage District.

The project sponsor, BUILD, proposes to construct a 27-story residential tower, approximately 274 feet in height and with three basement parking levels, which would provide 495 units of housing at the 0.66-acre subject parcel. In 2019, the San Francisco Planning Department prepared an Historic Resource Status Memorandum and Initial Study for the 469 Stevenson Street Project (Planning Department Case No 2017-014833ENV) which found that the proposed project would not result in a significant impact to the Market Street Theater and Loft Historic District, Sixth Street Lodginghouse Historic District, Mint-Mission Article 11 Conservation District, or the PG&E City Beautiful Substations Discontinuous Thematic Historic District.[1] As no significant potential impact was identified, the project's impact on historical resources was not addressed further in the Environmental Impact Report prepared for the project by City of San Francisco Planning Staff.[2] The Final Environmental Impact Report (FEIR) was certified by Planning Commission motion (No. 20963) on July 29, 2021. On October 26, 2021, following a public hearing on the appeal of the FEIR, the San Francisco Board of Supervisors (Board of Supervisors) voted to reverse the certification of the FEIR, in part due to concerns that the proposed project's potential impacts on historical resources had not been adequately analyzed. On December 14, 2021, the Board of Supervisors adopted findings in support of its decision to reverse the certification of the FEIR (Motion No. M21-182). The purpose of this report is to provide additional analysis to inform Planning Department review of the proposed project.

Methodology

This HRE Part II includes a brief summary of the contexts and character-defining features of the existing historic districts and resources adjacent to or near the project site; a summary of the context of the SoMa Pilipinas Filipino Cultural Heritage District and discussion of resources which may be contributors to a potential SoMa Filipinas Historic District; a brief summary of the proposed project; and an analysis of the project's compatibility with and potential impacts to historic districts within or near to the project block. The project analysis is based on proposed project drawings prepared by Solomon Cordwell Buenz (SCB), dated August 4, 2022. Page & Turnbull reviewed previous documentation of neighboring resources, including California Department of Parks & Recreation (DPR) 523 forms accessed through the San Francisco Property Information Map (PIM) and *the Historic Context Statement for the South of Market Area* prepared by Page & Turnbull in 2009. Context for the SoMa Filipinas Cultural District and a potential associated historic district was developed based on the *San Francisco Filipino Heritage Addendum to the South of Market Historic Context Statement* prepared by Page & Turnbull in 2013.

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[1] San Francisco Planning Department, Memorandum Re: Historic Resource Status for properties adjacent to 469 Stevenson Street (San Francisco, September 25, 2019); San Francisco Planning Department, Initial Study: 469 Stevenson Street Project (Planning Department Case No. 2017-014833ENV) (San Francisco, October 2, 2019), 87.
[2] San Francisco Planning Department, Draft Environmental Impact Report: 469 Stevenson Street Project (Planning Department Case No. 2017-014833ENV) (San Francisco, March 11, 2020).

Page & Turnbull conducted a reconnaissance-level pedestrian survey of properties adjacent and near the project site, including those properties facing Stevenson and Jessie streets between Fifth and Sixth streets, on March 17, 2022. For each adjacent or nearby building from the public right-of-way, Page & Turnbull photographed the exterior façade facing the project site, Jessie Street, or Stevenson Street. All photographs in the report were taken during this site visit, unless otherwise noted. Individual building- or district-specific historic research beyond previous documentation available through the San Francisco PIM and previous context statements was beyond the scope of this report.

II. SIGNIFICANCE SUMMARY

The project site, currently occupied by a surface parking lot, does not include any historical resources and is not located within a historic district. However, the site is adjacent to or across the street from contributors to four different historic districts: the National Register-listed Market Street Theater and Loft Historic District, the California Register-eligible Sixth Street Lodginghouse Historic District, the San Francisco Article 11 Mint-Mission Conservation District, and the California Register-eligible PG&E City Beautiful Substations Discontiguous Thematic Historic District. Each of these is described briefly in the following sections.

In addition, the project site is located within the SoMa Pilipinas Filipino Cultural Heritage District. The potential for the cultural district, or portions therein, to be considered a historic district is discussed in a following section.

Market Street Theater and Loft Historic District

Originally described in *Splendid Survivors* and listed in the National Register in 1986 (No. 86000729), the Market Street Theater and Loft Historic District includes "an imposing but somewhat rundown group of commercial buildings on both sides of Market Street, San Francisco, for nearly 1200 feet from Sixth Street to Seventh Street and a little beyond in both directions" **(Figure 2).**[3] The district, which comprises six theaters, one theater site, eight loft buildings, and several other commercial buildings constructed primarily between 1900 and 1926, is characterized by two- to eight-story buildings with two- and three-part vertical composition, featuring lavish ornamentation in Classical, Moorish, and Gothic styles. The visual focus of the district centers around the intersections of

[3] Michael Corbett, Charles Hall Page & Associates, Inc., and the Foundation for San Francisco's Architectural Heritage, *Splendid Survivors: San Francisco's Downtown Architectural Heritage* (San Francisco: California Living Books, 1979), 251; Anne Bloomfield, National Register of Historic Places Inventory - Nomination Form for the Market Street Theater and Loft Historic District (San Francisco, prepared November 19, 1985), 2.

Market, Golden Gate, and Taylor streets and Market, McAllister, and Jones streets, with the intersecting grids creating irregularly shaped blocks occupied by the massive contributing theater buildings on the north side of Market Street, facing the more regular rectangular loft and commercial buildings on the south side of Market Street. The National Register Nomination Form for the district does not explicitly state that the setting of the district as a whole contributes to its significance. Rather, the character of the blocks to the southwest of Seventh Street and mid-block to the northeast of Sixth Street helped define the district's boundaries. As described in the nomination form,

> The proposed district consists only of properties directly facing Market Street, on both sides. In the easterly direction the boundary is a significant change of scale that endures for several buildings, accompanied by a significant degree of remodeling so that too many buildings would be intrusions in the district. In the westerly direction, the boundary on the north side of Market Street is self-evident: a single stripped and sandblasted one-story brick building stands between the Hotel Shaw [a district contributor] and a blockful of new construction that includes the new United Nations Plaza. On the south side of Market there are five old buildings west of the district before the empty lot and new construction, but they too exhibit a change of scale, and two of the five, including the one next to the boundary, would be intrusions in the district.[4]

Two contributors to the Market Street Theater and Loft Historic District are directly across Stevenson Street from the project site **(Table 1, Figure 3 and Figure 4)**. The Wilson Building, 973 Market Street (3704/69), is an eight-story steel-frame loft building featuring ornate terracotta detailing across the upper six stories of its Market Street-facing primary façade. It has been attributed to George W. Percy and Willis Polk, and was originally completed ca. 1900. In 1906 and 1907, following the earthquake and fires, the structure of the building, exclusive of the retained façade, was rebuilt under the supervision of architect Henry Shulze. 979-989 Market Street (3704/68) is a seven-story steel-frame loft building designed by the Reid Brothers and completed in 1900 for the Hale Brothers Department Store.

The David Hewes Building at 995-997 Market Street (3704/78) is a non-contributor to the Market Street Theater and Loft Historic District, whose southeastern boundary is located across Stevenson Street from the project site. This 16-story building was originally designed by the Reid Brothers and completed in 1908, but has been significantly altered with the addition of exterior metal panels obscuring any original terra cotta detail at the Market Street and Sixth Street façades.

[4] Anne Bloomfield, National Register of Historic Places Inventory - Nomination Form for the Market Street Theater and Loft Historic District, Item 8, Page 2..

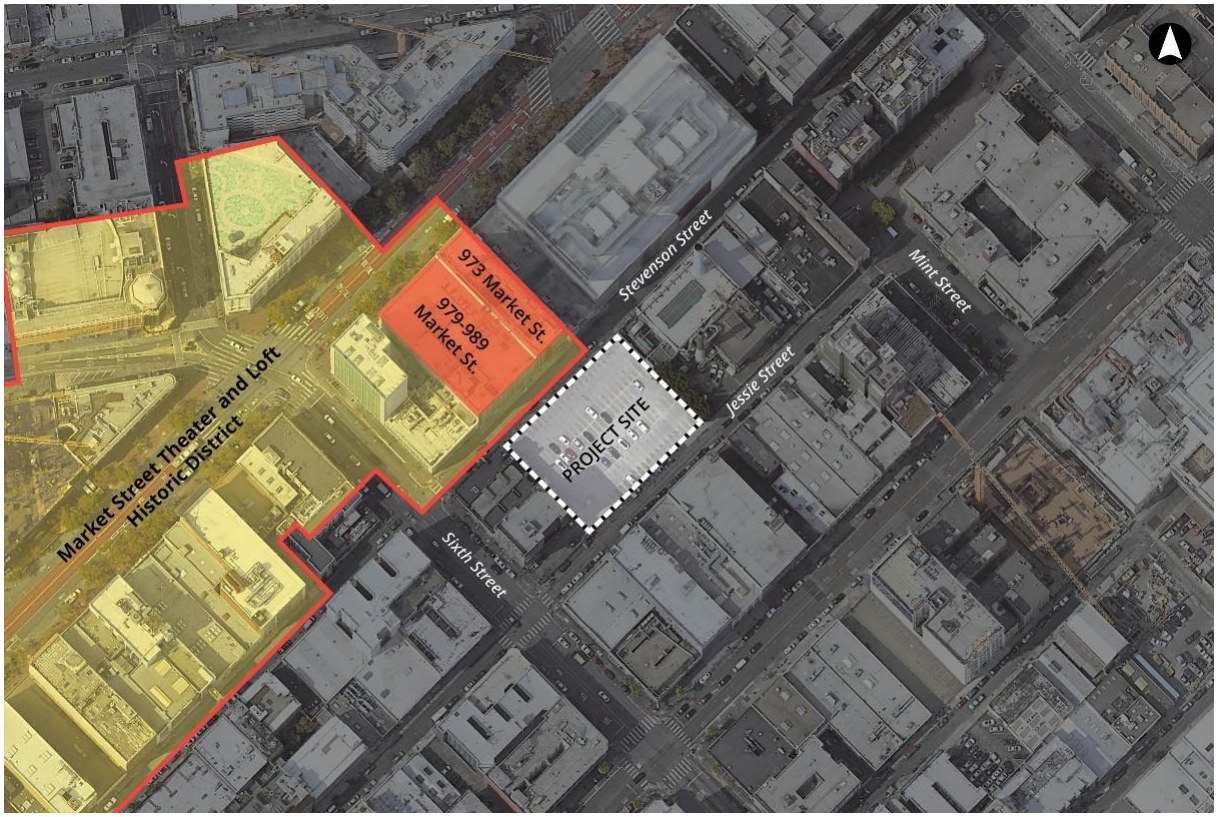

Figure 2. Location of Market Street Theater and Loft Historic District relative to the Project Site. Nearby contributors to the Project Site are highlighted orange. Base image source: Google Earth, edited by Page & Turnbull.

Table 1. Nearby Contributors – Market Street Theater and Loft Historic District

Address (APN)	Construction Date	Planning Department Historic Resource Status
973 Market Street (3704/069)	Façade ca. 1900 Structure 1906-1907	A / Individual Article 11 Category II
979-989 Market Street (3704/068)	1907	A / Individual Article 11 Category II

Figure 3. 973 Market Street (left) and 979-989 Market Street (right), primary façades viewed from Market Street. Source: Google Earth.

Figure 4. Rear façades of 979-989 Market Street (left) and 973 Market Street (right), Project Site in foreground.

Sixth Street Lodginghouse Historic District

The Sixth Street Lodginghouse Historic District, found eligible for listing in the National Register in 1997, includes 33 contributing buildings facing Sixth Street between Market Street at the northwest, and between Howard and Tehama streets at the southeast **(Figure 5)**.[5] With contributors described as "low-budget residential hotels, or lodginghouses, built from 1906 through 1913, and a few low-rise commercial buildings," the district is significant as a representative of the pattern of single room occupancy (SRO) residential buildings which housed a largely male, working class population in San Francisco's South of Market neighborhood in the years following the 1906 earthquake and fires. While the Sixth Street Lodginghouse Historic District is linear in character, in the decades after the 1906 earthquake and fires, similar developments grew along Third, Fourth, Fifth, and Sixth streets in the South of Market area. The remaining representatives of this type on Sixth Street are the remaining examples of a once-broader pattern.[6] Contributing buildings are typically three to four stories in height with ground floor storefronts and upper floors originally built as residential hotels. Many of the buildings have brick exterior cladding and minimal ornamentation, with some limited use of classical motifs on cornices and window surrounds.

Four contributing buildings to the Sixth Street Lodginghouse Historic District are immediately adjacent to the project site **(Table 2, Figure 6 through Figure 8)**. The Seattle Hotel at 35-37 Sixth Street (3704/053), the Hotel Maze at 39-41 Sixth Street (3704/052), and the Vienna Hotel at 43-45 Sixth Street (3704/051) are all three-story brick-clad buildings with slightly projecting cornices at the

[5] Anne Bloomfield, State of California Department of Parks and Recreation (DPR) 523 D Form for the Sixth Street Lodginghouse Historic District (San Francisco, August 1, 1997).
[6] Anne Bloomfield, State of California Department of Parks and Recreation (DPR) 523 D Form for the Sixth Street Lodginghouse Historic District (San Francisco, August 1, 1997),

primary façades facing Sixth Street. The Hillsdale Hotel at 47-55 Sixth Street (3704/050) is a seven-story hotel building with decorative brickwork and a projecting cornice. A fifth contributing property, the Society for Individual Rights social hall, is a two-story stucco-clad building with ornamented terra cotta window surrounds and frieze, set diagonally opposite the project site at 65-83 Sixth Street (3704/026).

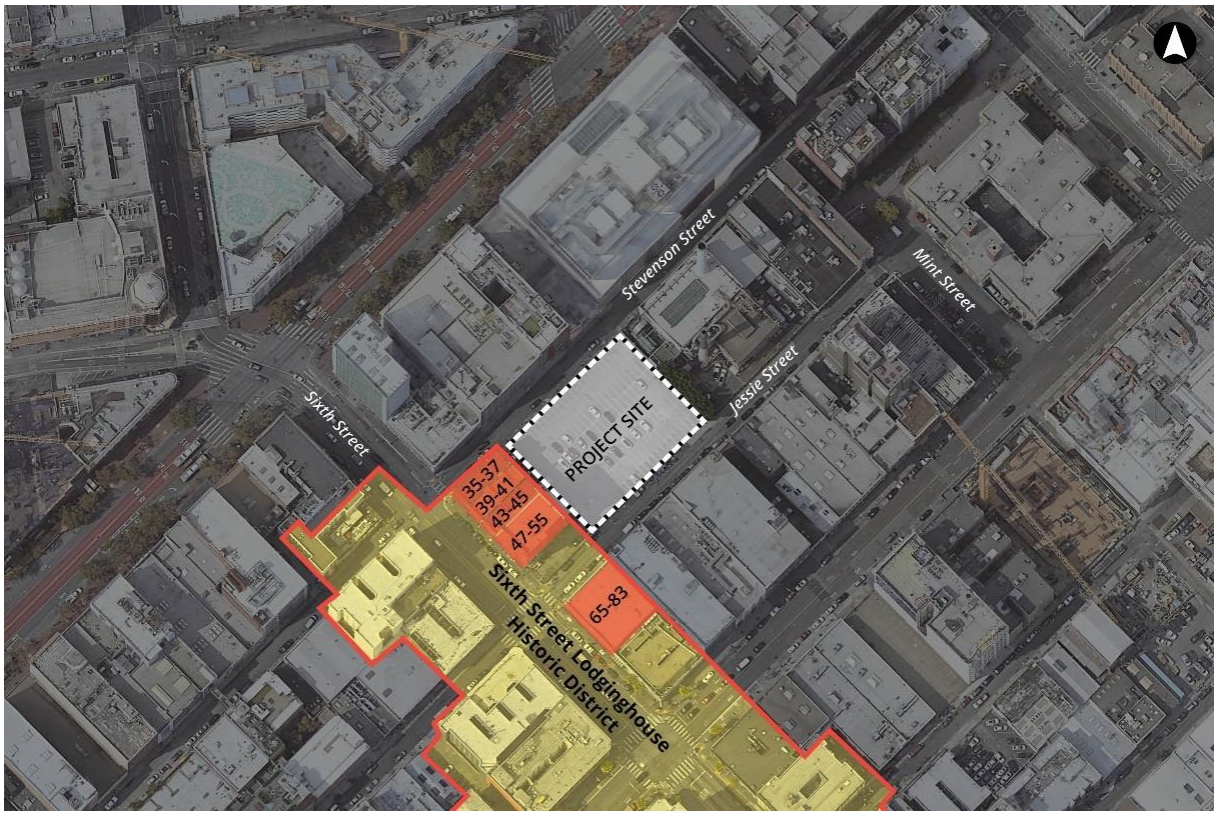

Figure 5. Location of Sixth Street Lodginghouse Historic District relative to the Project Site. Adjacent and nearby contributors to the Project Site are highlighted orange. Base image source: Google Earth, edited by Page & Turnbull

Table 2. Adjacent and Nearby Contributors – Sixth Street Lodginghouse Historic

Address (APN)	Construction Date	Planning Department Historic Resource Status
35-37 Sixth Street (3704/053)	1908	A
39-41 Sixth Street (3704/052)	1906	A
43-45 Sixth Street (3704/051)	1907	A
47-55 Sixth Street (3704/050)	1912	A / Individual Article 11 Category III
65-83 Sixth Street (3704/026)	1913	A

Figure 6. Primary façades of 35-37, 39-41, 43-45, 47-55, and 65-83 Sixth Street, view southeast.

Figure 7. Rear façades of 47-55, 43-45, 39-41, and 35-37 Sixth Street, view southwest, Project Site in foreground.

Figure 8. Northwest façade of 65-83 Sixth Street, view south from Jessie Street adjacent to Project Site.

Mint-Mission Article 11 Conservation District

The Mint-Mission Article 11 Conservation District was designated as a Subarea of San Francisco's C-3 district in 2018, and comprises a mix of residential, commercial, and industrial buildings representing the development of the northern part of the South of Market neighborhood in the years following the 1906 earthquake and fires **(Figure 9)**.[7] The 22 contributing buildings within the district are between one and ten stories in height, and are:

> [...] primarily constructed of reinforced concrete and brick masonry and are largely industrial in style and feature Classical Revival detailing typical of early 20th century commercial architecture in San Francisco. Ornament on residential and mixed-use buildings consists of belt courses, arches, moldings and drip pendants, applied cast

[7] City of San Francisco Planning Code, Appendix K to Article 11: Mint-Mission Conservation District, electronic resource at https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_planning/0-0-0-59356, accessed March 23, 2022.

shields or swag, and corniced rooflines often featuring brackets, modillions, and dentil moldings. The District's buildings are largely clad in smooth finish stucco or brick, with a few structures clad with rusticated stucco, terra cotta, and concrete.[8]

A notable feature of the district is that the rear façades of many contributors face public rights-of-way, due to their location on through-lots. The four district contributors across Jessie Street from the project site exhibit this characteristic, with primary façades facing Mission Street, and rear façades facing Jessie Street **(Table 3**, **Figure 10 and Figure 11)**. District characteristics emphasized in the standards and guidelines for new construction and alteration within the district include prevailing street wall height; lack of setbacks from the property or street line; the use of relatively light colors and earth tones; cladding in brick, stone, and terra cotta; and the subdivision of façade planes using bays and distinct elements of vertical composition.

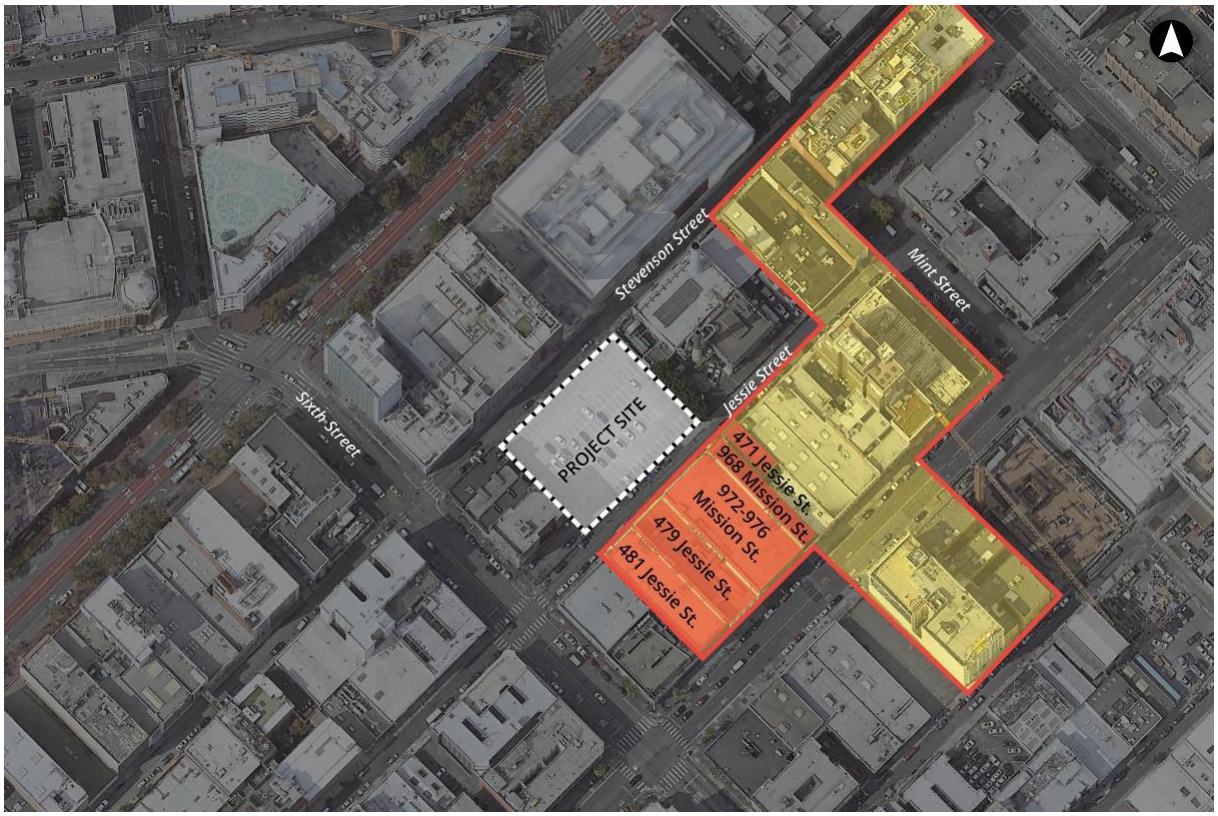

Figure 9. Location of Mint-Mission Article 11 Historic District relative to the Project Site. Nearby contributors to the Project Site are highlighted orange. Base image source: Google Earth, edited by Page & Turnbull

[8] City of San Francisco Planning Code, Appendix K to Article 11: Mint-Mission Conservation District, electronic resource at https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_planning/0-0-0-59356, accessed March 23, 2022.

Table 3. Nearby Contributors – Mint-Mission Article 11 Conservation District

Address (APN)	Construction Date	Planning Department Historic Resource Status
986 Mission Street / 481 Jessie Street (3704/024)	1907	A / Article 11 Category IV District Contributor
980-984 Mission Street/ 479 Jessie Street (3704/022)	1924	A / Article 11 Category IV District Contributor
972-976 Mission Street (3704/021)	1925	A / Article 11 Category IV District Contributor
968 Mission Street (3704/020)	1930	A / Article 11 Category III District Contributor
471 Jessie Street (3704/028)	1912	A / Article 11 Category IV District Contributor

Figure 10. Primary façades of 481 Jessie Street / 986 Mission Street, 479 Jessie Street / 980-984 Mission Street, 972-976 Mission Street, and 968 Mission Street west from Mission Street.

Figure 11. Rear façades of 471 Jessie Street, 972-976 Mission Street, 479 Jessie Street / 980-984 Mission Street, and 481 Jessie Street / 986 Mission Street, view southwest from Jessie Street.

PG&E City Beautiful Substations Discontiguous Thematic Historic District

In 1979, Michael Corbett and the contributors to *Splendid Survivors* proposed a thematic district related to electrical substations influenced in their design by the City Beautiful Movement. The proposed district included four PG&E Substations located at 569 Commercial Street, 222-226 Jessie Street, 222 Leidesdorff Street, and 568 Sacramento Street. It was described as follows:

> Following the example of Willis Polk's Substation C at 222-226 Jessie Street, the Pacific Gas and Electric Co. became a national leader in that aspect of the City Beautiful Movement which "beautified" common industrial structures in its treatment of power substations in San Francisco. Scattered throughout the city, there are four in the primary

areas alone, all readily identifiable by a similar imagery regardless of whether they were designed by Polk, Frederick H. Meyer, or the company architect, Ivan C. Frickstad.[9]

PG&E Substation T, built in 1924, is adjacent to the northeast side of the project site **(Figure 12)**.[10] This station was noted as being a contributor to this discontiguous district in the Central SoMa Historic Context Statement and Historic Resource Survey, completed in 2015.[11] It is described as follows: "This reinforced concrete building includes a 220 foot tall brick exhaust stack and was used to produce steam for space heating, domestic hot water and industrial processes. In 1977 an addition was made along its east façade" **(Table 4, Figure 11 and Figure 12).**[12]

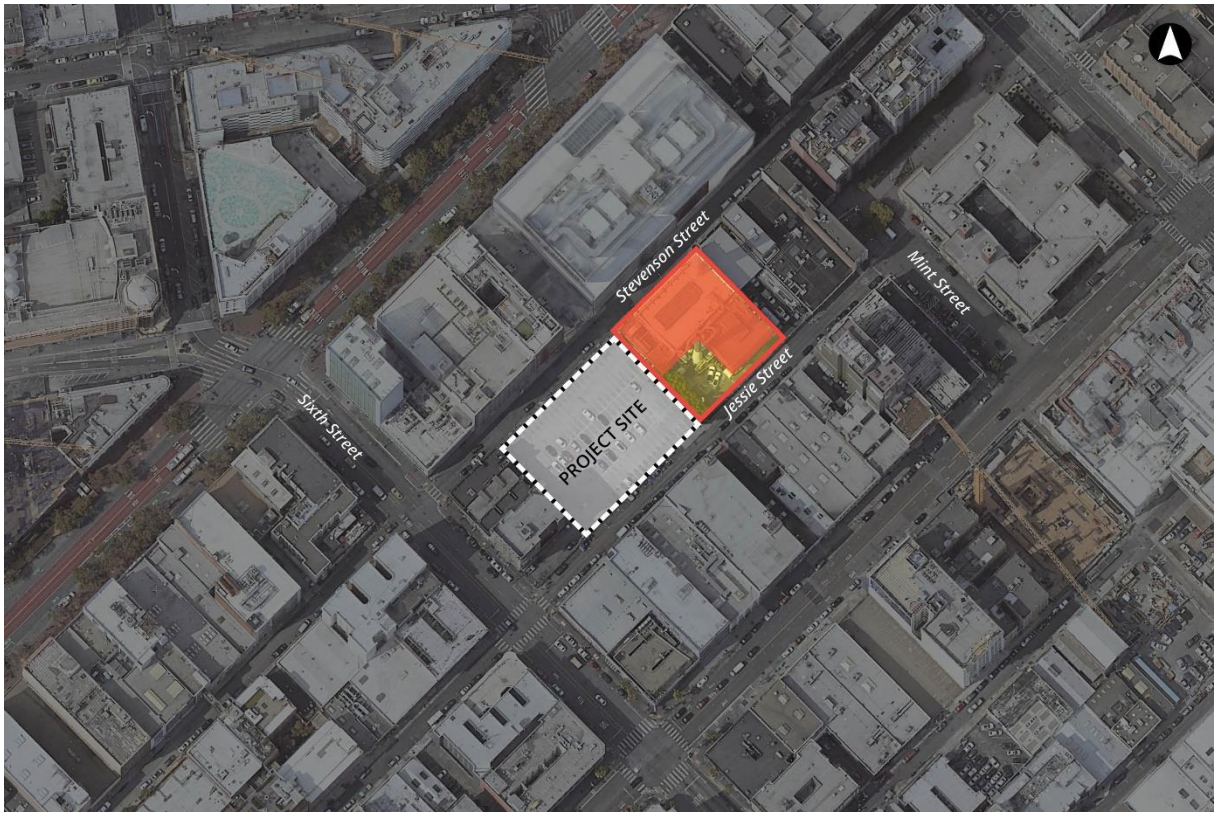

Figure 12. Location of PG&E Substation T, highlighted orange, relative to the Project Site. Base image source: Google Earth, edited by Page & Turnbull

[9] Michael Corbett et al., Splendid Survivors, 252.
[10] This station is currently in use as Clearway Energy Station T. The station's address is referred to as 460 Jessie Street and 465 Stevenson Street in different documents.
[11] San Francisco Planning Department, the Central SoMa Historic Context Statement and Historic Resource Survey (San Francisco: March 16, 2015), Appendix A.
[12] San Francisco Planning Department, the Central SoMa Historic Context Statement, 37.

Table 4. Adjacent Contributors – PG&E City Beautiful Substations Discontiguous Thematic Historic District

Address (APN)	Construction Date	Planning Department Historic Resource Status
Clearway Energy Thermal PowerStation (3704/039)	1924	A

Figure 13. PG&E Substation, view south from Stevenson Street.

Figure 14. PG&E Substation, view northeast across Project Site.

The SoMa Pilipinas Filipino Cultural Heritage District

The SoMa Pilipinas Filipino Cultural Heritage District encompasses an approximately 618-acre area bounded by Market, Second, Brannan, and Eleventh streets **(Figure 15)**. San Francisco's Cultural Districts program, established by the Board of Supervisors, aims to "preserve, strengthen and promote cultural communities, and its goals are to support legacy businesses, nonprofits, community arts, and traditions."[13] There are currently nine cultural districts across the city, established between 2013 and 2021, within which community-based organizations work with City agencies to develop and implement strategies according to the "Cultural History, Housing, and Economic Sustainability Strategies (CHHESS)" Report. Historic preservation is one of six focus areas for planning within cultural districts, alongside tenant protections, arts and culture, economic and workforce development, land use, and cultural competency.

While Cultural Districts in San Francisco may include historical resources related to the community represented, cultural districts are not analogous to historic districts for the purposes of CEQA. However, cultural districts inform the determination of historical resources for the purpose of CEQA.

[13] City of San Francisco, "Cultural Districts Program," electronic resource at https://sf.gov/information/cultural-districts-program, accessed April 7, 2022.

The SoMa Pilipinas Filipino Cultural Heritage District has not previously been identified as coterminous with or containing a historic district related to Filipino history; however, it includes buildings associated with San Francisco's Filipino history which are 50 years of age or older, and which may be evaluated for eligibility as historical resources. While evaluating the historical significance of individual resources or districts is beyond the scope of this report, the following analysis provides an assessment of the potential for built environment resources associated with the cultural district to comprise a historic district in the vicinity of the 469 Stevenson Street project site. Contextual information in the analysis below is summarized from the *San Francisco Filipino Heritage Addendum to the South of Market Historic Context Statement* prepared by Page & Turnbull for the San Francisco Planning Department, dated March 13, 2013. This context statement was developed based on review of secondary historical documentation, as well as oral histories collected from members of San Francisco's Filipino Community. Identified cultural asset locations are drawn from this report, as well as from the cultural district map and Community Landmark list published by the SoMa Pilipinas Filipino Cultural Heritage District.[14]

To inquire regarding any information about historic districts in the project vicinity, Page & Turnbull contacted representatives of the SoMa Pilipinas Filipino Cultural Heritage District on March 8, 2022. David Woo, a Land Use Analyst for the SoMa Pilipinas Filipino Cultural Heritage District replied on March 11, 2022, and requested additional information about the purpose of designating historic districts within the cultural heritage district. In response to Mr. Woo's request, on March 23, 2022 San Francisco Planning Department staff provided additional information regarding the scope of this report and the potential presence of historic districts associated within the SoMa Pilipinas Filipino Cultural Heritage District. On May 24, 2022, Page & Turnbull and San Francisco Planning Department staff participated in a virtual meeting with three representatives of the SoMa Pilipinas Filipino Cultural Heritage District: David Woo, Raquel Redondiez, and Mario de Mira. Page & Turnbull presented findings of the analysis to date, and representatives of the SoMa Pilipinas Filipino Cultural Heritage District requested inclusion of additional information regarding the Filipino community associations of 953 and 1010 Mission Street.

[14] SoMa Pilipinas, District Map, electronic resource at https://static1.squarespace.com/static/5b2c30b58f51305e3d641e81/t/606735a1bda56a5896a81fee/1617376673646/SoMaPilipinas_map2021.pdf, accessed March 29, 2022; Cultural Assets, electronic resource at https://www.somapilipinas.org/cultural-assets, accessed March 29, 2022.

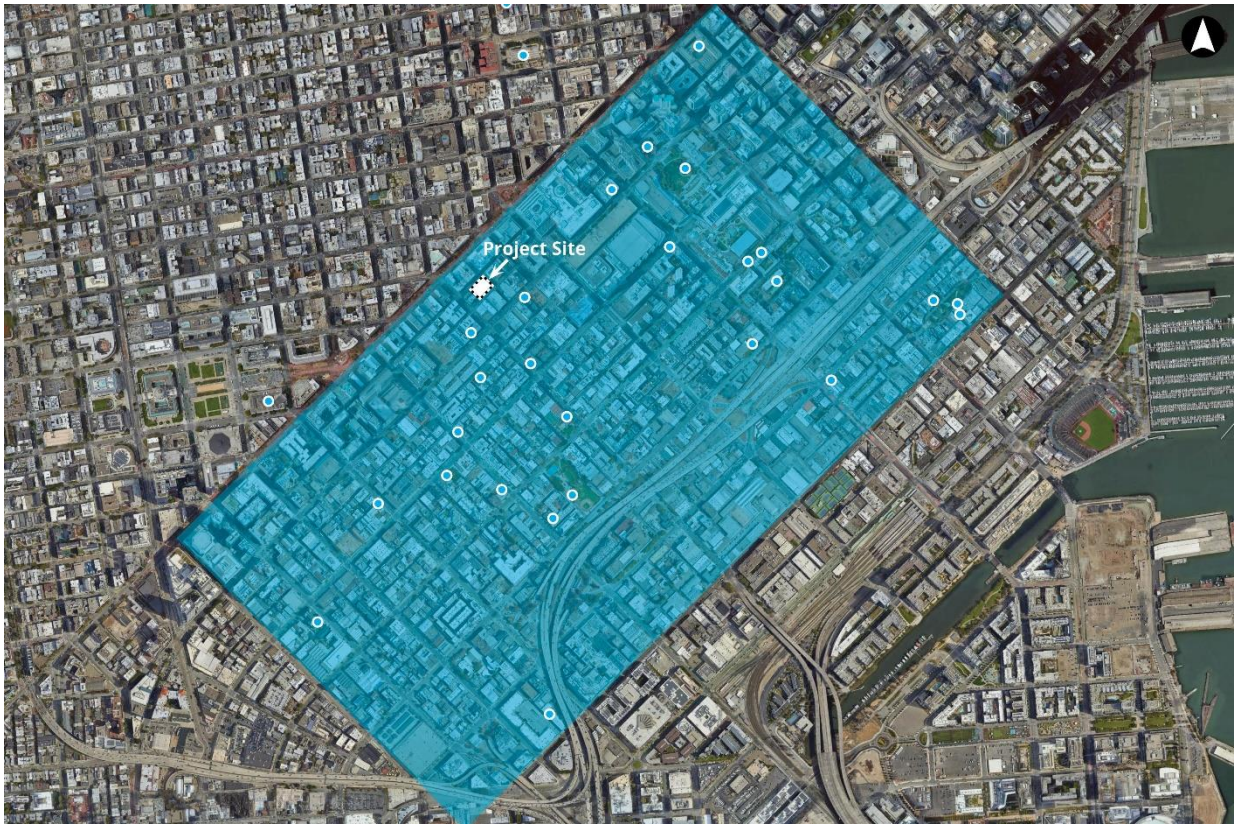

Figure 15. SoMa Pilipinas Filipino Cultural Heritage District shaded blue. Dots indicate identified Filipino cultural asset locations. Project Site indicated in white at the northwest side of the Cultural Heritage District. Base image: Google Earth, edited by Page & Turnbull.

Brief Historic Context – SoMa's Filipino Community

San Francisco's Filipino residents historically established a community named "Manilatown" beginning as early as the 1920s, located just outside of but abutting Chinatown on Kearny Street between Pine and Pacific streets. The neighborhood included a number of Filipino-owned and operated businesses such as the International Hotel, Saint Paul Hotel, Temple Hotel, Luzon Restaurant, New Luneta Café, and Bataan Lunch. The 1920s and 1930s in San Francisco saw a significant growth in the number of Filipino immigrants arriving in the United States and settling in the city in search of better employment and educational opportunities. Manilatown was the hub for both new arrivals and settled residents.

Filipino immigrants in San Francisco began migrating to the SoMa area in the years prior to and during World War II. Their presence in SoMa was a result of redevelopment of the Manilatown area into a high rise, high density financial and business hub. Prior to World War II, SoMa's South Park area had an already established small Japanese community. In search of other areas and

neighborhoods to relocate to from Manilatown, Filipinos were attracted to the presence of an existing Asian community in and around South Park. As Japanese business owners relocated their operations to the growing Japantown in the Western Addition, Filipino immigrants sought ownership of properties previously owned by Japanese individuals. The first property purchased by and for Filipino community members was the former Omiya Hotel (104-106 South Park Street), purchased ca. 1921 by the Gran Oriente Filipino fraternal organization, who converted the building into a lodge for the organization.[15] Additionally, two residential flat buildings (41-43 South Park Street and 45-49 South Park Street) were also purchased by the Gran Oriente and converted to housing for new and existing Filipino residents. The Gran Oriente constructed a Masonic Temple, named after the organization at 95 Jack London Alley in the early 1950s. This group of Filipino owned properties is among the earliest documented group of Filipinos living in SoMa.

By the 1960s and 1970s and into the present decade, the Filipino community in SoMa migrated toward the west end of SoMa and established new and many more Filipino-owned, operated, and serving businesses. Saint Patrick's Church (756 Mission Street) and St. Joseph's Church (1401 Howard Street) eventually acquired a mostly Mexican and Filipino Catholic congregation during this time, and became anchors as the Filipino community migrated toward the west end of SoMa due to displacement, gentrification, and redevelopment of the area. In addition to its redevelopment efforts in the Western Addition from the 1950s to the 1970s, the San Francisco Redevelopment Agency (SFRA) established the Yerba Buena Center Redevelopment Plan in 1966 to develop an 87-acre area in the South of Market neighborhood. The planned redevelopment area, roughly within the blocks around Third, Fourth, Harrison and Market streets, was occupied by many residential hotels and small businesses, and included Filipino residents and business owners. The project faced strong public resistance from South of Market residents who would be displaced by the planned redevelopment. Groups such as the Tenants and Owners in Opposition to Redevelopment (TOOR) organized to advocate for housing assistance for those whose homes would be demolished.[16] The Pilipino Organizing Committee, founded by Tony Grafilo in the early 1970s, supported these efforts. Despite years of lawsuits and community resistance, the Yerba Buena Center was constructed between the early 1980s and 1990s, displacing an estimated 4,000 residents from the redevelopment area.[17]

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[15] Page & Turnbull, State of California Department of Parks and Recreation (DPR) 523 District Record for the South Park Historic District (San Francisco: Prepared for the San Francisco Planning Department, 2009), 17.
[16] Page & Turnbull, *Addendum to the South of Market Area Historic Context Statement* (San Francisco: Prepared for the San Francisco Planning Department, March 13, 2013), 27.
[17] Page & Turnbull, *Addendum to the South of Market Area Historic Context Statement*, 27.

Today, the SoMa Pilipinas Filipino Cultural Heritage District contains many Filipino-owned businesses, institutions, and organizations that were established in the area beginning in the late 1960s through the 1980s.

Potential Historic Districts Associated With SoMa Filipino History

Page & Turnbull reviewed existing documentation of cultural assets within the SoMa Pilipinas Filipino Cultural Heritage District to identify potential historic districts within the vicinity of the proposed project site. Based on the sources reviewed, it appears that one potential historic district associated with Filipino history and growth in the South of Market neighborhood may be eligible for status as a historic district for the purposes of the California Environmental Quality Act (CEQA) **(Figure 16)**. This potential district, representing one of the earliest, albeit small, communities of Filipino immigrants in SoMa would be located within the existing California Register-eligible South Park Historic District, located approximately 0.8 miles east of the project site. The potential district would include the Gran Oriente Filipino Lodge (104 South Park Street), the two residential flats buildings purchased by the Gran Oriente Filipino (41-43 South Park Street & 45-49 South Park Street), and the Gran Oriente Masonic Temple (95 Jack London Alley). The district would be eligible for listing in the California Register of Historical Resources under Criterion A (Events) for their early associations with SoMa's Filipino community. A defined period of significance would range from ca. 1921, when the Gran Oriente Filipino purchased their first building at 104 South Park Street to the 1950s when the organization constructed the Masonic Temple. Additional research may be needed to determine other potential contributor(s) to the historic district that are directly associated with this early Filipino enclave in the South Park area of SoMa. Alternately, as the existing South Park Historic District is significant, in part, for its association with the settlement of different minority communities in the area, this district's period of significance, currently 1854-1935, could be revised to include the later activities of SoMa's Filipino residents.

As this potential historic district is more than three-quarters of a mile in distance from the project site, there does not appear to be a historic district associated with the SoMa Pilipinas Filipino Cultural Heritage District in the vicinity of the proposed project at 469 Stevenson Street.

Figure 16. Location of potential historic district contributors (red) and other cultural assets (blue) relative to the Project Site (white). SoMa Pilipinas Filipino Cultural Heritage District shaded blue. Base image: Google Earth, edited by Page & Turnbull

Potential Individual Historical Resources Associated With SoMa Filipino History

Page & Turnbull reviewed existing documentation of cultural assets within the SoMa Pilipinas Filipino Cultural Heritage District which are within a one-quarter mile radius of the proposed project site. The purpose of this review was twofold: (1) to determined whether any cultural assets may warrant evaluation as historical resources for the purposes of CEQA review based on their association with the SoMa Filipino community and, (2) to determine whether any are located close enough to the project site that the proposed project may impact their setting as potential historical resources. Four individual cultural assets are located within one quarter mile of the proposed project site: 1010 Mission Street, 953 Mission Street, 185 Sixth Street, and 539 Minna Street.

1010 Mission Street (also addressed 80-96 Sixth Street) is a five-story mixed-use building located approximately 340 feet to the southwest of the project site, and was built as a residential hotel in 1912. It is a contributor to the Sixth Street Lodginghouse Historic District. The building's association

with the Filipino Community was summarized in 2013 by the *Addendum to the South of Market Area Historic Context Statement* as follows:

> The Delta Hotel (SRO) at 88 6th Street was purchased in 1976 by Dr. Mario Borja, and in the early 1990s was transformed into affordable housing for low-income residents—primarily Filipino World War II veterans. The building was gutted by fire in 1997, however, resulting in a partnership between the Filipino Community and TODCO [the Tenants and Owners Development Corporation] to revitalize the building as the Bayanihan House. Today [in 2013] the building provides 40 units of Section 8 housing and 152 furnished Single-Resident-Occupancy rooms—most of which are occupied by Filipino veterans. The ground floor of the building houses the Bayanihan Community Center, as well as the Arkipelago Bookstore. The building also serves as headquarters for the Veterans Equity Center, which was founded in 1998 to provide services for the estimated three thousand Filipino-American World War II veterans and their families living in San Francisco. Previously, the Veteran's Equity Center was located at the Hotel Ysabel at 1099 Mission Street in SoMa.[18]

The five-story mixed-use building at 953 Mission Street, located approximately 315 feet to the southeast of the project site, was built in 1916 and is a contributor to the Mint-Mission Article 11 Conservation District. Several different Filipino families and organizations have occupied space in the building in recent decades, as described by the *Addendum to the South of Market Area Historic Context Statement*:

> One of the most identifiably Filipino establishments in SoMa is the Mint Mall, a mixed-use building at 953 Mission Street that was purchased by the Nocon family in the 1970s. Since that time, the apartments have largely been occupied by newly arrived Filipino families, while the ground floor commercial space has provided a home for numerous organizations serving the Filipino community. These included the West Bay Pilipino Multi-Service Center, the South of Market Employment Center, Bayanihan Community Center, the Pilipino AIDS Project, and Bindlestiff Theater. Arkipelago Books was also established in the lower level of the Mint Mall in 1998. Today [in 2013], the bookstore is located in the Bayanihan Center. [19]

[18] Page & Turnbull, *Addendum to the South of Market Area Historic Context Statement*, 29.
[19] Page & Turnbull, *Addendum to the South of Market Area Historic Context Statement*, 26.

185 Sixth Street is a mixed-use building located approximately 770 feet to the southeast of the project site. Built in 2007, a ground-floor space at the building currently houses Bindlestiff Studios, a community-based performing arts venue founded in 1989 that has for over two decades highlighted the work of Filipino artists.[20] The *Addendum to the South of Market Area Historic Context Statement* provides the following summary about Bindlestiff Studio:

> Bindlestiff Studio was formed in 1989 as an experimental theater space at 185 6th Street. Originally, Bindlestiff had no overt connections to the Filipino community. By the early 1990s however, the studio had begun attracting young Filipinos in SoMa, and in 1997 Allan Manalo became managing director—transforming Bindlestiff into the one of the first centers in the United States dedicated to Filipino performing arts. In 2005, the Bindlestiff Studio space was demolished by the San Francisco Redevelopment Agency. After using a temporary space, the organization moved back into a new multi-use building constructed by the Redevelopment Agency on the same site in 2011.[21]

Tutubi Park, located at 539 Minna Street, about approximately 725 feet to the southwest of the project site, was developed in 2001 by Asian Neighborhood Design, with funding from the Mayor's Office of Community Development and San Francisco redevelopment Agency. The small park is enclosed by a decorative metalwork fence which depicts "animals common in Philippine folklore."[22]

The two buildings at 1010 and 953 Mission Street appear to warrant evaluation as historical resources, as each has been associated with the SoMa Filipino community for over 40 years. Additional research may be required to establish the eligibility of these buildings as their association with the Filipino community has developed within the last 50 years, and is therefore relatively recent in the context of historic preservation. However, evaluation of the historic significance of these buildings, and others associated with minority communities in San Francisco, would benefit from acknowledgement that communities such as the Filipino residents of South of Market have faced repeated economic and civic pressures which have led to displacement and relocation. These pressures can prevent the kinds of long-term establishment of residents, businesses, and organizations with specific places that are prioritized in considering the historic significance of resources under National Register and California Register criteria for associations with significant events and persons.

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[20] SoMa Pilipinas, "Bindlestiff Studios," electronic resource at https://www.somapilipinas.org/cultural-assets-1/2018/7/25/bindlestiff, accessed March 29, 2022.
[21] Page & Turnbull, *Addendum to the South of Market Area Historic Context Statement*, 32.
[22] Page & Turnbull, *Addendum to the South of Market Area Historic Context Statement*, 35.

Neither the building at 185 Sixth Street which houses Bindlestiff Studios, built in 2007, nor Tutubi Park at 539 Minna Street, developed in 2001, appear to warrant evaluation for status as historic resources, as both were completed within the last 25 years.

Page & Turnbull did not review previously identified cultural assets within the SoMa Pilipinas Filipino Cultural Heritage district which are more than one-quarter mile from the project site at 469 Stevenson Street for their potential significance as individual historical resources. The potential for a proposed project to impact the significance of individual resources through changes in setting diminishes with distance. Future evaluations may find some cultural assets associated with the cultural heritage district to be individually eligible as historical resources for their association with SoMa's Filipino community. For example, the San Lorenzo Ruiz Center, at 50 Rizal Street was built in 1979 as a publicly funded 149-unit housing project specific to the city's Filipino community and originally called Dimasalang House. The building includes the "Lipi ni Lapu" mural, completed in 1984, and streets surrounding this property, Rizal Street, Lapu Street, Tandang Sora Street, Bonifacio Street, and Mabini Street, are named for significant individuals in Filipino history.

III. ANALYSIS OF PROPOSED PROJECT IMPACTS

This section analyzes the project-specific impacts of the proposed project at 469 Stevenson Street on adjacent and nearby historical resources, as required by CEQA. The following analysis describes the proposed project, assesses its compatibility with the character of the historic districts, and identifies potential adverse impacts.

California Environmental Quality Act

State legislation (Pub. Res. Code §21000 et seq.) provides for the development and maintenance of a high-quality environment for the present-day and future through the identification of significant environmental effects.[23] The California Environmental Quality Act (CEQA) applies to "projects" proposed to be undertaken or requiring approval from state or local government agencies. "Projects" are defined as "…activities which have the potential to have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits and the approval of tentative subdivision maps."[24] The lead agency must complete the environmental review process as required by CEQA. In the case of the proposed project at 469 Stevenson Street, the San Francisco Planning Department is the lead agency.

[23] California Environmental Quality Act (CEQA), Public Resources Code (PRC), §21000 et seq., accessed online, November 29, 2021, https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=21000.
[24] 14 CCR § 15378: Project.

Historical Resources under CEQA

Historical resources are considered to be part of the environment for the purposes of CEQA. A building or site may qualify as a historical resource if it falls within at least one of four categories listed in CEQA Guidelines Section 15064.5(a), which are defined as:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4850 et seq.).

2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Pub. Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Pub. Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Pub. Resources Code sections 5020.1(j) or 5024.1.[25]

[25] 14 CCR § 15064.5

In general, a resource that meets any of the four criteria listed in CEQA Guidelines Section 15064.5(a)(2) is considered to be a historical resource unless "the preponderance of evidence demonstrates" that the resource "is not historically or culturally significant."[26]

Threshold for Substantial Adverse Change

According to CEQA, a "project with an effect that may cause a substantial adverse change in the significance of an historic resource is a project that may have a significant effect on the environment."[27] Substantial adverse change is defined as: "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historic resource would be materially impaired."[28] The historic significance of an historical resource is materially impaired when a project "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance" and that justify or account for its inclusion in, or eligibility for inclusion in, the California Register.[29] Thus, a project may cause an adverse change in a historic resource but still not have a significant effect on the environment as defined by CEQA as long as the impact of the change on the historic resource is determined to be less-than-significant, negligible, neutral, or even beneficial.

In other words, a project may have an impact on a historic resource, and that impact may or may not impair the resource's eligibility for inclusion in the California Register. If an identified impact would result in a resource that is no longer able to convey its historic significance and is therefore no longer eligible for listing in the California Register, then it would be considered a significant effect.

The San Francisco Planning Department is the lead agency for the proposed project, and has determined that the National Register-listed Market Street Theater and Loft Historic District, the California Register-eligible Sixth Street Lodging House Historic District, the Article 11 Mint-Mission Conservation District, and the California Register-eligible PG&E City Beautiful Substations Discontinuous Thematic Historic District, and the contributors therein, are historical resources for the purposes of CEQA. The following sections analyze the potential for the proposed project to cause significant effects to these resources.

Proposed Project Description

The project description has been developed based on drawings produced by Solomon Cordwell Buenz (SCB), dated August 4, 2022 **(Appendix B)**. The proposed project consists of a 27-story,

[26] 14 CCR § 15064.5(a)(2).
[27] 14 CCR § 15064.5(b).
[28] 14 CCR § 15064.5(b)(1).
[29] 14 CCR § 15064.5(b)(2).

mixed-use (though primarily residential) building at the current location of a surface parking lot **(Figure 17).** The primary entrance would face Jessie Street, at the southeast side of the building, and would consist of a lobby flanked by two ground-floor retail spaces. Fitness and lounge spaces would be located at the northwest (Stevenson Street) side of the ground floor. Ground floor spaces would be broadly glazed, with the tower consisting of a grid of glazing punctuated by angled metal panels **(Figure 18).** In addition to clear, untinted glazing, the color palette would consist of painted metal in light grey, medium grey, and dark brown finishes. Open spaces at the ground floor would be screened with clear glass panels for wind protection.

The tower, consisting of the seventh through 27th stories, would be set back at the northwest (Stevenson Street) side from the six-story podium level by approximately 39 feet. The tower would also be set back by approximately 18.5 feet at the southwest and 26 feet at the northeast façades. With the exception of a centered 20-foot-wide and 10-foot-deep channel which extends through the full height of the building, the southeast façade directly abuts the property line at all stories.

At the first story, the proposed new construction would extend to the property line on all sides. Thus, the first story would be set directly adjacent to four neighboring buildings: 35-37, 39-41, 43-45, and 47-55 Sixth Street. Most of the building would be set back from the property line at the second and subsequent stories by 18.5 feet, with the exception of the northwest 24 feet adjacent to Stevenson Street, which would abut the southwest property line through the sixth story at both the northeast and southwest sides.

Construction of the building would require mass excavation to a depth of 55 feet below ground surface

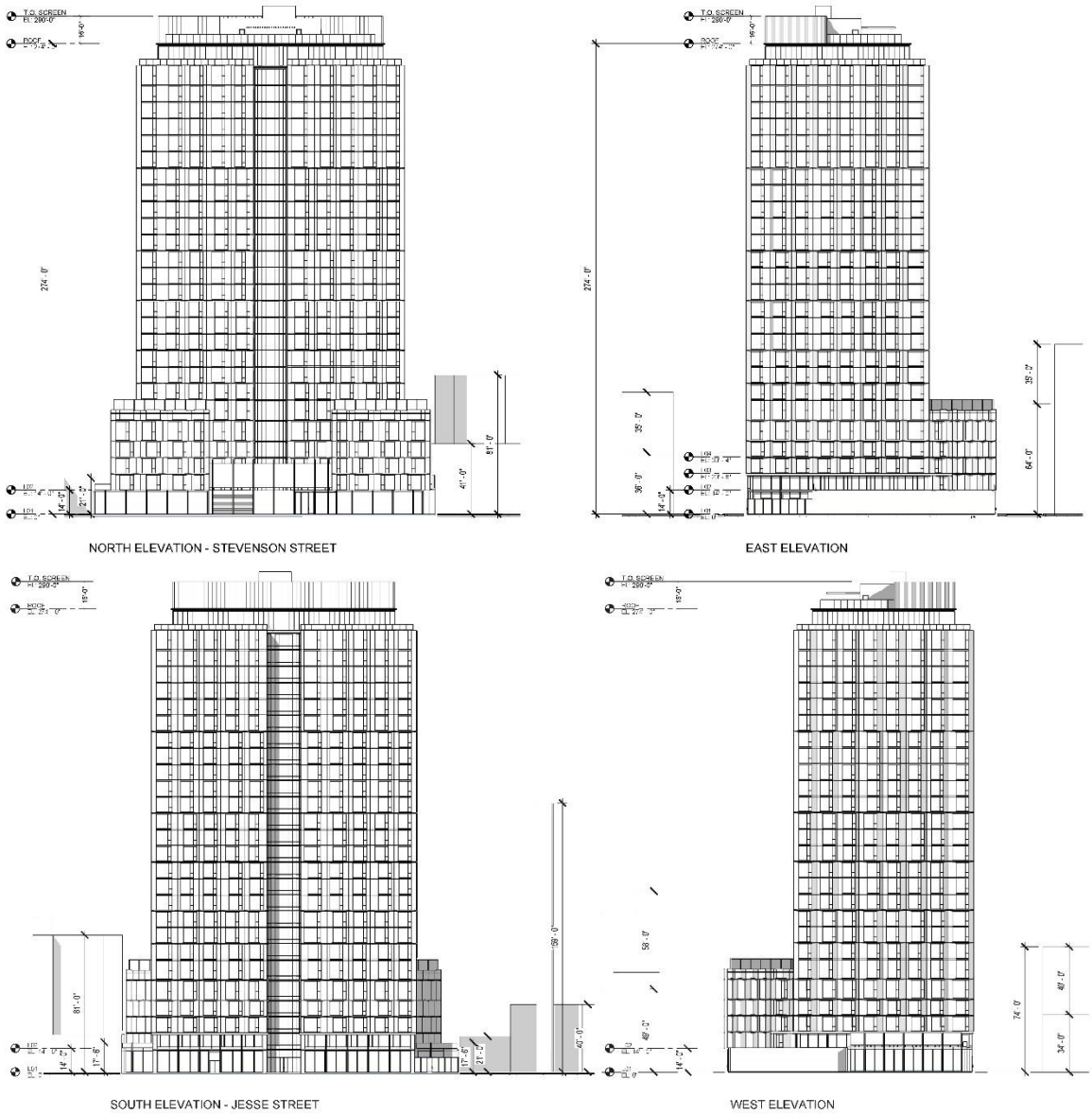

Figure 17. Proposed elevation drawings prepared by SCB, 2022.

Figure 18. Rendered view of proposed project looking southwest along Stevenson Street. Source: SCB, 2022.

Historic District Compatibility

The following analyzes the compatibility of the proposed project with the adjacent and nearby historic districts, based on the relevant general principles of the *Secretary of the Interior's Standards for Rehabilitation*. These standards are typically used in review of proposed projects under CEQA as, according to CEQA Guidelines section 15064.5(b)(3), a project which is found to comply with the appropriate standards within the *Secretary of the Interior's Standards for the Treatment of Historic Properties* is "considered as mitigated to a level of less than a significant impact on the historical resource." As the project does not propose to physically alter individual historical resources or districts, the focus of the discussion below is on potential changes in the setting of districts and contributors which are nearby and adjacent to the project site. As one of the seven aspects of integrity defined by the National Park Service in guidance for the evaluation of historic properties, setting denotes the physical environment of a historic resource or district, reflecting "the basic physical conditions under which a property was built and the functions it was intended to serve."[30] A

[30] National Park Service, National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation (Washington D.C.: U.S. Department of the Interior, 1997), 45.

resource's setting may include natural or built environment features, as well as "relationships between buildings and other features or open space."[31]

Market Street Theater and Loft Historic District

Nearby contributors to the Market Street Theater and Loft Historic District, built between ca. 1900 and 1908, are characterized by distinct three-part primary façade composition and ornamentation featuring classical motifs. The two nearest contributors to the project site, 973 and 979-989 Market Street, are built on through-lots between Market and Stevenson streets, with primary façades oriented toward Market Street and rear façades overlooking the project site. These utilitarian brick masonry clad rear façades lack ornamentation, and feature regular grids of rectangular punched openings.

The proposed project would provide a contemporary design that is generally compatible with the character of the rear façades of the Market Street Theater and Loft Historic District contributors which face the project site across Stevenson Street. The dominant finish materials – glass, metal, and concrete – and grey and brown color palette are compatible with the materials and finishes present on the rear façades of 973 and 978-989 Market Street. The rectilinearity; three-part vertical composition of podium, tower, and mechanical penthouse; and regular pattern of glazed openings would refer somewhat to the composition and fenestration of the adjacent and nearby historic buildings.

The most substantial difference in character between the nearby, existing historic district contributors and the proposed project is that of height. The proposed project would be 27 stories, while the Market Street Theater and Loft District consists primarily of buildings between two and eight stories in height, with the nearest contributors, 973 and 979-989 Market Street at seven and eight stories. One nearby non-contributing building within the district, at 995 Market Street / 1 Sixth Street, to the west of the project site, is 16 stories. The project does include some features which would reduce the visual impact of its overall height as viewed from the adjacent Stevenson Street public right-of-way. The six-story podium level of the proposed building would sit within the range of existing building heights typical of contributors to the Market Street Theater and Loft Historic District, while the tower would be set back approximately 39 feet from the Stevenson Street property line and would thus be less visually dominant. The stepped setbacks at the southwest side, and narrower setback at the northeast side, would also provide a visual transition between the proposed project and adjacent buildings.

[31] *Ibid*.

When viewed from the Market Street public right-of-way faced by the primary façades of Market Street Theater and Loft Historic District contributors, the visual impact of the height of the proposed building would be less than when viewed from these contributors' rear façades, which are closer to the project site. The comparative street views and renderings in **Figure 19 through Figure 24** depict the general outline of the proposed tower as it would be perceived from three different Market Street locations within the historic district. While visible behind the district contributors, the introduction of a large, contemporary building within an already densely developed urban environment would not overpower or diminish the visual impact of the Market Street Theater and Loft Historic District contributors as viewed from the central artery of this district.

Overall, the proposed project would not remove or alter any physical features of contributors to the Market Street Theater and Loft Historic District, and would not materially impair existing historical resources or their surroundings such that the district contributors would no longer be able to convey those significant aspects of their character which justify their eligibility for listing. The primary facades of the extant theater and loft buildings which face Market Street, many of which feature abundant ornamentation, would not be altered or obscured by the proposed project.

Figure 19. Existing view northeast from intersection of Market, McAllister, and Jones streets. Source: Build.

Figure 20. Proposed view northeast from intersection of Market, McAllister, and Jones streets. Source: Build.

Figure 21. Existing view east from intersection of Market Street, Taylor Street, and Golden Gate Avenue. Source: Build.

Figure 22. Proposed view east from intersection of Market Street, Taylor Street, and Golden Gate Avenue. Source: Build.

Figure 23. Existing view south toward contributors 973 and 979-989 Market Street. Source: Build.

Figure 24. Proposed view south toward contributors 973 and 979-989 Market Street. Source: Build.

Sixth Street Lodginghouse Historic District

The proposed project would insert a mixed-use commercial and residential building into a parcel used for surface parking for the past several decades. This use is compatible with adjacent and nearby contributors to the Sixth Street Lodginghouse Historic District, which includes predominantly mixed-use buildings.

Adjacent and nearby contributors to the Sixth Street Lodginghouse Historic District, built between 1906 and 1913, are characterized by brick and stucco exterior cladding and have minimal ornamentation with some limited use of classical motifs on cornices and window surrounds. These buildings' primary façades are oriented toward Sixth Street, facing away from the project site. The rear façades of the district contributors which overlook the project site lack ornamentation, and are

characterized by brick masonry and stucco cladding. Punched openings are present in the upper stories of three of the four contributors adjacent to the project site: 39-41, 43-45, and 47-55 Sixth Street.

The contemporary design of the proposed project would be generally compatible with the character of the rear façades which face it from the neighboring Sixth Street Lodginghouse Historic Districts. The dominant finish materials – glass, metal, and concrete – and grey and brown color palette are compatible with the materials and finishes present on nearby historic district contributors. The rectilinearity; three-part vertical composition of podium, tower, and mechanical penthouse; and regular pattern of glazed openings would refer somewhat to the composition and fenestration of the adjacent and nearby historic buildings. The proposed building would be recognizable as new construction, while respecting the materials and finishes of nearby historic buildings.

The most substantial difference in character between the adjacent and nearby historic district contributors and proposed project is that of height. The proposed project would be 27 stories, while the adjacent and nearby contributors to the Sixth Street Lodginghouse Historic District are between two and seven stories. The project includes some features which would reduce the visual impact of its overall height as viewed from adjacent public rights-of-way. The six-story podium level of the proposed building, which would be most pronounced at the Stevenson Street-facing façade, would sit within the range of existing building heights of contributors to the Sixth Street Lodginghouse Historic District. The tower would be less visually dominant at the Stevenson Street side of the building, where it would be set back approximately 39 feet from the property line, than at the primary, Jessie Street-facing façade, which has no setback. The stepped setbacks at the southwest side would provide a visual transition between the proposed project and immediately adjacent district contributors.

When viewed from the Sixth Street public right-of-way faced by the primary façades of adjacent and nearby district contributors, the visual impact of the height of the proposed building would be more pronounced than in the nearby Market Street Theater and Loft Historic District. The comparative street views and renderings in **Figure 25 through Figure 28.** depict the general outline of the proposed tower as it would be perceived from various locations within the historic district.

While introducing a new visual element to the rear of district contributors, the introduction of a large, contemporary building within an already densely developed urban environment would not interrupt the regular linear streetscape of former residential hotels which characterizes the Sixth Street Lodginghouse Historic District. Significant for their association with the pattern of relatively modest single-room occupancy buildings once prevalent in this area of South of Market, district contributors communicate the importance of the working class population and labor activism to the

growth of the neighborhood in the years after the 1906 earthquake and fires. Although the proposed project would be clearly visible above the rooflines of these district contributors, the change in setting would not diminish the integrity of the historic district which, itself, is characterized by dense urban development.

The proposed project would not remove or alter any physical features of contributors to the Sixth Street Lodginghouse Historic District, and would not materially impair existing historical resources or their surroundings such that the historic district and its contributors would no longer be able to convey those significant aspects of their character which justify their eligibility for listing.

Figure 25. Existing view southeast toward 35-37, 39-41, 43-45, 47-55, and 65-83 Sixth Street. Source: Source: Build.

Figure 26. Proposed view southeast toward 35-37, 39-41, 43-45, 47-55, and 65-83 Sixth Street. Source: Build.

Figure 27. Existing view northeast from intersection of Sixth and Jessie streets, 47-55 Sixth Street is at left. Source: Build.

Figure 28. Proposed view northeast from intersection of Sixth and Jessie streets, 47-55 Sixth Street is at left. Source: Build.

Mint Mission Article 11 Historic District

The proposed project would insert a mixed-use commercial and residential building into a parcel used for surface parking for the past several decades. This use is compatible with nearby contributors to the Article 11 Mint-Mission Conservation District, which includes mixed-use, commercial, and industrial buildings.

Nearby contributors to the historic district, built between 1907 and 1930, are typically constructed of reinforced concrete and feature painted and stucco-clad primary façades with minimal ornamentation and broad, divided-lite glazing at the upper stories. The primary façades of district contributors to the Article 11 Mint-Mission Conservation District that are nearest to the project site face Mission Street. These buildings were constructed on through lots, and thus have rear façades facing the Jessie Street public right-of-way, overlooking the project site. These rear façades lack ornamentation, and are typically characterized by unfinished or painted concrete with regular grids of rectangular punched openings.

Within the context of the existing district contributors, the proposed project would provide a contemporary design that is generally compatible with the character of the rear façades of district contributors. The dominant finish materials – glass, metal, and concrete – and grey and brown color palette are generally compatible with the materials and finishes present on contributors to the Article 11 Mint-Mission Conservation District. The rectilinearity; three-part vertical composition of podium, tower, and mechanical penthouse; and regular pattern of glazed openings would refer somewhat to the composition and fenestration of the nearby historic buildings. The proposed building would be recognizable as new construction, while respecting the materials and finishes of nearby historic buildings.

The most substantial difference in character between the nearby contributors to the Article 11 Mint-Mission Conservation District and the proposed project is that of height. The proposed project would be 27 stories, while district contributors closest to the project site, opposite Jessie Street, are two to five stories in height. At the Jessie Street frontage, these buildings typically have minimal setbacks from the property line. The proposed project would follow this street-level pattern of minimal setback, however the building's height, at 27 stories, would be substantially taller than any contributor to the Article 11 Mint-Mission Conservation District. Other nearby buildings taller than the typical heights of contributors to the Article 11 Mint-Mission Conservation District include the Hampton Inn building at 942-946 Mission Street, located within the district but not a contributor, which is 15 stories at the Jessie Street-facing rear façade. Two recently completed projects, a 20-story tower at 434 Minna Street and a 25-story tower at 415 Natoma Street, are approximately 330

and 800 feet respectively to the southeast of the project site. The 32-story building at 888 Howard Street is located approximately 0.2 miles to the east of the project site.

When viewed from the Mission Street public rights-of-way faced by the primary façades of adjacent and nearby district contributors, the visual impact of the height of the proposed building would be less than it would be perceived from these contributors' rear façades, which are closer to the project site. The comparative street views and renderings in **Figure 29 through Figure 32** depict the general outline of the proposed tower as it would be perceived from two locations within the historic district. While the proposed project would be visible above the rooflines of district contributors, the change in setting caused by this new visual element would not diminish the integrity of the historic district. The character and features of the contributing buildings to the Article 11 Mint-Mission Conservation District, as viewed from Mission Street, would not be impacted.

The proposed project would not remove or alter any physical features of contributors to the Article 11 Mint-Mission Conservation District, and would not materially impair existing historical resources or their surroundings such that the district contributors would no longer be able to convey those significant aspects of their character which justify their eligibility for listing at the local, state, or federal level.

Figure 29. Existing view north from intersection of Sixth and Mission streets. 481 Jessie Street / 986 Mission Street, 479 Jessie Street / 980-984 Mission Street, and 972-976 Mission Street at right. Source: Build.

Figure 30. Proposed view north from intersection of Sixth and Mission streets. 481 Jessie Street / 986 Mission Street, 479 Jessie Street / 980-984 Mission Street, and 972-976 Mission Street at right. Source: Build.

Figure 31. Existing view southwest from intersection of Jessie and Mint Streets. Source: Build.

Figure 32. Proposed view southwest from intersection of Jessie and Mint Streets. Source: Build.

PG&E Beautiful Substations Historic District

As an industrial facility, the PG&E substation to the northeast of the project site, built in 1924, differs in character from other nearby historic district contributors in its use, massing, and composition. The building is significant for its architecture and association with other substations built in the early decades of the 20th century, which form a discontiguous district of stations constructed to support San Francisco's urban infrastructure. The northwest and southwest façades of the concrete building are minimally ornamented and unfenestrated, with incised lines, simulated quoining at the corners, and a simple box cornice. With the exception of the two stacks, the massing overall is blocky and horizontally oriented. Construction of the proposed 27-story project at 469 Stevenson Street would introduce a new visual element to the surroundings of the substation, however, the overall urban character of the building's existing setting would not significantly change. The proposed project would not remove or alter any physical features of the substation, or materially impair the historical resource or its surroundings such that it would no longer be able to convey those significant aspects of its character which justify its eligibility for listing.

Potential Historical Resources: SoMa Pilipinas Filipino Cultural Heritage District

As discussed above, the potential historic district at South Park which may be found significant in future evaluations for its association with the historic Filipino community in the South of Market neighborhood, is more than three quarters of a mile in distance from the project site. Due to this distance, and the presence of dense urban development between this potential district's contributors and the project site, no historical resource impacts related to proposed project activities are anticipated. Similarly, changes in setting associated with two potential individual resources identified near the project site are not anticipated to cause significant impacts. Both 1010 and 953 Mission Street are five-story commercial and residential buildings located in a densely

developed urban setting. Though the upper stories of the proposed development would be visible from the public rights-of-way adjacent to each, the proposed project at 469 Stevenson Street would not impact the settings of these buildings to the degree that their potential to be found eligible for listing at the local, state, or national level for their association with the SoMa Filipino community would be diminished.

Potential for Construction-Related Impacts to Historical Resources

In addition to visual impacts to the settings of historic districts and their contributors, projects immediately adjacent to historical resources may have the potential to cause direct, construction related impacts to those resources. Four of the contributors to the Sixth Street Lodginghouse Historic District, 35-37, 39-41, 43-45, and 47-55 Sixth Street, directly abut the project site at its southwest side. The PG&E substation directly abuts the project site at its northeast side.

Page & Turnbull Preservation Technology staff reviewed analysis of potential vibration-related impacts and acceptable thresholds included in the *Noise Technical Memorandum for 469 Stevenson Street Project* prepared by Stantec, dated October 21, 2022. Based on the typical vibration levels caused by the types of construction equipment proposed for use adjacent to the project site and distance from proposed project activities to adjacent historical resources, Stantec found that the historic buildings could be subject to maximum vibration levels between .03 and 11.125 inches per second peak particle velocity (in/sec PPV).[32] According to Caltrans Construction Vibration Damage Criteria, used across construction industries in California, maximum continuous or frequent groundborne vibration levels above 0.25 in/sec PPV may cause vibration-related damage to concrete, masonry, and steel-frame historic buildings and structures such as those adjacent to the project site. Buildings which would be subject to vibration levels of up to 11.124 in/sec PPV include four contributors to the Sixth Street Lodginghouse Historic District, 35-37 Sixth Street, 39-41 Sixth Street, 43-45 Sixth Street, and 47-55 Sixth Street, as well as the Clearway Energy Thermal Power Station which is a contributor to the PG&E City Beautiful Substations Discontiguous Thematic Historic District.

To ensure the protection of historical resources from project-related vibration impacts, we recommend development and implementation of historic resource protection measures based on the "Construction Vibration Standard Construction Best Practices" described in Stantec's *Noise Technical Memorandum for 469 Stevenson Street Project*.[33] These measures would include, but not be

[32] Stantec, Noise Technical Memorandum for 469 Stevenson Street Project (Walnut Creek: Prepared for the San Francisco Planning Department, October 21, 2022), 28.
[33] Stantec, Noise Technical Memorandum for 469 Stevenson Street Project, 29-31; Excavation Settlement and Monitoring and Construction Monitoring programs are also described in Langan, *Preliminary Geotechnical Investigation: 469 Stevenson Street, San Francisco* (San Francisco: Prepared for Stantec, June 20, 2022).

limited to, Pre-construction survey of potentially affected historic buildings; development and implementation of a Vibration Management and Monitoring Plan which includes measures to avoid, reduce, and monitor vibration levels, physically protect resources, repair inadvertent damage, and provide progress reports; and preparation of a final Vibration Monitoring Results Report.

IV. CONCLUSION

The 469 Stevenson Street project proposes to construct a 27-story mixed-use building at a site adjacent and near contributors to four historic districts: the National Register-listed Market Street Theater and Loft Historic District; the California Register-eligible Sixth Street Lodging House Historic District; the Article 11 Mint-Mission Conservation District, and the California Register-eligible PG&E City Beautiful Substations Discontinuous Thematic Historic District. These districts, and the contributors therein, are considered historical resources for the purposes of CEQA review. Page & Turnbull analyzed the potential impact of the project relative to changes in the setting of these districts and their contributors. While the proposed project would result in a building that is considerably taller than adjacent and nearby district contributors, the change in setting would not constitute a substantial adverse effect on historical resources. The adjacent and nearby districts and contributors would not be impacted to the degree that their eligibility for listing at the local, state, or national level, as appropriate to each resource, would be diminished. Further, the proposed project is generally compatible in materials, finishes, fenestration patterns, and setbacks relative to public rights-of-way with the character of the adjacent and nearby districts and contributors. The effect of the new building would be distinctly new, but not incompatible in overall finish and composition.

The project site is additionally located within the SoMa Pilipinas Filipino Cultural Heritage District. Page & Turnbull reviewed documentation related to significant buildings, sites, and spaces within the cultural district to identify potential historic districts adjacent to, nearby, or including the project site. While there appears to be one potential historic district within the cultural district, its potential contributors are located more than three quarters of a mile to the east of the project site. Additionally, Page & Turnbull identified two potential individual resources within one quarter mile of the project site. It is not anticipated that changes in setting to these potential resources caused by the proposed project would impact their eligibility, if formally evaluated for historical significance. As such, the proposed project would not impact potential historic districts or individual historical resources related to the SoMa Pilipinas Filipino Cultural Heritage District.

Implementation of construction best practices related to vibration, including pre-construction documentation, vibration monitoring during ground disturbing activity, and reporting, would protect

adjacent historical resources from inadvertent damage caused by project-related construction activities.

Based on these findings, the proposed project is not expected to cause a substantial adverse impact on historical resources for the purposes of CEQA.

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VI. APPENDICES

Appendix A – Preparer Qualifications

This Historic Resource Evaluation Part II was prepared by Page & Turnbull of San Francisco, California. Page & Turnbull staff responsible for this report include Ruth Todd, FAIA, Principal-in-charge; Stacy Kozakavich, Cultural Resources Planner, project manager and primary author; and Sarah Brummett, Architectural Conservator, who provided review and input regarding potential for construction-related damage. All Page & Turnbull staff involved meet or exceed the Secretary of the Interior's Professional Qualification Standards for Historic Architecture, Architectural History, or History.

Appendix B – Proposed Project Drawings

This appendix includes Project drawings prepared by Solomon Cordwell Buenz (SCB), dated August 4, 2022.

469 STEVENSON STREET
SAN FRANCISCO, CALIFORNIA
DOWNTOWN PROJECT AUTHORIZATION

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COVER SHEET
469 Stevenson
BUILD

08/04/2022
2016056

0.000

PROJECT SUMMARY	
GENERAL INFO	
BLOCK/LOT #	3704/045
ZONING DISTRICT	C-3-G
HEIGHT AND BULK DISTRICT	160-F
PROPOSED HEIGHT TO TOP OF SCREEN	290'-0"
GENERAL LAND USE	
SITE AREA	28,790 SF
RESIDENTIAL GFA	425,644 SF
RETAIL GSF	3,985 SF
USEABLE COMMON OPEN SPACE GSF	15,554 SF
USEABLE PRIVATE OPEN SPACE GSF	13,384 SF
DWELLING UNITS - TOTAL	495
NUMBER OF STORIES	27 + 3 BASEMENT
PARKING SPACES (INCLUDING ADA)	166
LOADING SPACES	1 + 2 SV
BICYCLE SPACES (CLASS 1)	200
BICYCLE SPACES (CLASS 2)	27
CAR SHARE SPACES	12
LAND USE RESI	
STUDIO UNITS	192
1 BEDROOM UNITS	149
2 BEDROOM UNITS	96
3 BEDROOM UNITS	50
5 BEDROOM UNITS	8
TOTAL BMR UNITS	73
AFFORDABLE HOUSING ON-SITE	45 UNITS AT 50% AMI
	14 UNITS AT 80% AMI
	14 UNITS AT 110% AMI

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NARRATIVE

The project sponsor proposes a mixed-use project on mid-block parcel located between Stevenson Street and Jessie Street, in-between Fifth Street and Sixth Street (the “Property”). The property does not have existing structures. The baseline improvement would be a 259,110 residential GFA development over two basements.

The project sponsor proposes to utilize the State Density Bonus and will provide affordable housing units on site. The proposed improvement would be a 425,644 residential GFA development over three basements, featuring 495 residential units and approximately 3,985 square feet of retail (the ‘Project’).

As a transit oriented development, additional residential density at this location would encourage walkable communities, provide additional affordable housing, and improve access to jobs for working families.

SHT #	SHEET NAME
0.000	COVER SHEET
0.001	NARRATIVE & TABLE OF CONTENTS
1.001	STATE DENSITY BONUS - AXON
1.002	BASE PROJECT AREA SUMMARY
1.102	BONUS PROJECT AREA SUMMARY
1.201	PROJECT SUMMARY
2.000	LOCATION PLAN
2.001	EXISTING PLOT PLAN
2.002	PLOT PLAN AND PHOTOS
2.003	PHOTOGRAPHS OF PROPERTY
2.004	PHOTOGRAPHS OF PROPERTY
2.005	PROPOSED SITE PLAN
3.198	BASEMENT 03 PLAN
3.199	BASEMENT 02 PLAN
3.200	BASEMENT 01 PLAN
3.201	GROUND FLOOR PLAN
3.202	LEVEL 2 PLAN
3.204	LEVELS 3-5 PLAN
3.206	LEVEL 6 PLAN
3.212	LEVELS 7-26 PLAN
3.227	LEVEL 27 PLAN
3.230	ROOF PLAN
3.301	SOUTH & WEST ELEVATION
3.302	NORTH & EAST ELEVATION
3.321	EXTERIOR MATERIAL PALETTE
3.401	BUILDING SECTION

SHT #	SHEET NAME
3.701	LANDSCAPE GROUND FLOOR PLAN
3.702	LANDSCAPE LEVEL 2 PLAN
3.703	LANDSCAPE LEVEL 6 PLAN
3.704	LANDSCAPE LEVEL 27 PLAN
3.705	LANDSCAPE MATERIAL & PLANTING
4.101	VIEW FROM I-80, 8TH AND BRANNAN
4.102	VIEW LOOKING EAST OVER MARKET ST
4.201	VIEW LOOKING EAST FROM JESSIE AND SIXTH ST
4.202	VIEW LOOKING WEST FROM STEVENSON ST
5.132	STREETWALL ELEVATIONS
5.133	OPEN SPACE PLAN
5.141	ROOFTOP FEATURES SCREENING
5.142	ROOFTOP FEATURES SCREENING 2
5.151	OFF-STREET PARKING PLAN
5.153	OFF-STREET LOADING / CURB CUT PLAN
5.154	OFF-STREET LOADING SECTION
5.155	BICYCLE PARKING PLAN
5.156	CLASS 1 - BICYCLE PARKING
5.157	CLASS 2 - BICYCLE PARKING
6.140	DWELLING UNIT EXPOSURE
6.260	HEIGHT/BULK/FAR

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Base Planning Allowed			GFA	formula
A1	Site Area		28,790 sf	
A2	Max "Base" GFA	9:1 with TDRs	259,110 sf	A1 x 9

With State Density Bonus Applied			
B1	Max "Bonus" GFA	349,799 sf	A2 x 1.35

Parcel: 3704/045

WAIVER REQUIRED:

Height, Bulk, Open Space requirements, dwelling unit exposure for 15%

BASE PROJECT

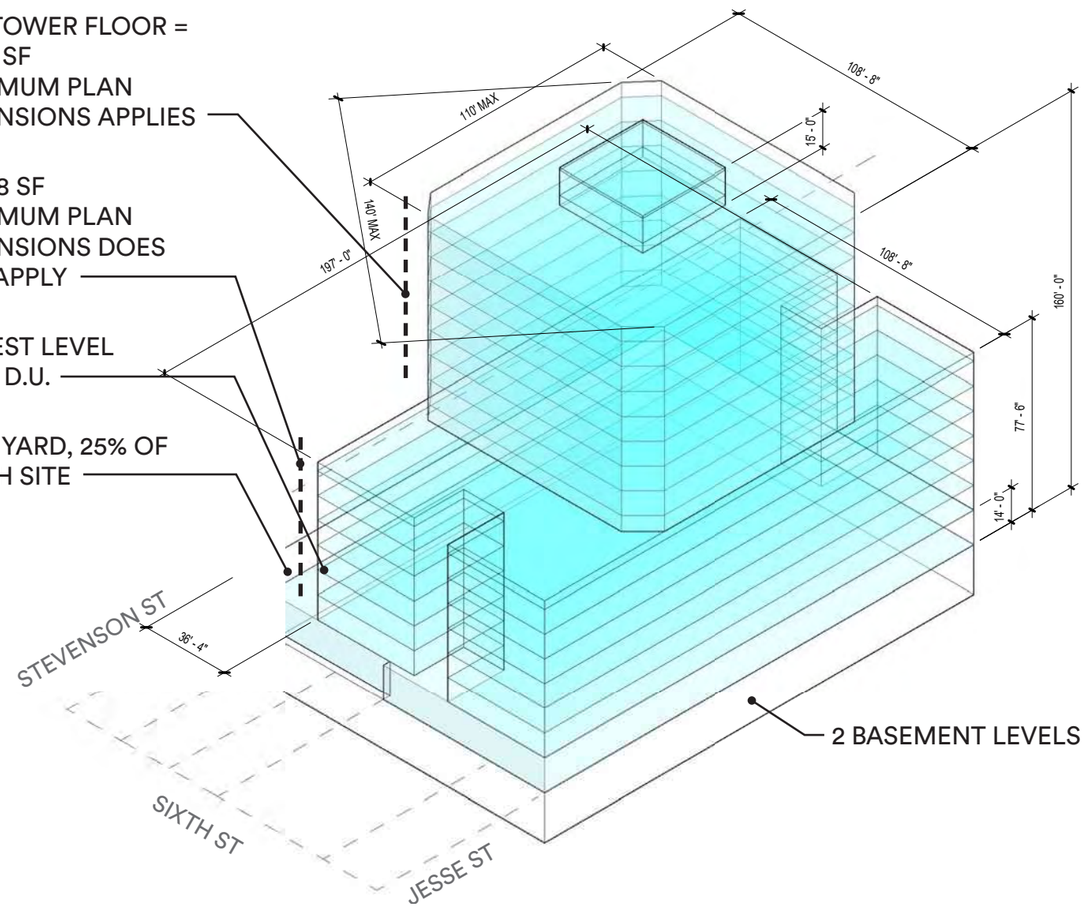
TOTAL 17 FLOORS
+ 2 BASEMENTS

TYP. TOWER FLOOR =
11,746 SF
MAXIMUM PLAN
DIMENSIONS APPLIES

20,938 SF
MAXIMUM PLAN
DIMENSIONS DOES
NOT APPLY

LOWEST LEVEL
WITH D.U.

REAR YARD, 25% OF
DEPTH SITE



2 BASEMENT LEVELS

BONUS PROJECT

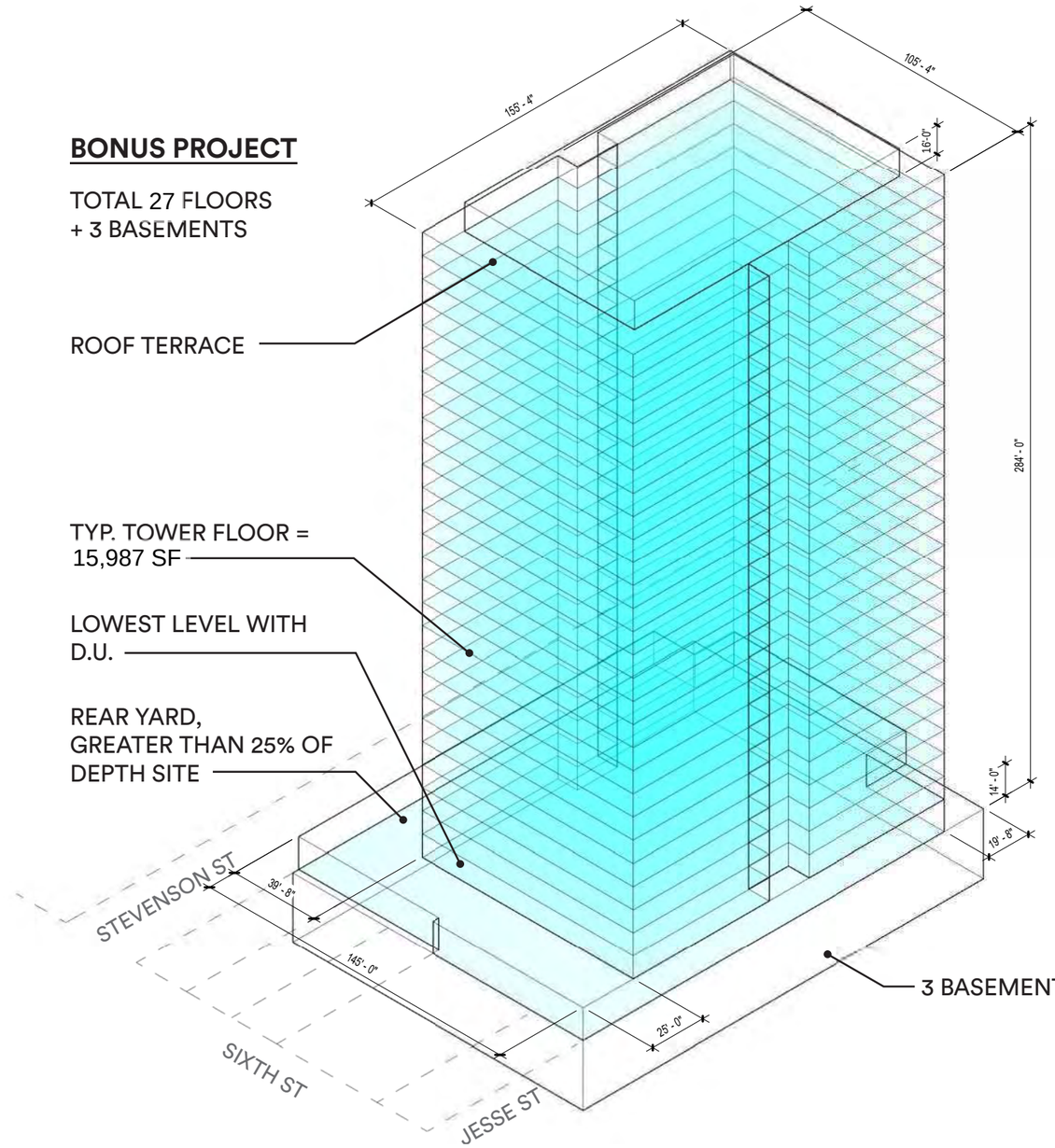
TOTAL 27 FLOORS
+ 3 BASEMENTS

ROOF TERRACE

TYP. TOWER FLOOR =
15,987 SF

LOWEST LEVEL WITH
D.U.

REAR YARD,
GREATER THAN 25% OF
DEPTH SITE



3 BASEMENT LEVELS

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STATE DENSITY BONUS - AXON
469 Stevenson
BUILD

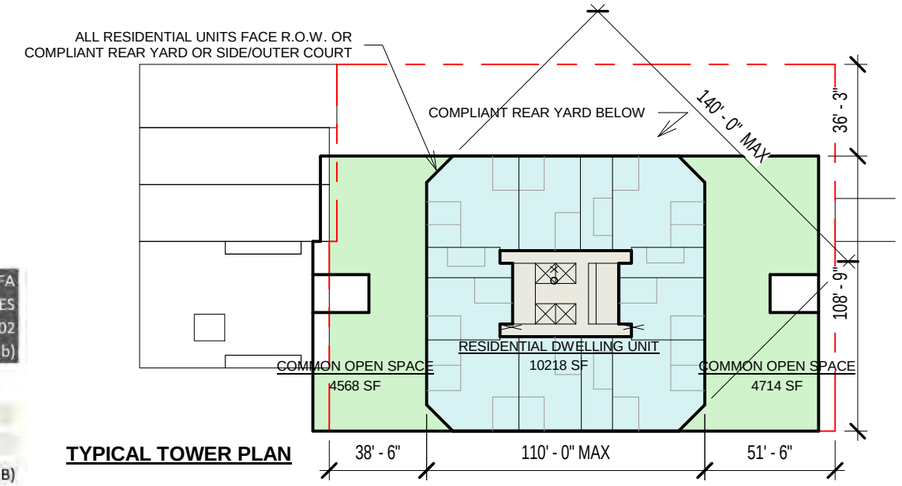
08/04/2022
2016056

1.001

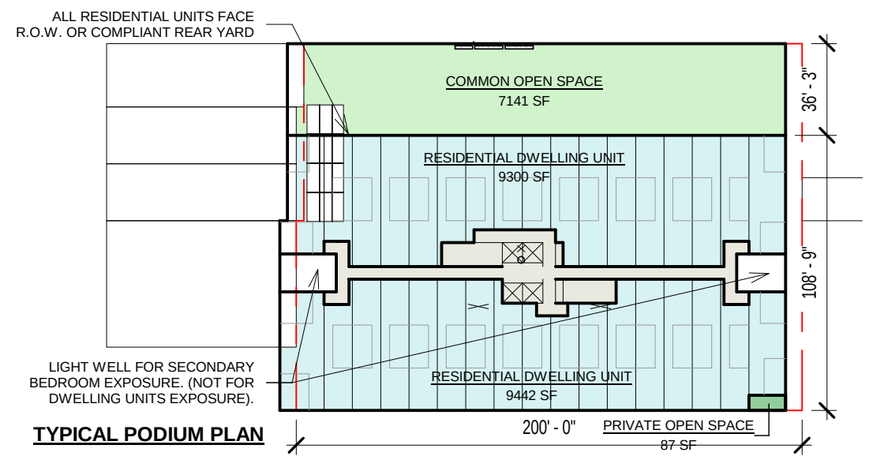
FLR. ELEV.	FTF	FLR.	TOTAL SQUARE FOOTAGE	GFA EXCLUSIONS	RESIDENTIAL GFA	RETAIL GFA	PARKING GFA	PARKING SPACES	TOTAL GFA	GFA EXCLUSIONS NOTES per sec 102 FLOOR AREA, GROSS (b)
+175.00		M.PH								
+160.00	15.00	RF								
+148.75	11.25	17	11,746	361	11,385				11,385	(4)(B)
+139.84	8.92	16	11,746	361	11,385				11,385	(4)(B)
+130.92	8.92	15	11,746	361	11,385				11,385	(4)(B)
+122.00	8.92	14	11,746	361	11,385				11,385	(4)(B)
+113.09	8.92	13	11,746	361	11,385				11,385	(4)(B)
+104.17	8.92	12	11,746	361	11,385				11,385	(4)(B)
+95.25	8.92	11	11,746	361	11,385				11,385	(4)(B)
+86.34	8.92	10	11,746	361	11,385				11,385	(4)(B)
+77.42	8.92	9	11,746	361	11,385				11,385	(4)(B)
+67.50	9.92	8	20,938	361	20,577				20,577	(4)(B)
+58.59	8.92	7	20,938	361	20,577				20,577	(4)(B)
+49.67	8.92	6	20,938	361	20,577				20,577	(4)(B)
+40.75	8.92	5	20,938	361	20,577				20,577	(4)(B)
+31.83	8.92	4	20,938	361	20,577				20,577	(4)(B)
+22.92	8.92	3	20,938	361	20,577				20,577	(4)(B)
+14.00	8.92	2	20,938	361	20,577				20,577	(4)(B)
+0.00	14.00	1	28,783	17,383	11,400	0	0	0	11,400	(4)(B), (8), (13), (14), (17), (21)
-10.00	10.00	B1	28,783	28,383	400	0	0	75	400	(1), (3), (6), (7)
-20.00	10.00	B2	28,783	28,383	400	0	0	75	400	(1), (3), (6), (7)
			338,629	79,919	259,110	0	0	150	259,110	
			SF	SF	SF	SF*	SF	SPACES	SF	

			Provided Bike Parking	Required Open Space	sf	Provided Private Open Space = 252 Provided Common Open Space	sf	Required/Provided Off-Street Loading in C-3 District:
Studio + 1BR	71.2%	Class 1	192	Private	252	L02 Rear Yard	7,141	2 Loading Spaces
2BR	18.5%	Class 2	23	Common	16,272	L09 West	4,568	
3BR	10.4%					L09 East	4,714	
							16,423	

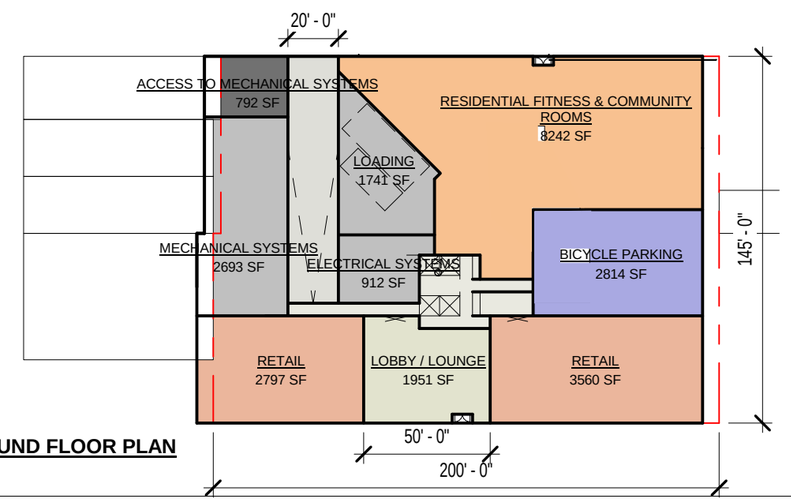
NOTES ON GROUND FLOOR PLAN:
(1) GROUND FLOOR HEIGHT IS 14' FLOOR TO FLOOR
(2) ACTIVE USES FENESTRATED WITH TRANSPARENT WINDOWS & DOORWAYS FOR >60% OF FRONTAGE.
(3) LOBBY WIDTH IS <25% OF BUILDING FRONTAGE.
(4) ACCESS TO MECHANICAL SYSTEMS EXEMPT FROM ACTIVE USE REQUIREMENTS PER 145.1(C)(3)



TYPICAL TOWER PLAN



TYPICAL PODIUM PLAN



GROUND FLOOR PLAN

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BASE PROJECT AREA SUMMARY
469 Stevenson
BUILD

08/04/2022
2016056

0 30 60

1.002

FLR. ELEV.	F/F	FLR.	TOTAL SQUARE FOOTAGE	GFA EXCLUSIONS	124(f) EXCLUSIONS	RESIDENTIAL GFA	RETAIL GFA	PARKING GFA	PARKING SPACES	TOTAL GFA	GFA EXCLUSIONS NOTES per sec 102 FLOOR AREA, GROSS (b)
+276.50		M.PH									
+274.00	2.50	RF									
+262.00	12.00	27	11,178	622		10,556				10,556	(4)(B)
+250.67	11.33	26	15,987	622		15,365				15,365	(4)(B)
+241.00	9.67	25	15,987	622		15,365				15,365	(4)(B)
+231.33	9.67	24	15,987	622		15,365				15,365	(4)(B)
+221.67	9.67	23	15,987	622		15,365				15,365	(4)(B)
+212.00	9.67	22	15,987	622		15,365				15,365	(4)(B)
+202.33	9.67	21	15,987	622		15,365				15,365	(4)(B)
+192.67	9.67	20	15,987	622		15,365				15,365	(4)(B)
+183.00	9.67	19	15,987	622		15,365				15,365	(4)(B)
+173.33	9.67	18	15,987	622	686	15,365				15,365	(4)(B), sec 124(f)
+163.67	9.67	17	15,987	622	864	15,365				15,365	(4)(B), sec 124(f)
+154.00	9.67	16	15,987	622	2,797	15,365				15,365	(4)(B), sec 124(f)
+144.33	9.67	15	15,987	622	2,161	15,365				15,365	(4)(B), sec 124(f)
+134.67	9.67	14	15,987	622	3,421	15,365				15,365	(4)(B), sec 124(f)
+125.00	9.67	13	15,987	622	3,017	15,365				15,365	(4)(B), sec 124(f)
+115.33	9.67	12	15,987	622	3,421	15,365				15,365	(4)(B), sec 124(f)
+105.67	9.67	11	15,987	622	2,839	15,365				15,365	(4)(B), sec 124(f)
+96.00	9.67	10	15,987	622	3,259	15,365				15,365	(4)(B), sec 124(f)
+86.33	9.67	9	15,987	622	3,836	15,365				15,365	(4)(B), sec 124(f)
+76.67	9.67	8	15,987	622	2,966	15,365				15,365	(4)(B), sec 124(f)
+67.00	9.67	7	15,987	622	3,761	15,365				15,365	(4)(B), sec 124(f)
+55.00	12.00	6	15,987	622	3,933	15,365				15,365	(4)(B), sec 124(f)
+43.00	12.00	5	19,897	622	4,594	19,275				19,275	(4)(B), sec 124(f)
+33.33	9.67	4	19,897	622	4,940	19,275				19,275	(4)(B), sec 124(f)
+23.67	9.67	3	19,897	622	5,147	19,275				19,275	(4)(B), sec 124(f)
+14.00	9.67	2	19,897	622	4,961	19,275				19,275	(4)(B), sec 124(f)
+0.00	14.00	1	27,126	15,363		11,763	0	0	0	11,763	(4)(B), (13), (14), (17)
-14.00	14.00	B1	28,275	27,085		1,190		0	42	1,190	(1), (3), (6), (7), (8), (21)
-28.00	14.00	B2	28,275	27,085		1,190		0	78	1,190	(1), (3), (6), (7)
-42.00	14.00	B3	24,448	23,258		1,190		0	58	1,190	(1), (3), (6), (7)
			534,617 SF	108,973 SF	56,599	425,644 SF	0 SF*	0 SF	178 SPACES	425,644 SF	

*3,985 sf GSF

0.36 per unit

SITE SUMMARY		
Zoning District	C-3-G	
Height District	160-F	
Site Area	28,790	sf

PROJECT SUMMARY	
Height of Buildings	274'-0"
Number of Stories	27 + 3 Basements
Dwelling Units	495
Parking Spaces	178
Loading Spaces	1 + 2 SV

TOTAL SQUARE FOOTAGE		
Residential	474,606	sf
Retail	3,985	sf
Parking	56,026	sf
TOTAL	534,617	sf

PLANNING GFA (per sec. 102)		
Residential	425,644	GFA
Retail (General)	0	GFA
Parking	0	GFA
TOTAL	425,644	GFA

RESIDENTIAL SUMMARY	
STUDIOS	192
1 BDRM	149
2 BDRM	96
3 BDRM	50
5 BDRM	8
Dwelling Units	495

Sec 135 - RESIDENTIAL OPEN SPACE		
Dwelling units with Balconies	22	
Common Open Space Required (x Units x 36 sf/Unit X 1.33)	22,647	sf
Common Open Space Provided	11,184	sf

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BONUS PROJECT AREA SUMMARY
469 Stevenson
BUILD

08/04/2022
2016056

1.102

PARKING SUMMARY	Existing		Permitted as Accessory	Provided
Sec 150.b Residential Off-Street Vehicle Parking	0	(# of Dwelling Units) x .5 =	248 spaces	178 spaces
			Required	**Provided**
Non-Accessible Off-Street Vehicle Parking	176 spaces			159 spaces
Sec 155.i Accessible Off-Street Vehicle Parking	0 spaces	1 accessible space per 25 spaces	7 spaces	7 spaces
Sec 166 Car-Share Parking Spaces, Residential	0 spaces	2, plus 1 for ever 200 dwelling units over 200 =	5 spaces	12 spaces

Sec 152.1 OFF-STREET LOADING	0	200,001 - 500,000 GFA =	2	1 + 2 SV

Sec 155.2 BICYCLE PARKING			**Class 1**	**Class II**
(A) = Residential Dwelling Units	495	units		
Sec 155.2.11 - Dwelling Units			100 Class I spaces plus onc Class I space for every four dwelling units over 100	One per 20 units.
Formula			=100+(((A)-100)/4)	=(A)/20'
Bicycle Parking Required - Dwelling Units			**199 spaces**	**25 spaces**
(B) = Retail Sales and Services	3,985	sf		
Table 155.2 - Retail Sales and Services			One Class I space for every 7,500 sf of occupied floor area.	Minimum 2 spaces. One Class II space for every 2500 sf of occupied floor area
Formula			=(B) / 7500	=(B) / 2500, 2 minimum
Bicycle Parking Required - Retail			**1 spaces**	**2 spaces**
Bicycle Parking Required - Total			**200 spaces**	**27 spaces**

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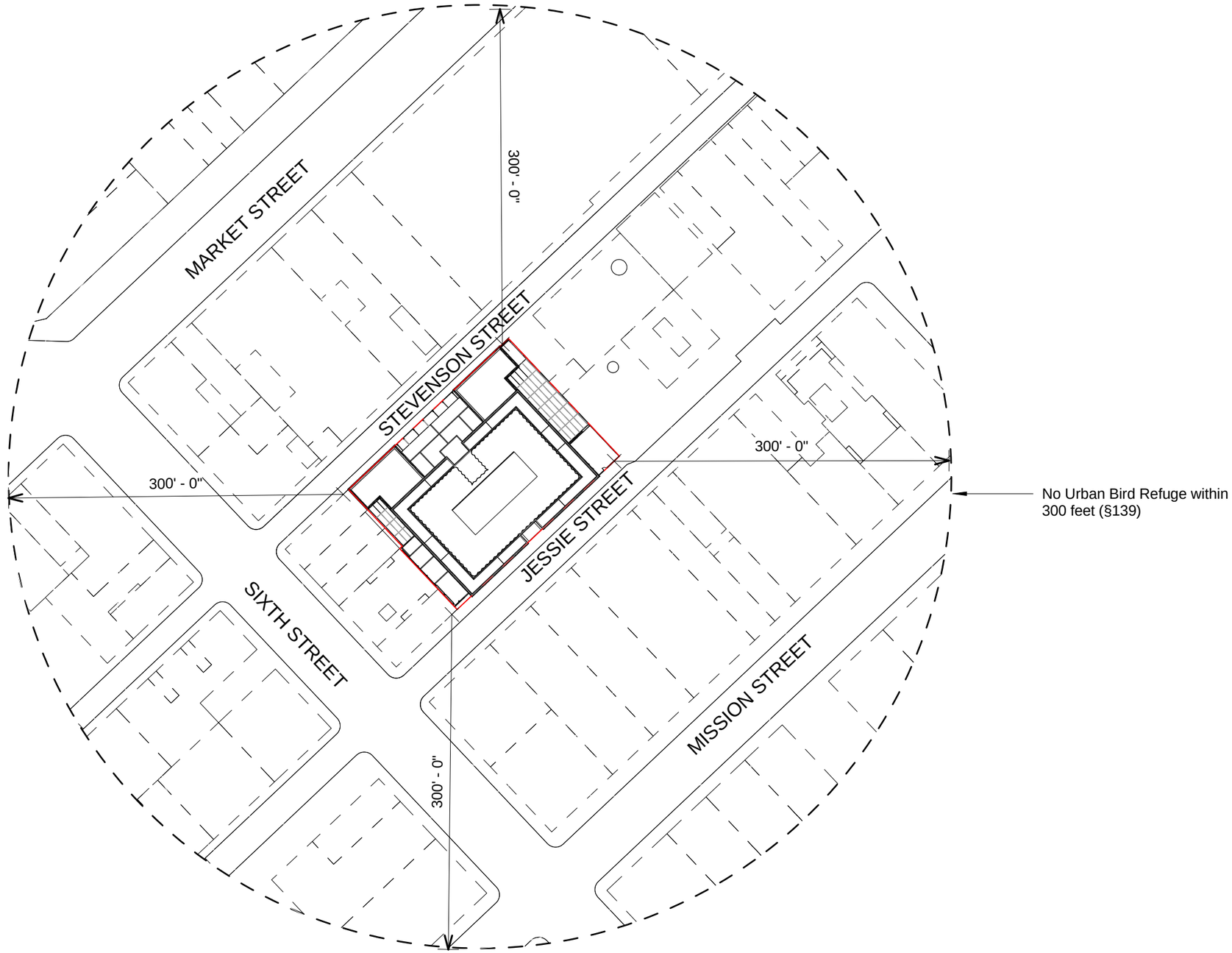

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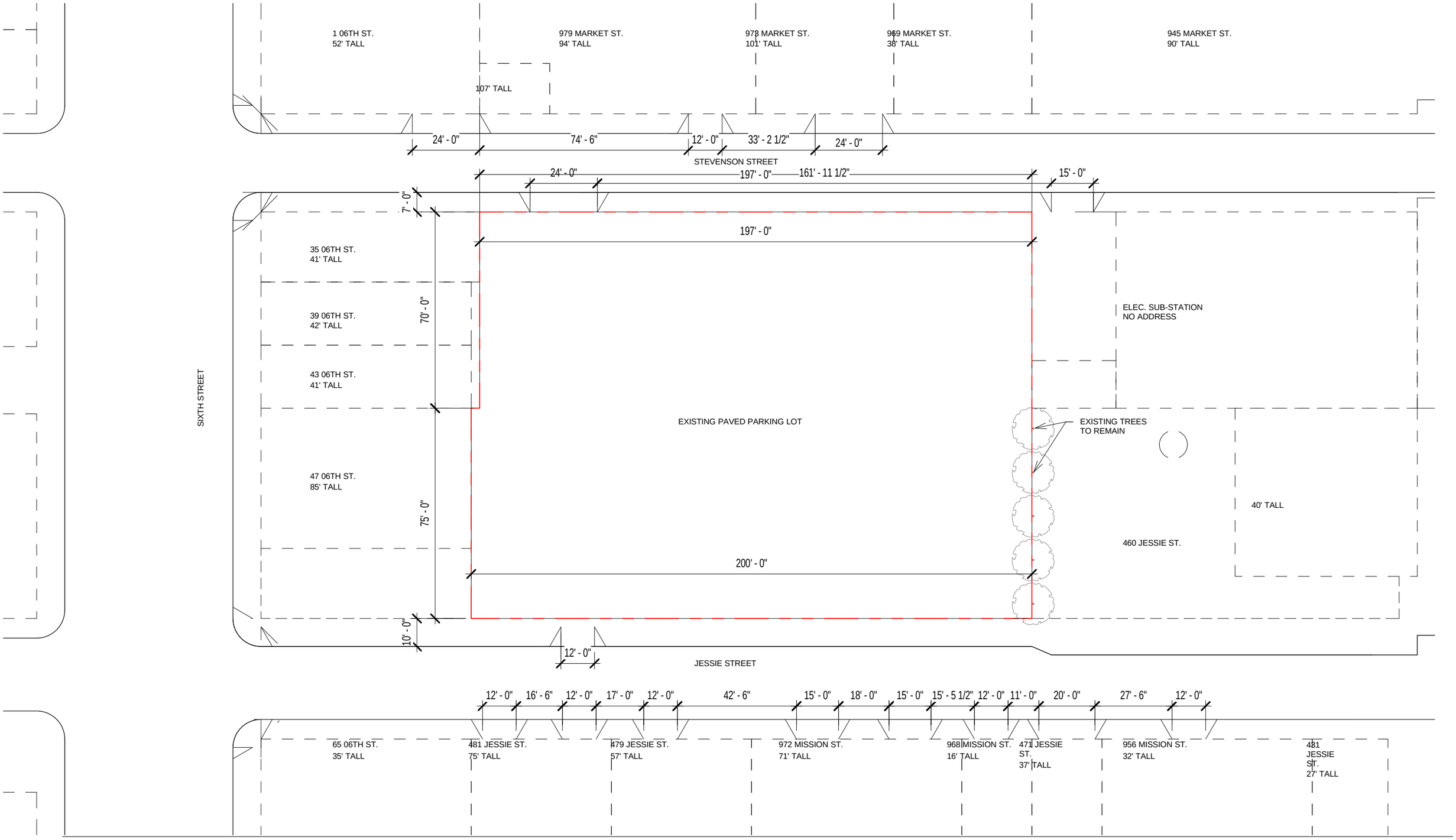
LOCATION PLAN
469 Stevenson
BUILD

08/04/2022
2016056

0 50 100

2.000



* HEIGHTS ARE ESTIMATED AND NOT TAKEN FROM A CIVIL SURVEY

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EXISTING PLOT PLAN
469 Stevenson
BUILD

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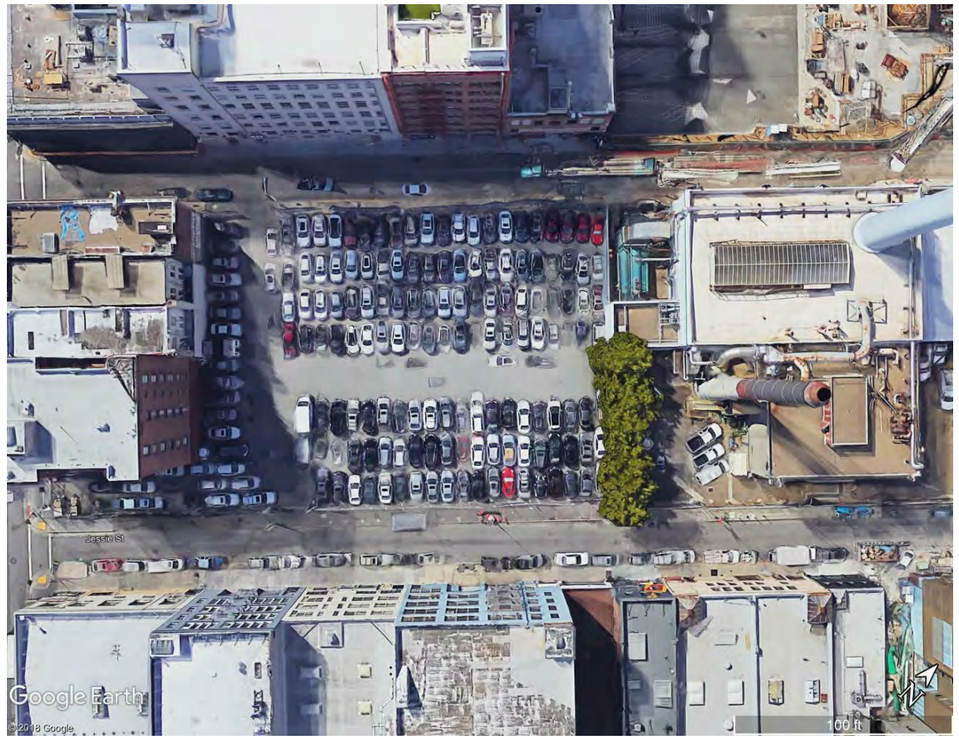
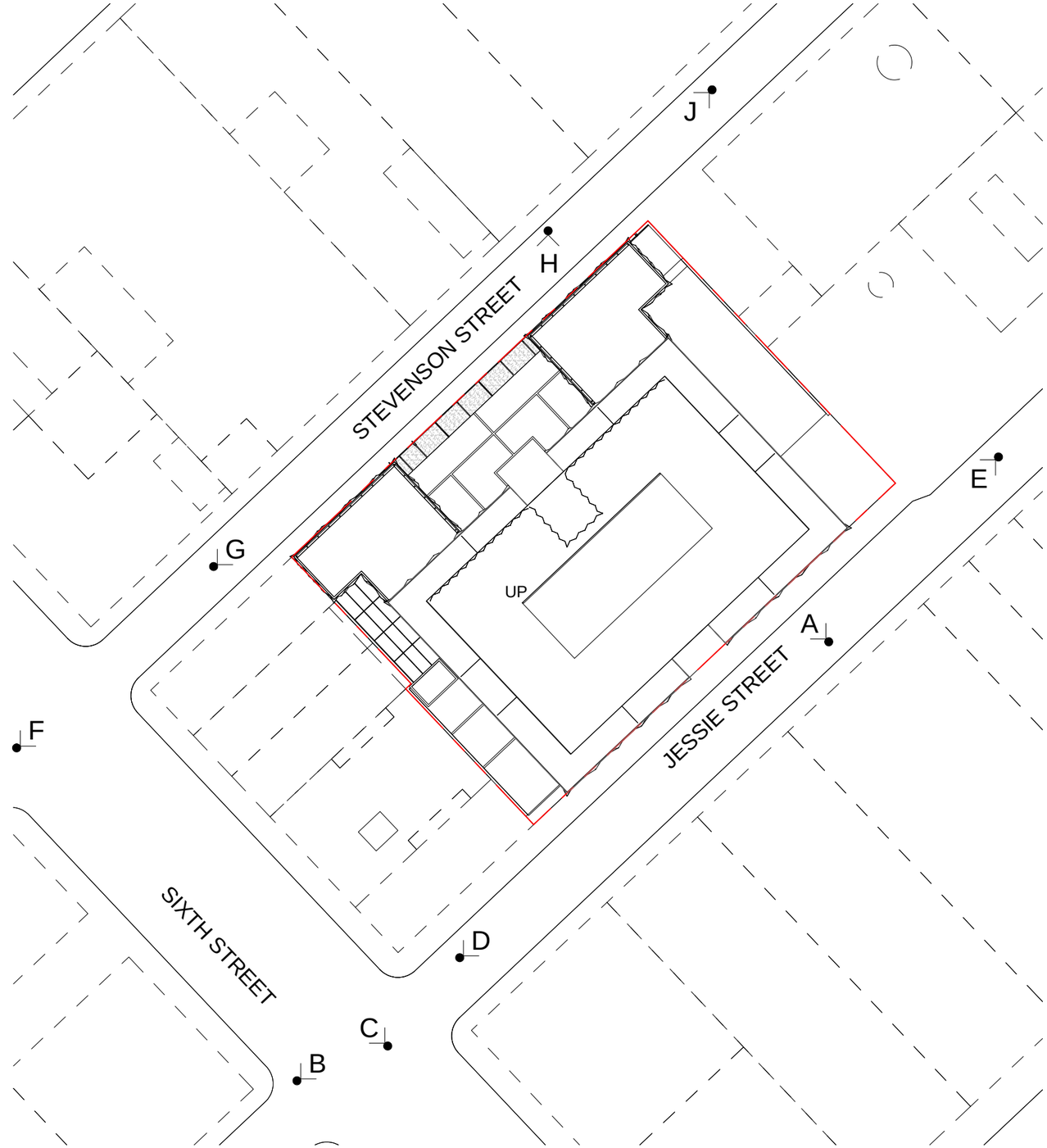
2016056

0 16 32

2.001



VIEW A



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PLOT PLAN AND PHOTOS
469 Stevenson
BUILD

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0 25 50

2.002

VIEW B: JESSIE ST

VIEW C: JESSIE AND 6TH ST

VIEW D: JESSIE ST

VIEW E: JESSIE AND 6TH ST

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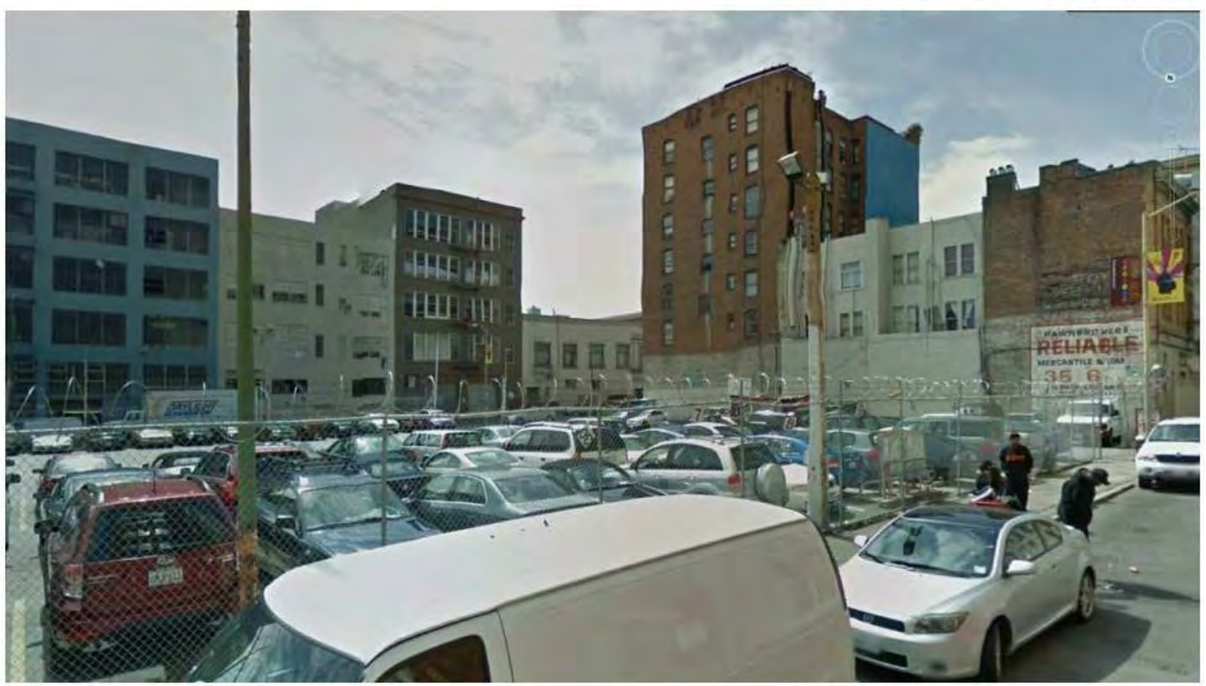
PHOTOGRAPHS OF PROPERTY
469 Stevenson
BUILD

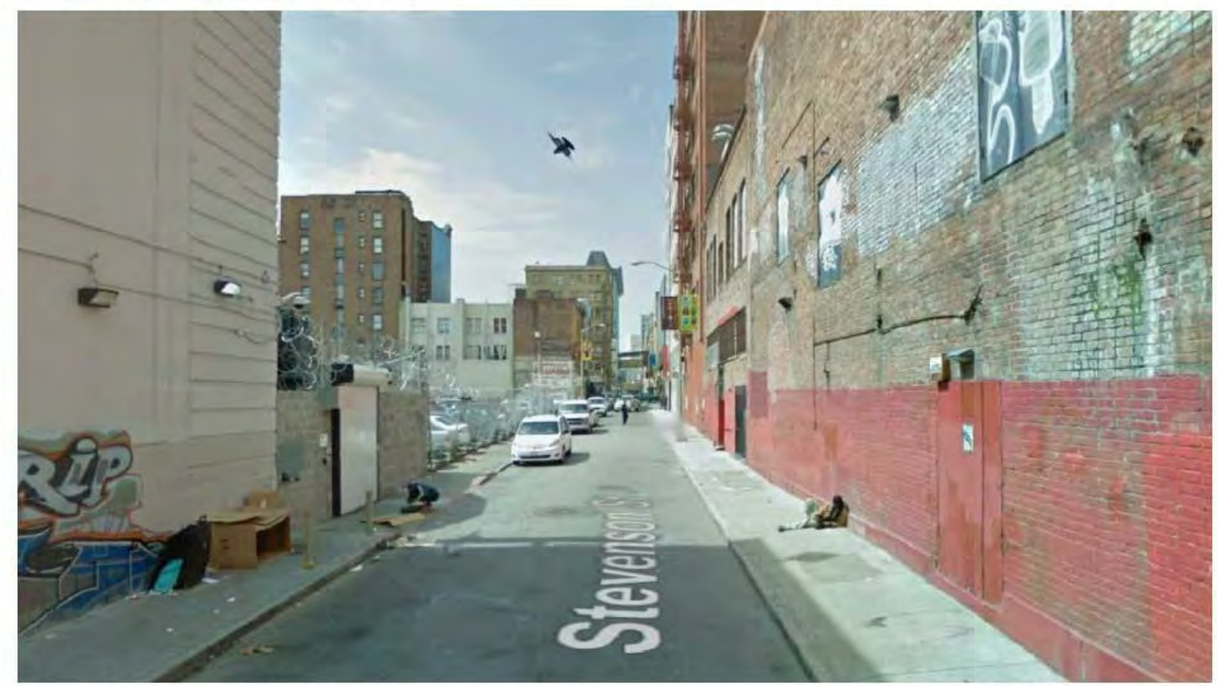
08/04/2022
2016056

VIEW F: STEVENSON ST

VIEW G: STEVENSON ST



VIEW H: STEVENSON ST



VIEW J: STEVENSON ST

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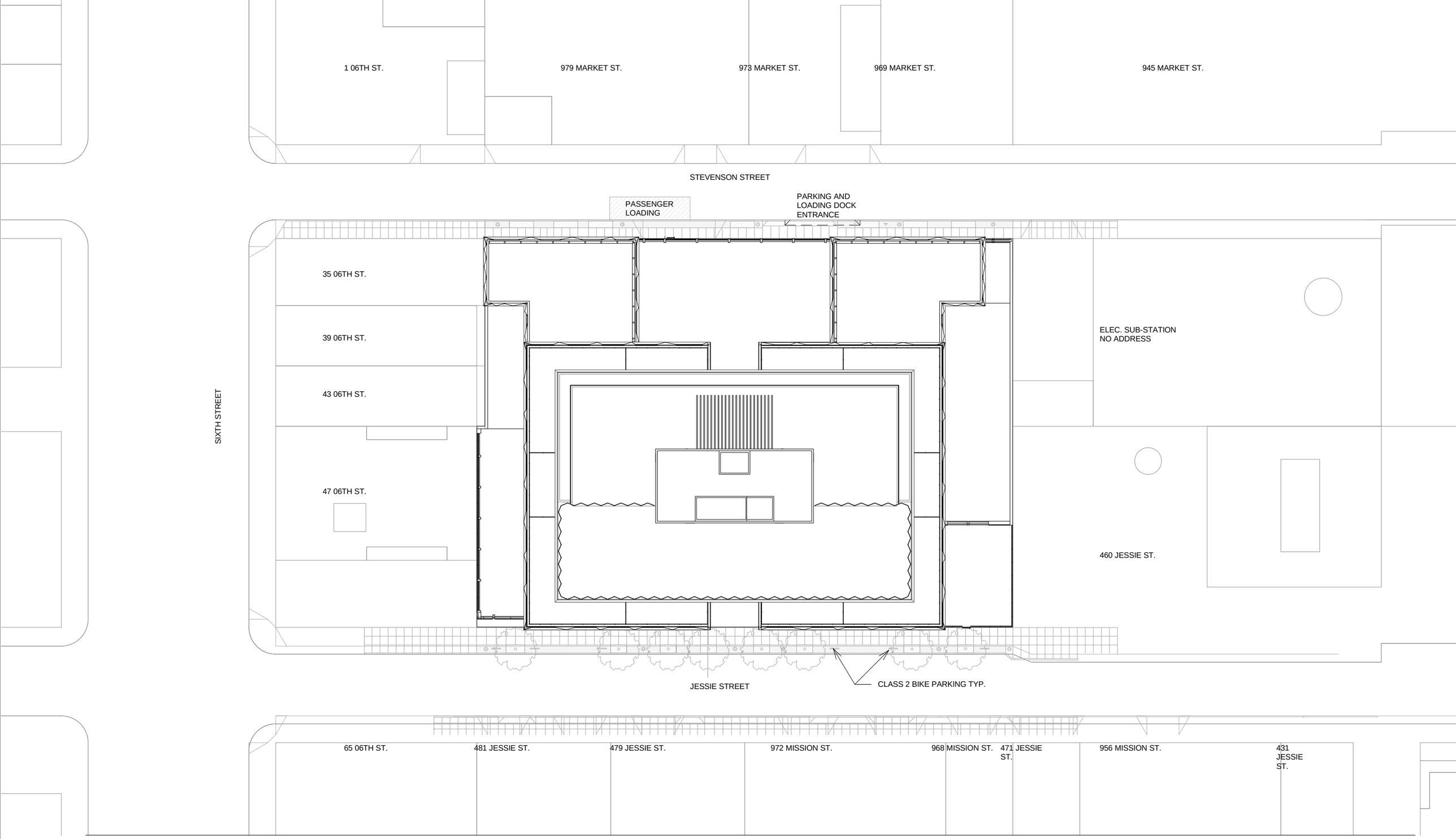
2.004



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PROPOSED SITE PLAN
469 Stevenson
BUILD

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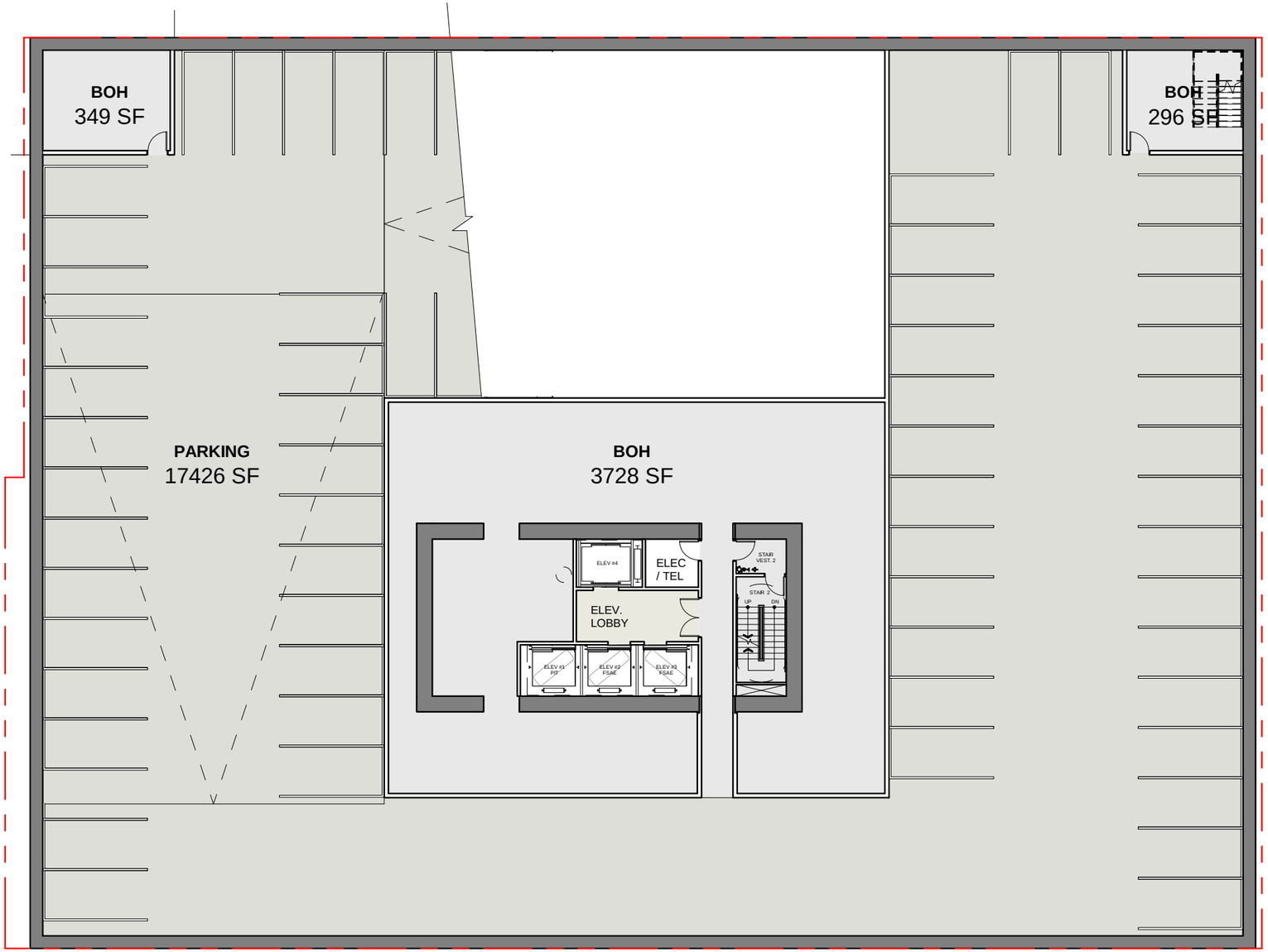
2016056

0 16 32

2.005



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BASEMENT 03 PLAN
469 Stevenson
BUILD

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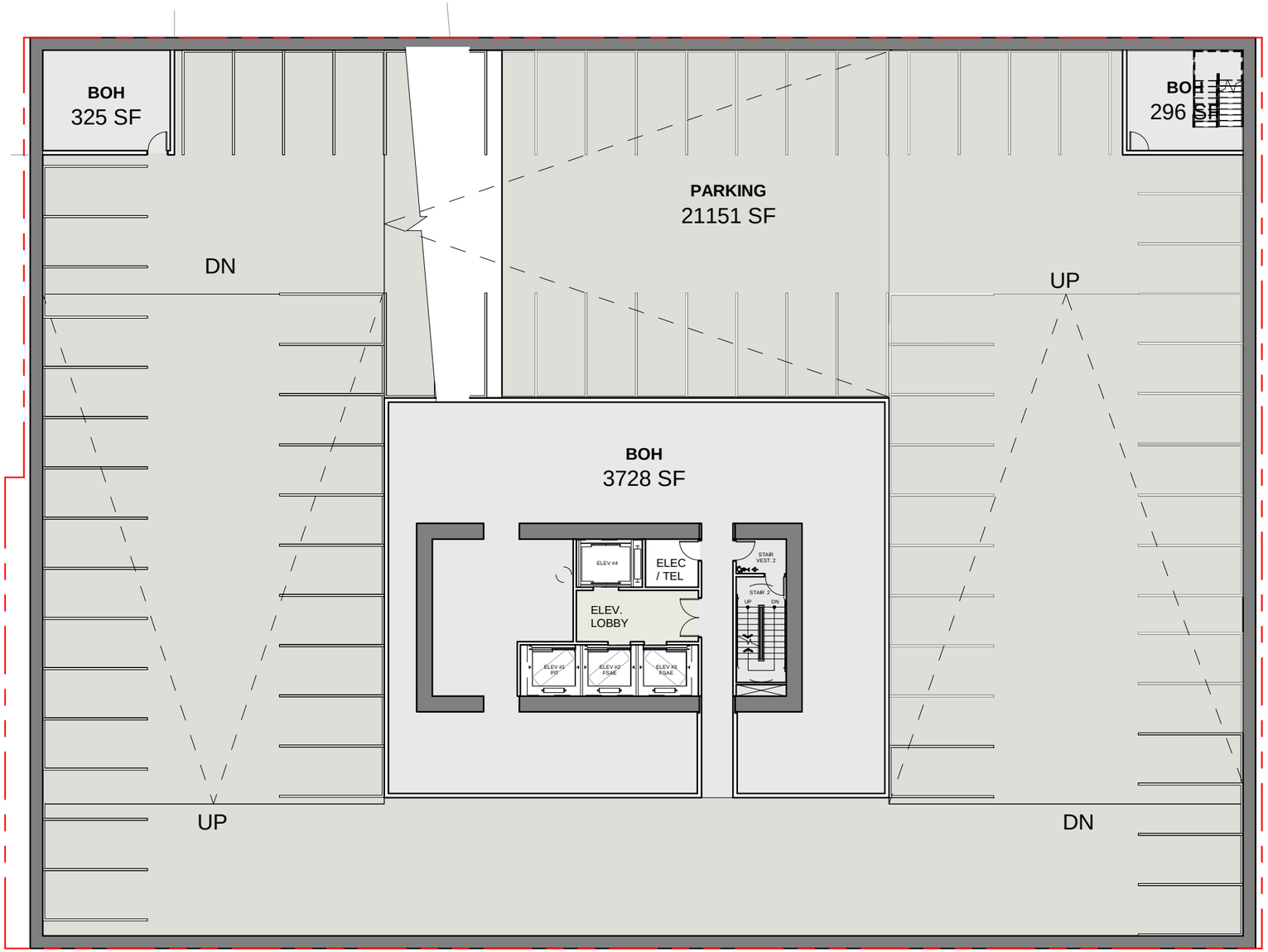
2016056

0 10 20

3.198



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BASEMENT 02 PLAN
469 Stevenson
BUILD

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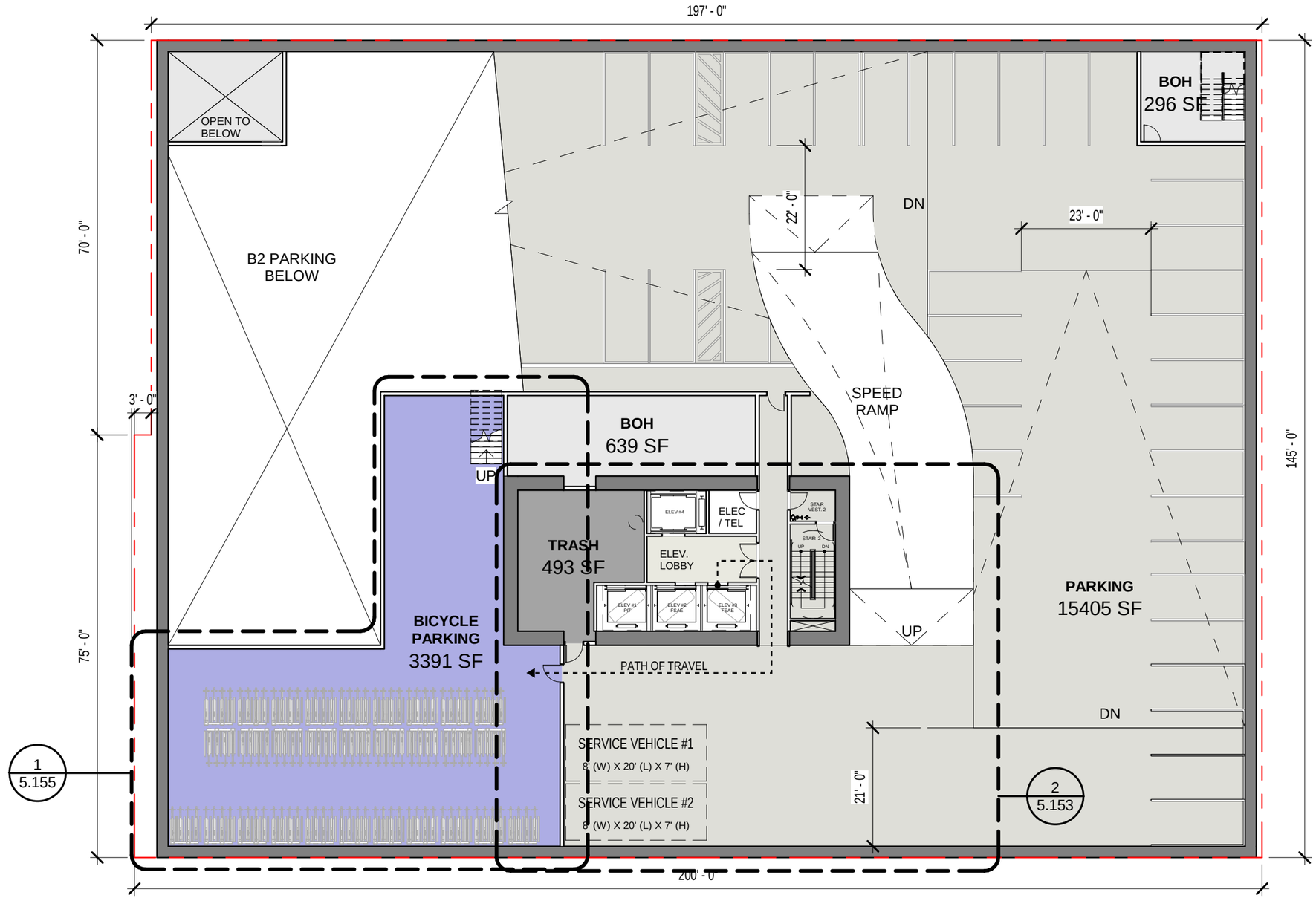
2016056

0 10 20

3.199



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BASEMENT 01 PLAN
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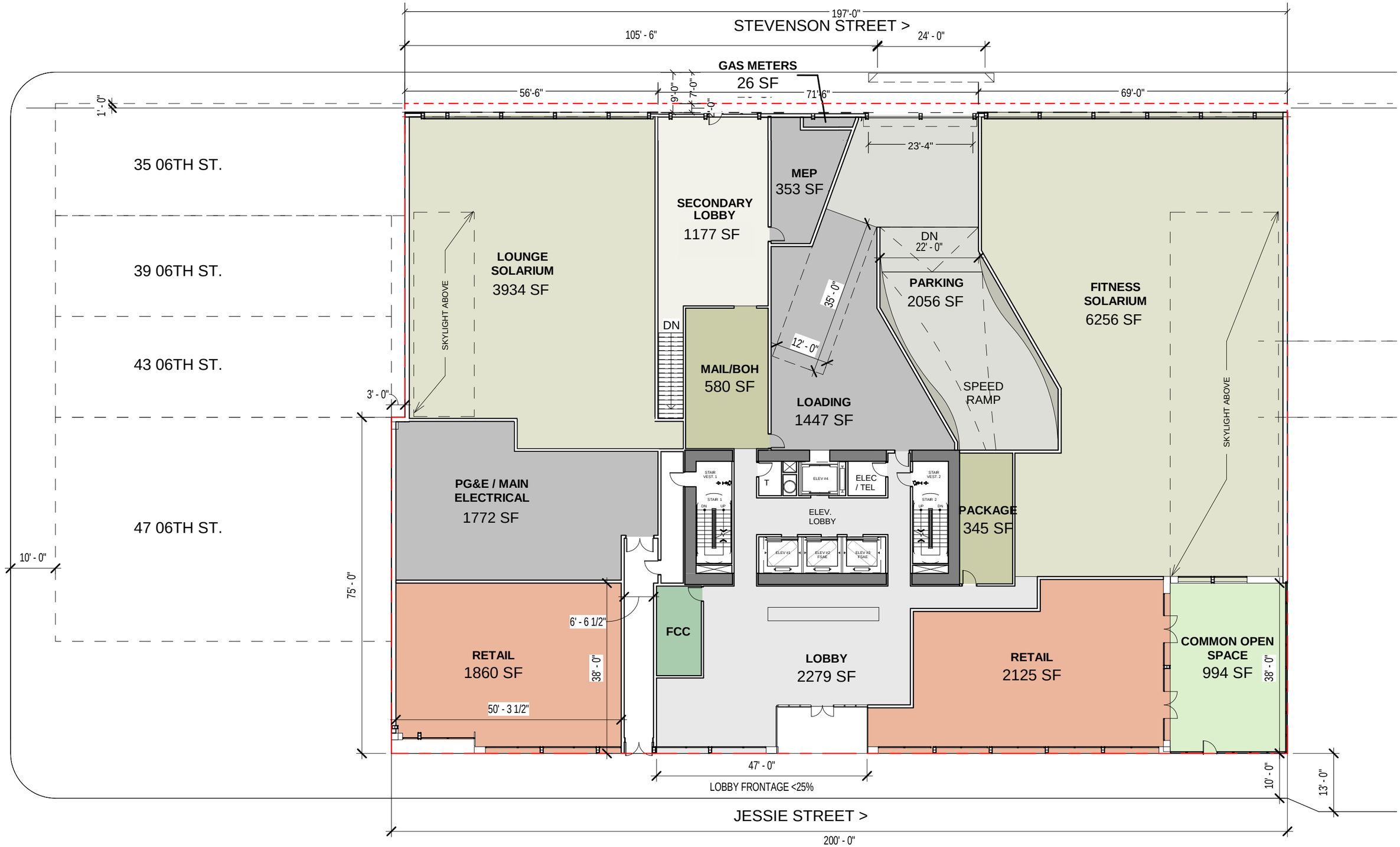
0 10 20

3.200



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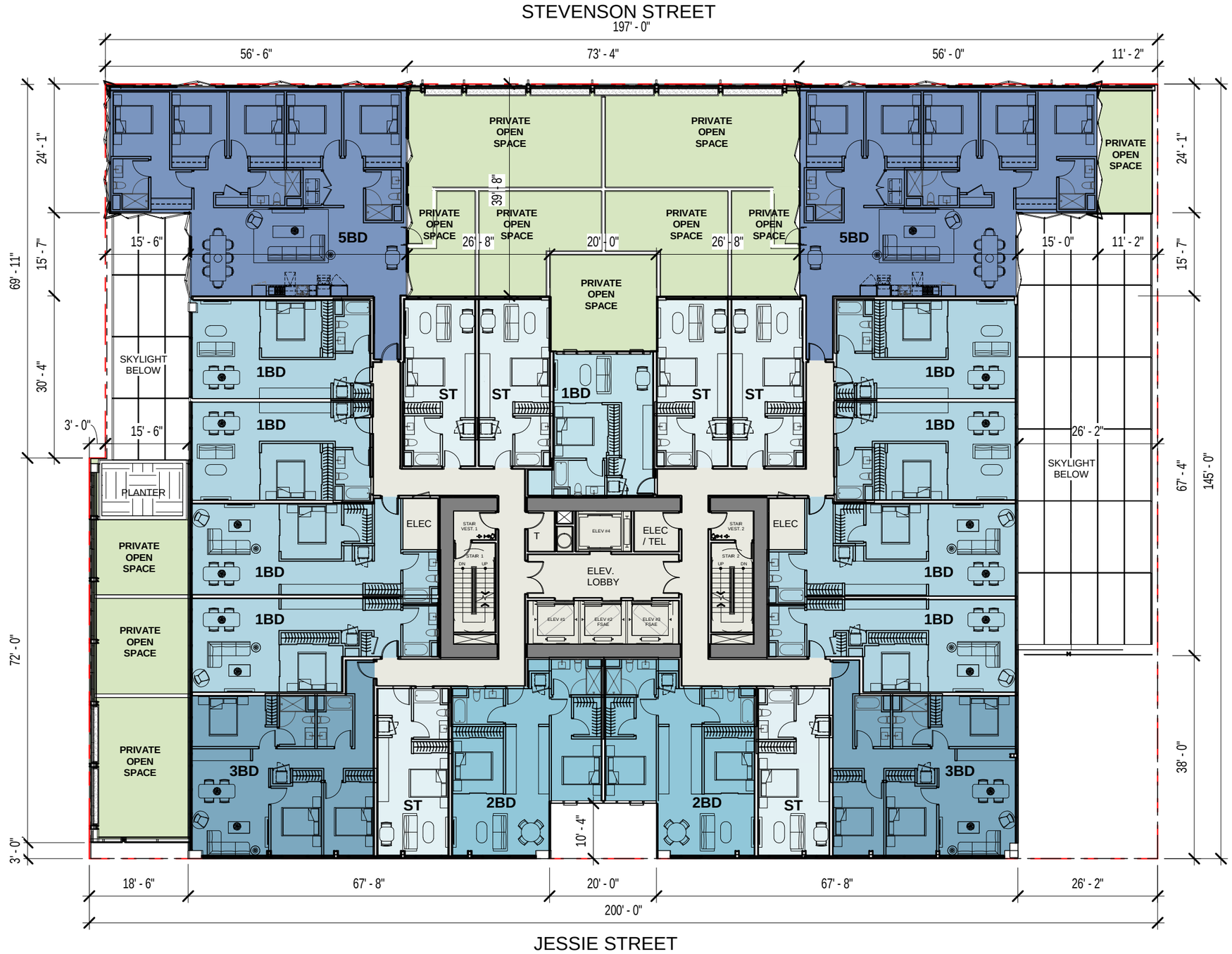
GROUND FLOOR PLAN
469 Stevenson
BUILD

08/04/2022
2016056

0 10 20

3.201



SIXTH STREET

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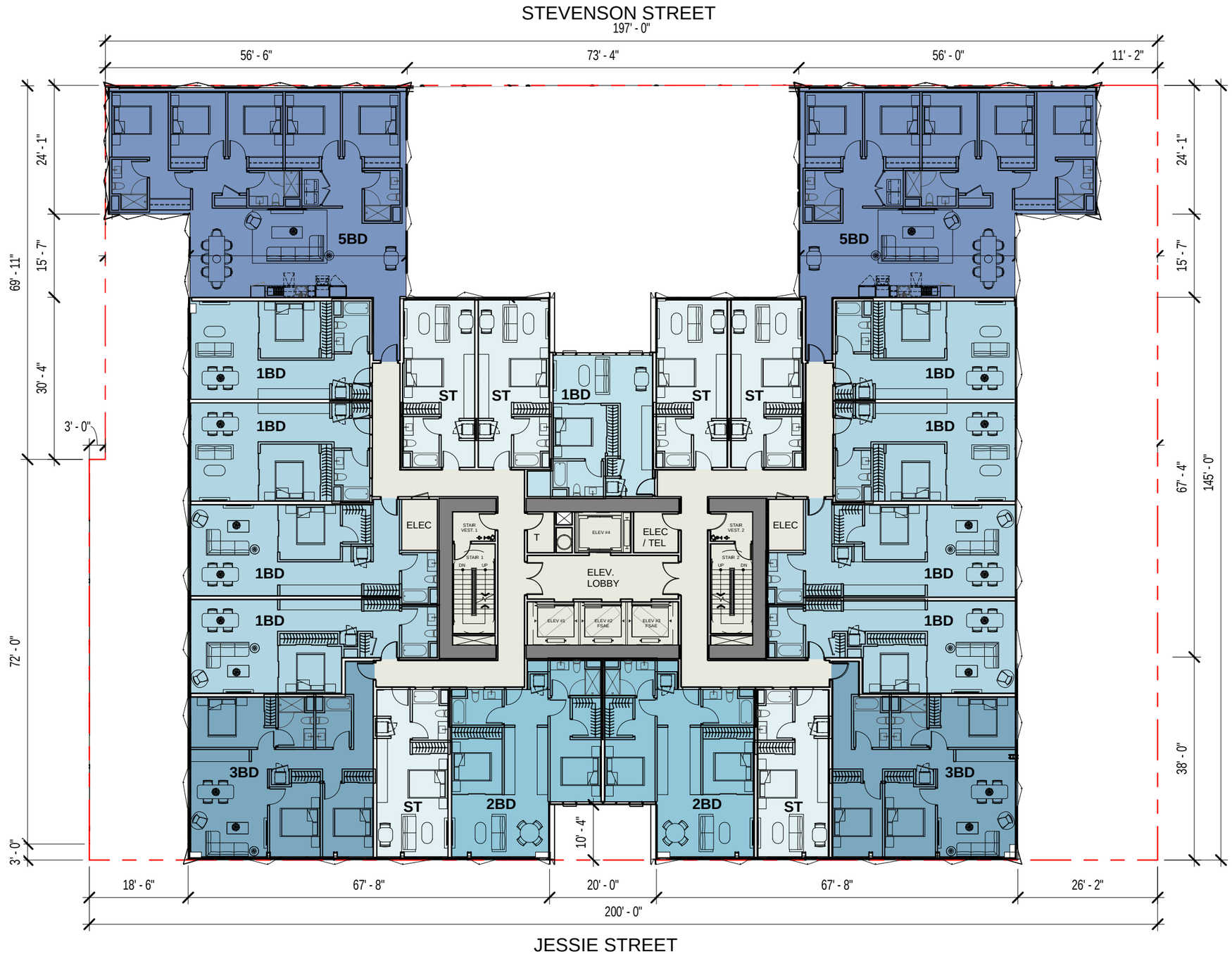
LEVEL 2 PLAN
469 Stevenson
BUILD

08/04/2022
2016056

0 10 20

3.202



SIXTH STREET

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LEVELS 3-5 PLAN
469 Stevenson
BUILD

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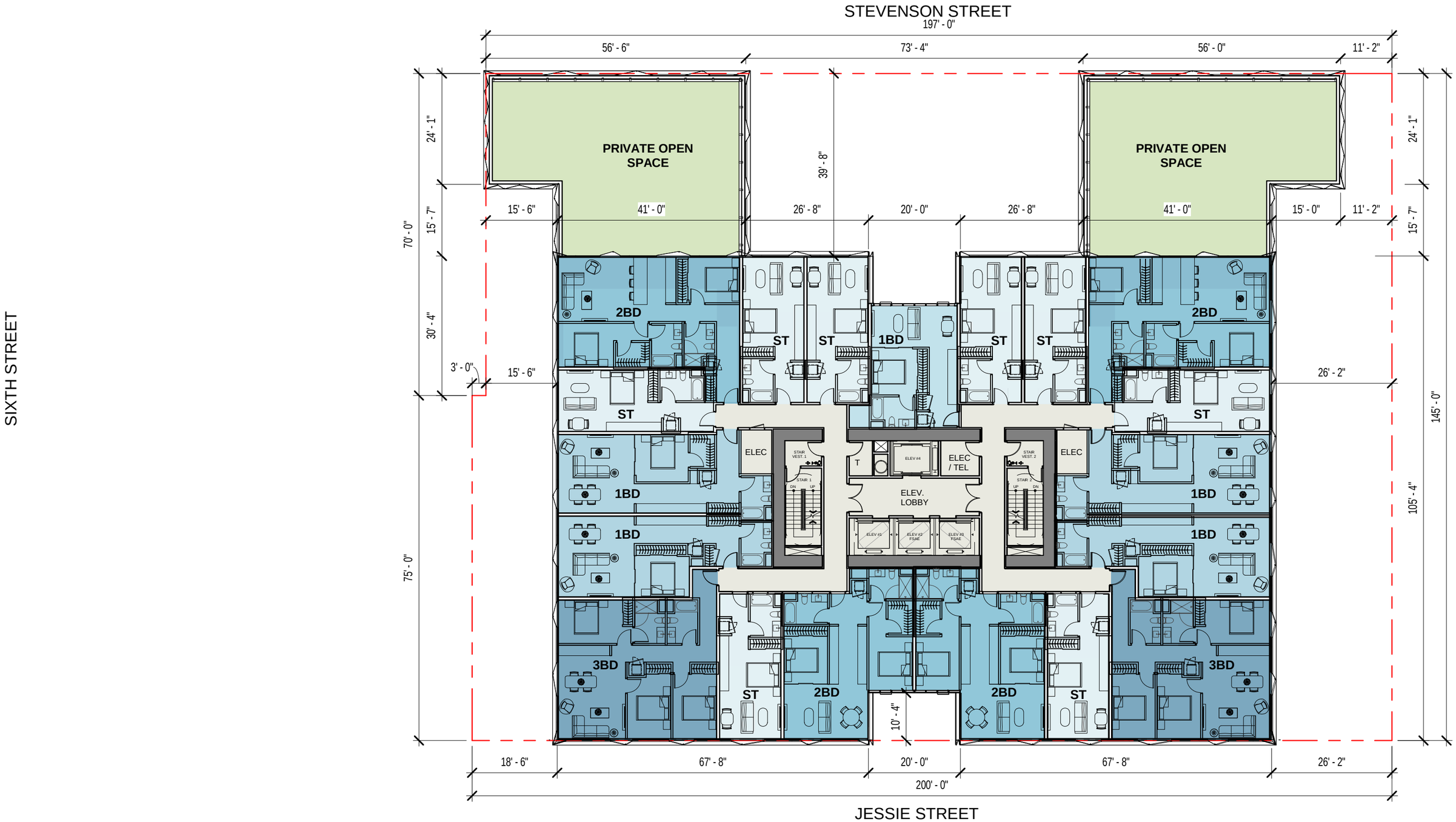
2016056

0 10 20

3.204



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LEVEL 6 PLAN
469 Stevenson
BUILD

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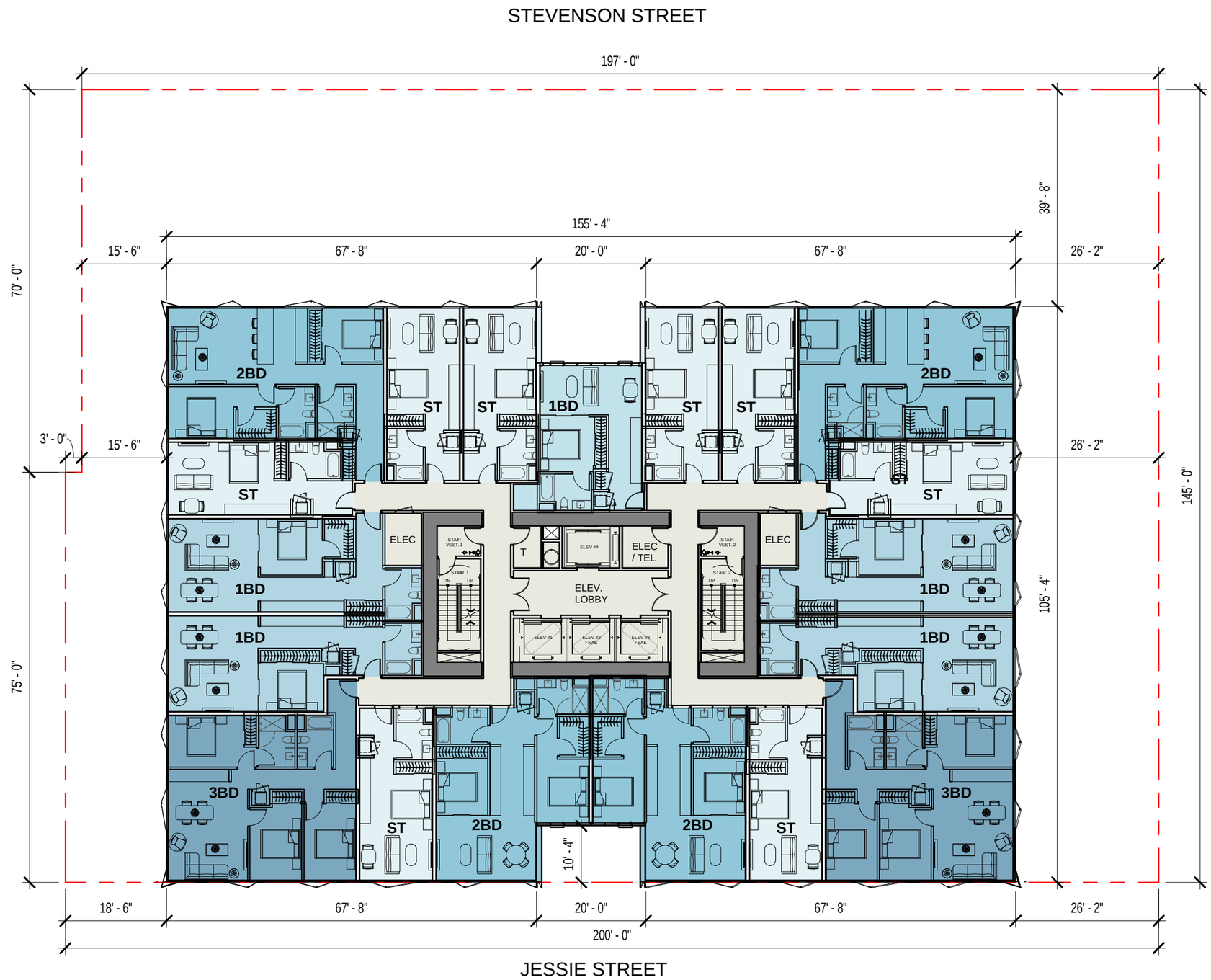
2016056

0 10 20

3.206



LEVELS 7-26 PLAN
469 Stevenson
BUILD

08/04/2022
2016056

0 10 20

3.212

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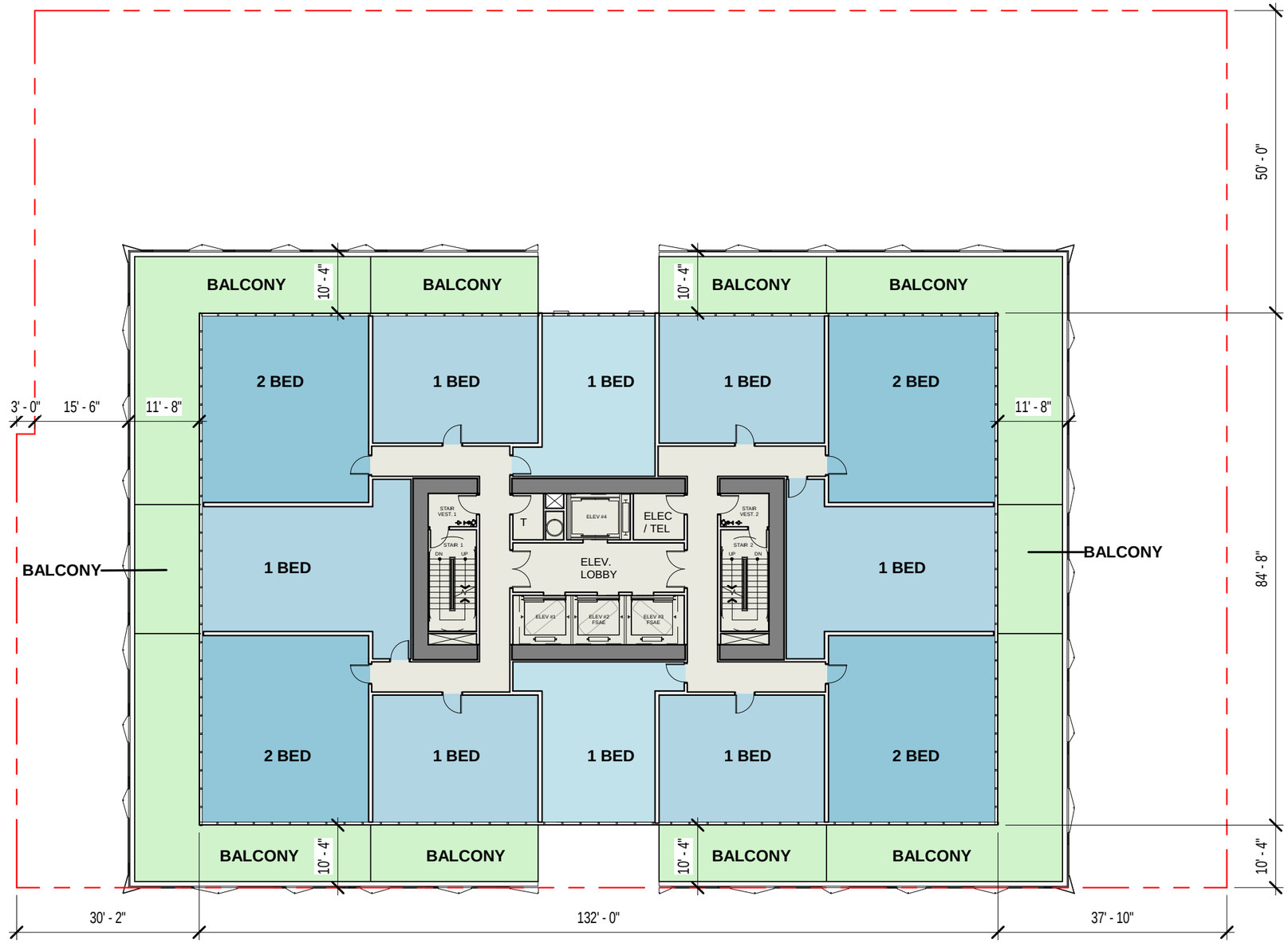
STEVENSON STREET



JESSIE STREET

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LEVEL 27 PLAN
469 Stevenson
BUILD

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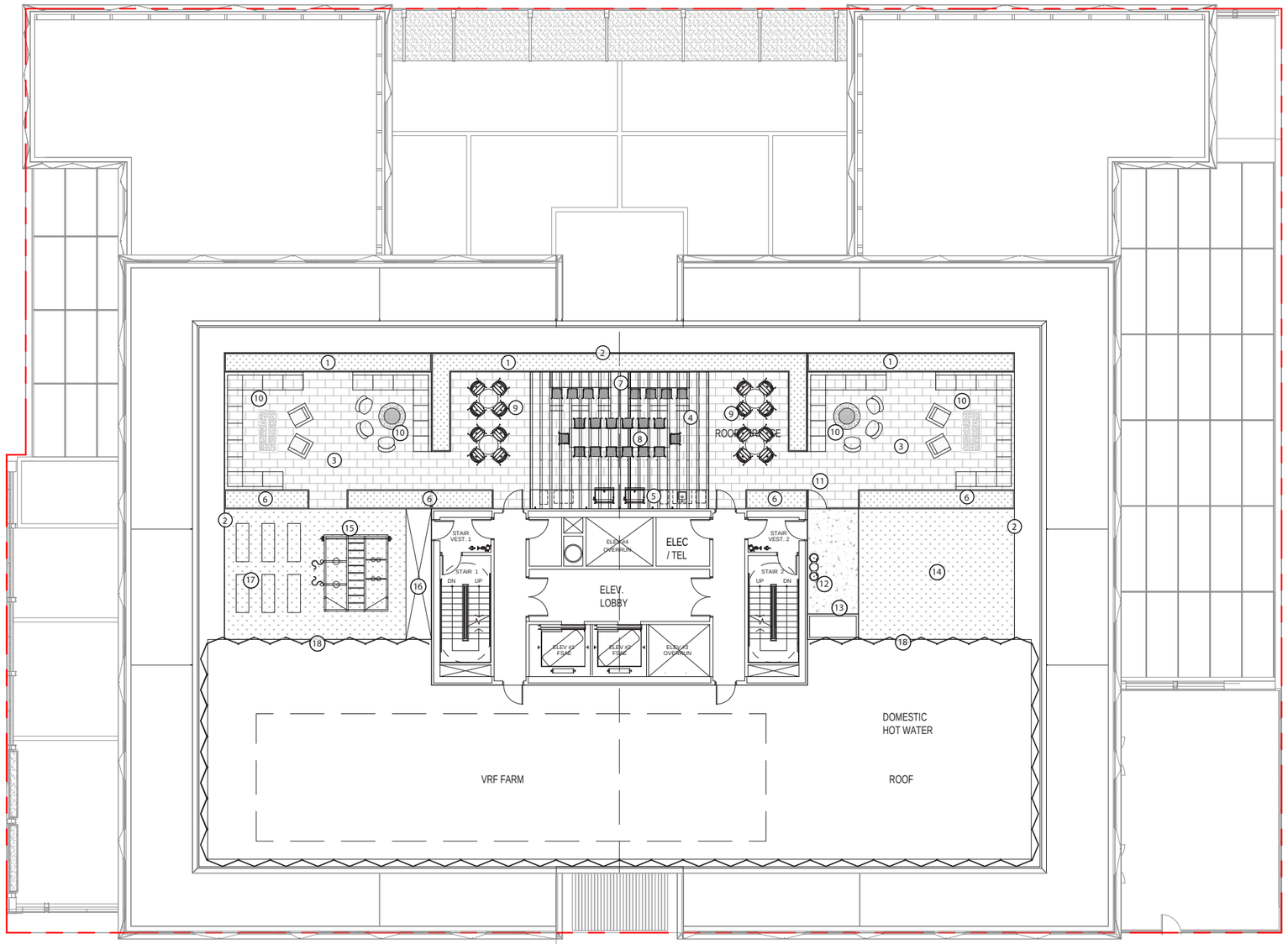
2016056

0 10 20

3.227



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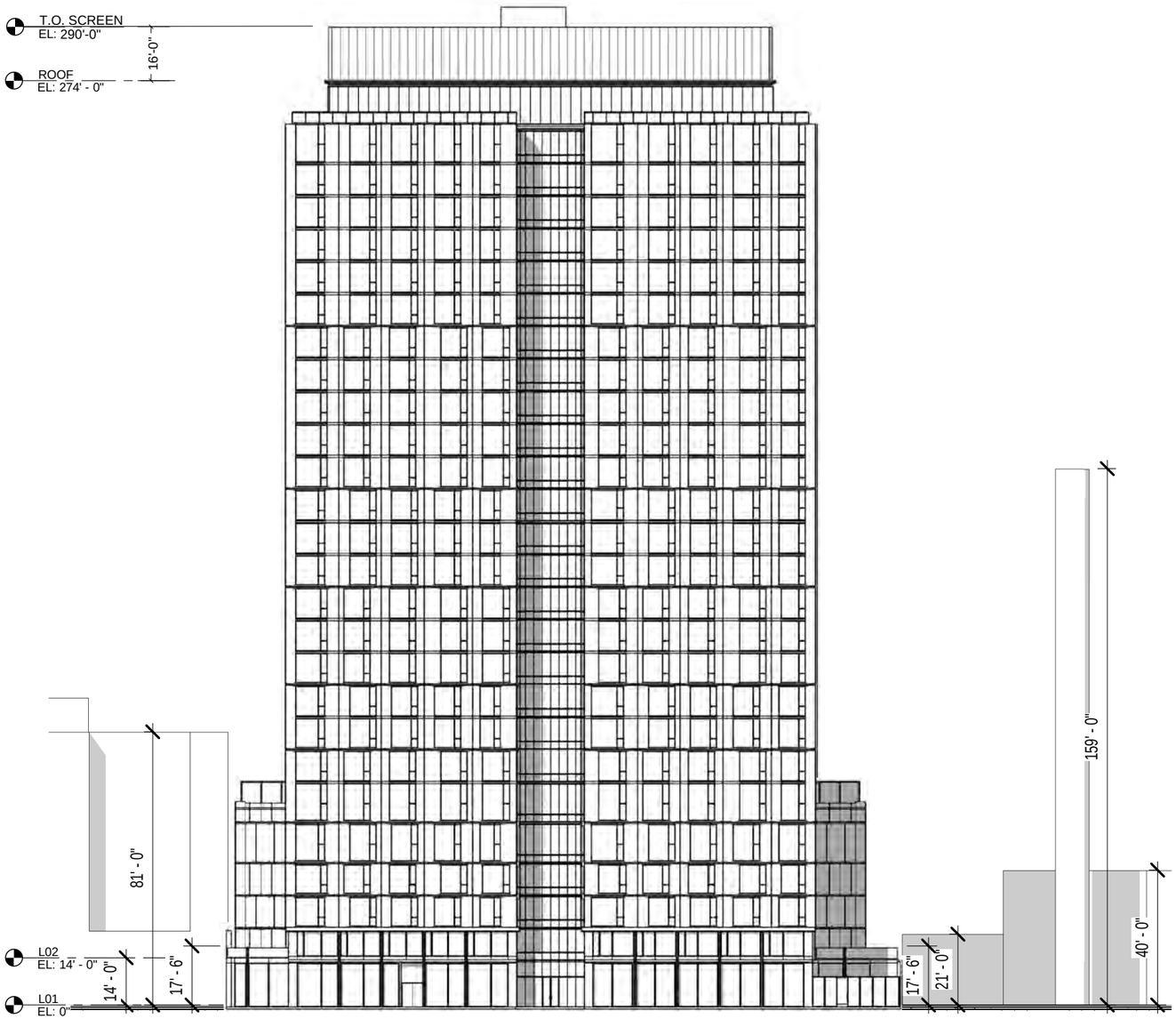
ROOF PLAN
469 Stevenson
BUILD

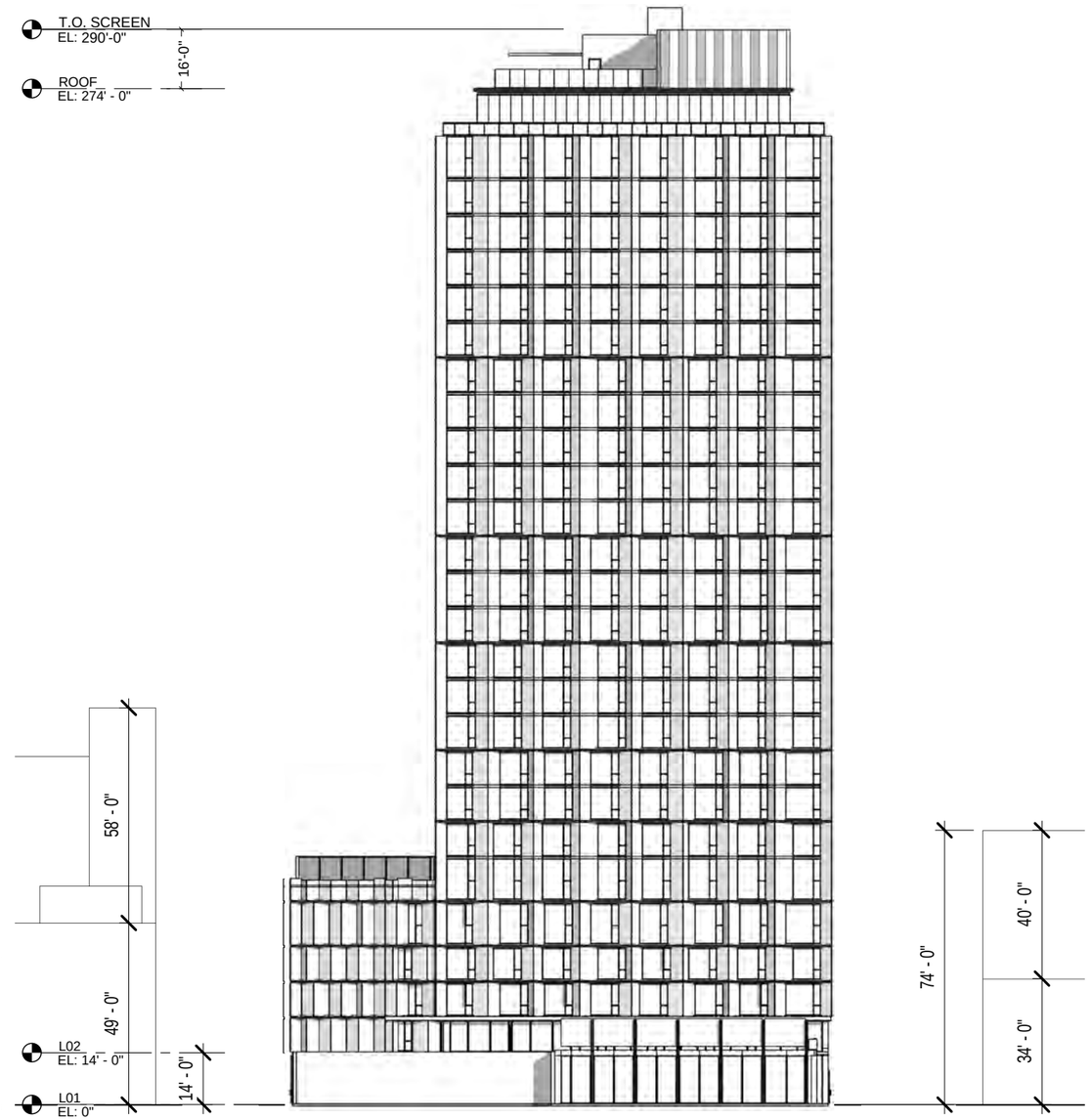
08/04/2022
2016056

0 10 20

3.230



SOUTH ELEVATION - JESSE STREET



WEST ELEVATION

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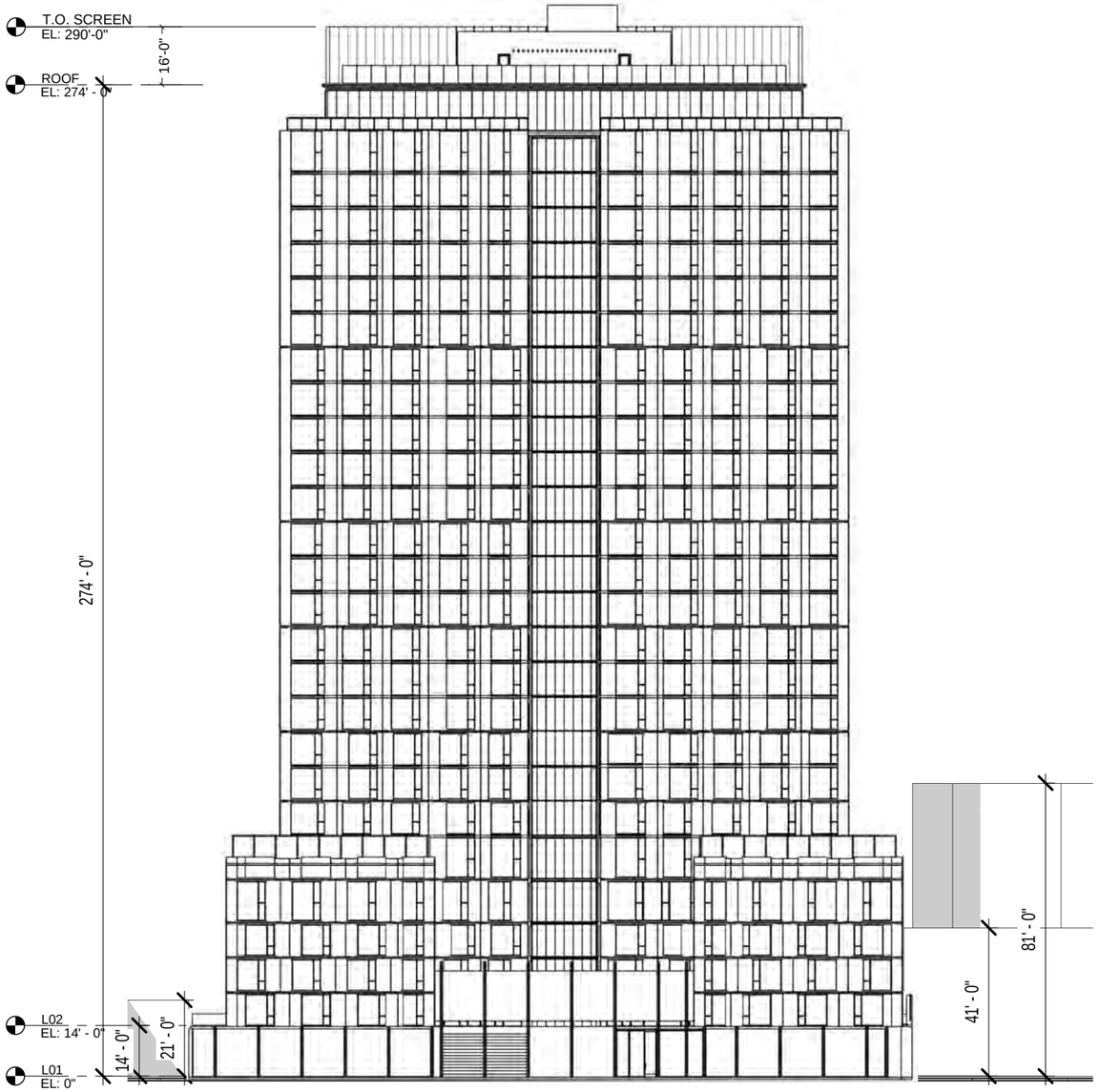
SOUTH & WEST ELEVATION
469 Stevenson
BUILD

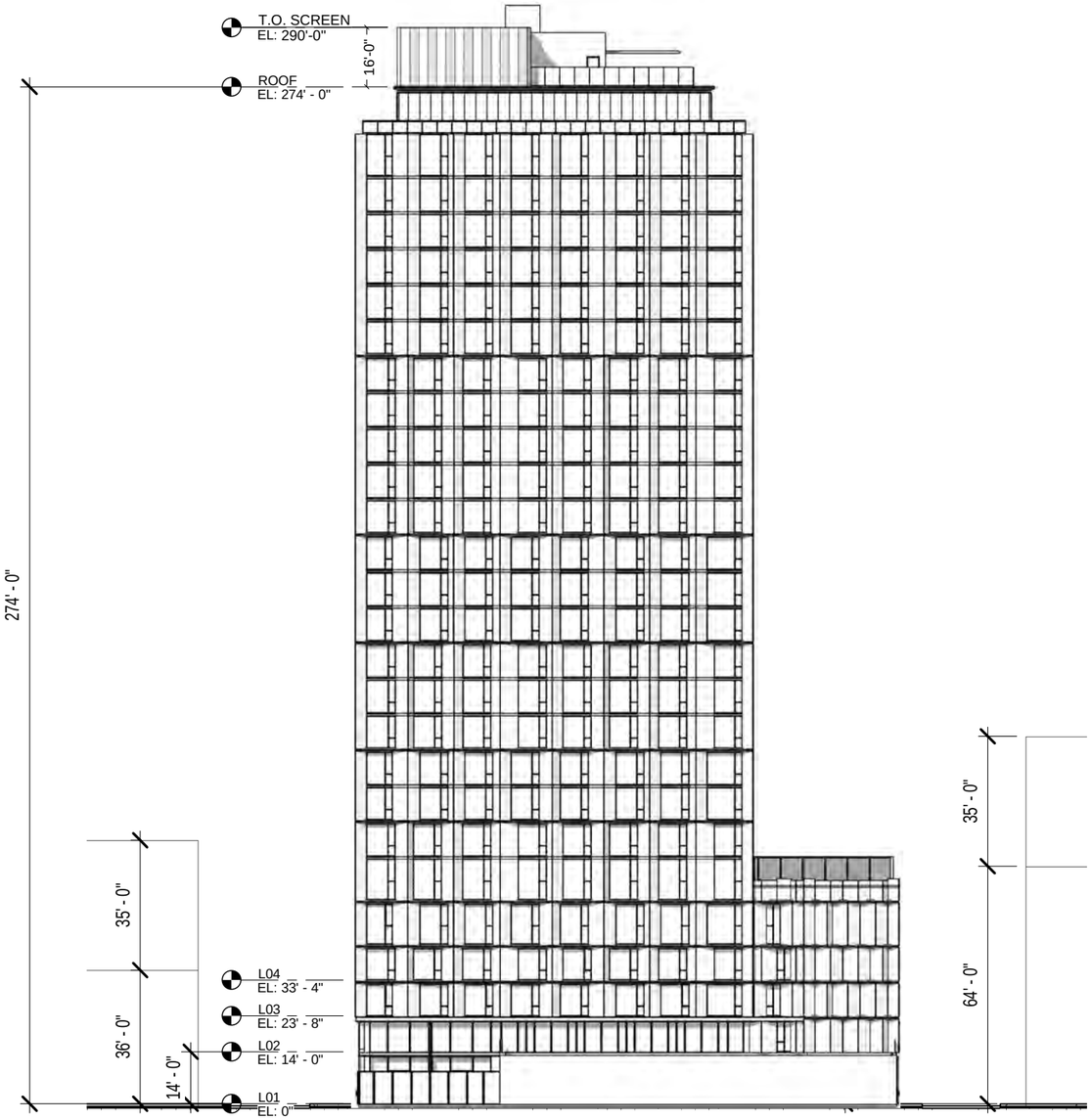
08/04/2022
2016056

0 20 40

3.301



NORTH ELEVATION - STEVENSON STREET



EAST ELEVATION

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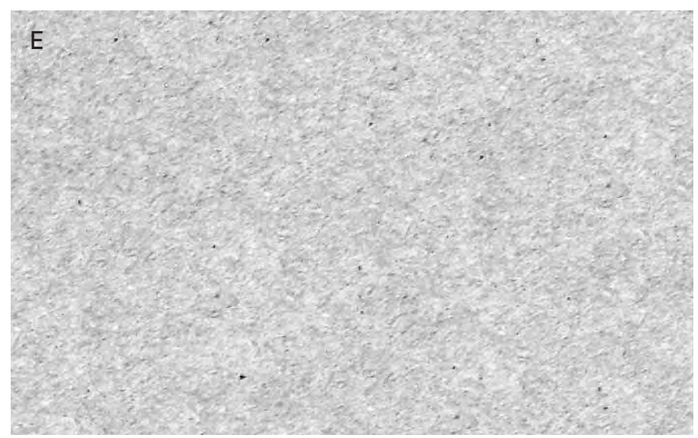
NORTH & EAST ELEVATION
469 Stevenson
BUILD

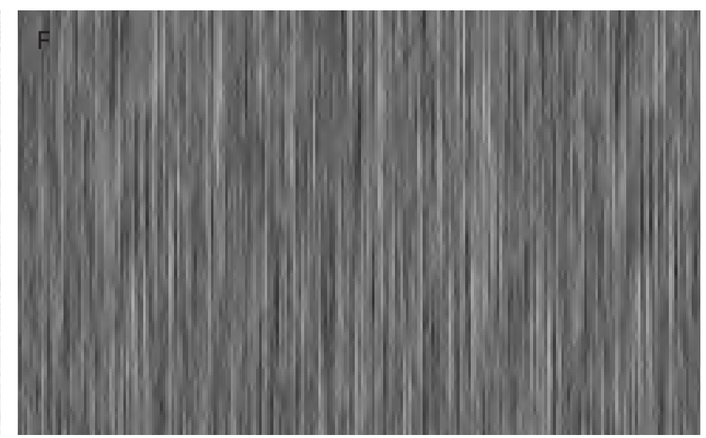
08/04/2022
2016056

0 20 40

3.302

PROPOSED MATERIALS
A - PAINTED METAL
B - GLASS
C - METAL
D - PAINTED METAL
E - REINFORCED CONCRETE PANEL
F - PAINTED METAL





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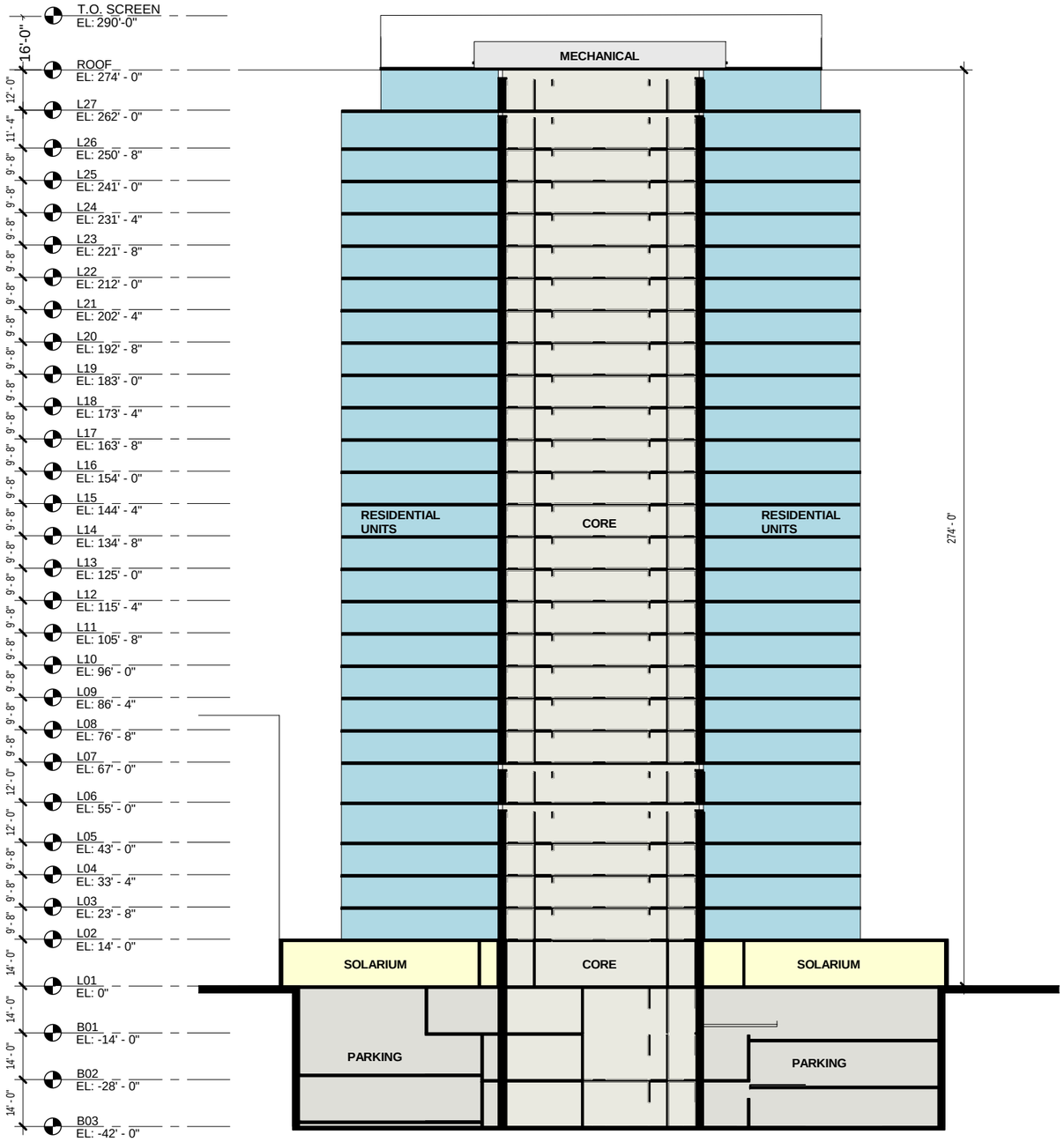
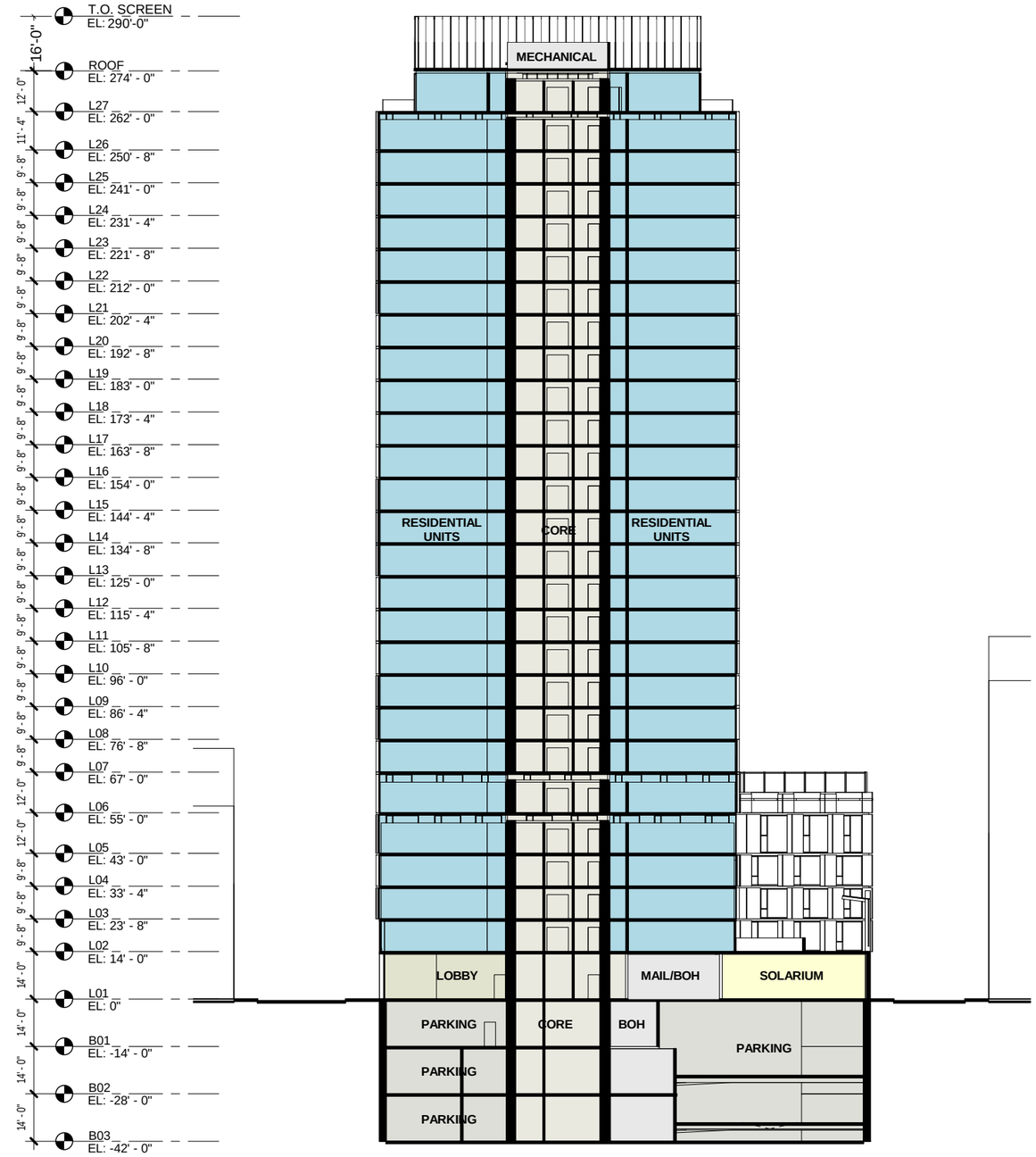
EXTERIOR MATERIAL PALETTE
469 Stevenson
BUILD

08/04/2022
2016056

3.321





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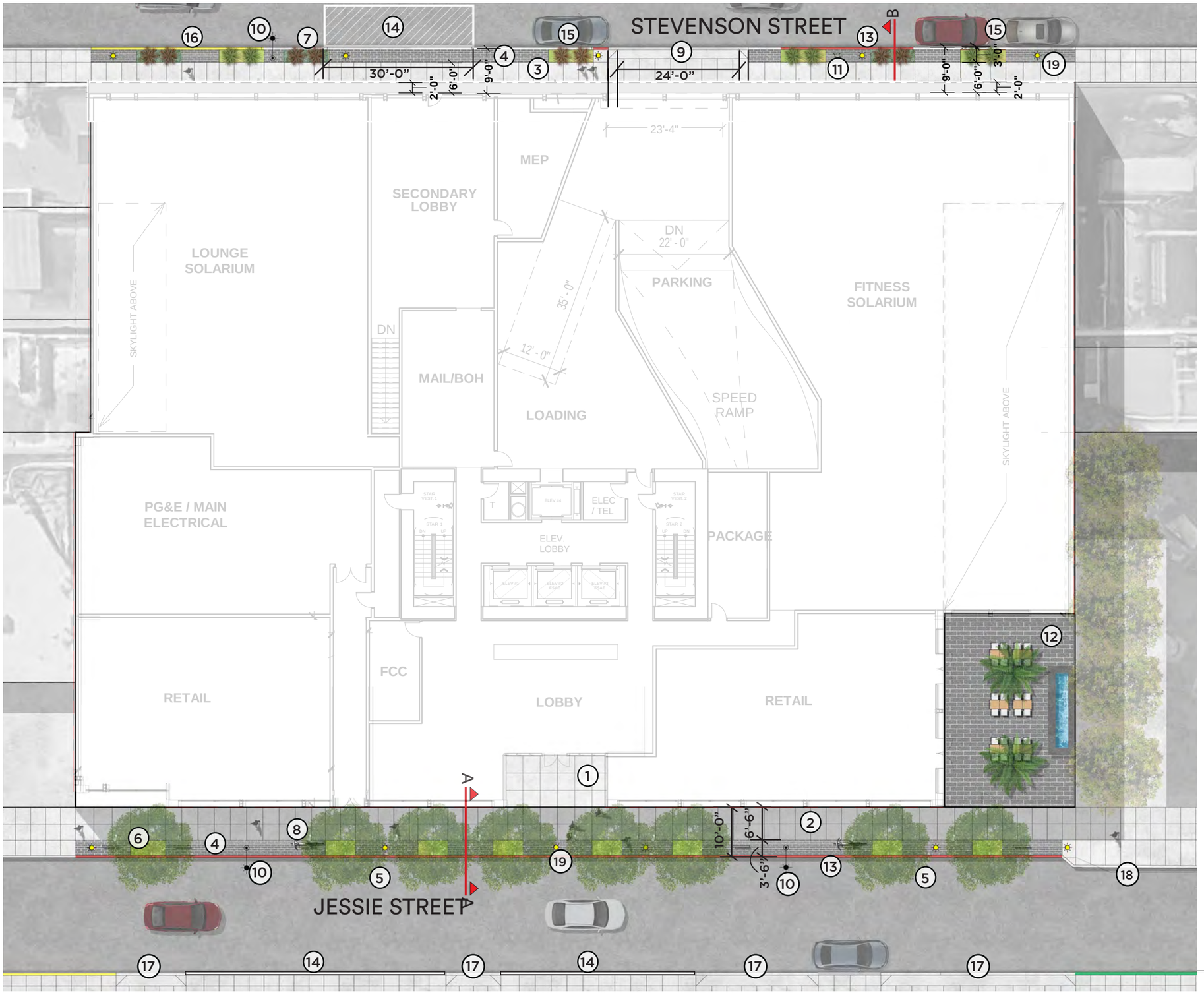
BUILDING SECTION
469 Stevenson
BUILD

08/04/2022
2016056

0 20 40

3.401



LEGEND

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

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LANDSCAPE GROUND FLOOR PLAN
469 Stevenson
BUILD

08/04/2022
2016056

0 10 20

3.701

LEGEND

1. Private Patio w/ Pedestal Pavers
2. 18’-0” high Green Screen
3. Skylight
4. Raised Planter
5. Movable Furniture
6. Planter pots

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LANDSCAPE LEVEL 2 PLAN
469 Stevenson
BUILD

08/04/2022
2016056

0 10 20

3.702

LEGEND

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

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LANDSCAPE LEVEL 6 PLAN
469 Stevenson
BUILD

08/04/2022
2016056

0 10 20

3.703

LEGEND

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

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LANDSCAPE LEVEL 27 PLAN
469 Stevenson
BUILD

08/04/2022
2016056

0 10 20

3.704

LEGEND

1. Raised Planter w/ Succulents/Grasses
2. 6'-0" High Glass Wall Enclosure
3. Pedestal Pavers
4. Trellis w/ Overhead Lights and Heaters
5. Outdoor Kitchen Counter w/ Barbeque Grills, Sink, Ice Maker, Refrigerator, Trash and Recycle Bins
6. Raised Planters
7. Bar Counter w/ Stools
8. Community Table and Chairs
9. Cafe Tables and Chairs
10. Gathering area w/ Seating and Fire pit
11. Access Gate to Dog Run Area
12. Dog Drinking Fountain
13. Dog Wash Station
14. Artificial Turf Dog Run Area
15. Outdoor Fitness Area w/ Artificial Turf
16. Storage for Fitness Area
17. Flexible Space for Yoga and Stretching
18. Architect's Mechanical Enclosure

4' 24'
0 12'
SCALE: 3/32" = 1'-0"

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LANDSCAPE ROOF PLAN
469 Stevenson
BUILD

08/04/2022
2016056

PLANTS PALETTE

STREET

GINKGO BILOBA
MAIDENHAIR TREE

AGAVE 'BLUE GLOW'
'BLUE GLOW' AGAVE

LIBERTIA PEREGRINANS
ORANGE LIBERTIA

PHORMIUM 'MAORI SUNRISE'
NEW ZEALAND FLAX

SENECIO MANDRALISCAE
BLUE CHALKSTICK

GROUND & PODIUM LEVEL COURTYARD

ACER PALMATUM 'SANGO KAKU'
CORAL BARK JAPANESE MAPLE

AZARA MICROPHYLLA
BOX - LEAF AZARA

CAREX SPP.
SEDGE

CHONDROPETALUM TECTORUM
SMALL CAPE RUSH

ERIGONUM UMBELLATUM
SULPHUR FLOWER BUCKWHEAT

FESTUCA CALIFORNICA 'SERPENTINE BLUE'
CALIFORNIA FESCUE

LAMIUM MACULATUM
DEAD NETTLE

LOTUS BERTHELOTII
PARROT'S BEAK

POLYSTICHUM MUNITUM
SWORD FERN

TEUCRIUM FRUTICANS 'COMPACTUM'
BUSH GERMANDER

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LANDSCAPE MATERIAL & PLANTING
469 Stevenson
BUILD

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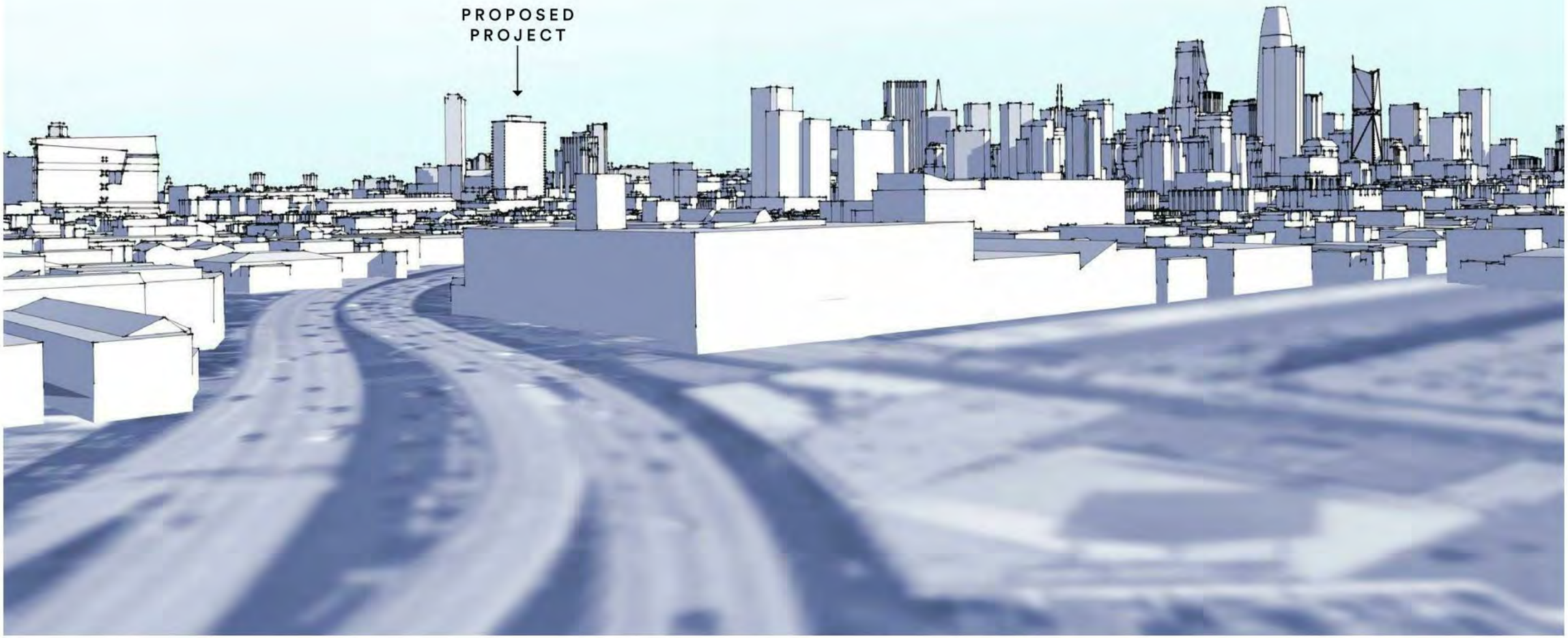

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VIEW FROM I-80, 8TH AND BRANNAN
469 Stevenson
BUILD

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2016056

4.101

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VIEW LOOKING EAST OVER MARKET ST
469 Stevenson
BUILD

08/04/2022
2016056

4.102

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VIEW LOOKING EAST FROM JESSIE AND SIXTH ST
469 Stevenson
BUILD

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2016056

4.201

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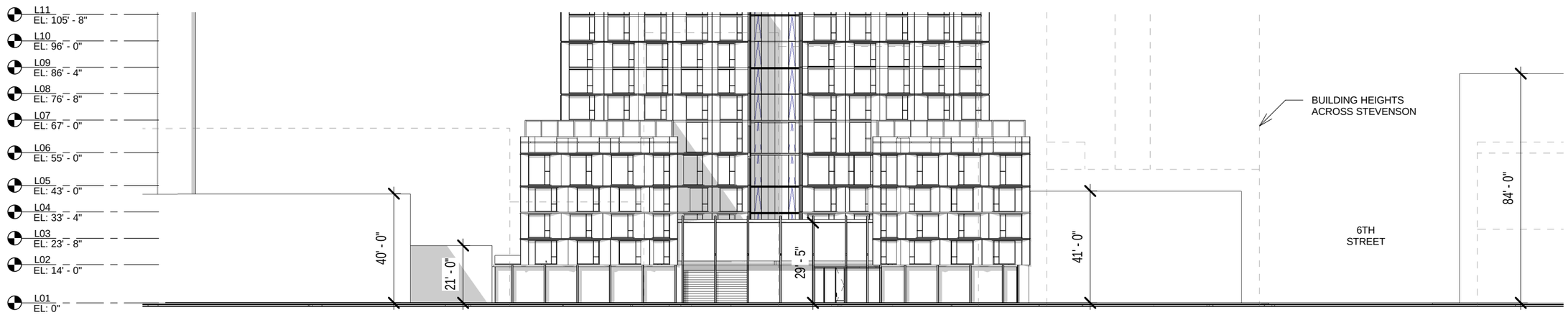
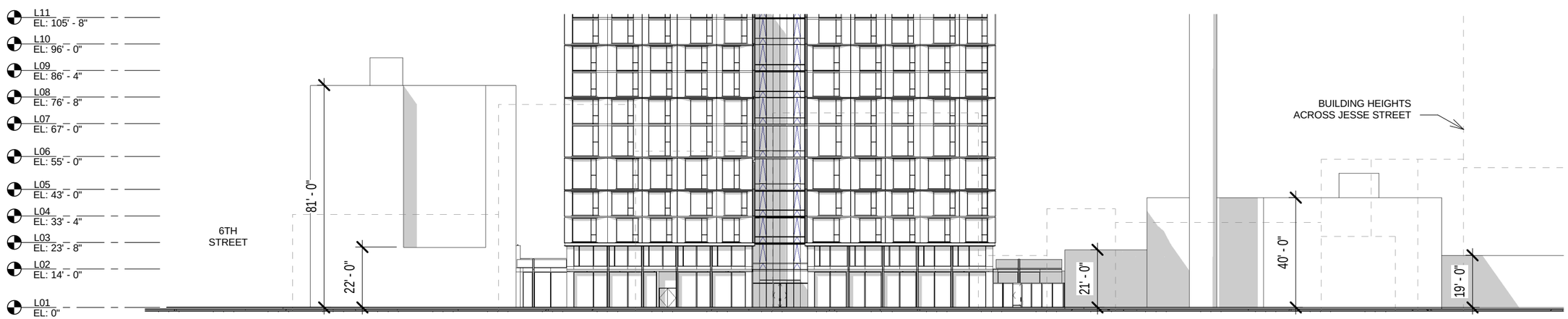
VIEW LOOKING WEST FROM STEVENSON ST
469 Stevenson
BUILD

08/04/2022
2016056

4.202



NORTH ELEVATION - STEVENSON STREETWALL



SOUTH ELEVATION - JESSE STREETWALL

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STREETWALL ELEVATIONS
469 Stevenson
BUILD

08/04/2022
2016056

0 20 40

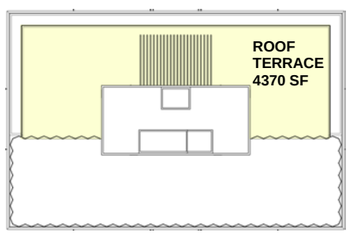
5.132

SEC. 135, Table 135A

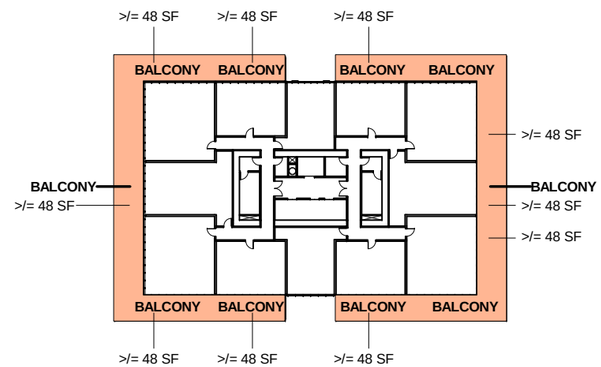
36 SF of usable open space required for each dwelling unit if all private
1.33 ratio of common usable open space that may be substituted for private

SEC. 135.G.3
Use of Solariums. The area of a totally or partially enclosed solarium may be credited as common usable open space if the space is not less than 15 feet in every horizontal dimension and 300 square feet in area; and if such area is exposed to the sun through openings or clear glazing on not less than 30 percent of its perimeter and 30 percent of its overhead area.

ROOF
4370 GSF TOTAL



LEVEL 27
4,774 GSF TOTAL



OPEN SPACE SUMMARY

495 TOTAL UNITS
495 - 22 UNITS W/ BALCONIES = 473 UNITS

COMMON OPEN SPACE REQUIRED

473 UNITS X 36 SF/UNIT X 1.33= **22,647 SF**

COMMON OPEN SPACE PROVIDED

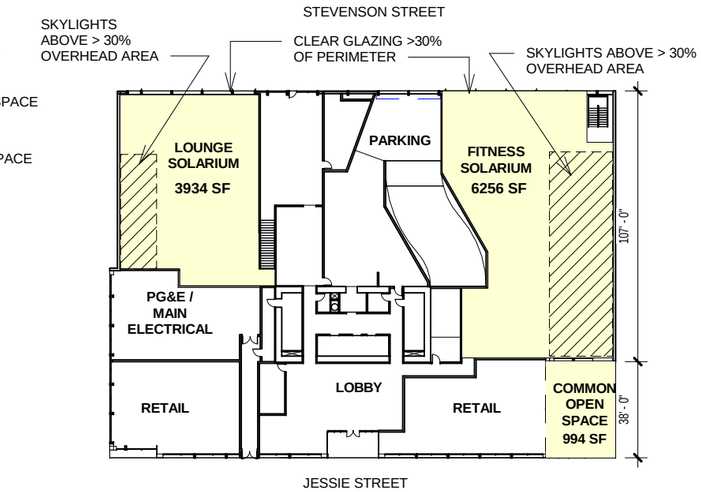
LEVEL 1	994 SF
LEVEL 1 SOLARIUM	10,190 SF
ROOF TERRACE	4,370 SF
TOTAL COMMON OPEN SPACE PROVIDED	**15,554 SF**

PRIVATE OPEN SPACE PROVIDED

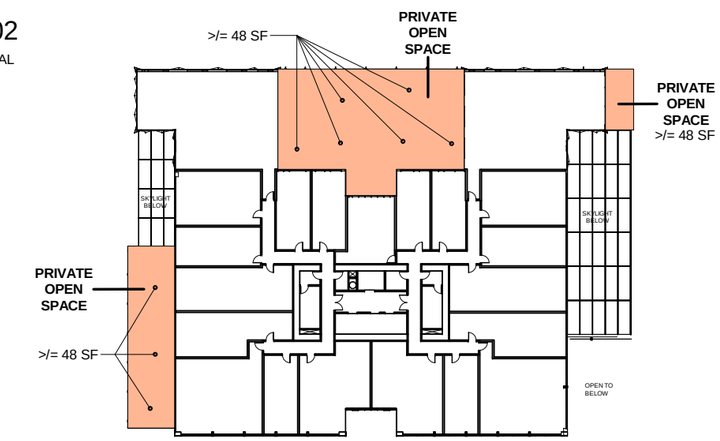
LEVEL 2	4,727 SF
LEVEL 6	3,883 SF
LEVEL 27	4,774 SF
TOTAL PRIVATE OPEN SPACE	**13,384 SF**

LEVEL 01

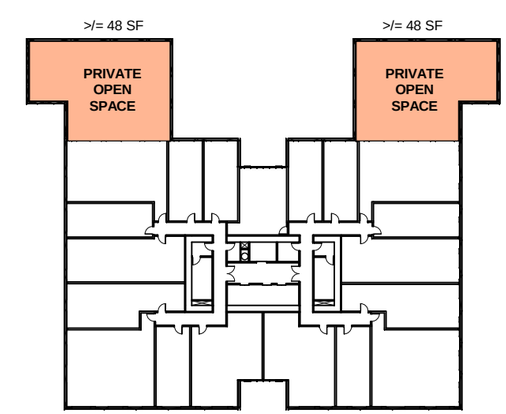
COMMON OPEN SPACE
PRIVATE OPEN SPACE



LEVEL 02
4,727 GSF TOTAL



LEVEL 06
3,883 GSF TOTAL



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OPEN SPACE PLAN
469 Stevenson
BUILD

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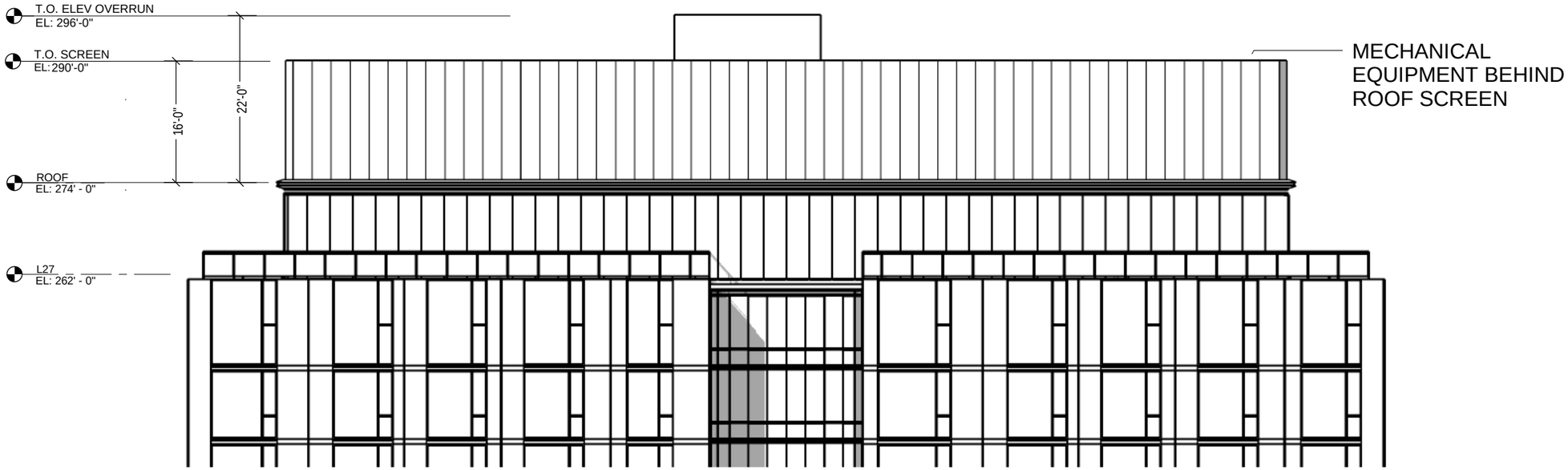
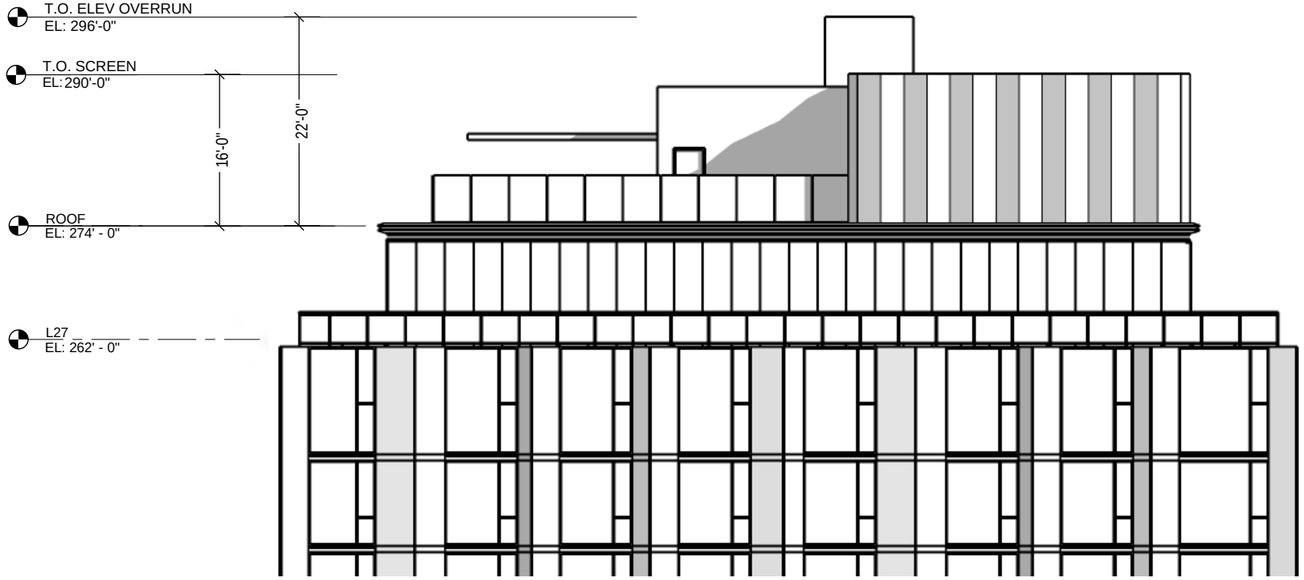
0 30 60

5.133



SOUTH ELEVATION



WEST ELEVATION

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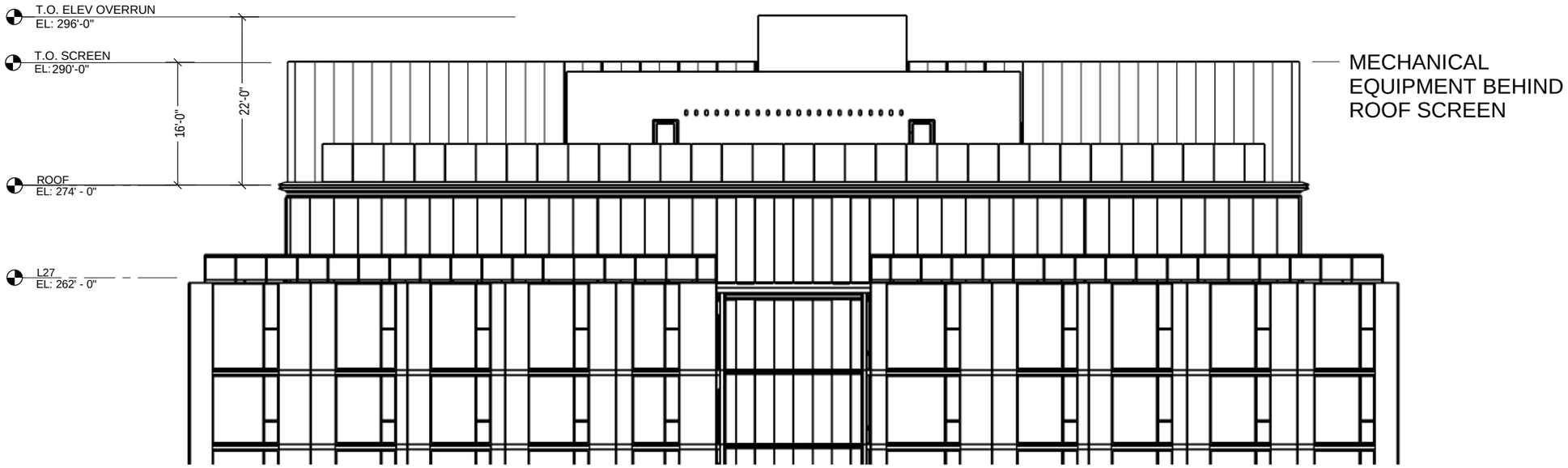
ROOFTOP FEATURES SCREENING
469 Stevenson
BUILD

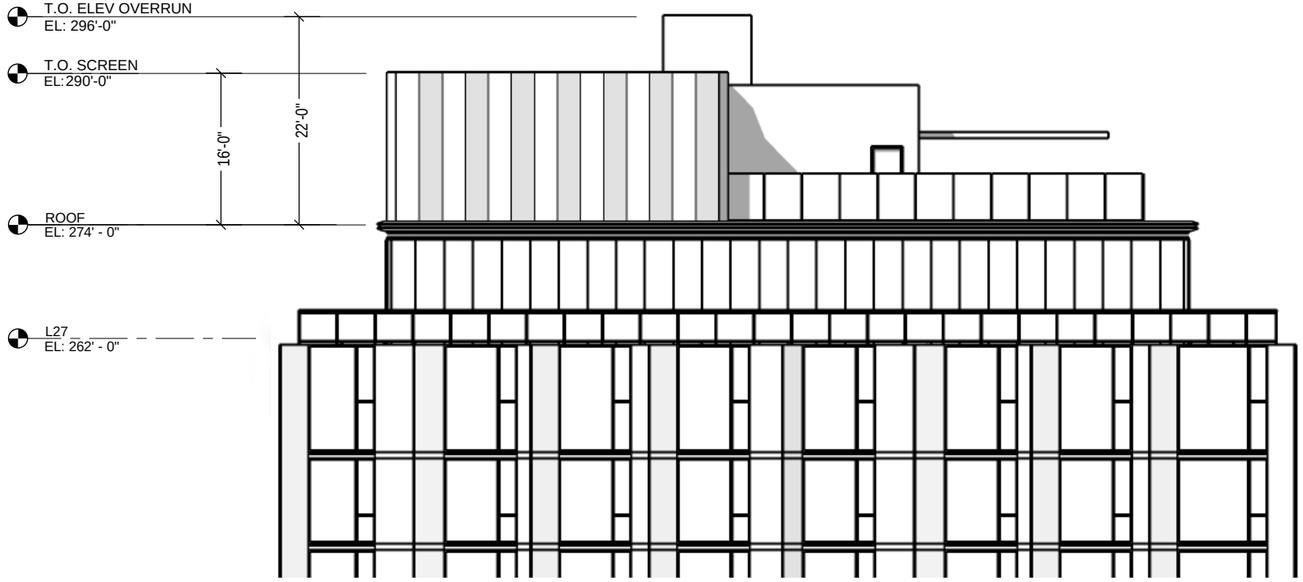
08/04/2022
2016056

0 8 16

5.141



NORTH ELEVATION



EAST ELEVATION

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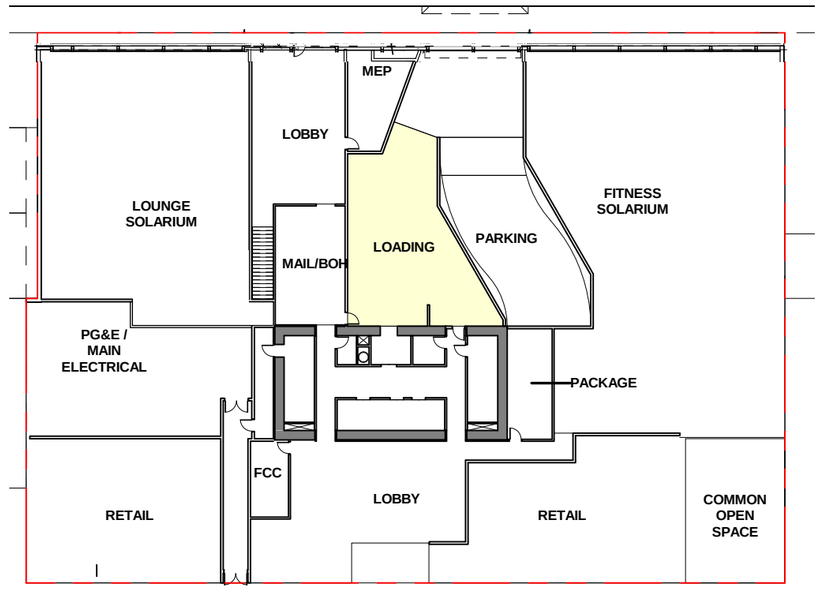
ROOFTOP FEATURES SCREENING 2
469 Stevenson
BUILD

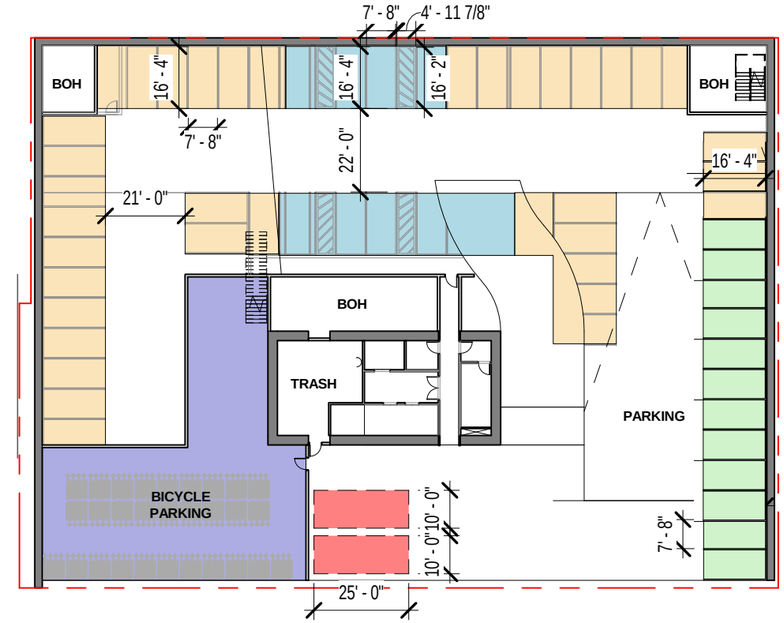
08/04/2022
2016056

0 8 16

5.142



LEVEL 01



BASEMENT 01

ACCESSORY PARKING

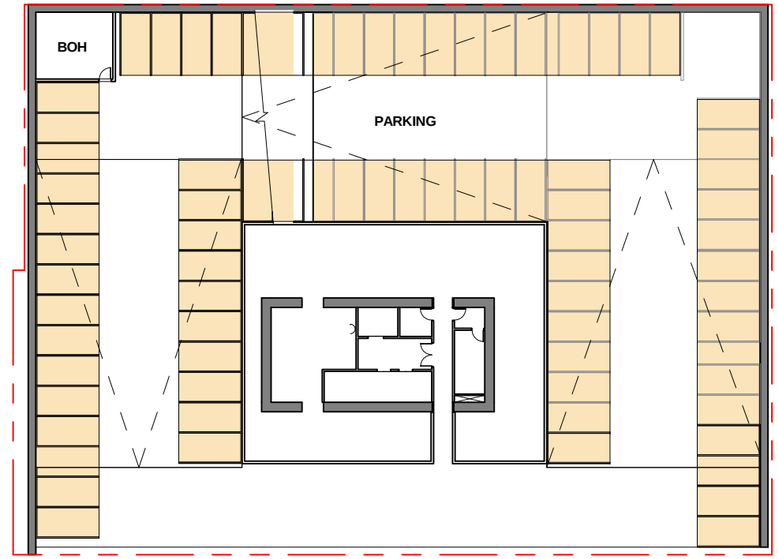
BICYCLE PARKING

ACCESSIBLE SPACES

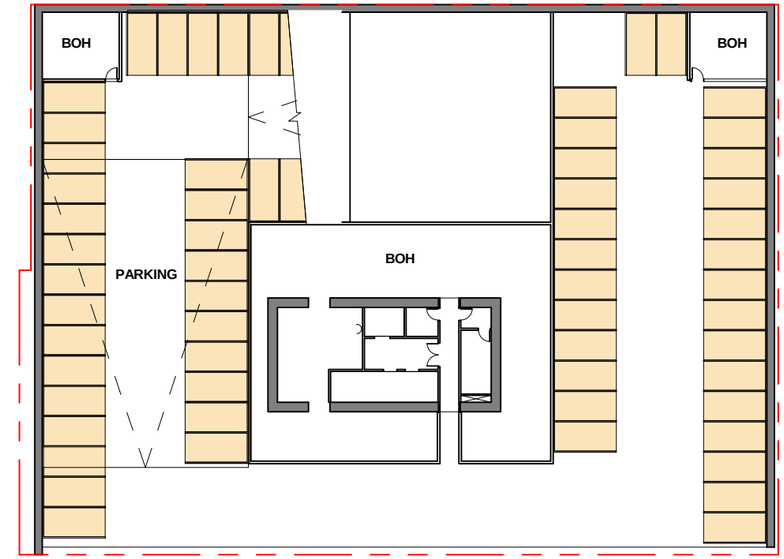
CAR SHARE

LOADING

SERVICE VEHICLES



BASEMENT 02



BASEMENT 03

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OFF-STREET PARKING PLAN
469 Stevenson
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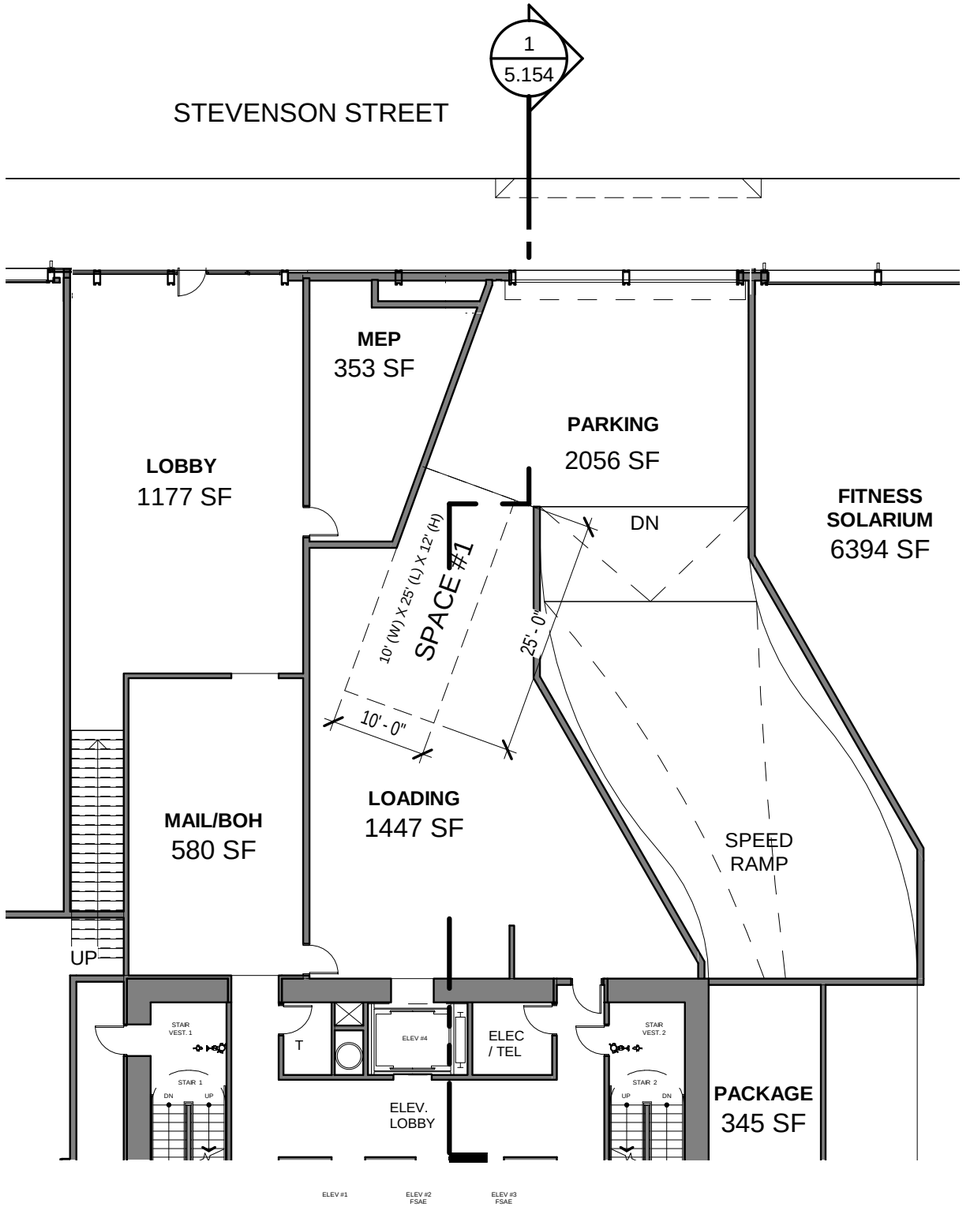
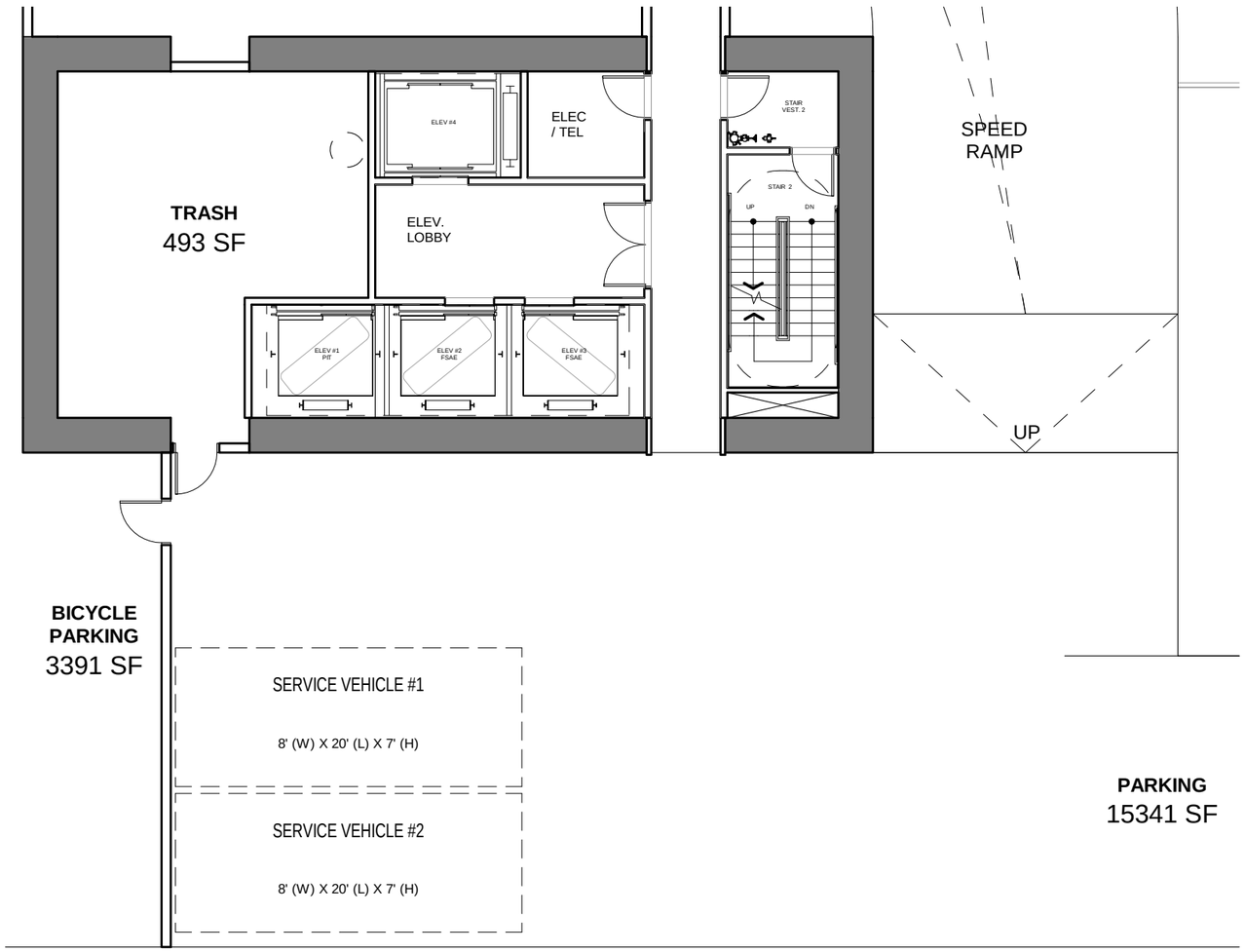
0 20 40

5.151



GROUND FLOOR



BASEMENT 01 SERVICE VEHICLES

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OFF-STREET LOADING / CURB CUT PLAN
469 Stevenson
BUILD

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5.153

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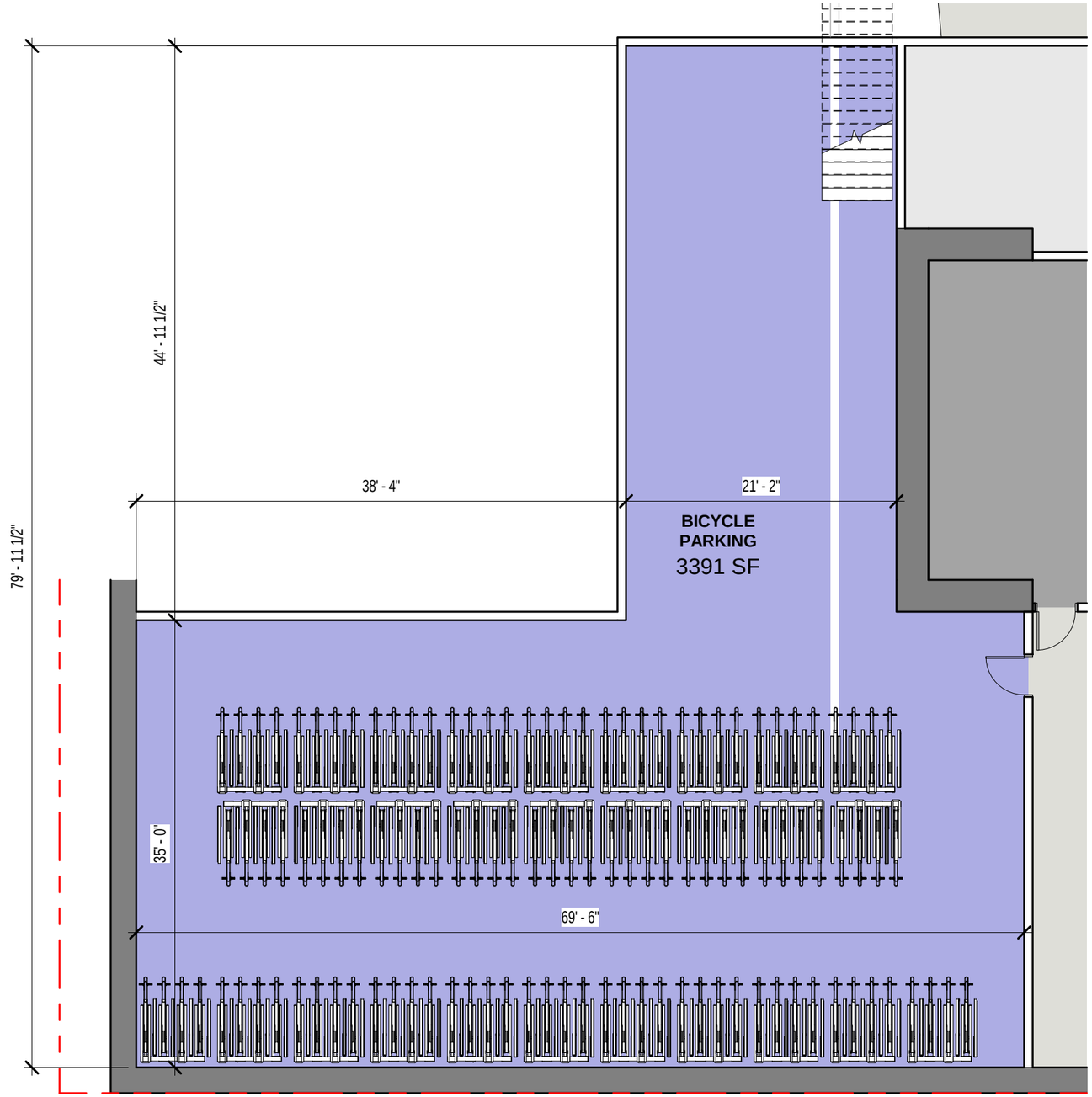
OFF-STREET LOADING SECTION
469 Stevenson
BUILD

08/04/2022
2016056

0 4 8

5.154



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BICYCLE PARKING PLAN
469 Stevenson
BUILD

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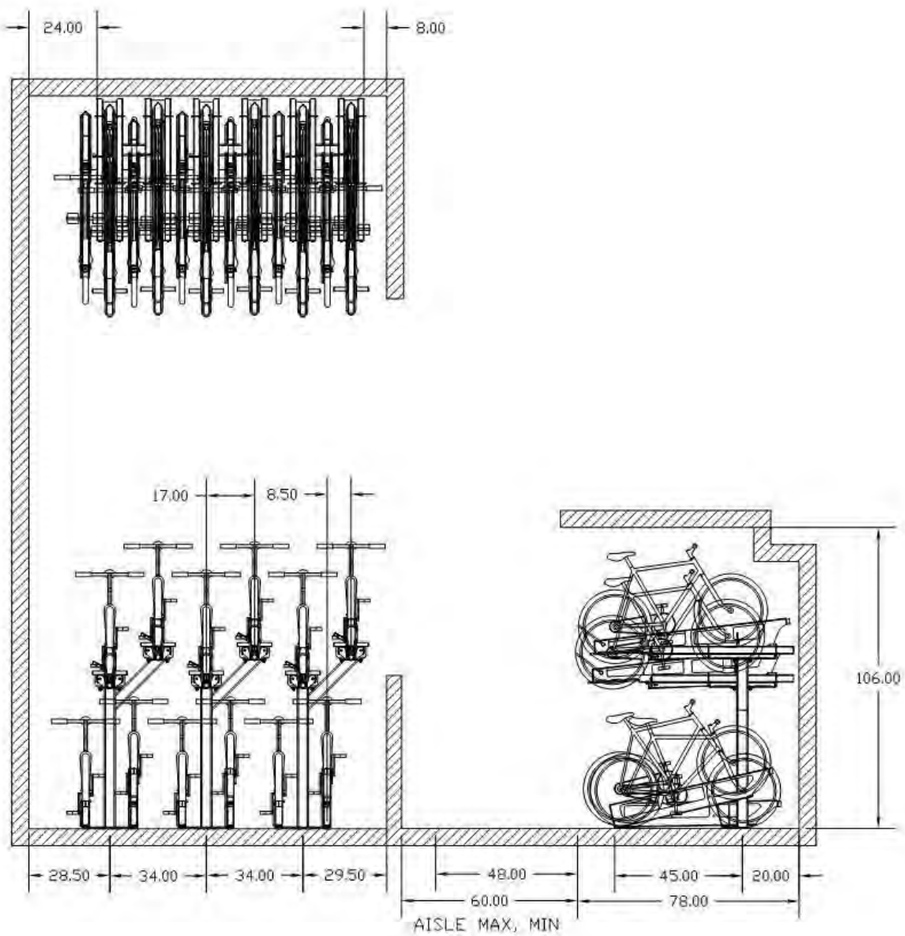
0 5 10

5.155

DERO DECKER™

Installation Instructions – Setbacks, Single Sided



DERO PLAYCORE Company

www.dero.com | 1-888-337-6729

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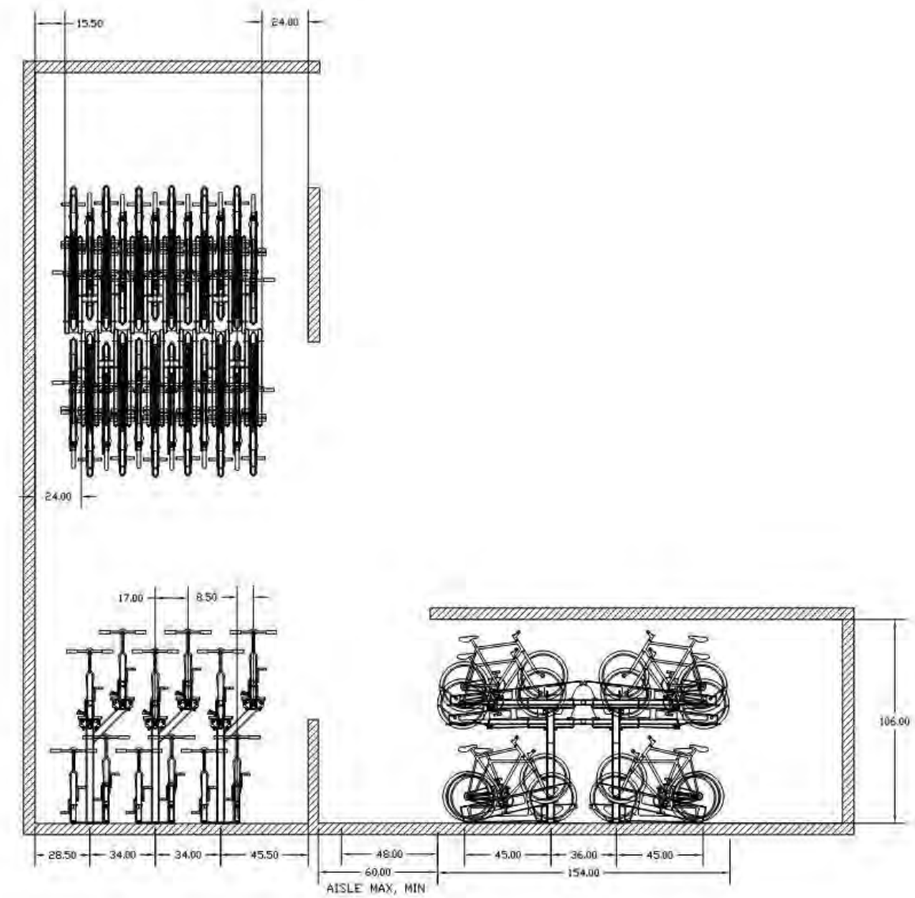
DERO DECKER

Installation Instructions – Setbacks, Double Sided



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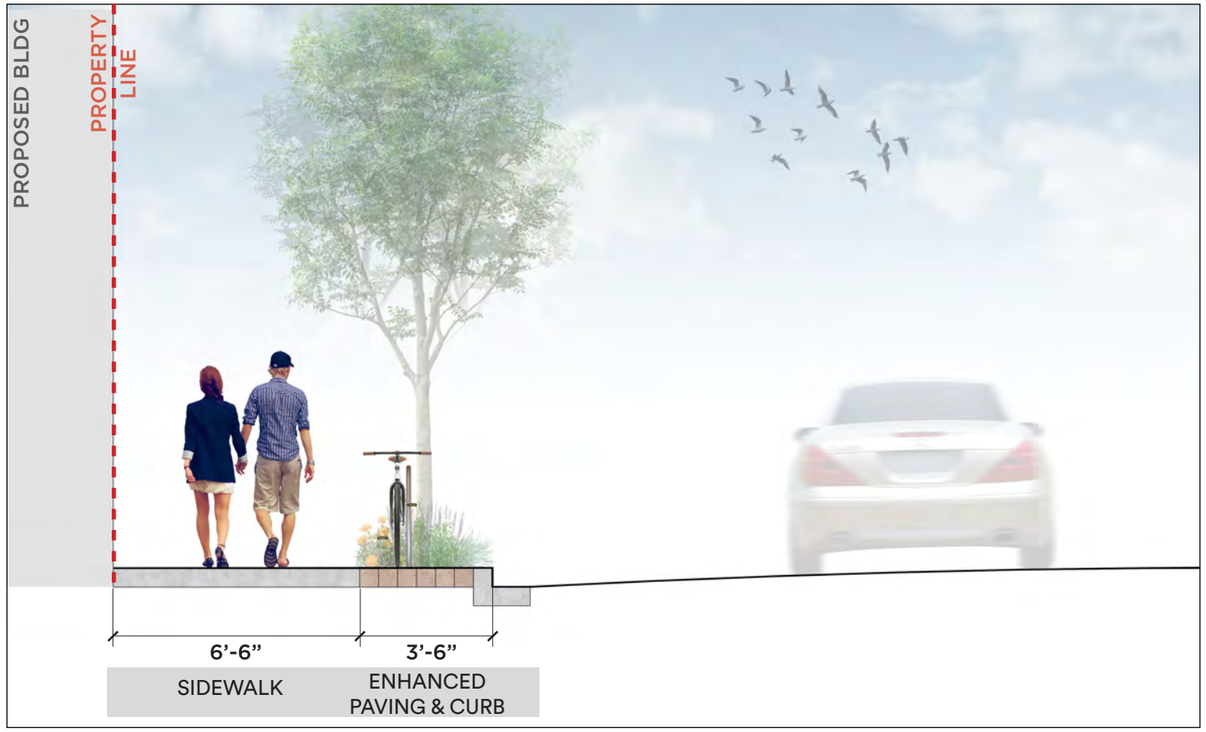
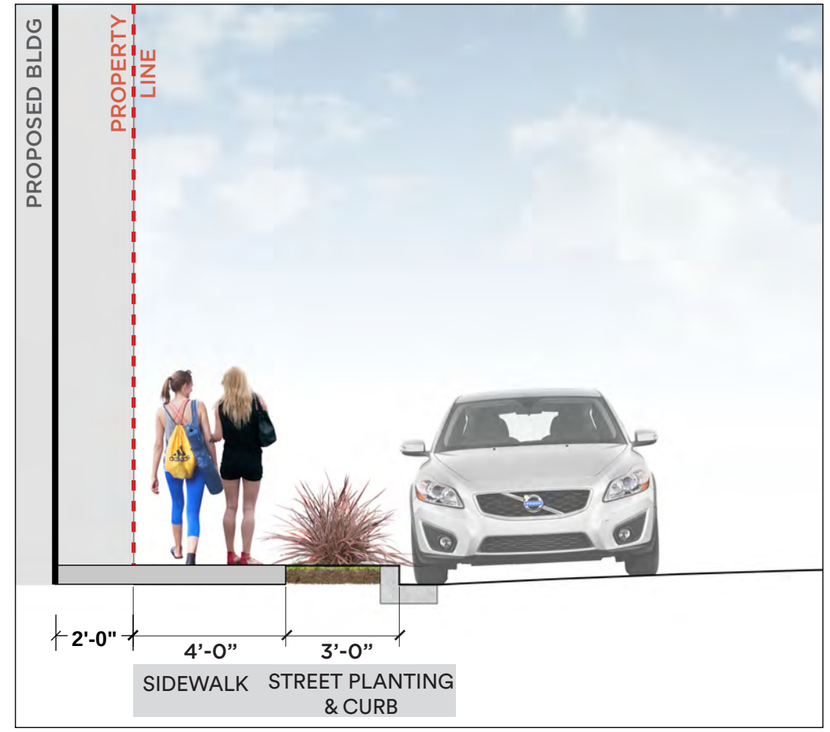
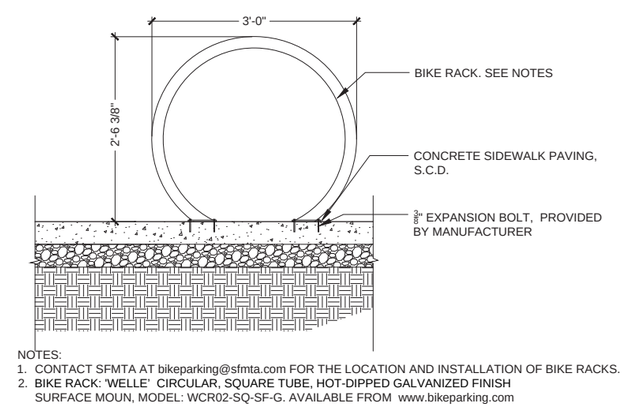


SECTION A-A: JESSIE STREET



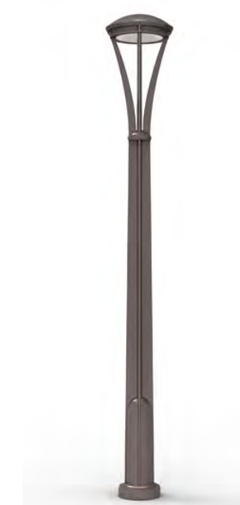
SECTION B-B: STEVENSON STREET

CLASS II BIKE RACK



NOTES:
1. CONTACT SFMTA AT bikeparking@sfmta.com FOR THE LOCATION AND INSTALLATION OF BIKE RACKS.
2. BIKE RACK: 'WELLE' CIRCULAR, SQUARE TUBE, HOT-DIPPED GALVANIZED FINISH
   SURFACE MOUN, MODEL: WCR02-SQ-SF-G. AVAILABLE FROM www.bikeparking.com

BIKE RACK DETAIL



PEDESTRIAN LIGHT :

MODEL "ALCOTT" BY LANDSCAPE FORMS
APPROVED BY SFPUC

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CLASS 2 - BICYCLE PARKING
469 Stevenson
BUILD

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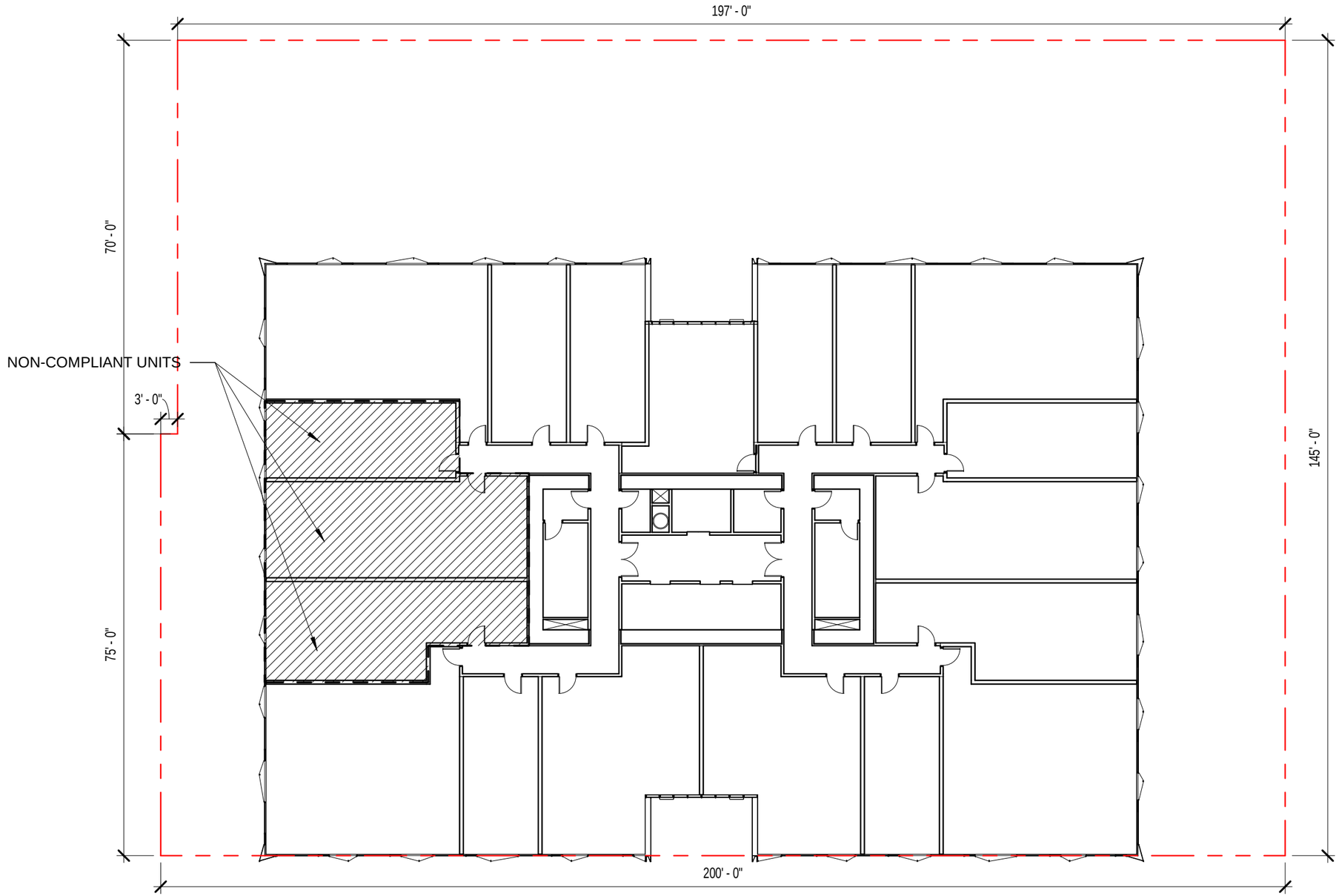
5.157



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DWELLING UNIT EXPOSURE
469 Stevenson
BUILD

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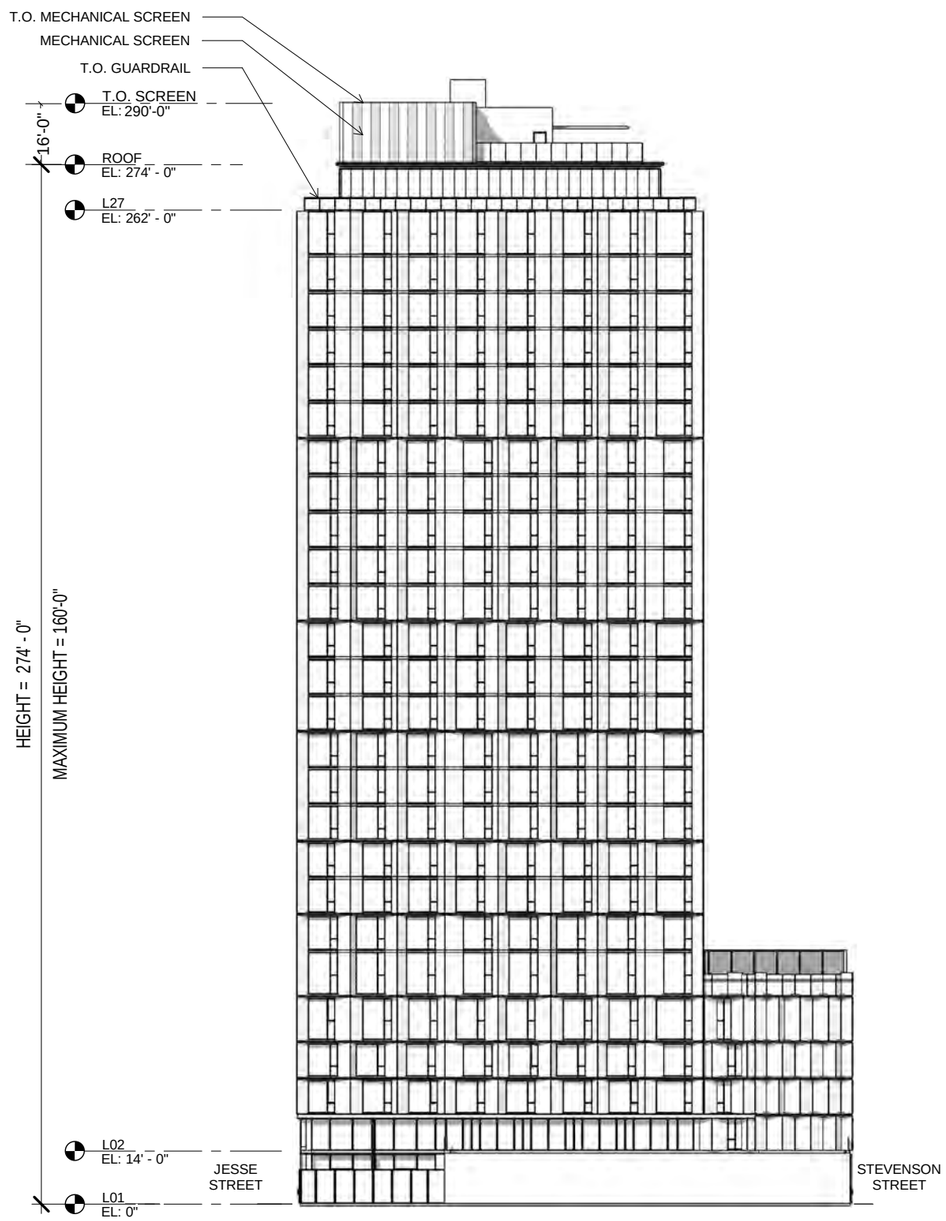
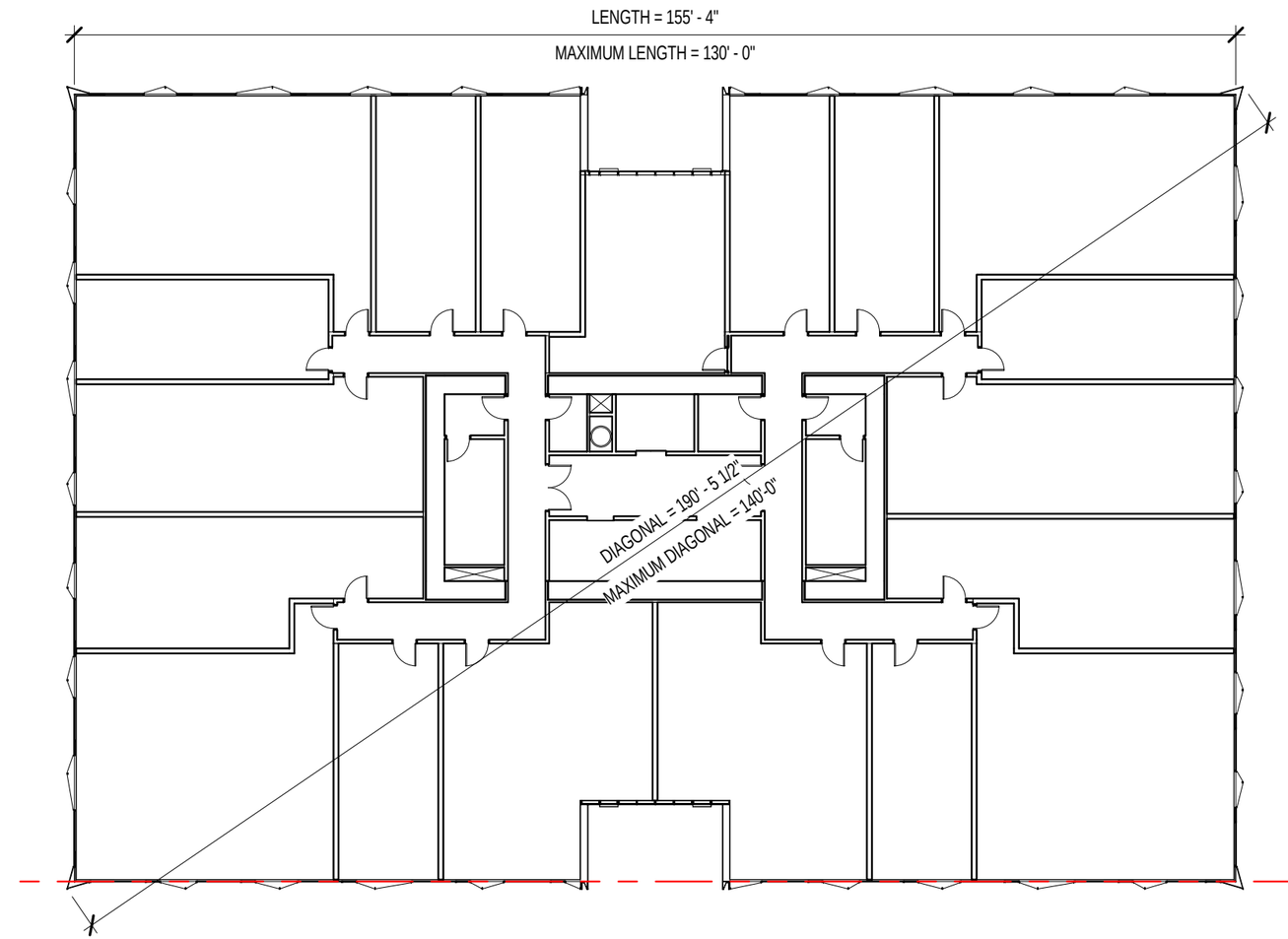
2016056

0 10 20

6.140



EAST ELEVATION



TYPICAL (3-26) FLOOR PLAN

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HEIGHT/BULK/FAR
469 Stevenson
BUILD

08/04/2022
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6.260

PAGE & TURNBULL

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design, research, and technology

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170 MAIDEN LANE, 5TH FLOOR SAN FRANCISCO, CALIFORNIA 94108 TEL 415.362.5154
75 E. SANTA CLARA STREET, SUITE 900, SAN JOSE, CALIFORNIA 95113 TEL 415.320.7911

APPENDIX K2

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

HISTORIC RESOURCE EVALUATION RESPONSE

Record No.:	2017-014833ENV
Project Address:	469 STEVENSON ST
Zoning:	C-3-G DOWNTOWN- GENERAL Zoning District 160-F Height and Bulk District
Block/Lot:	3704/045
Staff Contact:	Justin Greving - 628-652-7568 Justin.Greving@sfgov.org

PART I: Historic Resource Summary

PROJECT SPONSOR SUBMITTAL

To assist in the evaluation of the proposed project, the Project Sponsor has submitted a:

☐ Supplemental Information for Historic Resource Determination Form (HRD)
☒ Consultant-prepared Historic Resource Evaluation (HRE)
Prepared by: Page & Turnbull, *Historic Resource Evaluation Report, Part II, 469 Stevenson Street, San Francisco, California* (October 2022)

Staff consensus with Consultant's HRE report: ☒ **Agree** ☐ **Disagree**

Additional Comments:

Planning staff agree with the findings of the HRE Part II prepared by Page & Turnbull. Although the subject property is not an identified historic resource, it is just outside a number of previously-identified historic districts. The HRE Part II confirmed the status of the existing historic resources that surround the project site that include the National Register-listed Market Street Theater and Loft historic district, the National and California Register-eligible Sixth Street Lodginghouse historic district, the article 11-designated Mint-Mission conservation district, and the California Register-eligible PG&E City Beautiful Substation discontiguous thematic historic district. Planning staff agree with the findings of the HRE Part II that confirmed the status, eligibility, and character-defining features of the previously identified historic districts that surround the subject property.

Additionally, because 469 Stevenson is located within the SOMA Pilipinas Filipino cultural heritage district, planning staff directed Page & Turnbull to provide recommendations as to whether or not there are historic resources associated with the Filipino community in SOMA. Page & Turnbull was asked to provide a recommendation as to whether or not there are historic districts with significant associations with the Filipino community within the boundaries of the SOMA Pilipinas Filipino cultural heritage district, and if there may be individual historic resources within a .25 mile radius of the project site that are associated with

the Filipino community. Cultural heritage districts are not analogous to historic resources for purposes of CEQA but provide useful additional information in determining whether or not there may be a property with historic associations that might rise to the level that it would be eligible for listing in the California Register or otherwise qualify as a historic resource for the purposes of CEQA.

Based on the findings of the HRE Part II and review of planning department records, planning department staff find that there are two California Register-eligible historic districts in SOMA that have an added layer of significant associations with the Filipino community. As stated in more detail on p.16-17 of the HRE Part II, the previously identified South Park historic district, approximately .8 miles away from the project site, has an added layer of significance under Criterion 1 as it represents one of the earliest communities of Filipino immigrants in SOMA. The four contributing buildings representing the earliest community of Filipino immigrants in SOMA are the Gran Oriente Filipino Lodge (104 South Park Street), the two residential flats that were purchased by the Gran Oriente Lodge (41-43 South Park Street, and 45-49 South Park Street), and the Gran Oriente Masonic Temple (95 Jack London Alley). The period of significance for this layer of association with the Filipino community ranges from 1921, when the Gran Oriente Filipino purchased their first building, up until the 1950s, when the organization constructed the Masonic Temple. Additional research may determine other potential contributors to the historic district.

The second identified historic district that has associations with the Filipino community in SOMA is the Western SOMA Light Industrial and Residential historic district. This historic district is located in the SOMA neighborhood approximately 900 feet from the project site and is eligible for listing in the California Register under Criterion 1 as a representation of a noteworthy trend in development patterns and the establishment of different ethnic groups in San Francisco, and Criterion 3 as a distinct concentration of architectural styles dating from the Post 1906 Earthquake and Fire period. The historic district was originally identified as being significant most notably for its association with the Greek community, which is reflected in the early twentieth century period of significance from 1906-1936. However, the area also saw a notable increase in other populations after World War II, including Mexicans, Nicaraguans, El Salvadorians, and Filipinos, among others. Because the Western SOMA Light Industrial and Residential historic district was identified as being significant for the establishment of different ethnic groups, it has significant associations with the Filipino community that moved into this area after World War II and because Filipinos were among the different ethnic groups that established residency in the district. The significance of the district would most likely have an added layer of significance with these post-World War II influx of additional ethnic groups within the area and the period of significance would be extended to sometime in the mid-1950s. Additional research may determine other potential contributors to the historic district that have associations with this added layer of significance.

Planning department staff also directed Page & Turnbull to determine if there were any cultural assets identified within the SOMA Filipinas Filipino cultural heritage district within a .25 mile radius of the proposed project that would be individually eligible as historical resources for their association with the Filipino community in SOMA. Page & Turnbull identified two buildings that may warrant further consideration as individually eligible historic resources. Based on the findings summarized in the HRE Part II, and discussion with the SOMA Pilipinas Filipino cultural heritage district, planning department staff have determined that there is sufficient information in the record to find these two buildings to be individually eligible for listing in the California Register for their longstanding association with the Filipino community in SOMA.

1010 Mission Street (also addressed as 80-96 6th Street) is a five-story mixed-use building that was constructed originally as a hotel in 1912. As explained in more detail on pp. 17-18 of the HRE Part II, 1010 Mission Street was purchased by Dr. Mario Borja in 1976 and converted into affordable housing for veterans, of which many were Filipino World War II veterans. Although the building was gutted by a fire in 1997 it has since reopened as the Bayanihan House and provides a mixture of affordable housing and Single-Resident-Occupancy rooms along with space for a number of cultural institutions including the Bayanihan Community Center and the Arkipelago Bookstore. 1010 Mission is individually eligible for listing in the California Register for its longstanding and continued association with the Filipino Community in the SOMA neighborhood not only as housing for Filipino World War II veterans but also for housing a number of important cultural institutions affiliated with the SOMA Filipino community. The period of significance for its individual eligibility under criterion 1 starts at 1976 when it was purchased by Dr. Mario Borja and would not have a clear end date given its continued association with the Filipino community.

953 Mission Street is a five-story mixed use building that was constructed in 1916. The building, now known as the Mint Mall, was purchased by the Nocon family in the 1970s and has provided housing for recently arrived Filipino families as well as providing ground floor space for a number of organizations serving the Filipino community. Additional information is provided on p.18 of the HRE Part II. 953 Mission Street is individually eligible for listing in the California register under Criterion 1 as it has housed several different Filipino families and organizations since being purchased by the Nocon family in the 1970s. The period of significance for its individual eligibility under criterion 1 starts in the 1970s with purchase of the property by the Nocon family and would not have a clear end date given its continued association with the Filipino community.

In addition to the two buildings mentioned above, the U.S. Mint has been identified for its importance to the SOMA Filipino community. The U.S. Mint is listed in the National Register, is a National Historic Landmark, and an individual article 10 landmark.

Part II: Project Evaluation

Proposed Project:		Per Drawings Dated:
☒ **Demolition / New Construction**	☐ **Alteration**	8/24/2022

PROJECT DESCRIPTION

- New construction of a 27-story, mixed-use building at the current location of a surface parking lot.

PROJECT EVALUATION

Because the proposed project will take place on a surface parking lot that does not contain any individually eligible historic resources, nor is it within any identified California register-eligible historic districts, there will be no impacts to historic resources.

*See **Project Impact Analysis** comments for additional information.*

PROJECT DETERMINATION

Based on the Historic Resource Evaluation in Part I, the project's scope of work:

☐ **Will** cause a significant adverse impact to the **individual historic resource** as proposed.
☐ **Will** cause a significant adverse impact to a **historic district / context** as proposed.

☒ **Will not** cause a significant adverse impact to **ANY individual historic resource** as proposed.
☒ **Will not** cause a significant adverse impact to **ANY historic district / context** as proposed.

IMPACTS TO ADJACENT HISTORIC RESOURCES ANALYSIS

Planning department staff agree with the findings of the HRE Part II that determined there were no indirect impacts to any of the identified historic districts that are adjacent to the proposed project.

As described in more detail on pp. 26-27 of the HRE Part II, the proposed project will not cause a significant and unavoidable impact to the adjacent Market Street Theater and loft historic district. Contributors to the historic district have primary facades that are highly ornamented and oriented toward Market Street, while rear facades away from Market Street are much more utilitarian. The two closest contributors to the project site include the buildings at 973 and 978-989 Market Street that have through lots that face the project site across Stevenson Street. Although the proposed project faces these contributing buildings along Stevenson Street, the contemporary design of glass, metal, and concrete does not detract from the rear facades of these buildings that are highly utilitarian brick facades with simple punched openings with little, if any, ornamentation. Although the height of the proposed project would be in contrast to the predominant heights of the contributing buildings with the Market Street Theater and Loft Historic district, some design elements of the proposed project, including the six-story podium and a 39-foot setback from Stevenson Street, reduces the visual dominance of the tower. Furthermore, the visual impact of the proposed project, when viewed along Market Street, where the primary facades of the contributing buildings are located, is significantly reduced as the building recedes into the background of the existing dense urban environment and is blocked partially by the non-contributing building within the district at 995-997 Market Street. The proposed project, while visible in the background, does not compete with the visual primacy of the highly ornamented facades of the contributing buildings facing Market Street. Although there are individually eligible historic resources within the Market Street Theater and Loft historic district, the impact of the proposed project on individual resources would be similar to the impact of the project on the historic district as a whole.

The proposed project would not cause a significant and unavoidable impact to the adjacent Sixth Street Lodginghouse historic district as described in more detail on pp. 28-30 of the HRE Part II. Almost all contributing buildings have primary facades that are oriented towards 6th Street, away from the project site. Additionally, the limited ornamentation that is on the contributing buildings, such as an embellished cornice line or a brick detail, is located predominantly on the primary facades that face 6th Street. Consequently, the contributing buildings immediately adjacent to the project site have rear facades that lack ornamentation and are characterized by brick masonry and stucco cladding along with simple punched openings. The contemporary design of the proposed project presents a compatible transition on a site that abuts these simple utilitarian secondary facades but is outside of the historic district. Although the most substantial difference in character between the proposed project and the district contributors is height, the project design incorporates some elements to reduce the visual impact from the adjacent public right-of-way. The

use of a 6-story podium and a 39-foot setback for the tower along Stevenson Street provides a transition between the most immediately adjacent contributing buildings and the proposed project at the northern side towards Stevenson Street. Because there is only a slight setback from the southwest side of the proposed project and no setback for the tower along Jessie Street, the proposed project would be most visible from the intersection of Jessie and 6th streets. Despite the introduction of this new visual element in the surrounding urban environment, the proposed project would not interrupt the linear nature of the streetscape of former residential hotels that make up the contributing buildings of the Sixth Street Lodginghouse historic district. Although there are individually eligible historic resources within the Sixth Street Lodginghouse historic district, the impact of the proposed project on individual resources would be similar to the impact of the project on the historic district as a whole.

As described in further detail on pp. 31-32 of the HRE Part II, the proposed project would not cause a significant and unavoidable impact to the adjacent Mint Mission article 11 historic district. While the Market Street Theater and Loft Historic district is characterized by buildings with ornate facades that face Market Street, and the Sixth Street Lodginghouse historic district consists of less ornamented residential buildings, the Mint Mission article 11 historic district is predominately characterized by minimally ornamented industrial and commercial buildings that are minimally ornamented with Classica Revival detailing. Although the boundaries of this historic district are irregular and encompass some contributing buildings to the north and west of the Mint building, most contributing buildings closest to the project site all have primary facades that face Mission Street with through lots and rear facades that look onto to Jessie Street. These rear facades have even less ornamentation than their slightly more ornate counterparts on Mission Street and are finished in industrial materials such as unfinished or painted concrete with regular grids of punched openings with industrial steel sash windows. The proposed project's contemporary design is compatible with these rear facades that face Jessie Street that are more industrial in nature. The proposed project would however be taller than the contributing buildings within the historic district. This change in height would be more perceptible when viewed along Jessie Street closer to the project site, but the proposed building would also be perceptibly taller when viewed above the rooflines of the contributing buildings along Mission Street. While this change in setting would be noticeable, it would not diminish the integrity of the historic district to the level such that the significance of the district would be compromised. Although there are individually eligible historic resources within the Mint Mission article 11 historic district, the impact of the proposed project on individual resources would be similar to the impact of the project on the historic district as a whole.

The proposed project would not have adjacent impacts on the contributor to the PG&E Substations discontiguous historic district (see p. 33 of the HRE Part II for more detail). Due to the industrial nature of this contributing building, the introduction of a contemporary building would introduce a new urban element to the surrounding setting, but the overall urban character of the building's existing setting would not substantially change.

Planning department staff determined there were no impacts to the South Park historic district that has an added layer of significance for its association with the Filipino community. This historic district is more than .75 miles away from the project site and is sufficiently distanced such that even if the proposed project may be visible from within the boundaries of the historic district, it would be one component of the surrounding dense urban environment. Due to this distance, and the presence of tall, dense urban development between

this district's contributors and the project site, the proposed project would not impact the setting of the historic district.

Although the Western SOMA Light Industrial and Residential historic district is closer to the project site than the South Park historic district, the nearest contributing building at 1077-1081 Mission Street that makes up the northern boundary of the district, is approximately 900 feet away from the project site. The surrounding setting of the mixed urban development between the historic district and the proposed project provides a buffer such that the proposed project would not impact the setting of the historic district.

Overall, the proposed project would not remove or alter any physical features of any of the identified historic districts immediately adjacent to the project site such that their significance would be impaired.

Additionally, planning department staff agree with the findings of the HRE Part II and concluded that there would be no indirect impacts to the individually eligible historic resources that were identified for their association with the Filipino community in SoMa.

VIBRATION ANALYSIS

Because there are contributing buildings with the Sixth Street Lodginghouse Historic District and the PG&E City Beautiful Substations Discontiguous Thematic Historic District that are immediately adjacent to the project site, the updated Noise Technical Memo prepared by Stantec Consulting Services (October 2022) determined there was a potential for vibration levels generated during project construction to exceed the vibration thresholds and the project construction activities could potentially generate vibration that could result in damage to adjacent historic resources. Thus, the construction of the proposed project would result in vibration levels that could cause physical damage to adjacent historic resources and impacts would be significant. However, a mitigation measure to protect these adjacent historic buildings from construction-related damage would reduce these impacts to less than significant.

CUMULATIVE IMPACTS ANALYSIS

The geographic context for cumulative impacts to historic districts and individual resources is cumulative projects within the historic district and adjacent to the individual historic resources and adjacent historic district's boundaries (i.e., within 1 block). In some cases, historic resources are part of historic districts, so impacts can extend beyond the project site and adjacent properties into the rest of the historic district. The project site does not contain any existing structures and is not located within a historic district. However, the project site is adjacent to or across the street from the National Register-listed Market Street Theater and Loft historic district, the National and California Register-eligible Sixth Street Lodginghouse historic district, the San Francisco article 11 Mint-Mission conservation district, and a contributor to the California Register-eligible PG&E City Beautiful Substations Discontiguous Thematic historic district. Additionally, the planning department determined that there are two historic districts in SOMA near the project site that have historic associations with the Filipino community in SOMA: the South Park historic district and the Western SOMA Light Industrial and Residential historic district. The following discusses the potential cumulative impacts on the adjacent historic districts, individually eligible buildings within those historic districts, and the nearby, individually eligible, old mint.

MARKET STREET THEATER AND LOFT HISTORIC DISTRICT

There is one cumulative project at 1053-1055 Market Street proposed within the Market Street Theatre and Loft historic district. The project at 1053-1055 Market Street proposes to demolish the existing building for

the construction of a 10-story tourist hotel with ground floor retail space. The environmental review completed for the 1053-1055 Market Street project determined the existing building at 1055 Market Street was not a historic resource or a contributor to the Market Street Theatre and Loft historic district. Additionally, the environmental review determined the design of the 1053-1055 Market Street project would be compatible with the setting of the Market Street Theatre and Loft historic district and would have a less than significant impact on the district. As discussed, the proposed project would not cause a substantial adverse change in the historic significance of the Market Street Theater and Loft historic district. This project was approved by the planning commission December 6, 2017.

There are three cumulative projects adjacent to the Market Street Theater and Loft historic district: 1125 Market Street, 527 Stevenson Street, and 57-67 Taylor Street. 1125 Market Street would construct a new 12-story mixed-use hotel and co-working office building on the existing vacant lot. The environmental review for the 1125 Market Street project determined that there would be no direct or indirect alterations to the existing spatial relationships of the Market Street Theater and Loft historic district due to the fact that there are relatively large distances between that project and contributing buildings within the historic district. The project was continued indefinitely at the planning commission on March 4, 2021 and is currently on hold. The 527 Stevenson Street project would demolish the existing one-story warehouse and construct a new seven-story office building across the street from the Market Street Theater and Loft historic district. This new construction, as currently proposed, would be of a similar height and scale to some of the adjacent buildings within and adjacent to the historic district and would not result in a significant impact to the district. Although the project is currently under review by the planning department, it does not have any anticipated impacts to adjacent historic resources. The 57-67 Taylor Street project proposes to demolish a one-story retail building and construct a new twelve-story mixed residential and retail building on the lot that backs up to the Market Street Theater and Loft historic district. Given the relative height and scale of the contributing buildings within the Market Street Theater and Loft historic district, including the eight-story Golden Gate Theater that backs up to the location of the 57-67 Taylor Street project, this project would likely be minimally visible from the historic district and would therefore not have the potential to cause an indirect impact. The project is currently on hold.

As discussed above, none of the cumulative projects would result in a direct impact to the historic district. The cumulative effect of the proposed project and of 1053-1055 Market Street, 1125 Market Street, 527 Stevenson Street, and 57-67 Taylor Street projects would be a marginal alteration to the surrounding setting of the Market Street Theater and Loft historic district which is already located within the dense urban environment of buildings that have a range of heights and masses. The district boundaries are tightly drawn to only contain buildings facing Market Street on the block and intersections between 6th and 7th streets. The unique scale of the richly ornamented contributing two- to eight-story theater and loft buildings facing Market Street will not be affected by minor modifications to the surrounding urban setting. Therefore, the proposed project combined with cumulative projects would not impact the Market Street Theater and Loft historic district to the degree that the historic district would no longer be eligible for listing in the National Register. Cumulative impacts to the Market Street Theater and Loft historic district would be less than significant.

Therefore, the proposed project would not combine with the impacts of the 1053-1055 Market Street, 1125 Market Street, 527 Stevenson Street, or the 57-67 Taylor Street projects to result in a significant cumulative impact to the Market Street Theater and Loft historic district.

SIXTH STREET LODGINGHOUSE HISTORIC DISTRICT

There are five cumulative projects within or adjacent to the Sixth Street Lodginghouse historic district. The 1010V Mission Street project is proposed within the Sixth Street Lodginghouse historic district and the 1025 Howard Street and the 457-475 Minna Street projects are adjacent to the district. The 996 Mission Street project was also proposed within the Sixth Street Lodginghouse historic district; however, the application for this cumulative project was withdrawn after publication of the initial study for the previously circulated draft EIR on July 2, 2019. Similarly, the 219 Sixth Street project was proposed within the Sixth Street Lodginghouse historic district; the application for this cumulative project was also withdrawn on June 10, 2021, after publication of the initial study for the previously circulated draft EIR.

As mentioned above there is one project proposed within the Sixth Street Lodginghouse historic district: the project at 1010V Mission Street. The proposed project at 1010V Mission Street would construct a 9-story mixed residential building on an empty lot immediately west of 1010 Mission Street. Preservation review as part of environmental review for the 1010V Mission Street project determined the project was in conformance with the Secretary's Standards and compatible with the character of the Sixth Street Lodginghouse historic district, and the adjacent individually eligible building at 1010 Mission Street. Therefore, the proposed project at 1010V Mission Street would not directly impact the building at 1010 Mission Street or its setting to the degree that its potential to be found eligible for listing at the local, state, or national level for its association with the Sixth Street Lodginghouse historic district and the SoMa Filipino community would not be diminished and the impact would be less than significant. Additionally, the 1010V Mission project would not cause an impact on the Sixth Street Lodginghouse Historic district because the design of the new construction was determined to be compatible with the character-defining features of the historic district. Environmental review for the project is currently under way.

There are two cumulative projects adjacent to the Sixth Street Lodginghouse historic district: the projects at 1025 Howard Street and 457-475 Minna Street. The 1025 Howard Street project proposes to construct an 8-story hotel building on the site. Environmental review has not been completed for the 1025 Howard Street project and it is currently on hold. Although the 1025 Howard Street proposed project would be taller than the surrounding contributing buildings within the Sixth Street Lodginghouse historic district, it is across the street from the boundaries of the historic district and its height is compatible with the surrounding dense urban environment of the neighborhood, and as currently proposed is not expected to impact the ability of the historic district to convey its significance. The 457-475 Minna project proposes to merge four lots for the construction of a 16-story residential building. As an SB35 project, the 457-475 Minna Street project was not subject to environmental review and was approved on May 30, 2019. Because the 457-475 Minna project is located mid-way down Minna Street between Sixth and Fifth street, it is not immediately adjacent to the boundaries of the Sixth Street Lodginghouse historic district. The buildings on parcels separating the 457-475 Minna project from the boundaries of the Sixth Street Lodginghouse historic district would provide a sufficient buffer such that it would not have an indirect impact on the historic district.

As discussed above, none of the cumulative projects would result in a direct impact to the historic district. The cumulative effect of the proposed project and of the 1010V Mission, the 1025 Howard Street, and the 457-475 Minna Street projects would be a slight alteration to the surrounding setting of the Sixth Street Lodginghouse historic district, which is already located within the dense urban environment of buildings that have a range of heights and masses. The significance of the historic district ties to the high concentration of residential hotels aligned along Sixth Street and the linear quality of the district reflects the uniqueness of this portion of Sixth Street as the last concentration of this building type that was once

common along the other surrounding streets in SOMA. Modifications to the surrounding setting would not affect the linear quality of this historic district and its contributors facing Sixth Street and would instead blend in the background of surrounding urban fabric. Therefore, the proposed project combined with cumulative projects would not impact the Sixth Street Lodginghouse historic district to the degree that the historic district would no longer be eligible for listing in the National or California Register. Cumulative impacts to the Sixth Street Lodginghouse historic district would be less than significant.

Therefore, the proposed project would not combine with the cumulative projects at 1010V Mission Street, 1025 Howard Street, and 457-475 Minna Street to result in a significant cumulative impact on the Sixth Street Lodginghouse historic district.

ARTICLE 11 MINT-MISSION CONSERVATION DISTRICT

There are no cumulative projects proposed within the article 11 Mint-Mission conservation district. As discussed, the proposed project would not cause a substantial adverse change in the historic significance of the Mint-Mission article 11 conservation district. Additionally, the proposed project would not cause an indirect impact on the significance of 953 Mission Street, the individually eligible historic resource within the district that has significant associations with the SOMA Filipinas community.

There is only one cumulative project adjacent to the article 11 Mint-Mission conservation district: the project at 457-475 Minna Street. As mentioned above, the 457-475 Minna Street project proposes to merge four lots for the construction of a 16-story residential building. As an SB35 project, the 457-475 Minna Street project was not subject to environmental review and was approved on May 30, 2019. Although the 457-475 Minna Street project will be taller than the contributing buildings within the article 11 Mint-Mission conservation district, it is somewhat distanced from the conservation district as the 457-475 Minna Street project is south of the nearest contributing buildings across the street on Minna. While the nearest contributing buildings have elevations on Minna Street, their primary facades face Mission Street, away from the site of the 457-475 Minna Street project. As such, while the 457-475 Minna Street project will likely be visible from within the conservation district, it will be within the context of the surrounding dense urban environment of buildings of varied scales and heights.

As discussed above, none of the cumulative projects would result in a direct impact to the historic district. The cumulative effect of the proposed project and of the 457-475 Minna Street project would be a slight alteration to the surrounding setting of the article 11 Mint-Mission conservation district. The historic district is a combination of residential, commercial, and industrial buildings that reflect the mixed urban development of the SoMa neighborhood in the years following the 1906 Earthquake and Fire. The mixed nature of the contributing buildings that range anywhere from one to ten stories in height is such that new construction in the surrounding neighborhood will not affect this district's ability to convey its significance as a tight grouping of buildings constructed in the aftermath of the 1906 Earthquake and Fire. The slight change in setting would be consistent with the surrounding pattern of development in the neighborhood. Therefore, the proposed project combined with cumulative projects would not impact the article 11 Mint-Mission conservation district to the degree that the historic district would no longer be eligible for listing in as an article 11 conservation district. Cumulative impacts to the Sixth Street Lodginghouse historic district would be less than significant.

Therefore, the proposed project would not combine with the 457-475 Minna Street project to result in a significant adjacent cumulative impact on the article 11 Mint-Mission conservation district.

PG&E CITY BEAUTIFUL SUBSTATIONS DISCONTIGUOUS THEMATIC HISTORIC DISTRICT
There are no cumulative projects proposed within or near the PG&E City Beautiful Substations Discontiguous Thematic historic district. As discussed, the proposed project would not cause a substantial adverse change in the significance of the PG&E Beautiful Substations historic district. Therefore, the proposed project would not combine with a cumulative project to result in a significant cumulative impact on the PG&E City Beautiful Substations Discontiguous Thematic historic district.

SOUTH PARK AND WESTERN SOMA LIGHT INDUSTRIAL AND RESIDENTIAL HISTORIC DISTRICTS
The South Park historic district and Western SOMA Light Industrial and Residential historic district are both sufficiently distanced from the project site such that there are no anticipated direct or indirect impacts to either of these districts due to the proposed project. Due to this distance, and the presence of tall, dense urban development between these two districts and the project site, the proposed project would not combine with cumulative projects to result a significant cumulative impact on these historic districts.

OLD MINT
There are no identified cumulative projects in close proximity to the old mint. Therefore, the proposed project would not combine with any cumulative projects to result in a significant cumulative impact on the old mint.

PART II: Principal Preservation Planner Review

Signature: Allison Vanderslice Date: 10/24/2022

Allison Vanderslice, *Principal Preservation Planner*
CEQA Cultural Resources Team Manager, Environmental Planning Division

CC: Nick Foster, *Senior Planner*
Team, Current Planning Division

APPENDIX L

APPENDIX L1

PRELIMINARY GEOTECHNICAL INVESTIGATION
469 Stevenson Street
San Francisco, California

Prepared For:

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Prepared By:

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731690402

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731690402.01_REPORT_469 Stevenson Street

PRELIMINARY GEOTECHNICAL INVESTIGATION
469 Stevenson Street
San Francisco, California

1.0 INTRODUCTION

This report presents the results of Langan Engineering and Environmental Services, Inc.'s (LANGAN) preliminary geotechnical investigation for the proposed development at 469 Stevenson Street in San Francisco, California (Site Location Map, Figure 1). At the request of the San Francisco Planning Department, this report includes references to AB-082[1] and AB-111[2], as appropriate.

The site is a 28,790 -square-foot asphalt-paved surface parking lot in the South of Market (SoMa) District of the City of San Francisco, between Stevenson Street and Jessie Street, east of 6th Street. The Clearway Energy Station T high-pressure steam cogeneration plant bounds the site to the northeast; three, three-story residential hotel buildings (35-37, 39-41, and 43-45 6th Street) and a seven-story residential hotel building (47-55 6th Street) bound the site to the southwest. Information regarding basements and foundations for the adjacent structures is not available at this time.

We understand the proposed structure would include a 27-story tower (approximately 274 feet tall) with a 1- to 6-level podium. The structure would include a three-level basement that would extend beneath the entire site. Based on schematic drawings by Solomon Cordwell Buenz, dated 25 May 2021, the tower would occupy the majority of the site and would abut Jessie Street. Per Magnusson Klemencic Associates (MKA), the project structural engineer, preliminary average dead plus live foundation pressures are 7,040 pounds per square foot (psf) for the 27-story tower, 2,860 psf for the six-level podium, and 1,760 psf for the one-level podium portions.

This report is based on the results of our Phase 1 investigation (Section 3) performed at the project site. The results of the Phase 1 investigation indicate that on a preliminary basis the proposed structure is feasible from a geotechnical standpoint. In addition, the results of our

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1 Guidelines and Procedures for Structural, Geotechnical, and Seismic Hazard Engineering Design Review, November 21, 2018 (Updated 01/01/2020 for code references).

2 Guidelines for Preparation of Geotechnical and Earthquake Ground Motion Reports for Foundation Design and Construction of Tall Buildings, 15 June 2020.

preliminary engineering analyses indicate a mat foundation is feasible for the support of the proposed structure. The feasibility of a mat foundation should be confirmed with a Phase 2 field investigation and laboratory testing program, and additional engineering analyses using the results of the Phase 2 investigation. If the supplemental field investigation and engineering analyses indicate a mat is not feasible, then deep foundations that extend to bedrock would be required to support the proposed structure. Accounting for a 4-foot-thick mat for the podium and a 10-foot-thick mat for the tower, the excavation for a three-level basement would extend approximately 46 to 52 feet below existing site grades. The actual mat thicknesses would be determined during foundation design by the project structural engineer.

This report presents preliminary conclusions regarding the geotechnical aspects of the project based on the results of a limited geotechnical investigation and is not intended to meet requirements of AB-082 and AB-111.

AB-082 presents guidelines and procedures for Structural, Geotechnical, and Seismic Hazard Engineering Design Review of buildings and other structures. Such review may be required by the San Francisco Building Code, by another Administrative Bulletin, or at the request of the Director of the Department of Building Inspection (SFDBI). Per AB-082:

> "If the director determines that review is required, the director shall request one or more Structural, Geotechnical, or Seismic Hazard reviewers having specialized knowledge and experience to provide their professional opinion on identified aspects of a project. The purpose of the review is to provide an independent, objective, technical review of those aspects of the project design that are identified in the scope of the review.
>
> The director shall require review for projects where review is required by the San Francisco Building Code. The director may require review for other projects at the director's discretion. Table 1, below, lists project characteristics commonly considered by the Director in determining whether Review is required."

TABLE 1

Project Characteristics Considered by the Director in Determining Whether Review is Required

	Review Discipline		
	Structural	**Geotechnical**	**Site-Specific Hazard**[e]
Projects that require review			
Projects where review is required by the SFBC [a,b,c]	X	X	X
Projects that typically require review			
Projects incorporating exception(s) to prescriptive requirements of the SFBC [c]	X	X	X
Projects incorporating materials, systems, or technologies that are not directly addressed by the SFBC [c]	X	X	X
Buildings with structural height (h_n as defined in ASCE 7) 240 feet or taller, including projects designed to the prescriptive provisions of the SFBC [d]	X	X	X
Projects that may require review, depending on size, occupant load, importance, and similar considerations [h]			
Addition or alteration of existing structures, where seismic retrofit is required by the SFEBC [f]	X	X	
Projects on Site Class F sites requiring site responses analysis		X	X
Projects on sites with mapped or potential geologic or seismic ground deformation hazards		X	X
Projects on sites with compressible soils below the foundation, having potential for long-term consolidation settlement under gravity loads [g]		X	
Projects using ground improvement or special foundation systems		X	X
Projects with dewatering that lowers groundwater by more than 10 feet, located adjacent to major structures or utilities		X	
Projects with below-grade excavation deeper than 15 feet, located adjacent to major structures or utilities		X	

Notes

[a] Ground Motion Review is required whenever response-history analysis is used.

[b] Where Review is required by the SFBC, such review process shall also conform to the specific requirements of the SFBC. The 2019 SFBC references ASCE 7-16, which requires design review in Sections 16.5 (Seismic Response History Procedures), 17.7 (Seismically Isolated Structures), and 18.5 (Structures with Damping Systems)

[c] The Director shall determine which Review disciplines are required based on which disciplines relate to the code requirements, code exceptions, or technologies proposed for the project.

[d] All projects of new buildings 240 feet or taller located in the City's softest soils and/or liquefaction zones, as defined by the California Seismic Hazard Zone Map, released by the California Department of Conservation, Division of Mines and Geology, dated November 17, 2000, shall include two Geotechnical Reviewers on the Engineering Design Review Team unless the project will include piles/drilled piers anchored to bedrock. Only one Geotechnical Reviewer is required for a project that will anchor piles/piers to bedrock.

[e] Review of site-specific hazard is not required if the general (rather than site-specific) earthquake response spectrum is used.

[f] See commentary regarding Review of existing structures.

[g] Soils with potential for long-term consolidation settlement typically include normally to lightly overconsolidated clayey soils, such as Bay Mud and Old Bay Clay, though other soils may also exhibit such behavior.

[h] It is intended that most projects in this category would not require Review, except for major structures based on the list of considerations above this table.

"Along with the characteristics in Table 1, the Director's determination of whether a project requires Review, and what Review disciplines are required, may depend on factors such as:

- Size, importance, occupant load, post-earthquake functionality requirements, or risk category of the structure
- Characteristics of the site, foundation system, and adjacent structures
- Irregular or unusual structural configurations
- Pertinent qualifications within SFDBI to conduct an in-house review"

AB-111 presents requirements and guidelines for developing geotechnical site investigations and preparing geotechnical reports for the foundation design and construction of tall buildings. Because the project classifies as a Tall Building (height of levels above the average level of the

ground surface adjacent to the structure greater than 240 feet), a design level geotechnical investigation report would need to comply with AB-111. Per AB-111:

1. The review of geotechnical design shall meet the requirements of AB-082. The geotechnical member(s) of the Engineering Design Review Team (EDRT) shall participate in the Early Site Permit phase of the project to review the Geotechnical Engineer of Record (GEOR)'s plan for geotechnical site investigations and the GEOR's geotechnical basis-of-design document. During the subsequent design review, the EDRT will use the AB-111 guidelines to review the geotechnical report prepared for foundation design and construction. At the conclusion of the review, the geotechnical members of the EDRT shall provide a written statement if, in their professional opinion, the geotechnical site-investigation plan and geotechnical reports meet the requirements of the SFBC and this bulletin.

2. Project submittal documents shall be in accordance with the SFBC (including Administrative Bulletins), and Department of Building Inspection (DBI) implementing procedures and policies. In addition, documents relevant to the Geotechnical Design Review shall be submitted by the Engineer of Record to the Director and to the geotechnical members of the EDRT.

The design level geotechnical investigation report should be prepared per AB-082 and AB-111 guidelines, for review by the EDRT assigned to the project by DBI during the review of the site permit. Qualifications and selection of reviewers is detailed in AB-082. Per AB-082, Section 4, Qualifications and Selection of Reviewers, "*Geotechnical Engineering Reviewers shall have experience in geotechnical engineering pertinent to the review scope and type of site and foundation. In addition to having the experience described above* (experience detailed in AB-082*), the lead Geotechnical Engineering Reviewer shall be registered as a Geotechnical Engineer (G.E.) or a Civil Engineer (C.E.) in California."* Per AB-082, "*Reviewers of seismic hazard and ground motions shall have experience in these fields pertinent to the review scope and the hazard and ground motion approaches being used. In addition to having the experience described above (*experience detailed in AB-082*), the Reviewer of seismic hazard and ground motions shall be registered as a Professional Engineer in California or shall provide his or her services under the responsible charge of a registered Professional Engineer on the Review team."*

2.0 SCOPE OF SERVICES

Our preliminary geotechnical investigation report was prepared in general accordance with the scope of services outlined in our proposal dated 1 March 2022. As part of our services, we reviewed the results of our Phase 1 field investigation and laboratory testing program.

The Phase 1 investigation included drilling two borings to bedrock at the site, to depths of 250 and 265 feet below site grades, and performing laboratory testing on representative soil samples. We used this information to perform engineering analyses and develop preliminary conclusions regarding:

- soil, bedrock and groundwater conditions at the site;
- site seismicity and seismic hazards, including potential for fault rupture, ground shaking, and seismically induced settlements, as appropriate;
- feasible foundation type(s) for the proposed structure;
- estimates of foundation settlements, including total and differential settlements;
- feasible shoring and underpinning systems for adjacent structures;
- 2019 San Francisco Building Code (SFBC) seismic design parameters;
- site specific response spectra;
- construction considerations, including underpinning of adjacent structures, as needed; and
- description of the regulatory review and compliance process regarding the geotechnical aspects of the project.

For compliance with AB-111, the design geotechnical investigation report should include the results of additional geotechnical investigation (drilling a third boring to bedrock, anticipated at a depth of approximately 260 feet, and a fourth boring with a 50-foot rock core, performing a seismic survey to obtain additional shear wave velocity measurements in the boring within the bedrock, performing laboratory testing of additional soil and rock samples), earthquake time series, additional engineering analyses, and recommendations for the foundation and other geotechnical aspects of the project. The design level geotechnical investigation report would be reviewed by geotechnical reviewer(s) who are part of the EDRT assigned to the project by DBI.

3.0 FIELD INVESTIGATION AND LABORATORY TESTING

Our Phase 1 geotechnical investigation included drilling two borings within the site; obtaining shear wave velocity data in one of the borings, and performing laboratory tests on representative soil samples as discussed in this section.

3.1 Exploratory Borings

We drilled two borings, designated LB-1 and LB-2, at the locations shown on the Site Plan, Figure 2. Prior to drilling the borings, we obtained drilling permits from the San Francisco Department of Public Health (SFDPH), notified Underground Service Alert (USA) at least 72 hours prior to drilling start time, and retained the services of a private utility locator to check the boring locations for potential underground utilities.

Borings LB-1 and LB-2, were drilled from 16 to 23 December 2020, under the direction of our field engineer. Pitcher Drilling, of East Palo Alto, drilled the borings using a truck-mounted rig equipped with rotary wash. The borings extended to the top of bedrock, at 256 and 250.5 feet bgs, respectively.

The logs of the borings are presented on Figures A-1 through A-2 in Appendix A. The soil and rock encountered in the borings were classified in accordance with the Soil Classification Chart presented on Figure A-3 and the physical properties criteria for rock descriptions on Figure A-4, respectively.

Soil and rock samples were obtained using two types of driven split-barrel samplers and one push sampler:

- Sprague and Henwood (S&H) split-barrel with a 3.0-inch outside diameter and 2.5-inch inside diameter, lined with steel tubes and an inside diameter of 2.43 inches;
- Standard Penetration Test (SPT) split barrel sampler with a 2.0-inch outside diameter and 1.5-inch inside diameter, without liners; and
- Shelby Tube (ST) sampler with a 3-inch outside diameter and a 2.93-inch inside diameter.

The sampler types were chosen on the basis of soil type and desired sample quality for laboratory testing. In general, the SPT sampler was used to evaluate the relative density of sandy soil and the S&H sampler was used to obtain samples in medium stiff to very stiff cohesive soil. The ST sampler was used to obtain relatively undisturbed samples of soft to very stiff cohesive soils.

The SPT and S&H samplers were driven with a 140-pound, above-ground, automatic safety hammer falling 30 inches. The samplers were driven up to 18 inches and the hammer blows required to drive the samplers every six inches of penetration were recorded and are presented

on the boring logs. A "blow count" is defined as the number of hammer blows per six inches of penetration. The blow counts required to drive the S&H and SPT samplers were converted to approximate SPT N-values to account for sampler type and hammer energy using factors of 0.7 and 1.2, respectively. The blow counts used for the conversions were: 1) the last two blow counts if the sampler was driven more than 12 inches; 2) the last one blow count if the sampler was driven more than six inches but less than 12 inches; or 3) the only blow count if the sampler was driven six inches or less. The final converted blow counts for each sample are shown on the boring logs.

The ST samplers were pushed hydraulically into the soil; the piston pressures measured in pounds per square inch (psi) required to advance the samplers are shown on the logs.

Upon completion of drilling, each boring was tremie grouted with cement grout in accordance with SFDPH requirements. Boreholes were patched with concrete or asphalt at the ground surface. The soil and rock cuttings and drilling fluids from the borings were collected in 55-gallon drums, which were stored temporarily at the site, tested, and eventually transported off-site for proper disposal.

3.2 Laboratory Testing

In the office, we reviewed the soil and rock samples obtained from our borings to confirm field classifications and select samples for laboratory testing. Soil samples were tested to measure moisture content, dry density, strength, plasticity, and compressibility. The laboratory test results are presented in Appendix B and are summarized on the boring logs.

3.3 Downhole Suspension Logging

Upon the completion of drilling and prior to grouting in Boring LB-1, NorCal Geophysical performed in-situ downhole suspension logging to measure shear and compression wave velocities of the subsurface materials within the boring. The details of the suspension logging methodology, procedures, and the results are presented in Appendix C.

4.0 SITE AND SUBSURFACE CONDITIONS

LANGAN's understanding of the site and subsurface conditions described in this section of the report are based on the results of our 2020 Phase 1 geotechnical investigation for the proposed development and a review of published literature.

4.1 Site Conditions

The site is a 28,790 square-foot asphalt-paved surface parking lot. Site grades are relatively level and range between Elevation 28.5 and 31 feet.[3]

The Clearway Energy Station T high-pressure steam cogeneration plant bounds the site to the northeast; three, three-story residential hotel buildings (35-37, 39-41, and 43-45 6th Street) and a seven-story residential hotel building (47-55 6th Street) bound the site to the southwest. Information regarding basements and foundations for the adjacent structures is not available at this time.

4.2 Subsurface Conditions

The site is outside of the historical shoreline, locally referred to as the Sullivan Marsh (see Figure 3) and within the regional seismic hazards zones map (Figure 6)

The available subsurface information indicates that in general, the site is underlain by fill, Dune sand, Marsh deposit, Colma Formation sand, Old Bay Clay, alluvium, and Franciscan Complex bedrock.

4.2.1 Soil and Rock Conditions

The material types and general descriptions of their physical characteristics are summarized below:

Fill: The site is blanketed by 8 to 8½ feet of very loose to medium dense sand with varying silt and clay contents, with brick, concrete, and other debris fragments.

Dune Sand: The fill is underlain by a 19- to 19½-foot-thick layer of fine-grained, poorly graded sand (Dune sand). The sand is loose to dense, and typically grades denser with depth. The sand is moist to wet and extends to depths of 27 to 28 feet below site grades, an approximate Elevation of 2 feet.

[3] Elevations from *Topographic and Boundary Survey of 469 Stevenson Street*, by Luk and Associates dated 24 August 2018, and are based on the Historic City of San Francisco datum.

Marsh Deposit: A 6½- to 10-foot-thick Marsh deposit underlays the Dune sand. This deposit consists of medium dense clayey sand and medium stiff sandy clay. The bottom of the Marsh deposit extends to depths of 37 to 38 feet below site grades, approximate elevations of -7 to -9 feet.

Colma Formation: Beneath the marsh deposit (below depths of 37 to 38 feet bgs) is a 60- to 77½-foot thick layer of sandy soil with varying clay and silt content, known locally as the Colma Formation. The Colma Formation is generally dense to very dense, is generally strong and relatively incompressible. The Colma Formation extends to depths of 98 and 114.5 feet bgs, about Elevation -69 and -84.5 feet. A 2-foot-thick medium stiff clay layer was encountered at 89 feet bgs within the Colma Formation at Boring LB-2.

Old Bay Clay: The Colma Formation is underlain by a 24- to 37-foot thick layer of marine clay known locally as Old Bay Clay. Old Bay Clay is medium stiff to very stiff with overconsolidation ratios[4] about 1.8 to 2.0. The Old Bay Clay extends to depths of 135 to 138.5 feet bgs, about Elevation -106 to -108.5 feet.

Alluvium/Residual Soil: The Old Bay Clay is underlain by dense to very dense sand and very stiff to hard clay (alluvium and residual soil) to bedrock. Consolidation test results indicate the alluvial clay is overconsolidated and slightly compressible. The alluvium/residual soil extends to depths of about 243 to 249 feet, about Elevation -220 to -213 feet, which is approximate top of bedrock.

Bedrock: Bedrock at the site consists of a Franciscan Complex Mélange, typically a mixture of sheared and folded sedimentary, igneous, and metamorphic rocks resulting from large-scale tectonic processes. Bedrock consists predominantly of siltstone and sandstone, and is intensely fractured to fractured, low to moderately hard, weak to friable, and little weathered.

4.2.2 Groundwater

During our 2020 investigation groundwater levels were measured in the borings at approximately 19.5 and 32 feet from existing site grades during and after drilling. However, these measurements do not represent stabilized groundwater levels. The groundwater level would vary seasonally depending on rainfall infiltration and time of year. In addition, the groundwater level would vary from dewatering activities in the vicinity and utility leaks. The site is also sufficiently

[4] Overconsolidation ratio refers to the ratio of the maximum past pressure a soil has experienced over the existing effective overburden pressure felt by the clay under today's conditions.

close to the San Francisco Bay to be influenced by future sea level rise; however, it is not within the San Francisco Sea Level Rise Vulnerability zone (see Section 4.3). On the basis of the available groundwater information (including the historic groundwater levels, between 10 and 30 feet bgs, assuming an average of 20 feet bgs) and past investigations in the vicinity of the site, and to account for seasonal fluctuations and a reasonable consideration for near-future sea level rise, we judge the groundwater level within the project site could rise to within 16 feet from existing street grades, which corresponds to Elevation 13 feet.

4.3 Sea Level Rise

According to the Sea Level Rise Vulnerability (SLRV) and Consequences Assessment (2020)[5] for the City of San Francisco, by the end of the century (year 2100), about 5.5 feet of sea level rise (SLR) could occur, which represents the upper-bound projection. For long-range planning, Capital Planning Committee Guidance defines a SLRV Zone based on the National Research Council's (NRC) upper range (unlikely, but possible), end-of-century SLR estimate, in the event that future greenhouse gas emissions and land ice melting accelerates beyond current predictions. The Zone, therefore, includes shoreline areas that could be exposed to 66 inches of permanent SLR inundation with temporary flooding from a 100-year extreme tide if no adaptation measures or actions are taken. The 100-year extreme tide is consistent with Preliminary Flood Insurance Rate Maps (FIRMs) released by the Federal Emergency Management Agency (FEMA) in November 2015 and with FEMA's West Coast SLR Pilot Study (2015). For ongoing environmental review and project approvals, the City uses the NRC's most likely SLR projection of 36 inches of sea level rise by 2100. The project site is not within the San Francisco SLRV zone.

5.0 REGIONAL SEISMICITY AND FAULTING

The project site is in a seismically active region. Numerous earthquakes have been recorded in the region in the past, and moderate to large earthquakes should be anticipated during the service life of the proposed development. The San Andreas, San Gregorio, and Hayward faults are the major faults closest to the site. These and other faults of the region are shown on Figure 4. For each of these faults, as well as other active faults within about 50 kilometers (km) of the site, the distance from the site and estimated mean Moment magnitude[6] [2014 Working Group on California Earthquake Probabilities (WGCEP) (2015) and Uniform California Earthquake Rupture

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5 City and County of San Francisco. February 2020. Sea level rise Vulnerability and Consequences Assessment. Online https://sfplanning.org/sea-level-rise-action-plan#info. Accessed July 1, 2022.

6 Moment magnitude is an energy-based scale and provides a physically meaningful measure of the size of a faulting event. Moment magnitude is directly related to average slip and fault rupture area.

Forecast Version 3 (UCERF3) as detailed in the United States Geological Survey Open File Report 2013-1165] are summarized in Table 1. The mean moment magnitude presented in Table 1 was computed assuming full rupture of the segment using Hanks and Bakun (2008) relationship.

TABLE 1
Regional Faults and Seismicity

Fault Segment	Approx. Distance from Fault (km)	Direction from Site	Mean Characteristic Moment Magnitude
San Andreas 1906 event	13.3	Southwest	8.1
Total Hayward-Rodgers Creek Healdsburg	17	East	7.6
Total San Gregorio	18	West	7.6
Pilarcitos	20	Southwest	6.7
Contra Costa (Lafayette)	29	East	6.1
Contra Costa Shear Zone (connector)	30	East	6.6
Franklin	31	Northeast	6.7
Contra Costa (Larkey)	32	East	6.0
Contra Costa (Dillon Point)	33	Northeast	6.1
Total Calaveras	33	East	7.5
Monte Vista - Shannon	34	South	7.0
Mount Diablo Thrust	34	East	6.6
Mission (connected)	35	East	6.1
Concord	39	East	6.4
Green Valley	41	Northeast	6.8
Contra Costa (Vallejo)	41	Northeast	5.6
Contra Costa (Lake Chabot)	42	Northeast	5.6
Clayton	45	East	6.4
West Napa	46	Northeast	6.8
Greenville	48	East	7.1

Note:
1. The table above is a summary and does not include all the fault segmentation, alternate traces and low activity faults included in the UCERF3 model.

Figure 4 also shows the earthquake epicenters for events with magnitude greater than 5.0 from January 1800 through August 2014. Since 1800, four major earthquakes have been recorded on the San Andreas fault. In 1836 an earthquake with an estimated maximum intensity of VII on the Modified Mercalli (MM) scale (Figure 5) occurred east of Monterey Bay on the San Andreas fault (Toppozada and Borchardt 1998). The estimated Moment magnitude, $M_{w,}$ for this earthquake is

about 6.25. In 1838, an earthquake occurred with an estimated intensity of about VIII-IX (MM), corresponding to an M_w of about 7.5. The San Francisco Earthquake of 1906 caused the most significant damage in the history of the Bay Area in terms of loss of lives and property damage. This earthquake created a surface rupture along the San Andreas fault from Shelter Cove to San Juan Bautista approximately 470 kilometers in length. It had a maximum intensity of XI (MM), an M_w of about 7.9, and was felt 560 kilometers away in Oregon, Nevada, and Los Angeles. The Loma Prieta Earthquake occurred on 17 October 1989 in the Santa Cruz Mountains with an M_w of 6.9, the epicenter of which is approximately 95 km from the site.

In 1868 an earthquake with an estimated maximum intensity of X on the MM scale occurred on the southern segment (between San Leandro and Fremont) of the Hayward fault. The estimated M_w for the earthquake is 7.0. In 1861, an earthquake of unknown magnitude (probably an M_w of about 6.5) was reported on the Calaveras fault. The most recent significant earthquake on this fault was the 1984 Morgan Hill earthquake ($M_w = 6.2$).

The most recent earthquake to affect the Bay Area occurred on 24 August 2014 and was located on the West Napa fault, approximately 49 km northeast of the site, with an M_W of 6.0.

The 2016 U.S. Geologic Survey (USGS) predicted a 72 percent chance of a magnitude 6.7 or greater earthquake occurring in the San Francisco Bay Area in the next 30 years (Aagaard et al. 2016). More specific estimates of the probabilities for different faults in the Bay Area are presented in Table 2.

TABLE 2

Estimates of 30-Year Probability (2014 to 2043) of a Magnitude 6.7 or Greater Earthquake

Fault	Probability (percent)
Hayward-Rodgers Creek	33
Calaveras	26
N. San Andreas	22
San Gregorio	16
Mount Diablo Thrust	16
Greenville	6

6.0 SEISMIC HAZARDS

During a major earthquake on a segment of one of the nearby faults, strong to very strong shaking is expected to occur at the project site. Strong shaking during an earthquake can result in ground failure such as that associated with soil liquefaction[7], lateral spreading[8], and seismic densification[9]. Each of these conditions has been evaluated based on our geotechnical investigation, literature review and analyses, and is discussed in this section.

6.1 Ground Shaking

The seismicity of the site is predominantly governed by the activity of the San Andreas and Hayward faults. However, ground shaking from future earthquakes on any of the nearby faults could be felt at the site. The intensity of earthquake ground motion at the site would depend upon the characteristics of the generating fault, distance to the earthquake fault, magnitude and duration of the earthquake, and specific subsurface conditions.

To quantify ground shaking at the site, we performed a Probabilistic Seismic Hazard Analysis (PSHA) and deterministic analysis to develop site-specific horizontal response spectra for three levels of shaking. Details on the development of the recommended spectra for the project are presented in Section 8 and Appendix D.

6.2 Liquefaction and Associated Hazards

When a saturated soil with little to no cohesion liquefies during a major earthquake, it experiences a temporary loss of shear strength as a result of a transient rise in excess pore water pressure generated by strong ground motion. Flow failure, lateral spreading, differential settlement, loss of bearing, ground fissures, and sand boils are evidence of excess pore pressure generation and liquefaction.

The site is within a liquefaction hazard zone as designated by the California Divisions of Mines and Geology (CDMG) seismic hazard zone map for the area titled State of California Seismic

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7 Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits.

8 Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces.

9 Seismic densification (also referred to as Differential Compaction) is a phenomenon in which non-saturated, cohesionless soil is densified by earthquake vibrations, causing ground-surface settlement.

Hazard Zones, City and County of San Francisco, Official Map, dated 17 November 2001 (Figure 6). California Geological Survey (CGS; former CDMG) has recommended the content for site investigation reports within seismic hazard zones be performed in accordance with Special Publication 117A, *Guidelines for Evaluating and Mitigating Seismic Hazard Zones in California*, dated 11 September 2008. Our evaluation of site seismic hazards was performed in general accordance with these guidelines. No observations of liquefaction and lateral spreading were documented near the project site during either the 1906 San Francisco or 1989 Loma Prieta earthquakes (Youd and Hoose, 1978) and (Holzer, 1998).

We generally used the procedures from the Boulanger and Idriss (2014) method for the evaluation of liquefaction triggering for the soil at the site. The level of ground shaking used in our liquefaction evaluation was based on the Maximum Considered Earthquake Geometric Mean (MCE_G). A site-specific MCE_G peak ground acceleration (PGA_M) value of 0.614 times gravity was used in our analyses. We used a design ground water depth of 16 feet (Elevation 13 feet) and a magnitude of 8.05 earthquake, which is the maximum Moment Magnitude for the San Andreas Fault, located about 13.3 kilometers from the site as shown in Table 1.

The results of our analyses indicate that the loose to medium dense Dune sand and medium dense clayey sand within the Marsh deposit, encountered below the design groundwater level, are susceptible to liquefaction during a major seismic event on a nearby fault. Using the procedures described by Tokimatsu and Seed (1984) and Cetin (2009), which includes a factor that scales the contribution of individual liquefiable layers to total surface settlement depending on the depth of the layer, we estimate that liquefaction-induced settlement in the Dune sand and Marsh deposit sand could be on the order of 2 inches during an MCE_G event. The potentially-liquefiable soil would be removed in its entirety beneath the proposed structure during basement excavation. Therefore, liquefaction-induced settlement would not affect the performance of the proposed structure.

6.3 Lateral Spreading

Lateral spreading is a phenomenon in which a surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. The surficial blocks are transported downslope or in the direction of a free face, such as a channel, by earthquake and gravitational forces. Lateral spreading is generally the most pervasive and damaging type of liquefaction-induced ground failure generated by earthquakes. According to Youd, Hansen and Bartlett (2002), for significant lateral spreading displacements to occur, the liquefied soil should consist of saturated cohesionless sediments with penetration resistance, $(N_1)_{60}$, less than 15.

Our evaluation indicates the soil susceptible to liquefaction in the borings generally had a corrected blow counts $(N_1)_{60\text{-}cs}$ value greater than 15, and therefore the potential for lateral spreading at the site is low.

6.4 Seismic Densification

Seismic densification can occur during strong ground shaking in loose, clean granular deposits above the water level, resulting in ground surface settlement. The degree of susceptibility to seismic densification is directly related to the relative density of the existing granular soil.

In general, the loose to medium dense, granular fill and Dune sand encountered above the groundwater table at the site is susceptible to seismic densification. Using the Pradel (1998) method for evaluating seismically-induced settlement in dry sand, we expect localized seismic densification on the order of ½ inch to 8 inches can occur in these layers near the project site. This settlement is in addition to liquefaction induced settlement discussed in Section 6.2. As with the liquefiable soils, the fill and Dune sand susceptible to seismic densification would be removed in their entirety by the proposed basement excavation, and therefore seismic densification is not expected to affect the performance of the proposed structure.

6.5 Fault Rupture

Historically, ground surface fault rupture closely follows the trace of geologically young faults. The site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, and no known active or potentially active faults exist on the site. We therefore conclude the risk of fault offset rupture at the site from a known active fault is low. In a seismically active area, the remote possibility exists for future faulting in areas where no faults previously existed; however, we conclude the risk of surface faulting and consequent secondary ground failure is low.

6.6 Tsunami

Based on recent published maps (California Emergency Management Agency (CEMA), 2009), the site is not within the limits of the tsunami inundation area. Therefore, the potential for tsunami inundation is low.

7.0 DISCUSSION AND CONCLUSIONS

From a geotechnical standpoint, and based on the results of the Phase 1 investigation, we conclude the proposed structure is feasible as planned. However, the project feasibility should be further confirmed based on the results of the Phase 2 field investigation and laboratory testing program.

To construct the proposed structure and basement, temporary shoring, dewatering, excavations on the order of 46 to 52 feet bgs, and installation of an appropriate foundation would be required. The primary geotechnical considerations for the proposed project include:

- selection of appropriate foundation(s) for the proposed structure;
- selection of appropriate shoring system(s) to support the excavation, surrounding buildings, streets, and utilities during construction of the basement and foundation;
- presence of groundwater within 16 feet from the existing site grades;
- presence of adjacent buildings; and
- earthquake-induced ground deformations outside of the proposed basement footprint.

A summary of the geotechnical issues is presented below; these and other geotechnical issues are discussed in the remainder of this section.

7.1 Mat Foundation and Settlement

The excavation for the proposed structure and mat foundation would extend below the fill, Dune sand, and Marsh deposit; Colma Formation would be encountered at the foundation subgrade. The proposed structure can be supported on a mat bearing on dense to very dense Colma Formation provided the settlement induced by the anticipated building loads is acceptable.

To evaluate ground settlement from the anticipated building loads we developed a settlement model using Settle3[10]. Our settlement analysis is based on the following assumptions:

- average foundation pressures by MKA for dead plus live loads of 7,040 psf for the 30-story tower, 2,860 for the 6-level podium, and 1,760 for the 1-level podium portions a 4-foot-thick mat for the podium and a 10-foot thick mat for the tower;

[10] Settle3, version 4.023

- bottom of excavation including the mat at 46 feet bgs for the podium and 52 feet bgs for the tower;
- groundwater at 16 feet bgs (Elevation 13 feet); and
- unit weight of 150 pounds per cubic foot for the mat.

We used the following soil properties for our settlement analyses:

- Confined modulus, E, of 6,000 kips per square foot for Colma and alluvium dense to very dense sand; and
- Overconsolidation ratio (OCR) of 1.8, and recompression ratio of 0.05 in the stress range of interest, for Old Bay Clay; and
- OCR of 2, and a recompression ratio of 0.03 in the stress range of interest, for alluvium clay.

For our settlement analyses, we modeled site dewatering and excavation, and building construction, using the following assumed stages and durations:

- Dewatering and excavation to the bottom of the mat occurs over a three month period (time t = 0 when dewatering begins; t= 3 months for excavation completion);
- Open excavation for mat construction occurs over a one month period; (t= 4 months); and
- Building is constructed, dewatering is turned off and water returns to original elevation one year after the mat is constructed (t= 1 year and 4 months).

The results of our settlement analyses indicate ground settlements between 1 to 2 inches, 50 years after the end of construction at the podium, and 2 to 3¾ inches at the tower portions of the structure. Anticipated settlement contours 50 years after construction are included in Figure 6. The settlement contours do not include settlement under the weight of the mat (contours present settlement after mat placement). Per AB-111, "*the total short-term and long-term computed settlement of the foundation under gravity and seismic loads should not exceed 4 inches.*" Final settlement analyses for a mat foundation should include the results of the Phase 2 design level geotechnical investigation.

The mat foundation should be waterproofed and designed to resist hydrostatic pressures. If the weight of the building and mat are not sufficient to resist uplift loads, additional uplift resistance may be provided using tiedown anchors gaining capacity in Colma Formation. During construction, the structural engineer needs to determine when the dewatering can be turned off.

7.2 Deep Foundations

The results of the settlement analyses indicate a mat foundation is feasible for the support of the proposed structure. The feasibility of the mat needs to be confirmed with additional settlement analyses that would incorporate the results of the Phase 2 field investigation and laboratory testing program. If the supplemental settlement evaluation indicates a mat is not feasible, then deep foundations that extend through the Old Bay Clay into the underlying alluvium and residual soil and/or Franciscan Formation bedrock would be required. Large-diameter, drilled cast-in-place piers (also known as drilled shafts) are feasible.

Drilled shafts should be installed using polymer drilling slurry; the use of bentonite slurry should be excluded. In addition to slurry, casing should be installed extending to the bottom of the shaft or top of bedrock. For drilled shafts, the concrete should be placed using tremie techniques to displace all of the drilling fluid.

Drilled shafts should transfer structural loads to the relatively incompressible sand and clay deposits and/or bedrock below the Old Bay clay; however, some settlement of the foundations would still occur. Considering the anticipated foundation lengths and loads, the foundation elements could compress about 1 to 2 inches. Differential settlement of about one inch is anticipated between adjacent foundation elements.

7.3 Ground Settlement Outside the Proposed Structure

Exterior slabs, driveways, utilities, and utility connections at the building interface should be designed to accommodate potential differential settlement of up to 10 inches where the improvements settle relative to the building as a result of liquefaction and seismic densification. They should also accommodate the anticipated static building settlement of up to 2.5 inches where the building settles relative to exterior improvements. These settlements are expected to occur at different times during the life of the building. The total anticipated differential settlement at the building interface is on the order of 10 inches.

7.4 Shoring

We anticipate the soil at the site can be excavated with conventional earthmoving equipment such as loaders and backhoes. However, remnants of any buried foundations and/or building slabs and other debris may be encountered, which could require the use of jack hammers or hoe-rams to break apart and remove. Additionally, concrete debris should be expected within the fill.

Construction of the basement and mat would require an excavation on the order of about 46 to 52 feet bgs. The excavation would need to be shored to protect the surrounding improvements. There are several key considerations in selecting a suitable shoring system. Those we consider of primary concern are:

- protection of surrounding improvements, including roadways, utilities, and nearby structures;
- penetration of shoring system into the dense Colma Formation below the bottom of the excavation;
- control of groundwater inflow to limit groundwater drawdown levels;
- presence of and potential difficulty of dewatering the marsh deposit along the sides of the excavation;
- proper construction of the shoring system to reduce the potential for ground movement; and
- construction costs.

As noted in Section 4.1, the site is adjacent to buildings on the northeast and southwest. The planned excavation would need to be retained with a stiff shoring system designed to limit the shoring deflections adjacent to the existing structures. The shoring would need to be designed for the surcharge pressures from the buildings or the buildings should be underpinned prior to site excavation.

Several methods of shoring are available; we have qualitatively evaluated the following systems:

- conventional soldier pile and lagging;
- DSM impervious walls; and
- deep concrete diaphragm walls.

Soldier pile and lagging is typically the most economical shoring system, consisting of steel beams and concrete placed in predrilled holes extending below the bottom of the excavation. Wood lagging is placed between the piles as the excavation proceeds, and tiebacks and/or internal bracing can be installed if additional support is needed. Experience with other deep excavations in San Francisco has shown that groundwater would likely perch on top of the clay within the marsh deposits, which could cause the sand above the clay to flow into the excavation and cause settlement beyond the limits of the excavation footprint. Dewatering in and through the marsh deposit could be difficult. Because it would be necessary to dewater within the proposed excavation, the selected shoring system should be relatively impervious in order to limit seepage and soil loss through the shoring and reduce the drawdown of groundwater outside the site to limit settlement. Therefore, we conclude that a soldier pile and lagging system is not a viable shoring system for the project, and an impervious system should be used.

Impervious temporary shoring walls can be constructed using deep soil mixed (DSM) elements. The walls are constructed by treating soil in place with cement grout using mixing shafts consisting of auger cutting heads (referred to as the cutter soil mix method, or CSM), discontinuous flight augers, blades/paddles, or a specialty mixing tool to create DSM columns or panels. The DSM columns or panels are installed in an overlapping pattern to create a continuous impervious wall. Steel beams are placed in some of the DSM columns or panels to provide rigidity. DSM walls are considered temporary; permanent walls are built within the shoring. Because these walls are continuous, they would temporarily reduce groundwater infiltration, resulting in the need for less dewatering. In addition, DSM walls are generally more rigid than soldier piles and lagging and can result in less shoring deformations. To properly reduce groundwater inflow in the excavation, the impervious wall would need to extend at least 30 feet below the bottom of the excavation; the actual embedment below the bottom of the excavation would need to be determined by the shoring/dewatering design engineer.

Concrete diaphragm walls are reinforced concrete walls constructed by slurry trench method. The walls are constructed in sections or panels; careful, alternating panel installation and sequencing is necessary to provide sufficient support to adjacent structures until a previously installed panel has attained sufficient strength. During excavation of a panel, slurry is pumped into and maintained within the trench to prevent the soil from caving. After the excavation reaches the design depth and the reinforcement cage is placed, the slurry is displaced by concrete that is placed through a tremie pipe. One primary difference between concrete diaphragm walls and a DSM wall is that the diaphragm wall is comprised of structural strength

concrete and can be used as both temporary shoring and the permanent walls. However, when using a concrete diaphragm wall as the permanent basement wall, waterproofing can be challenging.

Due to the planned excavation depths, the shoring walls would require grouted tiebacks and/or internal bracing for additional lateral support. Tiebacks would require encroachment agreements from adjacent property owners as well as permits from the City of San Francisco. If adjacent buildings have basements, the basements would inhibit installation of tiebacks and depth of the basements should be checked for shoring design stresses. Consequently, internal bracing (diagonal, cross-lot, and/or rakers) could be required to retain the shoring walls. If tiebacks are used, they should be drilled using a smooth-cased method to reduce the potential for loss of ground beneath adjacent buildings and street improvements. Installation of tie-backs below the groundwater level could be problematic from both soil caving and water control perspectives.

To support the adjacent buildings during excavation, underpinning consisting of slant-drilled piles gaining support in the Colma Formation (below bottom of the excavation), as discussed in Section 7.6, can be used.

Where underpinning is not feasible, the shoring should be designed for the surcharge from adjacent foundations.

The design, construction, and performance of the shoring and underpinning systems should be the responsibility of the contractor and should be designed by an engineer knowledgeable in this type of construction. We should review the geotechnical aspects of the shoring system proposed by the contractor prior to installation.

7.5 Excavation Settlement and Monitoring

Shoring systems are expected to deflect during installation and excavation. This lateral displacement could manifest itself as settlement and/or lateral movement of adjacent improvements. The magnitude of these movements is difficult to estimate because it depends on many factors, including the type of shoring system used and the contractor's skill in installing it. Clough and O'Rourke (1990) analyzed measured lateral displacements and associated ground settlements behind actual excavations in sand and concluded that both the lateral movements and settlements varied from 0.1 to 0.3 percent of the excavation depth. Therefore, for the anticipated excavation depths of about 46 to 52 feet, these empirical relationships would suggest impervious DSM shoring would likely displace laterally about ½ inch to 1.5 inches. These

estimates assume the quality of construction would meet or exceed that considered standard in the construction industry. Control of ground movement would depend on the timeliness of installation of lateral restraint as well as on the design and construction techniques. Potential shoring deformations should be calculated by the shoring designer.

The associated settlements predicted from the empirical data suggest ground surface settlements behind the shoring would have a similar magnitude as the lateral movement. The settlement typically manifests as a trough, with the greatest settlement occurring at a horizontal distance behind the shoring at between about ½ and 1 times the height of the excavation. Beyond this length, the estimated settlement should decrease with distance from the wall, and should be very small at a distance twice the excavation depth. A monitoring program should be established prior to installing the shoring system to monitor and evaluate the effects of the construction on the adjacent improvements. The monitoring program would be included in the shoring drawings, and reviewed by the GEOR. The GEOR would confirm implementation of the monitoring program.

A pre-construction conditions documentation and monitoring program of existing improvements should be implemented for identifying conditions of areas before construction commences, and to confirm impacts (if any) due to the installation and performance of the shoring (Section 7.9). A monitoring program should be implemented to establish a baseline of conditions before starting construction and identify the effects of the construction on the adjacent buildings and improvements. The monitoring program should include survey points, vibration and sound-level monitors, tilt-meters, and crack meters installed in and on adjacent structures, and inclinometers to monitor the movement of shoring walls, and piezometers to monitor groundwater levels. Recommendations for the monitoring program should be included in the design level geotechnical investigation report. The monitoring –program should be included in the shoring documents. During construction, the GEOR would confirm the monitoring program is implemented in accordance with the GEOR's recommendations. Pre-construction documentation and a monitoring program are standard construction practices.

7.6 Underpinning

Where the proposed excavation extends deeper than the foundations of adjacent buildings and if the shoring is not designed for the surcharge from the adjacent foundations, underpinning should be provided to support the adjacent building loads. Surcharge from adjacent foundations would need to be considered in the design of the shoring and permanent basement walls of the proposed structure, or the adjacent buildings would need to be underpinned.

Underpinning could consist of steel piles installed in slant-drilled shafts (slant piles). The excavation face between the underpinning piles should be retained using soil mixed piers, provided the existing footing can span between piles. The underpinning piles should be designed to resist vertical building loads, vertical tieback loads (if tiebacks are used), and lateral earth pressures. The piles should be pre-loaded by jacking against the foundation, and the top of the pile dry-packed to fit tightly with the base of the underpinned foundation. Underpinning piles should act in end bearing in the Colma Formation below the depth of the proposed excavation, while slant piles gain their capacity in friction along the sides of the shaft. Alternatively, the shoring system can be designed for the foundation surcharge imposed by the adjacent structures.

7.7 Groundwater and Dewatering

Groundwater in the borings drilled on the site was encountered within 19.5 feet bgs; the high groundwater level can be 16 feet bgs (approximately Elevation 13 feet). Elevation 13 feet should be assumed as the design groundwater level for preliminary evaluations.

The mat foundation would extend below the design groundwater level. The mat and below-grade walls would need to be waterproofed and designed to resist uplift and hydrostatic pressures based on the high anticipated groundwater level.

For an impervious wall shoring system (such as a DSM wall, secant pile wall, or concrete diaphragm wall (see Section 7.4 for recommended shoring wall systems), we anticipate dewatering would be required only within the site to facilitate excavation for the basement. The dewatering system would need to account for excavation of soil beneath the mat. The use of an impervious shoring system would limit the potential for lowering of the groundwater level outside of the excavation. The contractor should be prepared to control groundwater after final subgrade has been reached.

Variables that would influence the performance of the dewatering system and the quantity of water produced include the shoring design (e.g., the depth of the impervious wall), the number of wells, the depth and positioning of the wells, the interval over which each well is screened, and the rate at which each well is pumped. The site dewatering should be designed by an experienced dewatering designer and implemented by an experienced dewatering contractor to reduce potential for settlement outside the excavation, relative to the baseline groundwater

elevation established prior to excavation. The dewatering designer should establish soil hydraulic conductivity values, as needed, and perform site specific pump tests or other appropriate laboratory or field tests needed to confirm hydraulic conductivity values for soil.

A monitoring program should be implemented to establish the baseline pre-construction groundwater levels at the site for a period of at least twelve months to capture seasonal fluctuations in groundwater. Groundwater monitoring should continue for the duration of the operation of the dewatering system, at a minimum. The monitoring program should be included in the shoring drawings, and reviewed by the GEOR. The GEOR would confirm implementation of the monitoring program.

The contractor would need to obtain a dewatering and discharge permit from the City and County of San Francisco Public Utility Commission (SFPUC) for discharging water into the local combined sewer system. Currently, there is a fee for disposing of construction generated water into the City's wastewater collection system. Selection of the shoring and dewatering systems should be coordinated to reduce overall costs.

7.8 Construction Considerations

Because the excavation would extend below groundwater, the soil at subgrade level would be near saturation even after dewatering. To protect the subgrade, heavy construction equipment (such as loaders or heavy excavators) should not be allowed within three feet of subgrade and the final excavation can be made with an excavator equipped with a smooth bucket. Following final excavation, the mat subgrade can be protected by pouring a slab consisting of 3 to 4 inches of lean concrete.

Concrete fragments were encountered in the fill in one of the borings. In addition, building foundation elements from previous structures could be encountered. Temporary shoring installation could be impeded by the presence of rubble in the fill. Coring or other means would need to be used to install shoring through buried foundation elements, or the buried elements would need to be removed prior to shoring installation.

Because the project site is in the Maher area, handling and disposal of the fill material would need to be performed in accordance with a site mitigation plan (SMP) that includes health and safety criteria.

7.9 Construction Monitoring

A pre-construction survey and monitoring program should be undertaken prior to installation of shoring, excavation, and foundation installation to monitor the effects of these operations. The requirement for a pre-construction survey should be included in the shoring drawings. During construction, the geotechnical engineer would confirm the monitoring program is implemented per the geotechnical engineer's recommendations. . The survey should include documenting the condition of the surrounding structures, including a crack survey, prior to and following construction. The monitoring should provide timely data, which can be used to modify the shoring system if needed. Survey points should be installed on the shoring and on the adjacent streets, buildings, and other improvements that are within 150 feet of the proposed excavation. These points should be used to monitor the vertical and horizontal movements of the shoring and these improvements. These points should be selected with the help of the geotechnical engineer, so they can provide the most value to the project.

To monitor ground movements, shoring movements, and dewatering outside the site, we recommend installing the instrumentation listed below:

Slope indicators: We recommend installing a slope indicator on each side of the shoring. Inclinometers should extend to a depth of at least 50 feet below the maximum excavation depth.

Piezometers: We recommend installing a piezometer on Stevenson and Jessie Streets behind the shoring walls.

Survey points: Survey points should be installed on the shoring, underpinning, adjacent streets, and neighboring buildings within 50 feet of the excavation perimeter prior to the start of excavation. These survey points should be used to monitor the movement of the shoring and surrounding facilities during excavation.

The survey points and slope inclinometers should be measured every week until construction of the below-grade garage is complete. In addition, a thorough crack survey of buildings within 50 feet of the excavation should be performed prior to starting construction to provide a baseline in case claims of building damage caused by the proposed construction are made. The contractor should provide safe access to all inclinometer locations. Where limited space is available, platforms may need to be constructed. Per Sections 7.5 and 7.7, during construction, LANGAN as the project geotechnical engineer would review the data from the monitoring program.

8.0 SEISMIC DESIGN

We expect this site would experience strong ground shaking during a major earthquake on any of the nearby faults. To estimate ground shaking at the site, we performed a Probabilistic Seismic Hazard Analysis (PSHA) and deterministic analysis to develop site-specific horizontal response spectra for two levels of shaking corresponding to the Risk-Targeted Maximum Considered Earthquake (MCE_R) per the 2019 SFBC/ASCE 7-16.

The MCE_R is defined in the ASCE 7-16 as the lesser of the probabilistic spectrum having two percent probability of exceedance in 50 years (2,475 year return period) or the 84th percentile deterministic event on the governing fault both in the maximum direction. The SLE spectrum is defined as a probabilistic spectrum with a 50 percent probability of exceedance in 30 years (43 year return period).

We performed probabilistic seismic hazard analysis (PSHA) and deterministic analysis to develop recommended horizontal spectra at the ground surface for the buildings for the Risk-Targeted Maximum Considered Earthquake (MCE_R) and Design Earthquake (DE) consistent with ASCE 7-16 and 2019 SFBC. Details of our analysis are presented in Appendix D.

The recommended horizontal basement level spectra are shown on Figure 8. Digitized values of the recommended MCE_R spectrum for a damping ratio of 5 percent are presented in Table 3.

TABLE 3

Recommended MCE_R and SLE Spectra Spectral Acceleration (g's)

Period (seconds)	MCE_R (5% Damping)
0.01	0.731
0.10	1.170
0.20	1.599
0.30	1.791
0.40	1.807
0.50	1.721
0.75	1.377
1.00	1.200
1.50	0.800
2.00	0.600
3.00	0.400
4.00	0.300
5.00	0.240
7.50	0.160
10.00	0.120

Because site-specific procedure was used to determine the recommended response spectra, the corresponding values of S_{MS} and S_{M1} per Section 21.4 of ASCE 7-16 should be used, as shown in Table 4.

TABLE 4

Design Spectral Acceleration Value

Parameter	Spectral Acceleration Value (g's)
S_{MS}	1.626*
S_{M1}	1.200

* Governed by the spectral value at 0.4 seconds

9.0 LIMITATIONS

The discussion and conclusions provided in this report result from LANGAN's interpretation of the geotechnical conditions existing at the site inferred from a limited number of borings. Actual subsurface conditions could vary. Recommendations for site grading, foundation and basement wall design, temporary shoring, seismic design, and other geotechnical aspects of this project should be developed after a design level (including a Phase 2) field investigation and laboratory testing program, and supplemental engineering analyses are performed. The results of the preliminary (Phase 1) field investigation and laboratory testing program and settlement analyses indicate a mat is feasible for the support of the proposed structure. Mat feasibility should be confirmed with the Phase 2 investigation program. The mat would be supported on dense to very dense sand of the Colma Formation. If drilled shafts to bedrock are required, design recommendations should be developed based on the results of the Phase 1 and Phase 2 exploration programs.

This report is preliminary and presents preliminary conclusions regarding the geotechnical aspect of the project based on the results of a limited geotechnical investigation, and is not intended to meet requirements of AB-082 and AB-111. The design level geotechnical investigation report should be prepared per AB-082 and AB-111 guidelines, for review by the EDRT assigned to the project by DBI.

Any proposed changes in structures, depths of excavation, or their locations should be brought to LANGAN's attention as soon as possible so that LANGAN can determine whether such changes affect the recommendations for the design level geotechnical investigation. Information on subsurface strata and groundwater levels shown on the logs represent conditions encountered only at the locations indicated and at the time of investigation.

10.0 SERVICES DURING DESIGN, CONSTRUCTION DOCUMENTS, AND CONSTRUCTION QUALITY ASSURANCE

During final design we should be retained to consult with the design team as geotechnical questions arise. Technical specifications and design drawings should incorporate LANGAN's recommendations. When authorized, LANGAN would assist the design team in preparing specification sections related to geotechnical issues such as earthwork, foundation design, backfill, and excavation support. LANGAN should also, when authorized, review the project plans, as well as Contractor submittals relating to materials and construction procedures for geotechnical work, to check that the designs incorporate the intent of our recommendations.

LANGAN should perform quality assurance observation and testing of geotechnical-related work during construction. The work requiring quality assurance confirmation and/or special inspections per the Building Code includes, but is not limited to, earthwork, backfill, tiedowns, and foundations, and excavation support. In fulfillment of these duties, during construction we should observe the installation of the temporary shoring, including testing of tiebacks. Prior to excavation activities we should observe the installation of piezometers and inclinometers and obtain baseline readings. During excavation, we should obtain readings on a regular basis. We would review monitoring data pertaining to shoring system performance and settlement of adjacent structures provided by the surveyor. Our engineer should observe installation and testing of any tiebacks and tiedowns, mat foundation subgrade preparation and installation of drilled piers, if used. We should also observe any fill placement and perform field density tests to check that adequate fill compaction has been achieved.

Recognizing that construction observation is the final stage of geotechnical design, quality assurance observation during construction by LANGAN is necessary to confirm the design assumptions and design elements, to maintain our continuity of responsibility on this project, and allow us to make changes to our recommendations, as necessary. The foundation system and general geotechnical construction methods that would be included in LANGAN's design level geotechnical investigation would be predicated upon LANGAN reviewing the final design and providing construction observation services for the owner.

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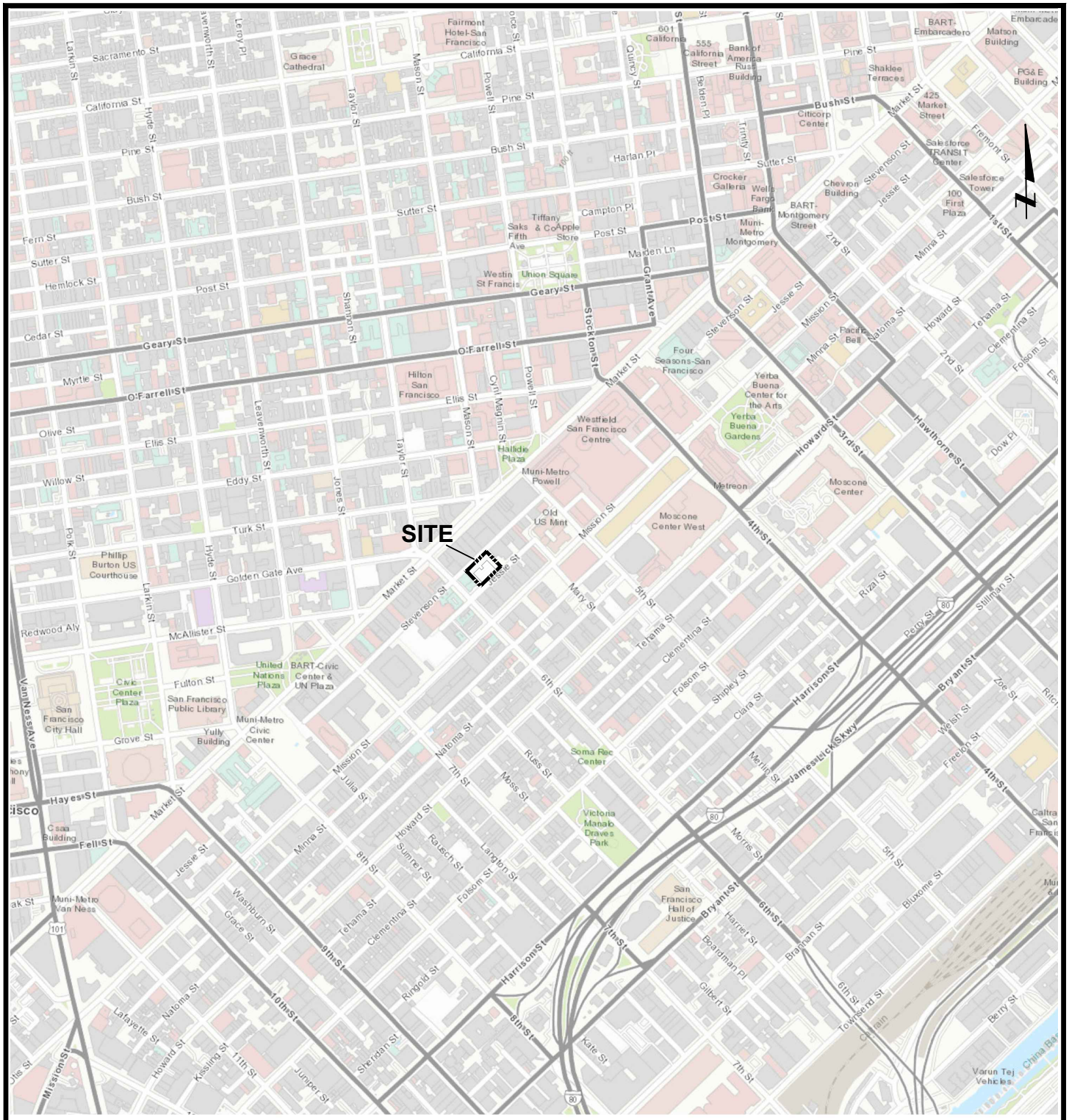
FIGURES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Perry St
Stillman St
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Willow St
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Powell St
Stockton St
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Montgomery St
Sansome St
Battery St
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Davis St
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Leidesdorff St
Pine St
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Page St
Haight St
Waller St
Carl St
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Laguna Honda Blvd
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Mission St
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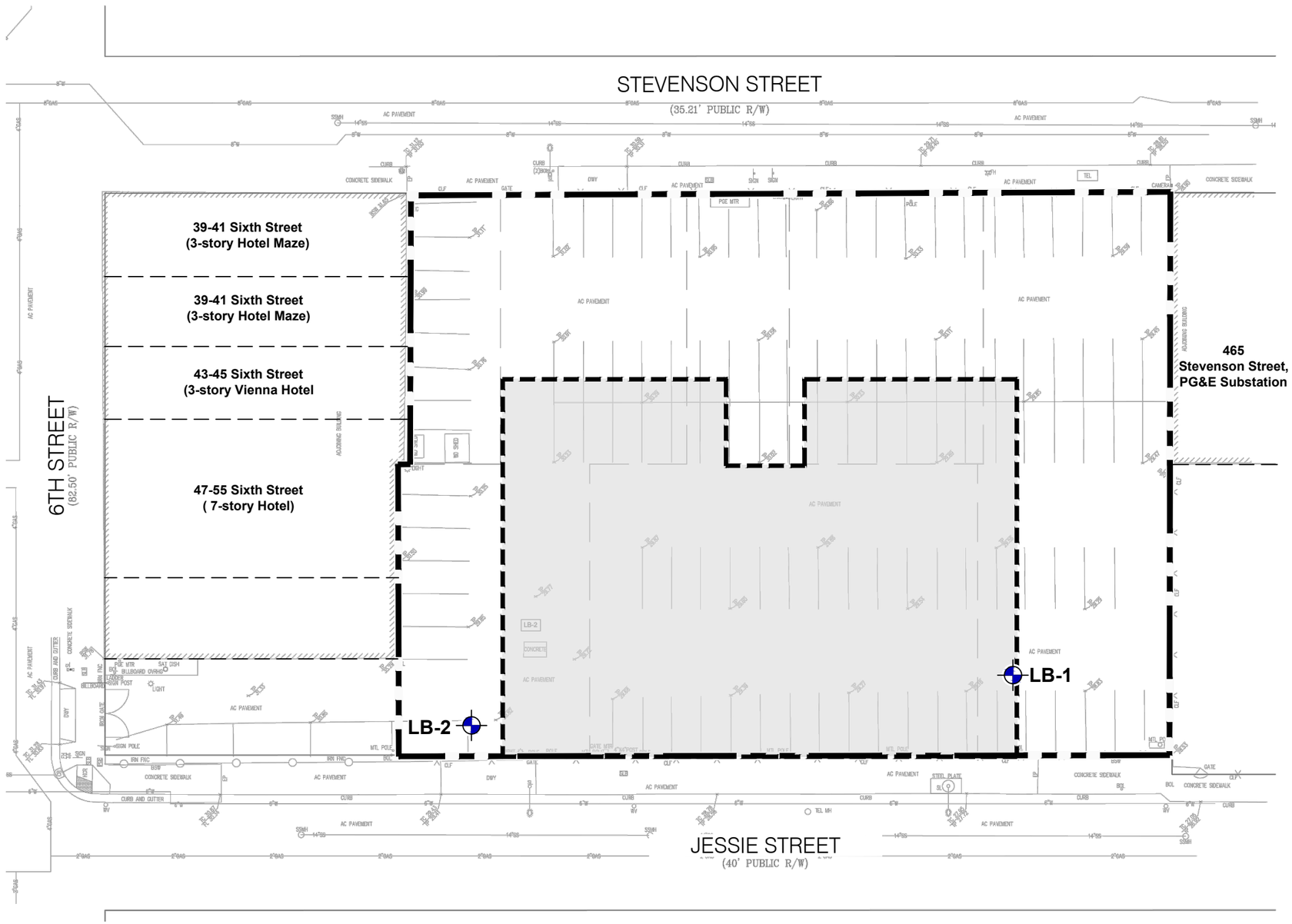
Pier 124
Pier 126
Pier 128
Pier 130
Pier 132
Pier



EXPLANATION

LB-1 Approximate location of boring by Langan, December 2020

Approximate site boundary

Approximate outline of proposed tower footprint

0 30 Feet

Approximate scale

Reference: 2016 Microsoft Corporation, Bing. Topographic base map by Luk and Associates titled :Topographic & Boundary Survey" , dated August, 2018.
Elevations based on old San Francisco City Datum.

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Project	Figure Title	Project No.	Figure
469 STEVENSON STREET SAN FRANCISCO SAN FRANCISCO COUNTY CALIFORNIA	SITE PLAN	731690402	2
		Date 04/01/2021	
		Drawn By AG	
		Checked By PB	

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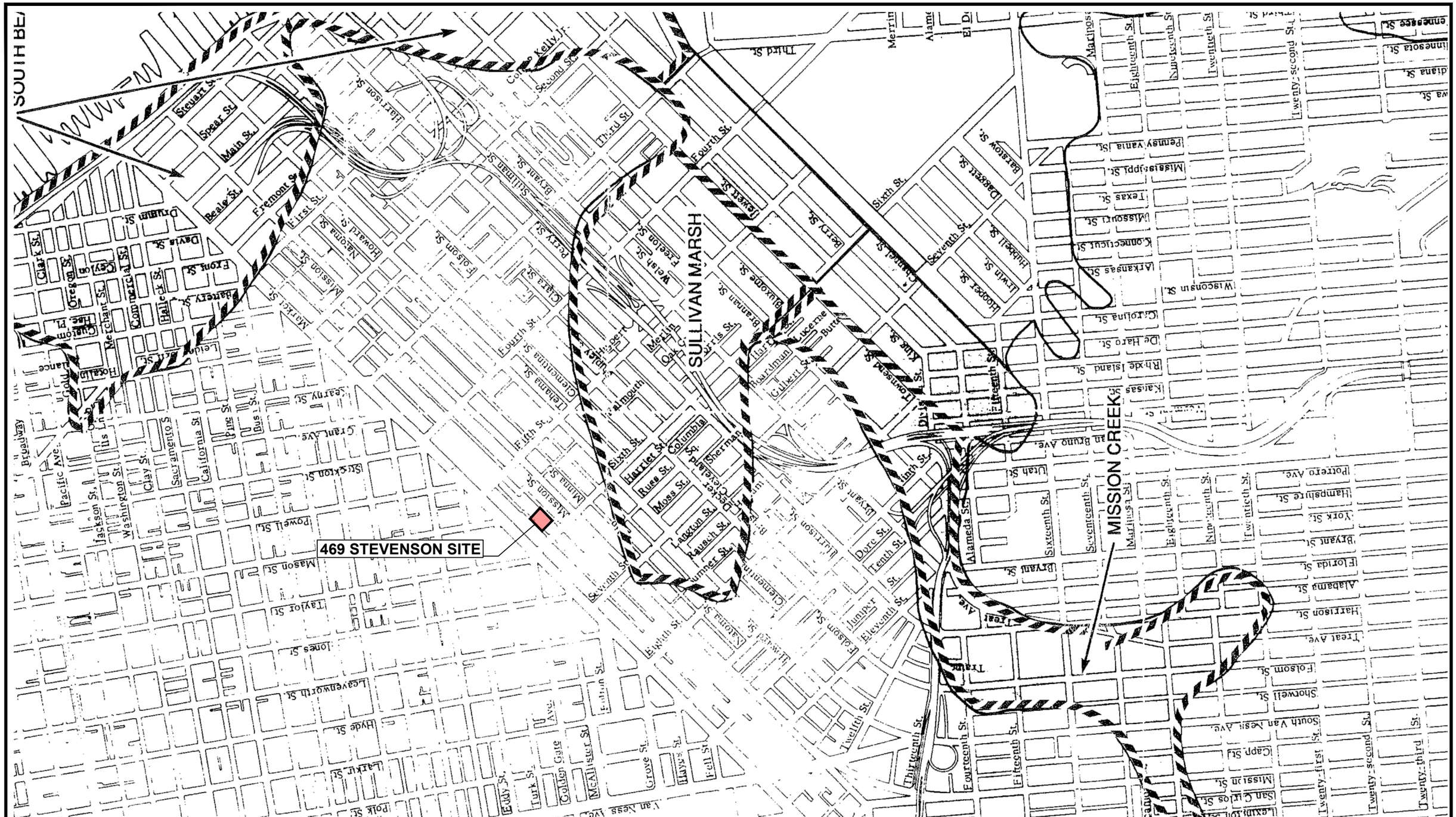
Filename: \\langan.com\data\SF\data4\731690402\Project Data\CAD\02\2D-DesignFiles\Geotechnical\731690402-B-SP0102.dwg Date: 4/15/2022 Time: 09:01 User: agekas Style Table: Langan.stb Layout: SITE PLAN_FIG 2


469 STEVENSON SITE
SULLIVAN MARSH
MISSION CREEK
SOUTH BE
Stevenson St.
Mission St.
Fourth St.
Third St.
Second St.
Sixth St.
Seventh St.
Eighth St.
Ninth St.
Tenth St.
Eleventh St.
Twelfth St.
Thirteenth St.
Fourteenth St.
Fifteenth St.
Sixteenth St.
Seventeenth St.
Eighteenth St.
Nineteenth St.
Twentieth St.
Twenty-first St.
Twenty-second St.
Twenty-third St.
Alameda St.
Treat Ave.
Folsom St.
Harrison St.
Bryant St.
Brannan St.
Townsend St.
Kansas St.
Rhode Island St.
De Haro St.
Carolina St.
Wisconsin St.
Arkansas St.
Connecticut St.
Missouri St.
Texas St.
Mississippi St.
Pennsylvania St.
Minnesota St.
Indiana St.
Potrero Ave.
Hampshire St.
York St.
Florida St.
Alabama St.
Van Ness Ave.
Polk St.
Larkin St.
Leavenworth St.
Hyde St.
Jones St.
Taylor St.
Mason St.
Powell St.
Jackson St.
Washington St.
Pacific Ave.
Clay St.
Sacramento St.
California St.
Pine St.
Bush St.
Sutter St.
Post St.
Geary St.
Grant Ave.
Kearny St.
Market St.
Mission St.
Howard St.
Folsom St.
Harrison St.
Bryant St.
Brannan St.
Townsend St.
Clementina St.
Tehama St.
Natoma St.
Minna St.
Clara St.
Jessie St.
Harriet St.
Russ St.
Moss St.
Langton St.
Ramsch St.
Turner St.
Columbia Sq.
Sherman St.
Cleveland Sq.
Dore St.
Juniper St.
Lucerne St.
Clementina St.
Howard St.
Folsom St.
Harrison St.
Bryant St.
Brannan St.
Townsend St.
Kansas St.
Hooper St.
Irwin St.
Mississippi St.
Pennsylvania St.
Minnesota St.
Indiana St.
Potrero Ave.
Hampshire St.
York St.
Florida St.
Alabama St.
Harrison St.
Treat Ave.
Folsom St.
Shotwell St.
South Van Ness Ave.
Capp St.
Mission St.
San Carlos St.
Lexington St.
Twenty-first St.
Twenty-second St.
Twenty-third St.
Eddy St.
Turk St.
Golden Gate Ave.
McAllister St.
Grove St.
Hayes St.
Fell St.
Eddy St.
Ellis St.
Geary St.
Post St.
Sutter St.
Bush St.
Pine St.
California St.
Sacramento St.
Clay St.
Washington St.
Jackson St.
Pacific Ave.
Broadway
Columbus Ave.
Grant Ave.
Stockton St.
Powell St.
Mason St.
Taylor St.
Jones St.
Leavenworth St.
Hyde St.
Larkin St.
Polk St.
Van Ness Ave.
Franklin St.
Gough St.
Octavia St.
Laguna St.
Buchanan St.
Webster St.
Fillmore St.
Steiner St.
Pierce St.
Scott St.
Divisadero St.
Broderick St.
Baker St.
Lyon St.
Presidio Ave.
Cherry St.
Maple St.
Walnut St.
Locust St.
Spruce St.
Laurel St.
Masonic Ave.
Arguello Blvd.
Parker Ave.
Stanyan St.
Cole St.
Shrader St.
Clayton St.
Ashbury St.
Belvedere St.
Cortlandt St.
Diamond St.
Castro St.
Noe St.
Sanchez St.
Church St.
Dolores St.
Guerrero St.
Valencia St.
Mission St.
Capp St.
Bartlett St.
Alvarado St.
Hill St.
Duncan St.
Cesar Chavez St.
Precita Ave.
Cortland Ave.
Bayshore Blvd.
Visitacion Ave.
Leland Ave.
Rutland St.
Tompkins Ave.
Gilman Ave.
Paul Ave.
Jerrold Ave.
Evans Ave.
Cargo Way
Illinois St.
Pier 70
Pier 80
Pier 90
Pier 94
Pier 96
Pier 98
Pier 100
Pier 102
Pier 104
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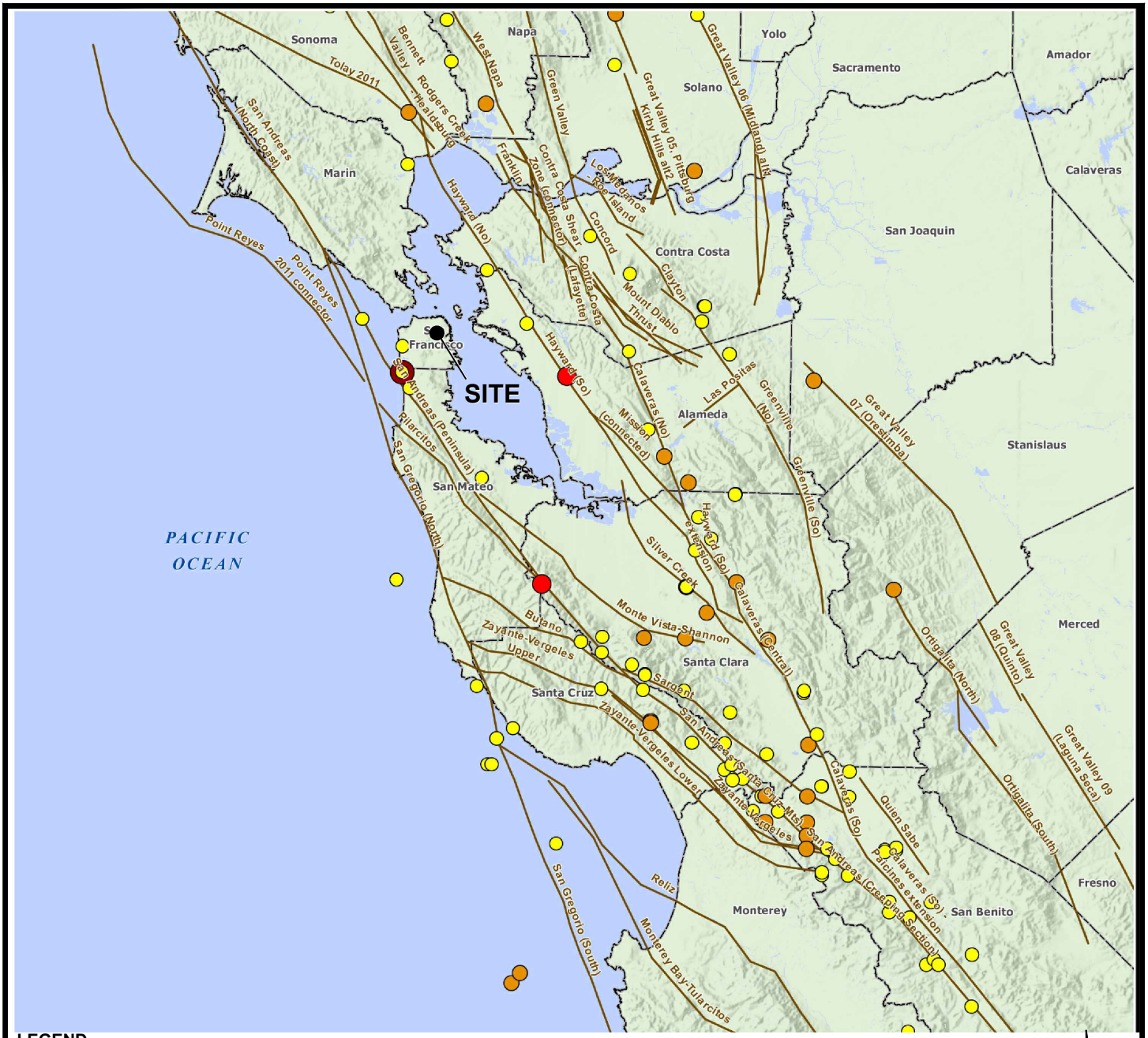
Pier 108
Pier 110
Pier 112
Pier 114
Pier 116
Pier 118
Pier 120
Pier 122
Pier 124
Pier 126
Pier 128
Pier 130
Pier 132
Pier



LEGEND

County Boundary

Fault

Earthquake Epicenter Magnitude

- Magnitude 5 to 5.9
- Magnitude 6 to 6.9
- Magnitude 7 to 7.4
- Magnitude 7.5 to 8

0 20 Miles

Approximate scale

Notes:

1. The fault line work data shows fault-based seismic sources used in the time-independent component of the Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3), which provides authoritative estimates of the magnitude, location, and time-averaged frequency of potentially damaging earthquakes in California. Fault model slip rates are given in millimeters per year. The data depicts the surface traces of modeled faults, which are simplified from the CGS - USGS Quaternary Fault and Fold database. For cartographic purposes only.

2. The Earthquake Epicenter (Magnitude) data is provided by the U.S Geological Survey (USGS) and is current through 2015.

3. Basemap hillshade and County boundaries provided by USGS and California Department of Transportation.

4. Map displayed in California State Coordinate System, California (Teale) Albers, North American Datum of 1983 (NAD83), Meters.

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Project	Figure Title	Project No.	Figure
469 STEVENSON STREET SAN FRANCISCO SAN FRANCISCO COUNTY CALIFORNIA	MAP OF MAJOR FAULTS AND EARTHQUAKE EPICENTERS IN THE SAN FRANCISCO BAY AREA	731690402	4
		Date 03/17/2022	
		Drawn By AG	
		Checked By PB	

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Filename: \\langan.com\data\SF\data4\731690402\Project Data\CAD\02\2D-DesignFiles\Geotechnical\731690402-B-GI0101_SiteLocMap-FaultMap-MM Scale.dwg Date: 3/22/2022 Time: 17:39 User: agekas Style Table: Langan.stb Layout: Figure 4 FaultMap

I Not felt by people, except under especially favorable circumstances. However, dizziness or nausea may be experienced.
Sometimes birds and animals are uneasy or disturbed. Trees, structures, liquids, bodies of water may sway gently, and doors may swing very slowly.

II Felt indoors by a few people, especially on upper floors of multi-story buildings, and by sensitive or nervous persons.
As in Grade I, birds and animals are disturbed, and trees, structures, liquids and bodies of water may sway. Hanging objects swing, especially if they are delicately suspended.

III Felt indoors by several people, usually as a rapid vibration that may not be recognized as an earthquake at first. Vibration is similar to that of a light, or lightly loaded trucks, or heavy trucks some distance away. Duration may be estimated in some cases.
Movements may be appreciable on upper levels of tall structures. Standing motor cars may rock slightly.

IV Felt indoors by many, outdoors by a few. Awakens a few individuals, particularly light sleepers, but frightens no one except those apprehensive from previous experience. Vibration like that due to passing of heavy, or heavily loaded trucks. Sensation like a heavy body striking building, or the falling of heavy objects inside.
Dishes, windows and doors rattle; glassware and crockery clink and clash. Walls and house frames creak, especially if intensity is in the upper range of this grade. Hanging objects often swing. Liquids in open vessels are disturbed slightly. Stationary automobiles rock noticeably.

V Felt indoors by practically everyone, outdoors by most people. Direction can often be estimated by those outdoors. Awakens many, or most sleepers. Frightens a few people, with slight excitement; some persons run outdoors.
Buildings tremble throughout. Dishes and glassware break to some extent. Windows crack in some cases, but not generally. Vases and small or unstable objects overturn in many instances, and a few fall. Hanging objects and doors swing generally or considerably. Pictures knock against walls, or swing out of place. Doors and shutters open or close abruptly. Pendulum clocks stop, or run fast or slow. Small objects move, and furnishings may shift to a slight extent. Small amounts of liquids spill from well-filled open containers. Trees and bushes shake slightly.

VI Felt by everyone, indoors and outdoors. Awakens all sleepers. Frightens many people; general excitement, and some persons run outdoors.
Persons move unsteadily. Trees and bushes shake slightly to moderately. Liquids are set in strong motion. Small bells in churches and schools ring. Poorly built buildings may be damaged. Plaster falls in small amounts. Other plaster cracks somewhat. Many dishes and glasses, and a few windows break. Knickknacks, books and pictures fall. Furniture overturns in many instances. Heavy furnishings move.

VII Frightens everyone. General alarm, and everyone runs outdoors.
People find it difficult to stand. Persons driving cars notice shaking. Trees and bushes shake moderately to strongly. Waves form on ponds, lakes and streams. Water is muddied. Gravel or sand stream banks cave in. Large church bells ring. Suspended objects quiver. Damage is negligible in buildings of good design and construction; slight to moderate in well-built ordinary buildings; considerable in poorly built or badly designed buildings, adobe houses, old walls (especially where laid up without mortar), spires, etc. Plaster and some stucco fall. Many windows and some furniture break. Loosened brickwork and tiles shake down. Weak chimneys break at the roofline. Cornices fall from towers and high buildings. Bricks and stones are dislodged. Heavy furniture overturns. Concrete irrigation ditches are considerably damaged.

VIII General fright, and alarm approaches panic.
Persons driving cars are disturbed. Trees shake strongly, and branches and trunks break off (especially palm trees). Sand and mud erupts in small amounts. Flow of springs and wells is temporarily and sometimes permanently changed. Dry wells renew flow. Temperatures of spring and well waters varies. Damage slight in brick structures built especially to withstand earthquakes; considerable in ordinary substantial buildings, with some partial collapse; heavy in some wooden houses, with some tumbling down. Panel walls break away in frame structures. Decayed pilings break off. Walls fall. Solid stone walls crack and break seriously. Wet grounds and steep slopes crack to some extent. Chimneys, columns, monuments and factory stacks and towers twist and fall. Very heavy furniture moves conspicuously or overturns.

IX Panic is general.
Ground cracks conspicuously. Damage is considerable in masonry structures built especially to withstand earthquakes; great in other masonry buildings - some collapse in large part. Some wood frame houses built especially to withstand earthquakes are thrown out of plumb, others are shifted wholly off foundations. Reservoirs are seriously damaged and underground pipes sometimes break.

X Panic is general.
Ground, especially when loose and wet, cracks up to widths of several inches; fissures up to a yard in width run parallel to canal and stream banks. Landsliding is considerable from river banks and steep coasts. Sand and mud shifts horizontally on beaches and flat land. Water level changes in wells. Water is thrown on banks of canals, lakes, rivers, etc. Dams, dikes, embankments are seriously damaged. Well-built wooden structures and bridges are severely damaged, and some collapse. Dangerous cracks develop in excellent brick walls. Most masonry and frame structures, and their foundations are destroyed. Railroad rails bend slightly. Pipe lines buried in earth tear apart or are crushed endwise. Open cracks and broad wavy folds open in cement pavements and asphalt road surfaces.

XI Panic is general.
Disturbances in ground are many and widespread, varying with the ground material. Broad fissures, earth slumps, and land slips develop in soft, wet ground. Water charged with sand and mud is ejected in large amounts. Sea waves of significant magnitude may develop. Damage is severe to wood frame structures, especially near shock centers, great to dams, dikes and embankments, even at long distances. Few if any masonry structures remain standing. Supporting piers or pillars of large, well-built bridges are wrecked. Wooden bridges that "give" are less affected. Railroad rails bend greatly and some thrust endwise. Pipe lines buried in earth are put completely out of service.

XII Panic is general.
Damage is total, and practically all works of construction are damaged greatly or destroyed. Disturbances in the ground are great and varied, and numerous shearing cracks develop. Landslides, rock falls, and slumps in river banks are numerous and extensive. Large rock masses are wrenched loose and torn off. Fault slips develop in firm rock, and horizontal and vertical offset displacements are notable. Water channels, both surface and underground, are disturbed and modified greatly. Lakes are dammed, new waterfalls are produced, rivers are deflected, etc. Surface waves are seen on ground surfaces. Lines of sight and level are distorted. Objects are thrown upward into the air.

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Project	Figure Title	Project No.	Figure
469 STEVENSON STREET SAN FRANCISCO SAN FRANCISCO COUNTY CALIFORNIA	MODIFIED MERCALLI INTENSITY SCALE	731690402	5
		Date 03/17/2022	
		Drawn By AG	
		Checked By PB	

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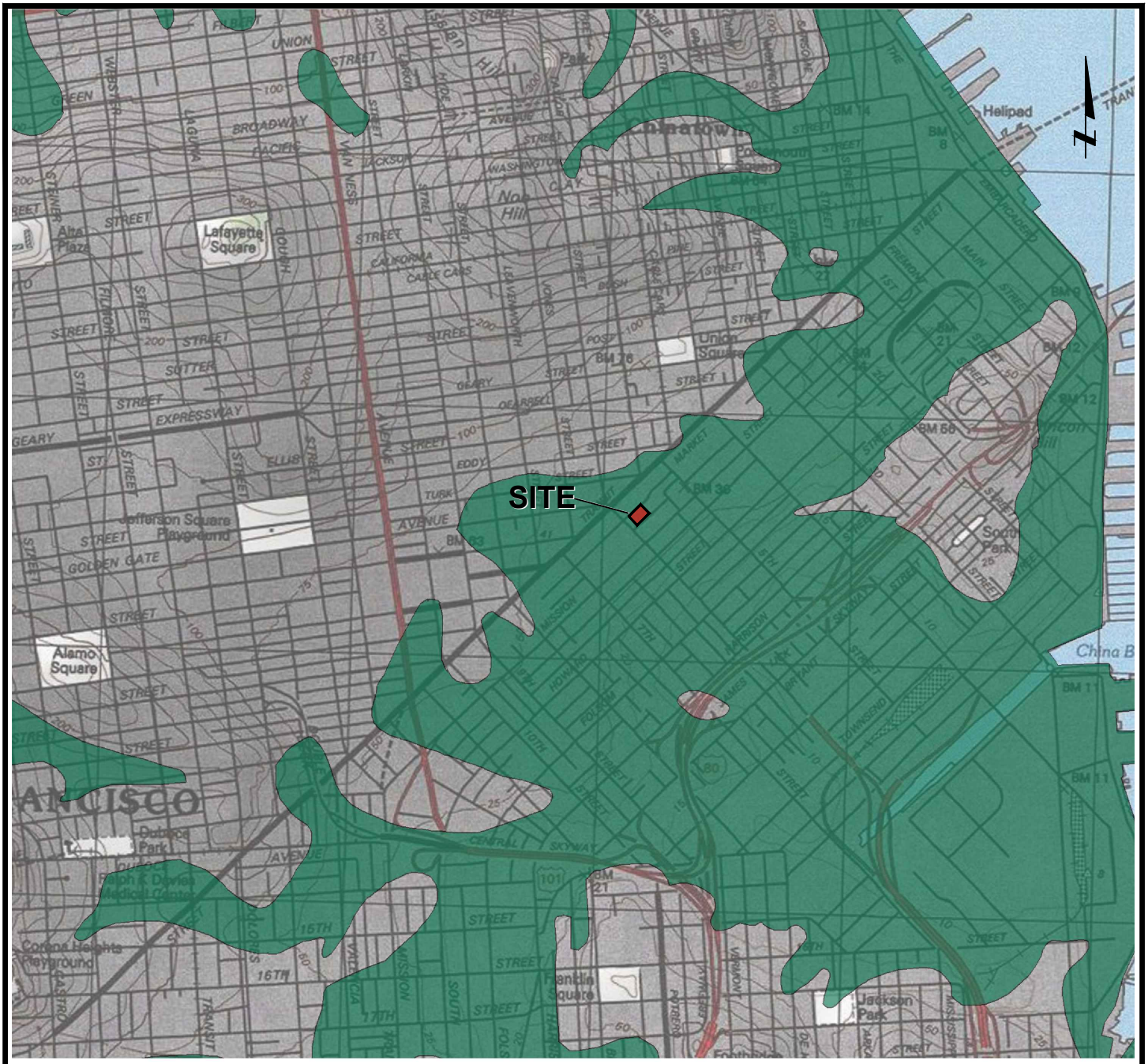

EXPLANATION

Liquefaction; Areas where historic occurrence of liquefaction, or local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements.

Notes:
1. Topographic basemap is provided through Langan's Esri Arc GIS software licensing and Arc GIS online, National Geographic Society, i-cubed and the USGS.
2. Data provided by the CGS through the GIS Seismic Hazard Zone Map presenting areas where liquefaction and land slides may occur during a strong earthquake.

0 2000 Feet

Approximate scale

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Project	Figure Title	Project No.	Figure
469 STEVENSON STREET SAN FRANCISCO SAN FRANCISCO COUNTY CALIFORNIA	REGIONAL SEISMIC HAZARD ZONES MAP	731690402	6
		Date 03/17/2022	
		Drawn By AG	
		Checked By PB	

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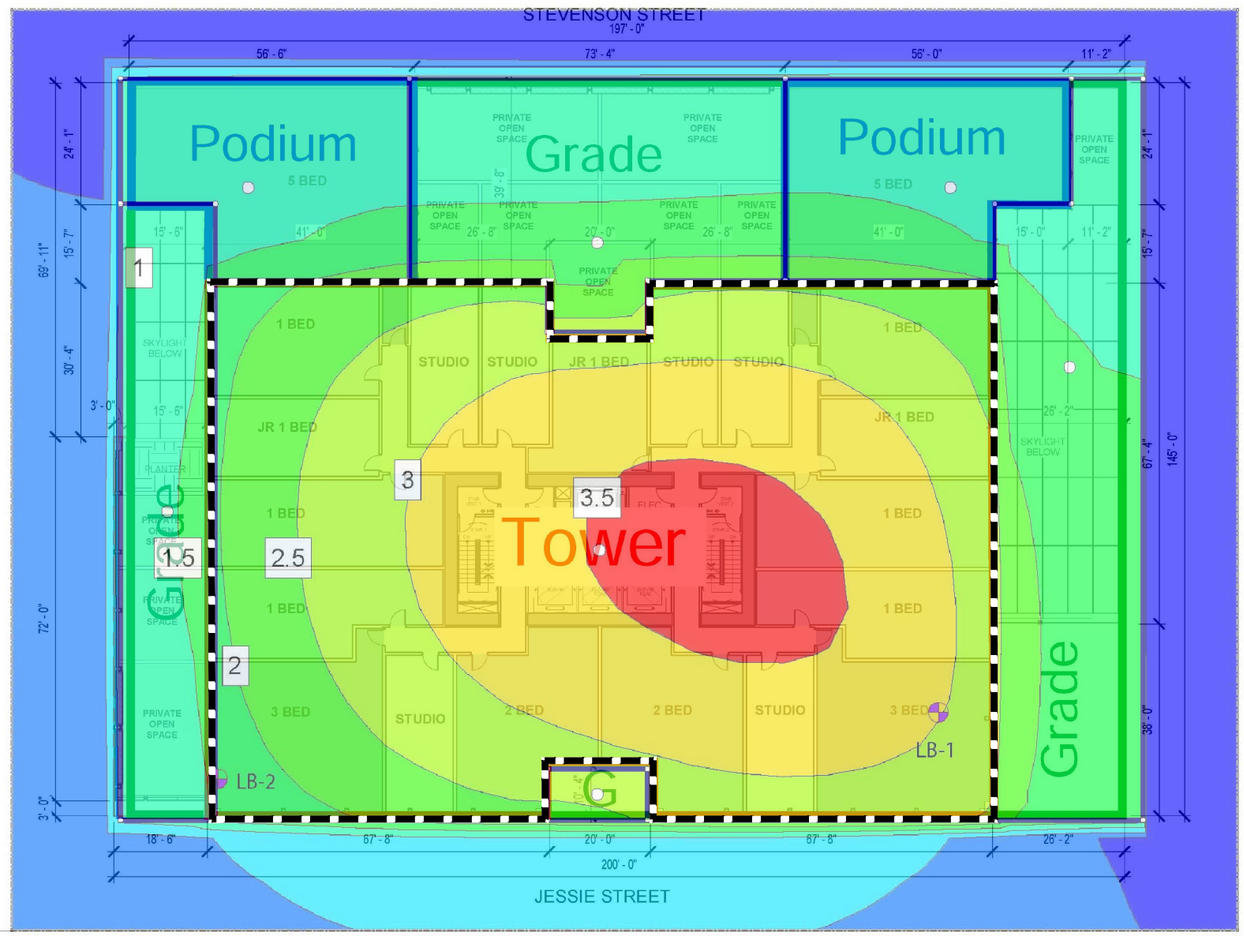
Filename: \\langan.com\data\SF\data4\731690402\Project Data\CAD\02\2D-DesignFiles\Geotechnical\731690402-B-GI0101_SiteLocMap-FaultMap-MM Scale.dwg Date: 3/22/2022 Time: 17:52 User: agekas Style Table: Langan.stb Layout: Figure 6 Haz Map



Total Settlement (in)

- 0.0
- 0.5
- 1.0
- 1.5
- 2.0
- 2.5
- 3.0
- 3.5
- 4.0

EXPLANATION

Approximate outline of proposed tower footprint

Note:
Average podium pressure applied at bottom of mat at Elevation -17 feet Old SF City datum, and average tower foundation pressured applied at the bottom of the mat at Elevation -23 feet Old SF City datum

Reference:
1. Preliminary settlement contours generated using Settle3D program, version 4.023, on July 2021.
2. Average foundation pressures for dead plus live loads provided by MKA via email dated 2 July 2021
   - Average Tower Foundation Pressure: 7,040 psf
   - Average Podium Foundation Pressure: 2,860 psf
   - Average One-Level Podium (Labeled as Grade in Figure) Foundation Pressure: 1,760 psf.

0 30 Feet
Approximate scale

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Project
469 STEVENSON STREET
SAN FRANCISCO
SAN FRANCISCO COUNTY CALIFORNIA

Figure Title
PRELIMINARY ESTIMATED 50 YEAR SETTLEMENT CONTOURS FOR 3 BASEMENT LEVELS

Project No.	731690402
Date	03/17/2022
Drawn By	AG
Checked By	PB
Figure	7

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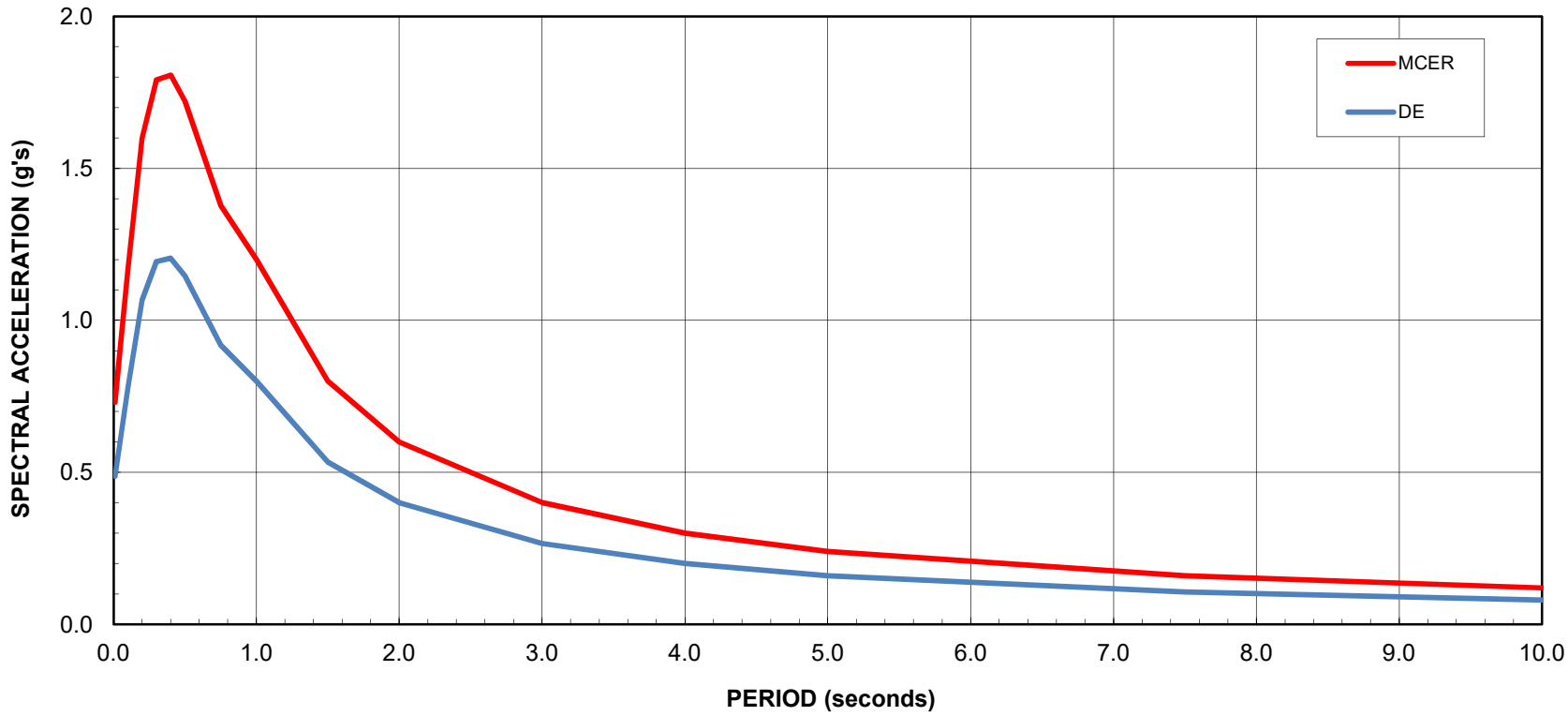

Notes

1. Damping Ratio = 5%
2. Estimated V_{S30} = 330 m/s

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APPENDIX A

BORING LOGS

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-1

Boring location:	See Site Plan, Figure 2
Date started:	12/16/20
Date finished:	12/21/20
Drilling method:	Rotary Wash, Failing 1500
Hammer weight/drop:	140 lbs./30 inches
Hammer type:	Automatic
Samplers:	Sprague & Henwood (S&H), Standard Penetration Test (SPT), Shelby Tube (ST)
Logged by:	R. Nelson
Drilled By:	Pitcher Services LLC

LABORATORY TEST DATA

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						Ground Surface Elevation: 29 feet[2]						
						5 inches asphalt concrete (AC)						
1						4 inches aggregate base (AB)						
2					SP-SM	SAND with SILT (SP-SM) brown, medium dense, moist, fine to medium rounded to subrounded gravel, fine sand, concrete, brick [FILL]						
3	BAG											
4												
5	S&H		6 8 11	13								
6												
7												
8					SP	SAND (SP) yellow-brown, dense, moist, fine sand [DUNE SAND]						
9												
10	SPT		9 13 14	32								
11												
12												
13												
14												
15	SPT		5 11 13	29		medium dense						
16												
17												
18	SPT		6 11 17	34		dense						
19						(12/17/20, 7:00 AM)						
20	SPT		8 12 16	34		yellow-brown, dense, wet						
21												
22												
23	SPT		8 15 19	47								
24												
25												
26												
27					SC	CLAYEY SAND (SC) yellow-brown, medium dense, wet, fine sand [MARSH DEPOSIT]						
28	ST			80 to 250 psi								
29												
30												

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Project No.:	Figure:
731690402	A-1a

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-1

DEPTH (feet)	Sampler Type	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
					CLAYEY SAND (SC) (continued)						
31											
32	S&H	4 8 12	14	SC	mottled orange-brown and gray-brown, medium dense, wet, fine sand (12/21/20, 6:30 AM) LL= 22, PI = 8, see Appendix B increase in clay content				30.4	18.4	115
33											
34	SPT	4 6 12	22								
35											
36											
37					mottled orange-brown and gray-brown, dense, wet				13.9	21.5	109
38	S&H	15 24 29	37	SP-SM	SAND with Silt (SP-SM) yellow-brown and orange-brown, very dense, wet, fine sand [COLMA FORMATION]						
39											
40	SPT	12 23 35	70								
41											
42											
43											
44	SPT	18 20 21	49		dense				10.1	20.3	
45											
46											
47											
48				SC	CLAYEY SAND (SC) yellow-brown, dense, wet [COLMA FORMATION]						
49	SPT	7 15 18	40						17.0	20.1	
50											
51											
52											
53				SP-SM	SAND WITH SILT (SP-SM) olive, dense, wet, fine sand [COLMA FORMATION]						
54	SPT	12 14 24	46						8.8	19.6	
55											
56											
57											
58											
59	SPT		79		gray-brown and red, very dense						
60											

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Project No.: 731690402

Figure: A-1b

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-1

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	SPT		28 31 35	79		SAND WITH SILT (SP-SM) (continued)						
61												
62												
63												
64	SPT		25 34 46	96						9.4	20.6	
65												
66												
67												
68												
69	SPT		19 30 32	74		yellow-brown						
70												
71												
72												
73												
74	SPT		20 24 34	70	SP-SM	yellow and orange-brown						
75												
76												
77												
78												
79												
80												
81												
82												
83												
84	SPT		31 50/ 6"	97/ 6"								
85												
86												
87												
88												
89	SPT			96		trace clay						
90												

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Project No.: 731690402

Figure: A-1c

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-1

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	SPT		31 38 42	96		SAND WITH SILT (SP-SM) (continued)						
91												
92												
93												
94	ST			400 psi	SP-SM	dark gray						
95	S&H		32 50/ 5"	57/ 11"								
96												
97												
98						CLAY (CH) gray, medium stiff, wet, with fine sand [OLD BAY CLAY]						
99												
100				60 - 100 - 200 - 250 psi								
101	ST					Triaxial Test, see Appendix B	TxUU	10,000	2,330		43.9	78
102							PP		1,700			
103												
104												
105												
106	S&H		5 9 13	15		medium stiff to stiff						
107												
108												
109					CH							
110											51.9	69
111	ST			50 to 250 psi		Consolidation Test, see Appendix B Triaxial Test, see Appendix B	TxUU	11,000	3,160		52.6	71
112							PP		2,500			
113												
114												
115												
116	S&H		0 3 7	7		medium stiff	PP		1,700			
117												
118												
119												
120												

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Project No.: 731690402

Figure: A-1d

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-1

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
121	ST			60 to 200 psi	CH	CLAY (CH) (continued) Consolidation Test, see Appendix B Triaxial Test, see Appendix B	TxUU PP	12,000	2,340 2,500		56.2 53.3	66 70
122												
123												
124												
125	S&H		0 2 10	8		medium stiff, wet	PP		2,000			
126												
127												
128												
129												
130	ST			40 to 180 psi		Triaxial Test, see Appendix B	TxUU	13,000	3,100		46.0	74
131												
132												
133												
134												
135	S&H		20 30 48	55	SP-SC	SAND with CLAY (SP-SC) gray, very dense, wet, fine sand [ALLUVIUM]						
136												
137												
138												
139												
140	SPT		13 24 48	91		yellow-brown						
141												
142												
143					CL	SANDY CLAY (CL) light brown, hard, wet, fine sand [ALLUVIUM]						
144												
145	S&H		15 25 35	39								
146												
147												
148					SC	CLAYEY SAND (SC) yellow-brown, very dense, wet, fine sand [ALLUVIUM]						
149												
150												

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Project No.: 731690402

Figure: A-1e

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-1

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						CLAYEY SAND (SC) (continued)						
151	SPT		15 27 40	80								
152												
153												
154												
155												
156												
157												
158												
159					SC							
160												
161	SPT		7 17 30	56								
162												
163												
164												
165												
166												
167												
168						SAND with SILT (SP-SM) yellow-brown, very dense, wet, fine sand, some silt [ALLUVIUM]						
169												
170	S&H		27 50/ 5"	54								
171	SPT		23 5/ 5"	88/ 11"								
172												
173												
174					SP- SM							
175												
176												
177												
178												
179												
180												

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Project No.: 731690402

Figure: A-1f

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-1

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
181	SPT		30/ 5.5	96/ 11"	SP-SM	SAND with SILT (SP-SM) (continued) SAND (SP)						
182												
183												
184												
185												
186												
187												
188												
189					CH	CLAY (CH) gray, hard, wet [ALLUVIUM]						
190												
191	SPT		11 15 18	40								
192												
193												
194												
195						Consolidation Test, see Appendix B Triaxial Test, see Appendix B						
196	ST			60 to 250 psi			TxUU	19,500	2,200		43.4 42.5	77 80
197												
198												
199												
200												
201												
202					CL	SANDY CLAY with GRAVEL (CL) mottled yellow-brown and olive, hard, wet, fine sand, fine to coarse gravel composed of chert [ALLUVIUM]						
203	S&H		20 50/ 6"	49/ 12"								
204												
205												
206												
207												
208												
209												
210												

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Project No.: 731690402

Figure: A-1g

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-1

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						SANDY CLAY with GRAVEL (CL) (continued)						
211												
212												
213												
214												
215												
216												
217												
218												
219												
220				100 - 220 - 300 - 400 psi								
221	ST											
222												
223												
224												
225					CL							
226												
227												
228												
229												
230												
231	S&H		20 31 38	48		gray, some fine angular grave, composed of siltstone, trace fine sand	PP		>4,500			
232												
233												
234												
235												
236												
237												
238												
239												
240												

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Project No.: 731690402

Figure: A-1h

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-1

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
241	S&H		20 39 50/ 6"	48	CL	SANDY CLAY with GRAVEL (CL) (continued) mottled light brown and orange-brown, trace fine angular gravel [ALLUVIUM]						
242												
243												
244												
245												
246												
247												
248												
249						SANDSTONE dark gray, close to intensely fractured, low hardness, friable, little weathered, clay infilled fractures						
250												
251												
252	SPT		50/ 1"									
253												
254												
255												
256	SPT		50/ 0.5"									
257												
258												
259												
260												
261												
262												
263												
264												
265												
266												
267												
268												
269												
270												

Boring terminated at a depth of 256.1 feet below ground surface (bgs).
Boring backfilled with cement grout.
Groundwater observed at a depth of 19.5 feet and of 32 feet.
PP = pocket penetrometer.

[1] S&H and SPT blow counts for the last two increments were converted to SPT N-Values using factors of 0.7 and 1.2, respectively to account for sampler type and hammer energy.
[2] Elevations based on old San Francisco City Datum.

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Project No.: 731690402

Figure: A-1i

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-2

Boring location: See Site Plan, Figure 2

Date started: 12/21/20 | Date finished: 12/23/20

Drilling method: Rotary Wash, Failing 1500

Hammer weight/drop: 140 lbs./30 inches | Hammer type: Automatic

Samplers: Sprague & Henwood (S&H), Standard Penetration Test (SPT), Shelby Tube (ST)

Logged by: R. Nelson
Drilled By: Pitcher Services LLC

LABORATORY TEST DATA

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION (Ground Surface Elevation: 30 feet[2])	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						4.5 inches asphalt concrete (AC)						
1						3 inches aggregate base (AB)						
2					SP	SAND (SP) dark brown, moist, rubble, brick fragments [FILL]						
3												
4												
5	S&H		1 1 2	2	SM	SILTY SAND (SM) dark brown, very loose, moist, coarse angular gravel, rubble, brick fragments [FILL]						
6												
7												
8												
9						SAND (SP) yellow-brown, loose, moist, fine sand [DUNE SAND]						
10	SPT		2 3 4	8								
11												
12												
13	SPT		1 2 3	6								
14												
15	SPT		1 2 5	8								
16												
17												
18	SPT		4 7 10	20	SP	medium dense						
19												
20	SPT		3 5 8	16		medium dense						
21												
22												
23	SPT		2 6 12	22								
24						▽ (12/23/20, 6:20 PM)						
25	SPT		3 5 8	15		dark brown, wet						
26												
27												
28					CL	SANDY CLAY (CL) dark brown, medium stiff, wet, fine sand [MARSH DEPOSIT]						
29												
30												

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Project No.: 731690402 | Figure: A-2a

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-2

DEPTH (feet)	Sampler Type	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
31	ST		50 to 185 psi	CL	SANDY CLAY (CL) (continued)						
32											
33											
34											
35	S&H	5 8 11	13	SC	CLAYEY SAND (SC) gray and yellow-brown, medium dense, wet, fine sand [MARSH DEPOSIT] LL = 25, PI = 9, see Appendix B				23.1	18.1	115
36											
37											
38	S&H	14 19 29	34	SM	SILTY SAND (SM) yellow-brown, dense, wet, fine sand [COLMA FORMATION] LL = 22, PI = 8, see Appendix B				20.6	19.7	110
39											
40	SPT	9 13 20	40								
41											
42											
43				SP-SM	SAND with SILT (SP-SM) yellow-brown to brown, very dense, wet, fine-grained [COLMA FORMATION]						
44	SPT	16 25 24	65							11.1	20.3
45											
46											
47											
48				SM	SILTY SAND (SM) gray-brown, very dense, wet, fine sand [COLMA FORMATION]						
49	SPT	14 22 33	55							13.4	19.9
50											
51											
52											
53											
54	SPT	35 35 38	88		olive-brown						
55											
56											
57											
58											
59											
60											

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Project No.: 731690402

Figure: A-2b

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-2

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
61	SPT		22 37 33	84		SAND with SILT (SP-SM) gray-brown, very dense, we, find sand				9.7	17.6	
62												
63												
64												
65												
66												
67												
68												
69												
70	SPT		18 30 40	84								
71												
72												
73												
74					SP-SM							
75												
76												
77												
78												
79												
80	SPT		16 31 37	82								
81												
82												
83												
84												
85												
86												
87												
88												
89					CL	CLAY (CL) gray, medium stiff, wet [COLMA FORMATION]						
90												

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Project No.: 731690402

Figure: A-2c

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-2

DEPTH (feet)	Sampler Type	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
				CL	CLAY (CL) (continued)						
91	S&H	19 36 43	55		SAND (SP) gray, very dense, wet, fine-grained [COLMA FORMATION]	PP		1,500			
92	SPT	21 32 43	90	SP							
93											
94											
95					CLAYEY SAND (SC) gray, very dense, wet, fine sand [COLMA FORMATION]						
96	S&H	18 25 50	53								
97											
98											
99											
100											
101	ST		80 to 400 psi								
102											
103											
104											
105				SC							
106											
107	ST		40 to 200 psi								
108											
109											
110											
111					dense						
112	S&H	26 28 28	39								
113											
114											
115					CLAY (CH) gray, medium stiff, wet, [OLD BAY CLAY]						
116											
117	S&H	0 4 10	10	CH		PP		1,750			
118											
119											
120											

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Project No.: 731690402

Figure: A-2d

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-2

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
121	ST			40 to 250 psi	CH	CLAY (CH) (continued) Consolidation Test, see Appendix B Triaxial Test, see Appendix B	TxUU	12,000	2,290		55.4	67
122							PP		2,300		54.2	69
123												
124												
125	S&H		1 2 6	6			PP.		1,500			
126												
127												
128												
129												
130	ST			50 - 80 - 150 - 300 psi		very stiff Consolidation Test, see Appendix B Triaxial Test, see Appendix B	TxUU	13,000	1,370		52.2	69
131							PP		2,750		51.2	72
132												
133												
134												
135	S&H		0 4 13	12			PP		2,300			
136												
137												
138												
139						SAND (SP) gray, dense, wet [ALLUVIUM]						
140	SPT		11 15 20	42	SP							
141												
142												
143												
144						SAND with CLAY (SP-SC) orange-brown and red-brown, very dense, wet, fine sand, some clay [ALLUVIUM]						
145	S&H		13 25 36	43	SP-SC							
146												
147												
148												
149												
150												

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Project No.: 731690402

Figure: A-2e

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-2

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
151	SPT		8 15 31	55		SAND with CLAY (SP-SC) (continued) very dense						
152												
153												
154												
155												
156												
157												
158												
159												
160												
161	SPT		13 20 28	58								
162												
163												
164												
165					SP-SC							
166												
167												
168												
169												
170												
171	SPT		20 25 50/ 5"	90/ 11"								
172												
173												
174												
175												
176												
177												
178												
179												
180												

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Project No.: 731690402

Figure: A-2f

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-2

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	S&H		50/ 6"	35/ 6"		SAND with CLAY (SP-SC) (continued)						
181	SPT		23 50/ 5"	88								
182												
183												
184												
185												
186												
187												
188												
189					SP-SC							
190			19									
191	SPT		31 28	71								
192												
193												
194												
195												
196												
197												
198						CLAY with GRAVEL (CL) green and orange-brown, very stiff to hard, some fine angular gravel (chert) [ALLUVIUM]						
199												
200												
201	ST			0 to 400 psi								
202												
203												
204					CL							
205												
206												
207												
208												
209												
210												

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Project No.: 731690402

Figure: A-2g

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-2

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						CLAY (CL) (continued)						
211	S&H	■	16 26 30	39								
212												
213												
214												
215												
216												
217												
218												
219												
220	S&H	■	16 29 38	47								
221												
222					CL							
223												
224												
225												
226												
227												
228												
229												
230												
231												
232												
233												
234						CLAYEY GRAVEL (GC) brown, very dense, wet, with fine subangular and coarse sand [RESIDUAL SOIL]						
235	S&H	■	25 50/ 6"	53/ 12"								
236												
237					GC							
238												
239												
240												

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Project No.: 731690402

Figure: A-2h

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

PROJECT: **469 STEVENSON STREET**
San Francisco, California

Log of Boring LB-2

DEPTH (feet)	SAMPLES: Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft[1]	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						CLAYEY GRAVEL (GC) (continued)						
241					GC							
242												
243						SILTSTONE brown, closely fractured with clay infill, moderately hard, weak, little weathered [FRANCISCAN COMPLEX]						
244												
245	SPT		50/ 4"	60/ 4"								
246												
247												
248												
249												
250	SPT		50/ 3"	50/ 4"								
251												
252												
253												
254												
255												
256												
257												
258												
259												
260												
261												
262												
263												
264												
265												
266												
267												
268												
269												
270												

Boring terminated at a depth of 250.5 feet below ground surface (bgs).
Boring backfilled with cement grout.
Groundwater encountered at a depth of 24 feet.
PP = pocket penetrometer.

[1] S&H and SPT blow counts for the last two increments were converted to SPT N-Values using factors of 0.7 and 1.2, respectively to account for sampler type and hammer energy.
[2] Elevations based on old San Francisco City Datum.

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Project No.: 731690402
Figure: A-2i

TEST GEOTECH LOG 731690402 STEVENSON.GPJ TEMPLATE_CA-MODIFIED - COPY.GDT 4/12/21

UNIFIED SOIL CLASSIFICATION SYSTEM

Majo r Divisions		Symbols	Typica l Names
Coarse-Grained Soils (more than half of soil > no. 200 sieve size	**Gravels** (More than half of coarse fraction > no. 4 sieve size)	**GW**	Well-graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	Sands (More than half of coarse fraction < no. 4 sieve size)	**SW**	Well-graded sands or gravelly sands, little or no fines
		SP	Poorly-graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
Fine -Grained Soils (more than half of soil < no. 200 sieve size)	**Silts and Clays** LL = < 50	**ML**	Inorganic silts and clayey silts of low plasticity, sandy silts, gravelly silts
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
		OL	Organic silts and organic silt-clays of low plasticity
	Silts and Clays LL = > 50	**MH**	Inorganic silts of high plasticity
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic silts and clays of high plasticity
Highly Organic Soils		**PT**	Peat and other highly organic soils

GRAIN SIZE CHART

Classification	Range of Grain Sizes	
	U.S. Standard Sieve Size	Grain Size in Millimeters
Boulders	Above 12"	Above 305
Cobbles	12" to 3"	305 to 76.2
Gravel	3" to No. 4	76.2 to 4.76
coarse	3" to 3/4"	76.2 to 19.1
fine	3/4" to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.075
coarse	No. 4 to No. 10	4.76 to 2.00
medium	No. 10 to No. 40	2.00 to 0.420
fine	No. 40 to No. 200	0.420 to 0.075
Silt and Clay	Below No. 200	Below 0.075

Unstabilized groundwater level

Stabilized groundwater level

SAMPLE DESIGNATIONS/SYMBOLS

Sample taken with Sprague & Henwood split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter. Darkened area indicates soil recovered

Classification sample taken with Standard Penetration Test sampler

Undisturbed sample taken with thin-walled tube

Disturbed sample

Sampling attempted with no recovery

Core sample

Analytical laboratory sample

Sample taken with Direct Push or Drive sampler

Sonic

SAMPLER TYPE

C Core barrel

CA California split-barrel sampler with 2.5-inch outside diameter and a 1.93-inch inside diameter

D&M Dames & Moore piston sampler using 2.5-inch outside diameter, thin-walled tube

O Osterberg piston sampler using 3.0-inch outside diameter, thin-walled Shelby tube

PT Pitcher tube sampler using 3.0-inch outside diameter, thin-walled Shelby tube

S&H Sprague & Henwood split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter

SPT Standard Penetration Test (SPT) split-barrel sampler with a 2.0-inch outside diameter and a 1.5-inch inside diameter

ST Shelby Tube (3.0-inch outside diameter, thin-walled tube) advanced with hydraulic pressure

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Figure Title: SOIL CLASSIFICATION CHART

Project No. 731690402
Date 01/15/2021
Drawn By AG
Checked By PB

Figure A-3

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I FRACTURING

Intensity	Size of Pieces in Feet
Very little fractured	Greater than 4.0
Occasionally fractured	1.0 to 4.0
Moderately fractured	0.5 to 1.0
Closely fractured	0.1 to 0.5
Intensely fractured	0.05 to 0.1
Crushed	Less than 0.05

II HARDNESS

1. **Soft** - reserved for plastic material alone.
2. **Low hardness** - can be gouged deeply or carved easily with a knife blade.
3. **Moderately hard** - can be readily scratched by a knife blade; scratch leaves a heavy trace of dust and is readily visible after the powder has been blown away.
4. **Hard** - can be scratched with difficulty; scratch produced a little powder and is often faintly visible.
5. **Very hard** - cannot be scratched with knife blade; leaves a metallic streak.

III STRENGTH

1. **Plastic** or very low strength.
2. **Friable** - crumbles easily by rubbing with fingers.
3. **Weak** - an unfractured specimen of such material will crumble under light hammer blows.
4. **Moderately strong** - specimen will withstand a few heavy hammer blows before breaking..
5. **Strong** - specimen will withstand a few heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments.
6. **Very strong** - specimen will resist heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments.

IV WEATHERING -

The physical and chemical disintegration and decomposition of rocks and minerals by natural processes such as oxidation, reduction, hydration, solution, carbonation, and freezing and thawing.

D. Deep - moderate to complete mineral decomposition; extensive disintegration; deep and thorough discoloration; many fractures, all extensively coated or filled with oxides, carbonates and/or clay or silt.

M. Moderate - slight change or partial decomposition of minerals; little disintegration; cementation little to unaffected. Moderate to occasionally intense discoloration. Moderately coated fractures.

L. Little - no megascopic decomposition of minerals; little of no effect on normal cementation. Slight and intermittent, or localized discoloration. Few stains on fracture surfaces.

F. Fresh - unaffected by weathering agents. No disintegration of discoloration. Fractures usually less numerous than joints.

ADDITIONAL COMMENTS:

V CONSOLIDATION OF SEDIMENTARY ROCKS:

usually determined from unweathered samples. Largely dependent on cementation.

U = unconsolidated
P = poorly consolidated
M = moderately consolidated
W = well consolidated

VI BEDDING OF SEDIMENTARY ROCKS

Splitting Property	Thickness	Stratification
Massive	Greater than 4.0 ft.	very thick-bedded
Blocky	2.0 to 4.0 ft.	thick bedded
Slabby	0.2 to 2.0 ft.	thin bedded
Flaggy	0.05 to 0.2 ft.	very thin-bedded
Shaly or platy	0.01 to 0.05 ft.	laminated
Papery	less than 0.01	thinly laminated

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Figure Title
PHYSICAL PROPERTIES CRITERIA FOR ROCK DESCRIPTIONS

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Figure
A-4

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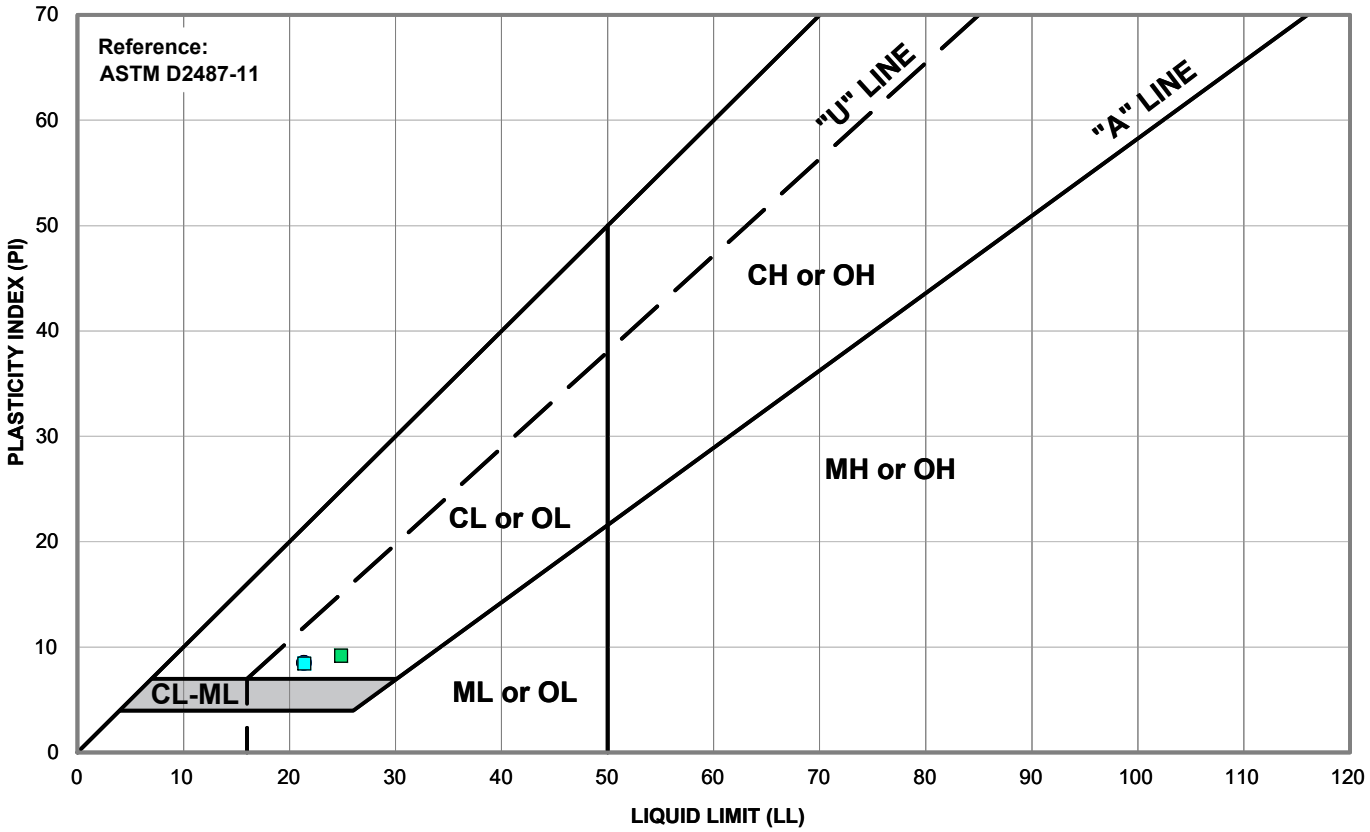
APPENDIX B

LABORATORY TEST RESULTS

PLASTICITY CHART



Symbol	Source	Description and Classification	Natural M.C. (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing #200 Sieve
●	LB-1 at 32 feet	CLAYEY SAND (SC), mottled orange-brown and gray-brown	18.4	22	8	30.4
■	LB-2 at 36 feet	CLAYEY SAND (SC), gray	18.1	25	9	23.1
□	LB-2 at 37.5 feet	SILTY SAND (SM), yellow-brown	19.7	22	8	20.6

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Project	Figure Title	Project No.	Figure
469 STEVENSON STREET SAN FRANCISCO SAN FRANCISCO COUNTY CALIFORNIA	PLASTICITY CHART	731690402	B-1
		Date 02/16/2021	
		Drawn By AG	
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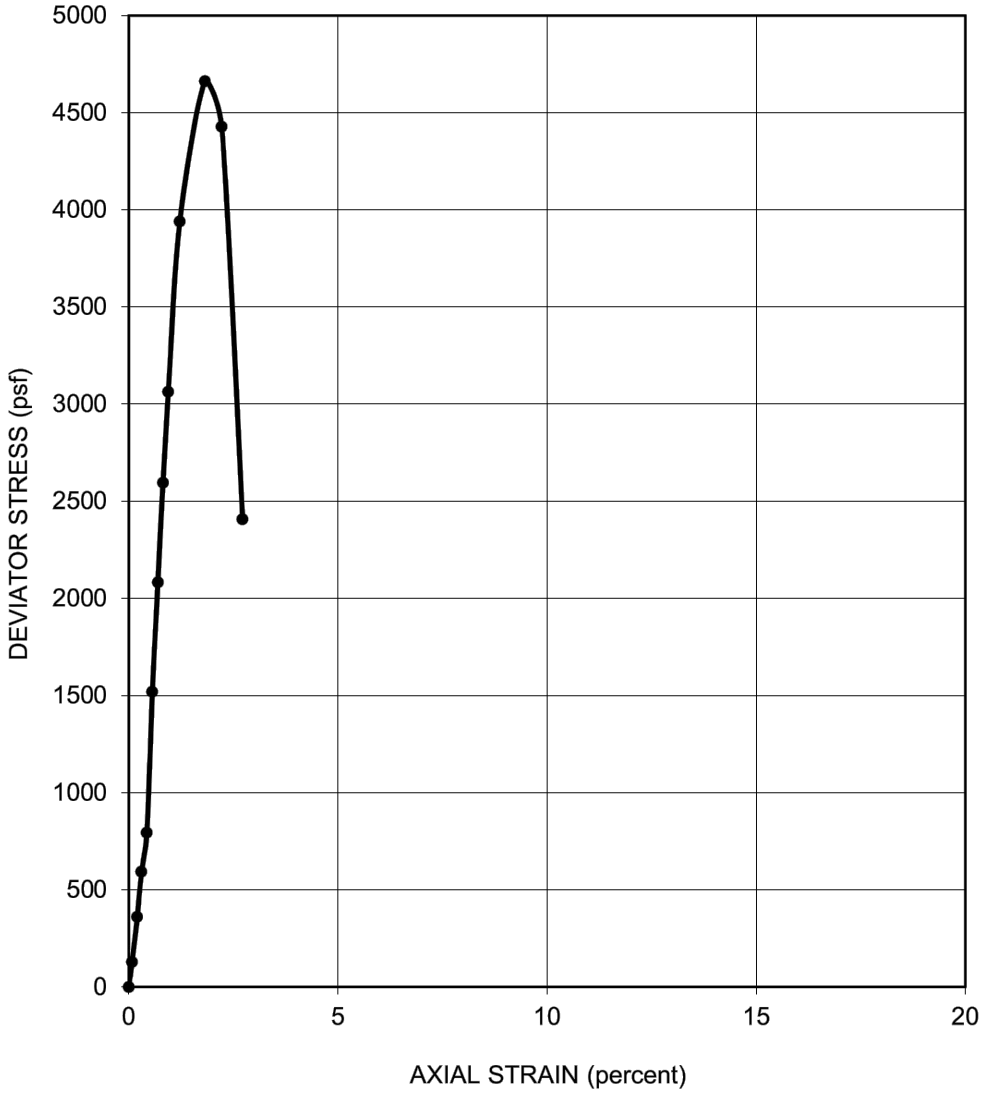

SAMPLER TYPE: Shelby Tube		SHEAR STRENGTH:	2,330 psf
DIAMETER (in.): 2.86	HEIGHT (in.): 6.1	STRAIN AT FAILURE:	1.8 %
MOISTURE CONTENT:	43.9 %	CONFINING PRESSURE:	10,000 psf
DRY DENSITY:	78 pcf	STRAIN RATE:	0.50 % / min
DESCRIPTION: CLAY (CH), gray		SOURCE:	LB-1 at 100 feet

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Figure Title
UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST

Project No. 731690402
Date 02/16/2021
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Figure
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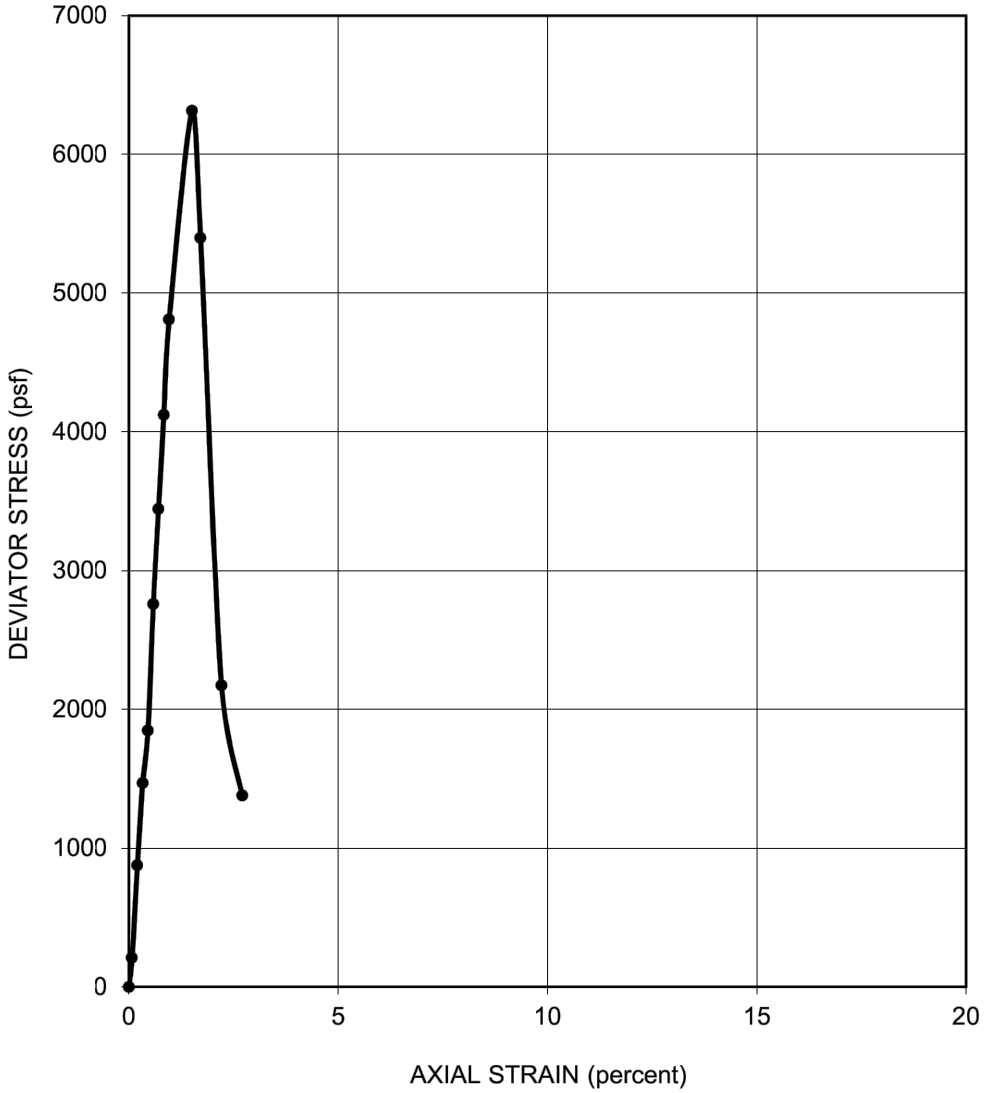

SAMPLER TYPE: Shelby Tube		SHEAR STRENGTH:	3,160 psf
DIAMETER (in.): 2.86	HEIGHT (in.): 6.1	STRAIN AT FAILURE:	1.5 %
MOISTURE CONTENT:	52.6 %	CONFINING PRESSURE:	11,000 psf
DRY DENSITY:	71 pcf	STRAIN RATE:	0.50 % / min
DESCRIPTION: CLAY (CH), gray		SOURCE:	LB-1 at 110 feet

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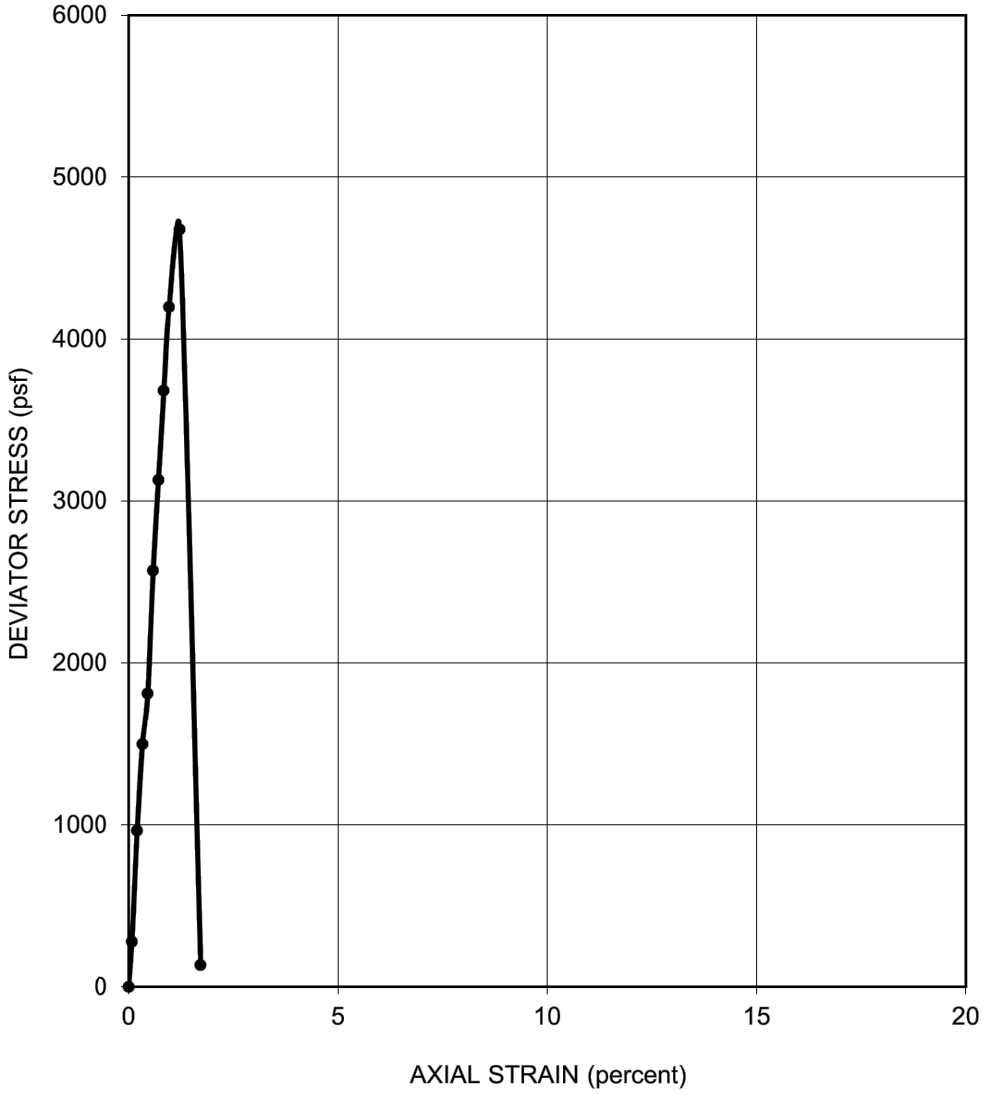

SAMPLER TYPE: Shelby Tube		SHEAR STRENGTH:	2,340 psf
DIAMETER (in.): 2.86	HEIGHT (in.): 6.1	STRAIN AT FAILURE:	1.2 %
MOISTURE CONTENT:	53.3 %	CONFINING PRESSURE:	12,000 psf
DRY DENSITY:	70 pcf	STRAIN RATE:	0.50 % / min
DESCRIPTION: CLAY (CH), gray		SOURCE:	LB-1 at 120 feet

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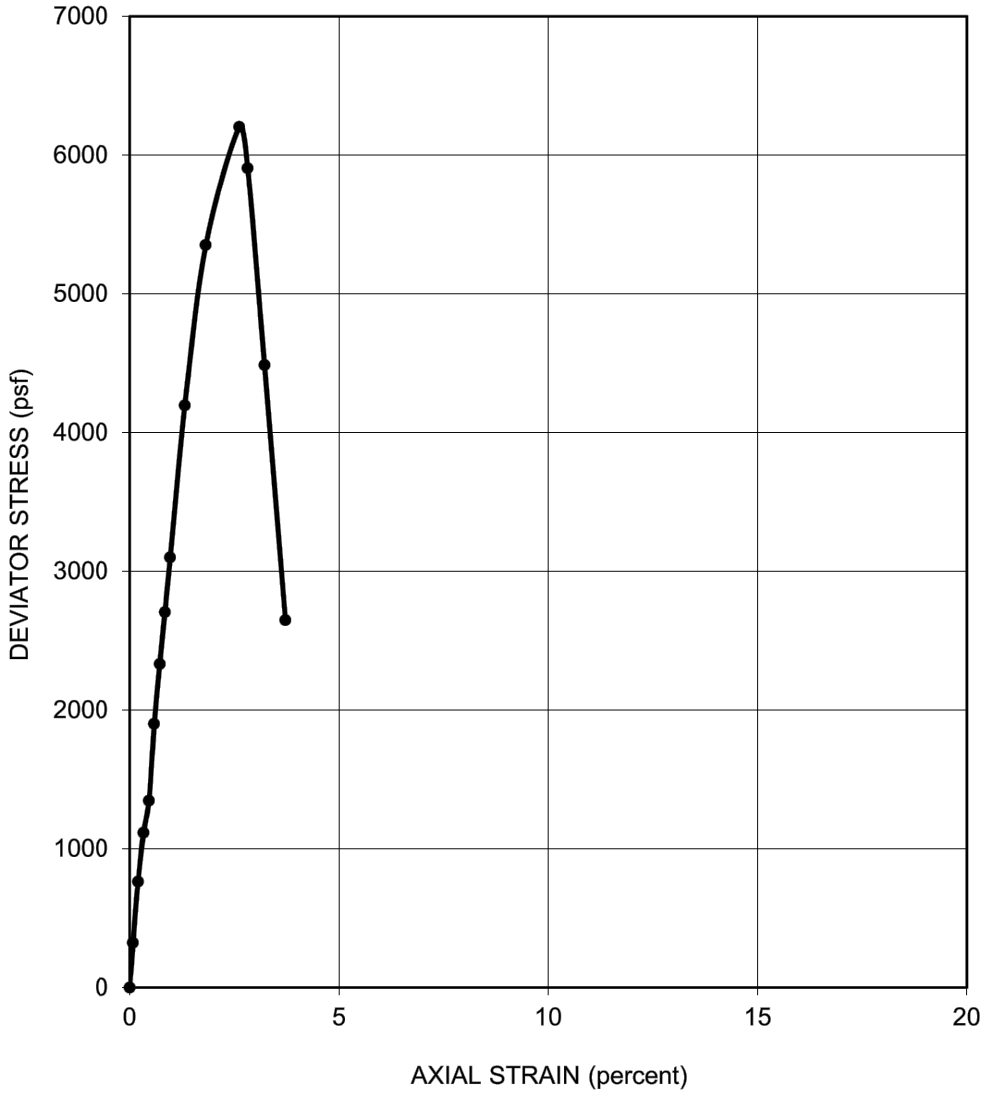

SAMPLER TYPE: Shelby Tube		SHEAR STRENGTH:	3,1000 psf
DIAMETER (in.): 2.86	HEIGHT (in.): 6.1	STRAIN AT FAILURE:	2.6 %
MOISTURE CONTENT:	46.0 %	CONFINING PRESSURE:	13,000 psf
DRY DENSITY:	74 pcf	STRAIN RATE:	0.50 % / min
DESCRIPTION: CLAY (CH), gray		SOURCE:	LB-1 at 130 feet

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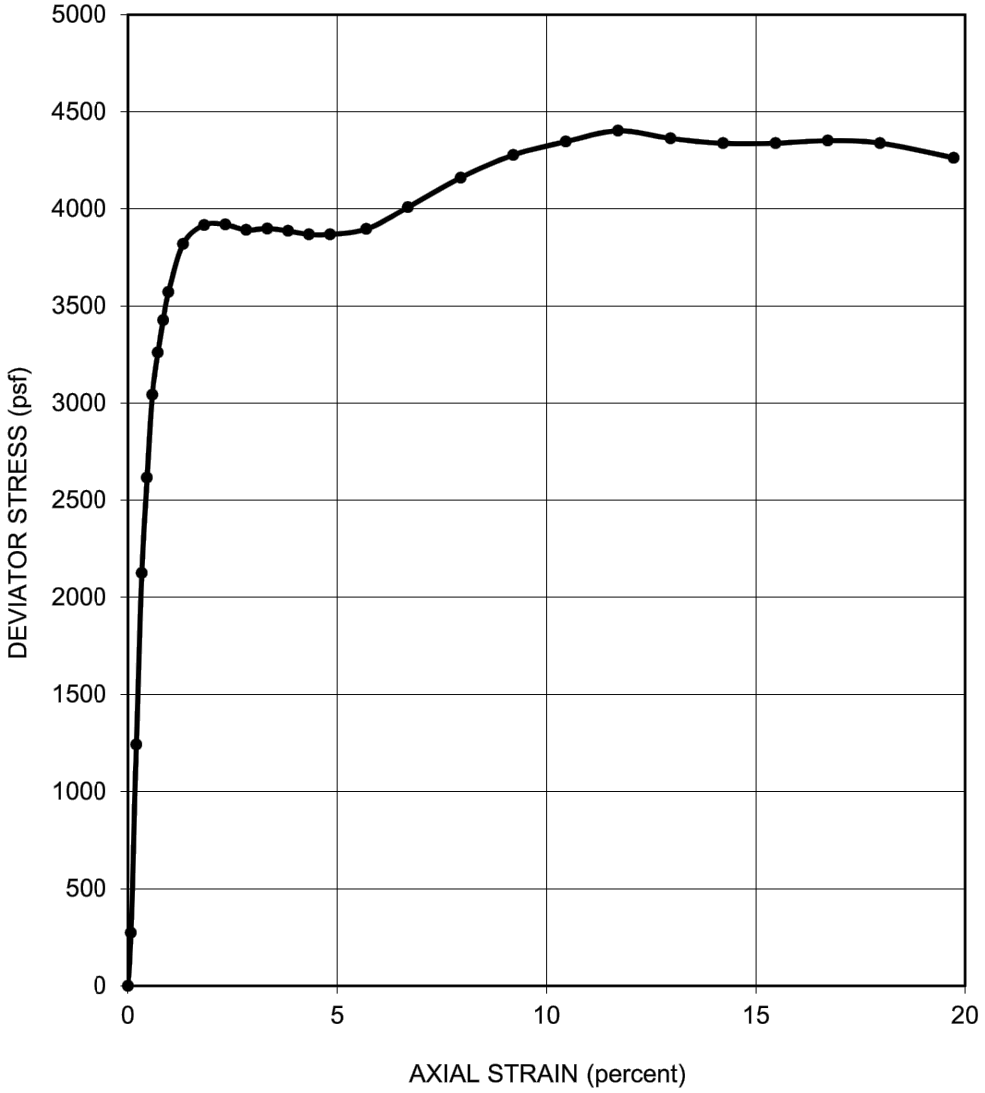

SAMPLER TYPE: Shelby Tube		SHEAR STRENGTH:	2,200 psf
DIAMETER (in.): 2.86	HEIGHT (in.): 6.1	STRAIN AT FAILURE:	11.7 %
MOISTURE CONTENT:	42.5 %	CONFINING PRESSURE:	19,500 psf
DRY DENSITY:	80 pcf	STRAIN RATE:	0.50 % / min
DESCRIPTION: CLAY (CH), gray		SOURCE:	LB-1 at 195 feet

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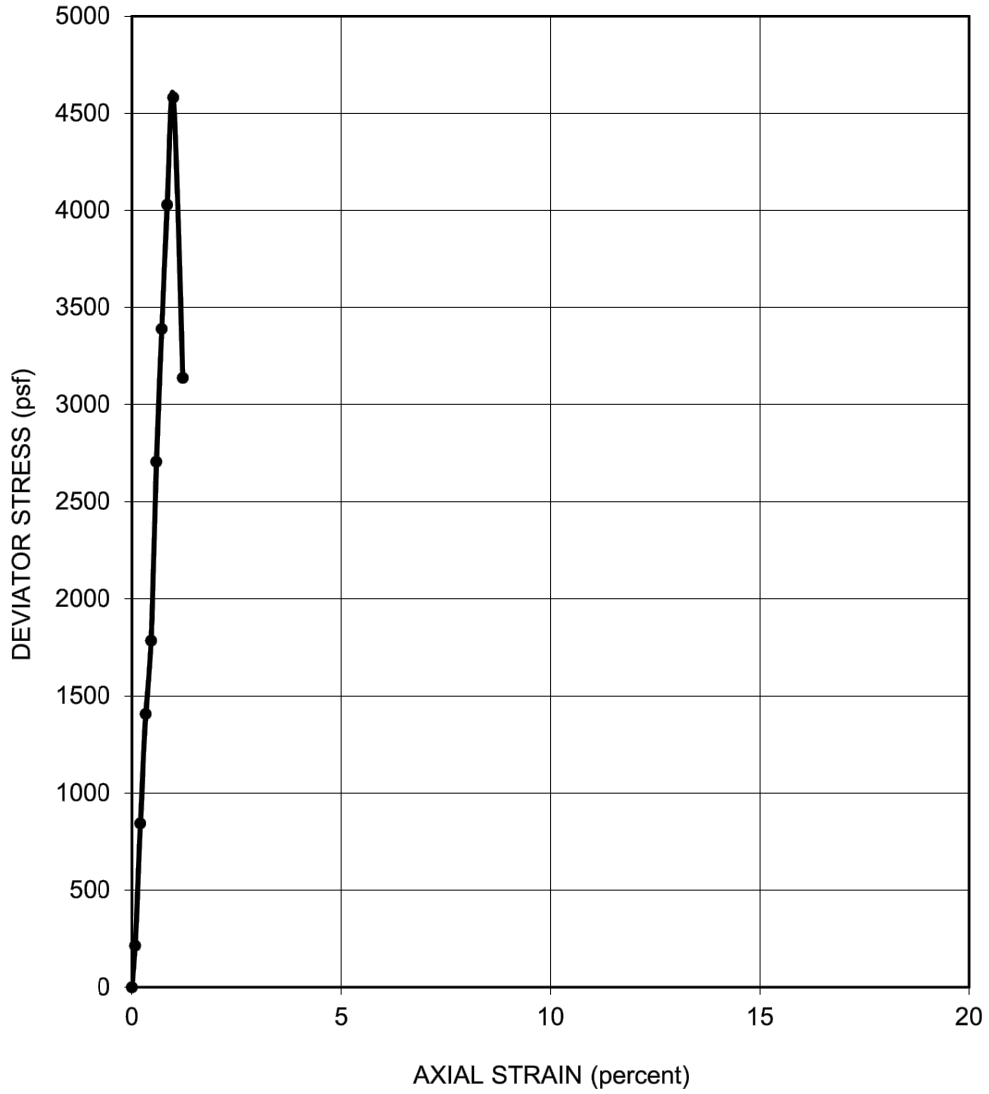

SAMPLER TYPE: Shelby Tube		SHEAR STRENGTH:	2,290 psf
DIAMETER (in.): 2.86	HEIGHT (in.): 6.1	STRAIN AT FAILURE:	1.0 %
MOISTURE CONTENT:	54.2 %	CONFINING PRESSURE:	12,000 psf
DRY DENSITY:	69 pcf	STRAIN RATE:	0.50 % / min
DESCRIPTION: CLAY (CH), gray		SOURCE:	LB-2 at 120 feet

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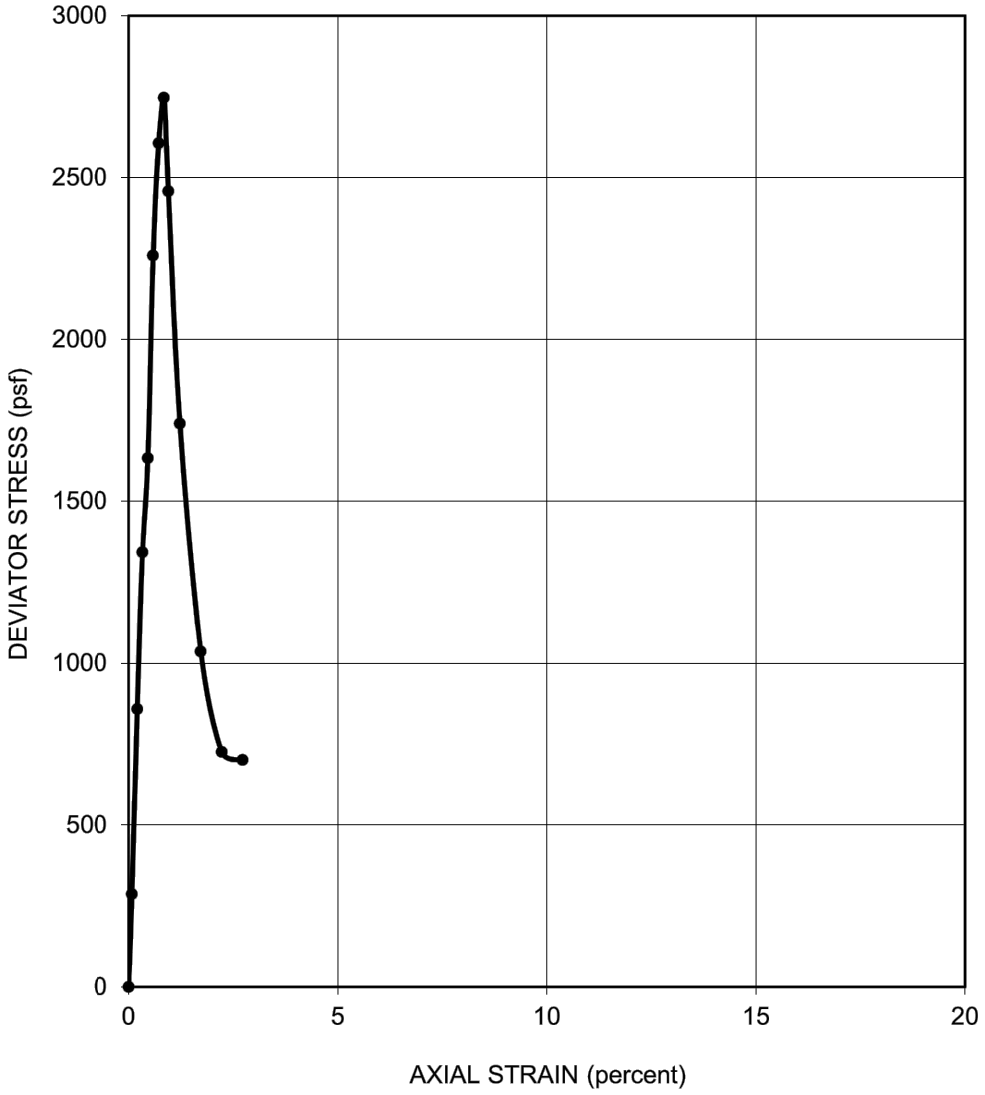

SAMPLER TYPE: Shelby Tube		SHEAR STRENGTH:	1,370 psf
DIAMETER (in.): 2.86	HEIGHT (in.): 6.1	STRAIN AT FAILURE:	0.8 %
MOISTURE CONTENT:	51.2 %	CONFINING PRESSURE:	13,000 psf
DRY DENSITY:	72 pcf	STRAIN RATE:	0.50 % / min
DESCRIPTION: CLAY (CH), gray		SOURCE:	LB-2 at 130 feet

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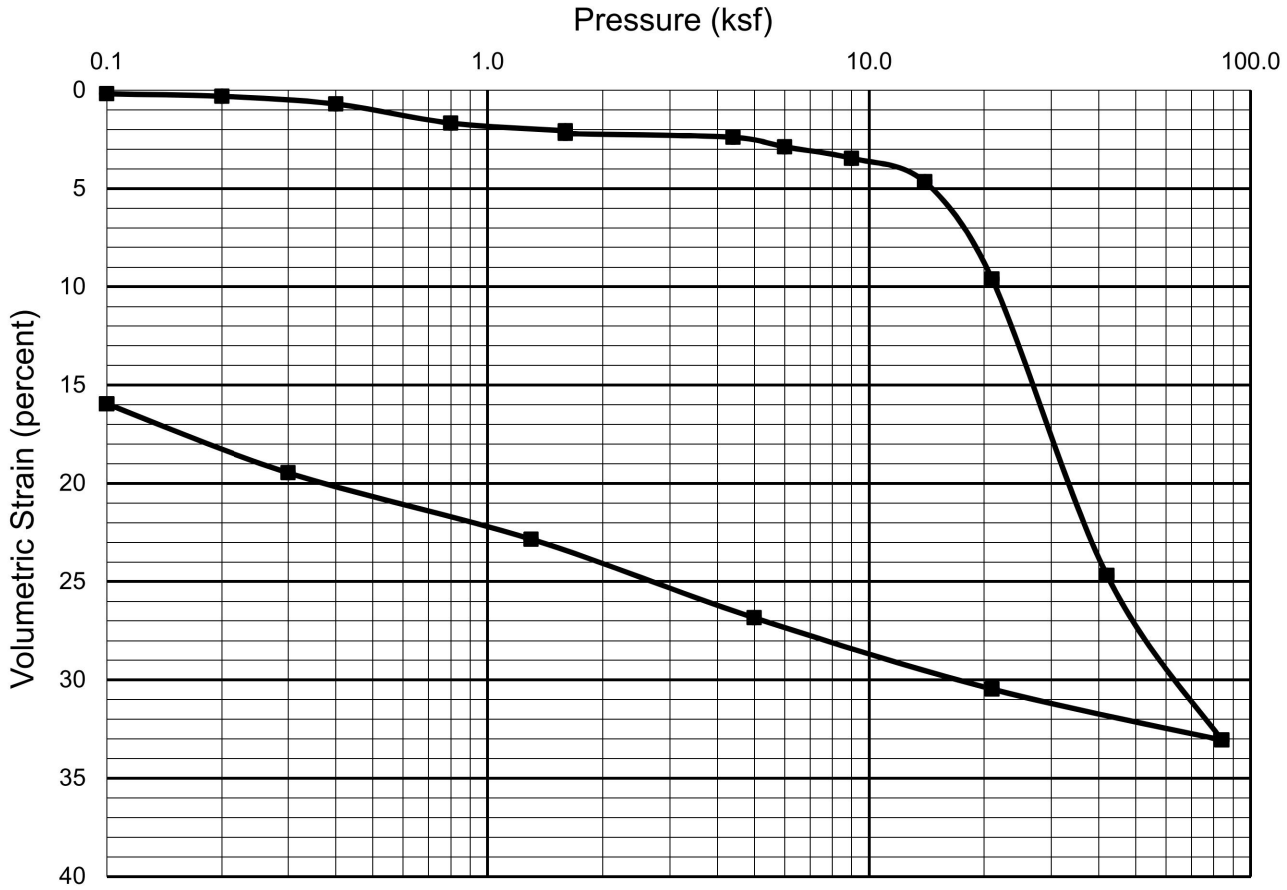

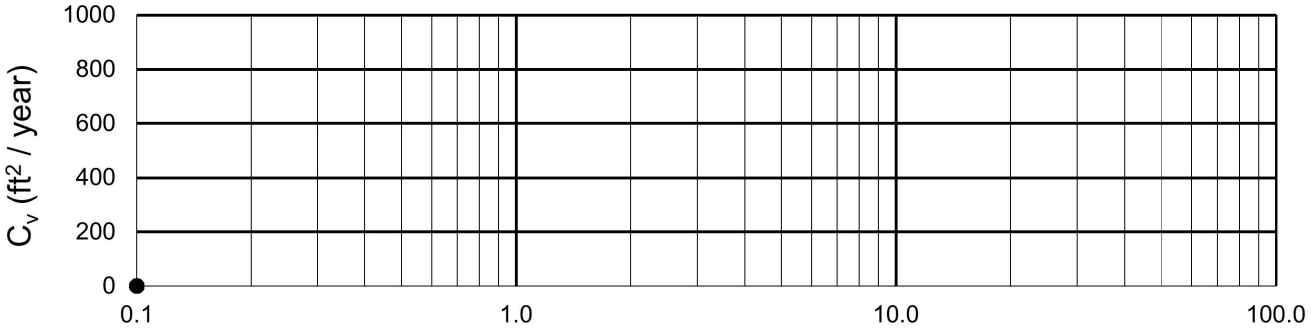

Sampler Type						Condition Before Test			After Test	
Shelby Tube	Diameter (in)		2.42	Height (in)	1.00	Water Content	w_o	51.9%	w_f	38.9%
Overburden Pressure	P_o	8,250 psf				Void Ratio	e_o	1.43	e_f	1.05
Preconsol. Pressure	P_c	17,000 psf				Saturation	S_o	98%	S_f	100%
Compression Ration	$C\varepsilon_c$	0.42				Dry Density	γ_d	69 pcf	γ_d	82 pcf
Liquid Limit:	--	Plastic Limit:	--	Plasticity Index:	--	G_s	2.70 (assumed)			
Classification:	CLAY (CH), gray					Source:	LB-1 at 110 feet			

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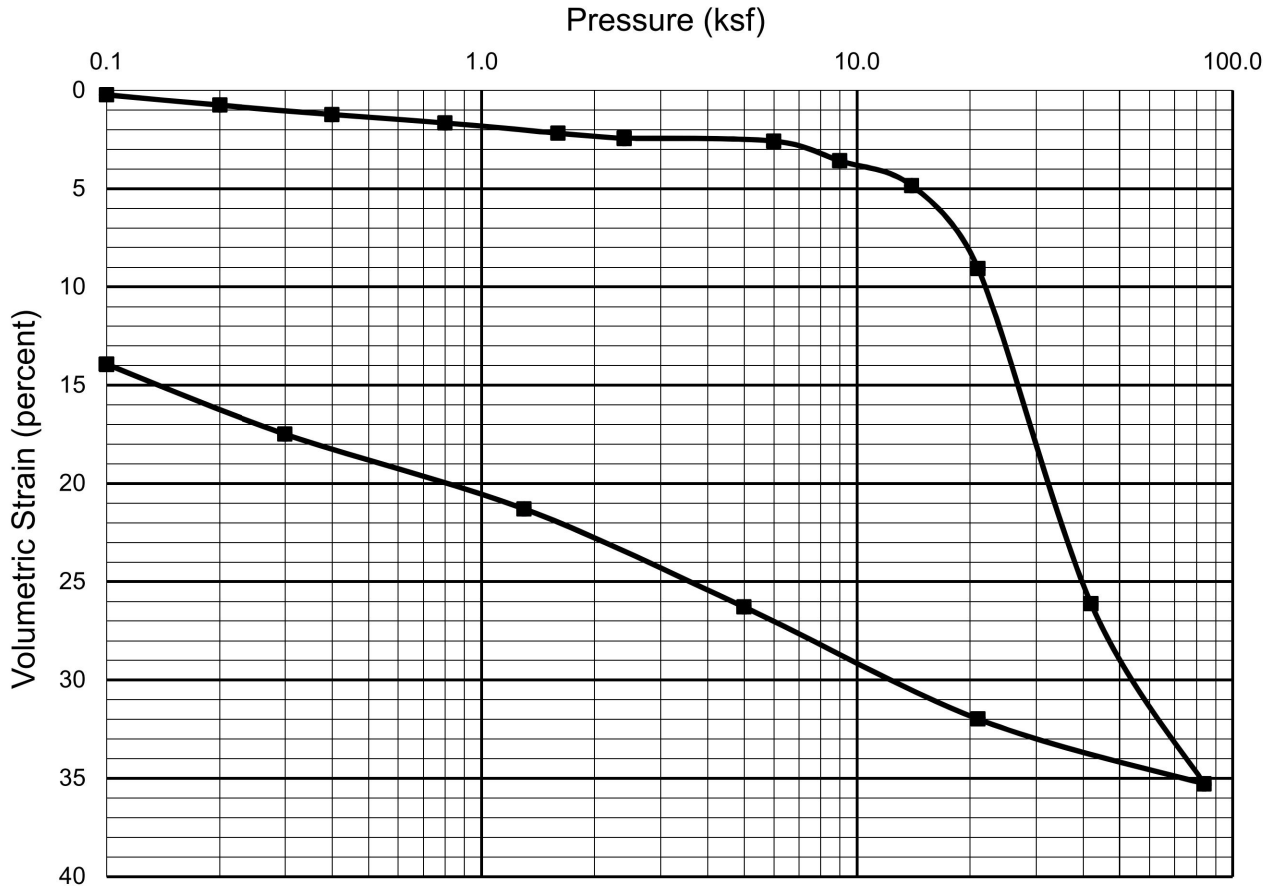

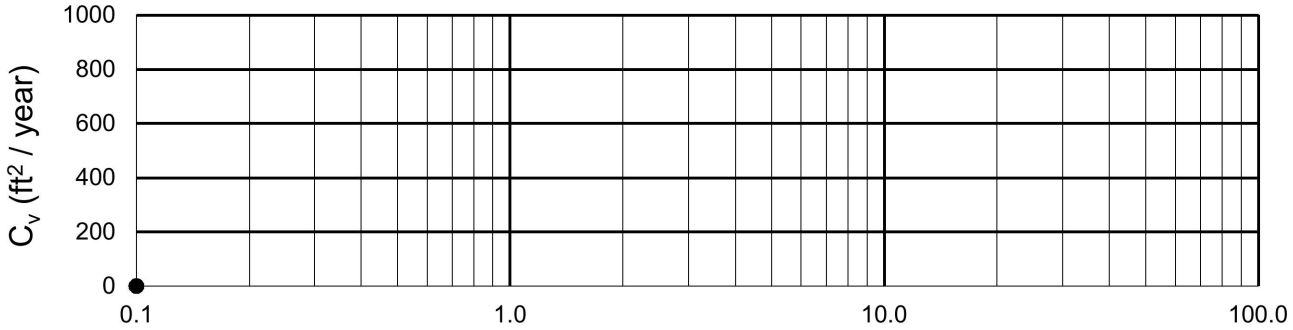

Sampler Type						Condition Before Test			After Test	
Shelby Tube	Diameter (in)		2.42	Height (in)	1.00	Water Content	w_o	56.2%	w_f	44.0%
Overburden Pressure	P_o	8,650 psf				Void Ratio	e_o	1.54	e_f	1.18
Preconsol. Pressure	P_c	18,000 psf				Saturation	S_o	99%	S_f	100%
Compression Ration	$C\varepsilon_c$	0.51				Dry Density	γ_d	66 pcf	γ_d	77 pcf
Liquid Limit:	--	Plastic Limit:	--	Plasticity Index:	--	G_s	2.70 (assumed)			
Classification:	CLAY (CH), gray					Source:	LB-1 at 120 feet			

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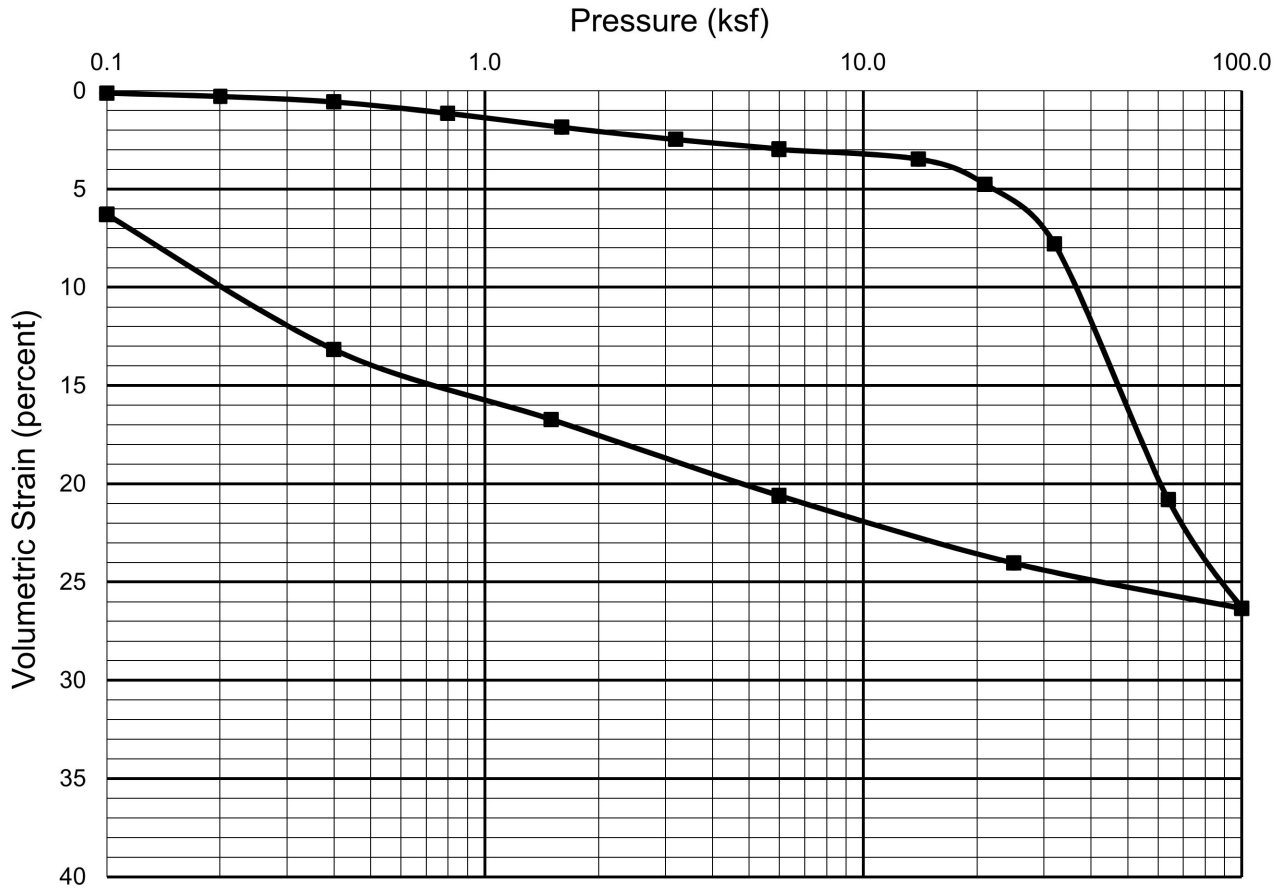

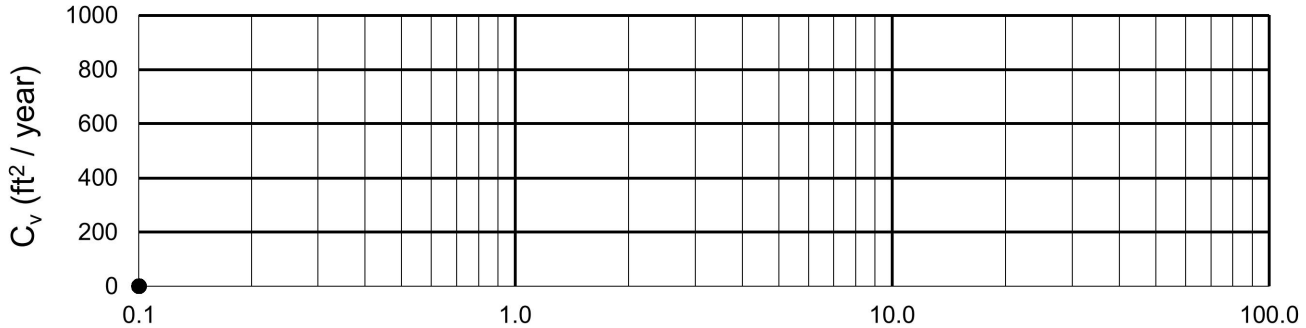

Sampler Type						Condition Before Test			After Test	
Shelby Tube	Diameter (in)		2.42	Height (in)	1.00	Water Content	w_o	43.4%	w_f	39.0%
Overburden Pressure	P_o	13,500 psf				Void Ratio	e_o	1.19	e_f	1.05
Preconsol. Pressure	P_c	30,000 psf				Saturation	S_o	99%	S_f	100%
Compression Ration	$C\varepsilon_c$	0.41				Dry Density	γ_d	77 pcf	γ_d	82 pcf
Liquid Limit:	--	Plastic Limit:	--	Plasticity Index:	--	G_s	2.70 (assumed)			
Classification:	CLAY (CH), gray					Source:	LB-1 at 195 feet			

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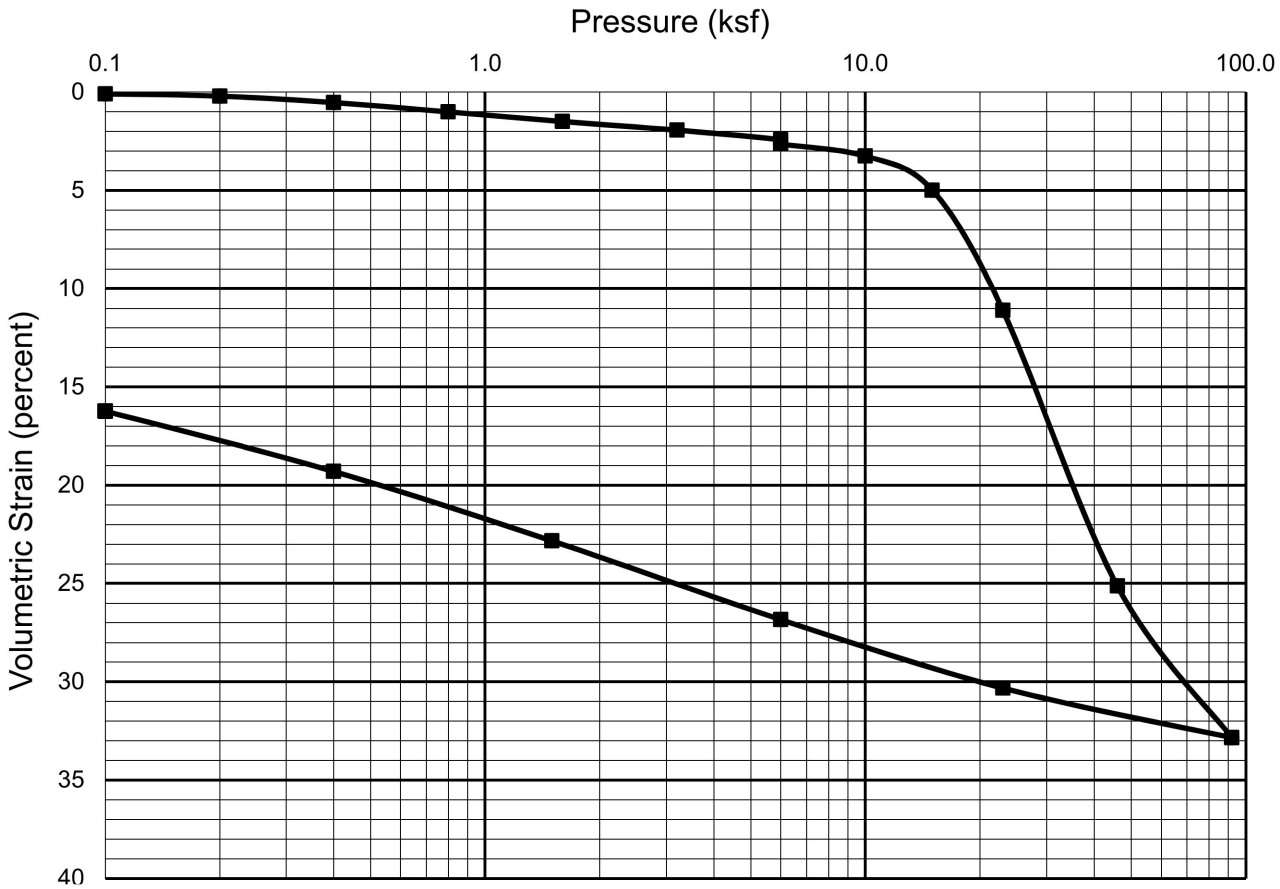

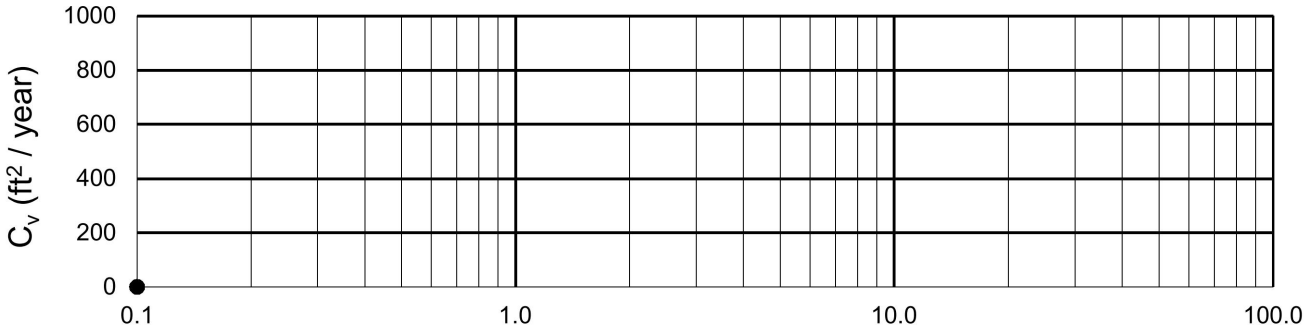

Sampler Type						Condition Before Test			After Test	
Shelby Tube	Diameter (in)		2.42	Height (in)	1.00	Water Content	w_o	55.4%	w_f	41.0%
Overburden Pressure	P_o	9,200 psf				Void Ratio	e_o	1.51	e_f	1.11
Preconsol. Pressure	P_c	17,000 psf				Saturation	S_o	99%	S_f	100%
Compression Ration	$C\varepsilon_c$	0.40				Dry Density	γ_d	67 pcf	γ_d	80 pcf
Liquid Limit:	--	Plastic Limit:	--	Plasticity Index:	--	G_s	2.70 (assumed)			
Classification:	CLAY (CH), gray					Source:	LB-2 at 120 feet			

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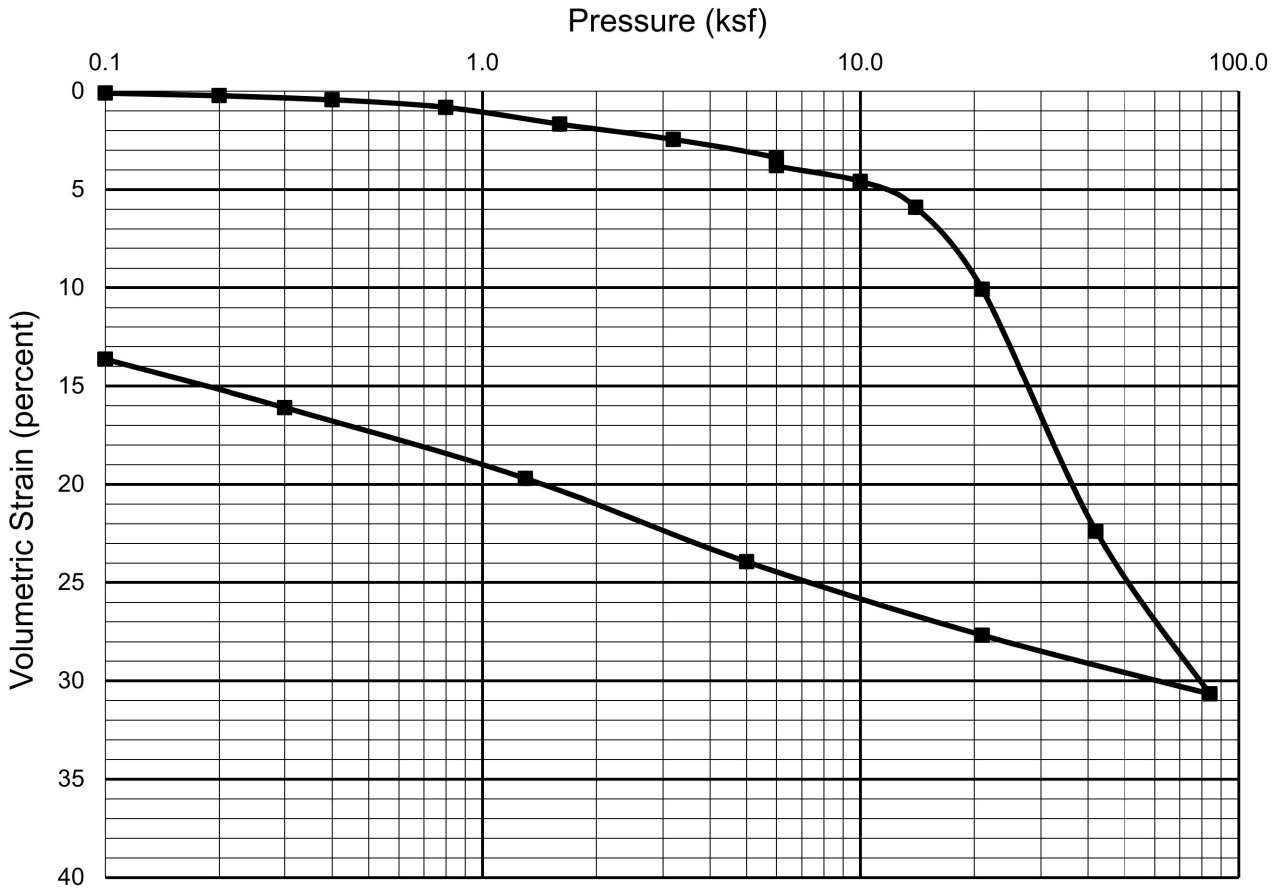

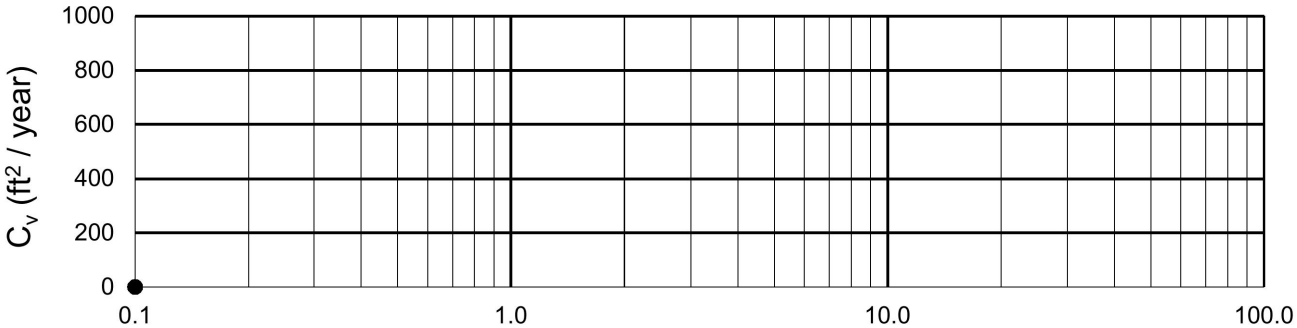

Sampler Type						Condition Before Test			After Test	
Shelby Tube	Diameter (in)		2.42	Height (in)	1.00	Water Content	w_o	52.2%	w_f	41.1%
Overburden Pressure	P_o	9,650 psf				Void Ratio	e_o	1.44	e_f	1.11
Preconsol. Pressure	P_c	18,000 psf				Saturation	S_o	98%	S_f	100%
Compression Ration	$C\varepsilon_c$	0.36				Dry Density	γ_d	69 pcf	γ_d	80 pcf
Liquid Limit:	--	Plastic Limit:	--	Plasticity Index:	--	G_s	2.70 (assumed)			
Classification:	CLAY (CH), gray					Source:	LB-2 at 130 feet			

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APPENDIX C

DOWNHOLE SUSPENSION LOGGING

NORCAL
GEOPHYSICAL CONSULTANTS INC.
A Terracon COMPANY

January 11, 2021

LANGAN
135 Main Street, Suite 1500
San Francisco, CA 94105

Subject: Borehole Geophysical Logging Investigation
469 Stevenson Street
San Francisco, California

NORCAL Job No: NS205151

Attention: Mr. Peter Brady, PE

This report presents the findings of a Borehole Geophysical Logging (BGL) investigation performed by NORCAL Geophysical Consultants, Inc. in support of a geotechnical study being conducted by LANGAN for a site located in the parking lot south of 469 Stevenson Street in San Francisco, California. The BGL survey was authorized under LANGAN Work Authorization letter signed by Maria Flessas, Principal, dated December 16, 2020. The field work was performed on December 18, 2020 by NORCAL Professional Geophysicist Charles Carter (PGp 1051). Logistical support and safety information were provided onsite by LANGAN Engineer, Mr. Roman Nelson.

Figure 1. Borehole Location Map

The BGL investigation was conducted in one geotechnical borehole labeled as LB-1. This borehole was located in the northeast corner of the parking lot located between Stevenson Street and Jessie, as shown in Figure 1. The purpose of the BGL survey was to measure shear (S-) wave and compressional (P-) wave velocities in the upper 250-feet of sediments and soils to determine the site classification as this relates to earthquake ground motion studies for proposed new construction or building upgrades.

1.0 SCOPE OF SERVICES

Our scope of services for this project consisted of conducting a BGL investigation in borehole LB-1. Our scope also included processing and interpreting the BGL data and presenting our findings in a written report.

2.0 BOREHOLE CONDITIONS

Borehole LB-1 was advanced with a 6-inch diameter rotary wash drilling method to a depth of 11-ft below ground surface (bgs). A steel conductor casing was then installed in the upper 11-ft to prevent sloughing from loose fill or soil. Below 11-ft bgs, the drilling was advanced with a 4.9-inch rotary bit to 256-ft bgs. Borehole stability was very good. However, the borehole lost about one foot of depth due to sediment sloughing.

3.0 BOREHOLE GEOPHYSICAL LOGGING (BGL) SURVEY

Detailed descriptions of the PS-wave Suspension methodology, our data acquisition and data analysis procedures and how the results are presented, are provided in Appendix A. The appendix includes a table listing the interval P- and S-wave velocities measured from 13- to 241-ft bgs.

4.0 RESULTS

The results of the suspension borehole logging survey are illustrated by the velocity versus depth graph shown on the left side of Plate 1. The graph depicts the variation in S-wave velocity (Vs) and P-wave velocity (Vp) versus depth. Vs are indicated by the red triangles and Vp are indicated by the blue circles. These are interval velocities (see Appendix A) and, as such, are the values that should be used in any evaluation of foundation characteristics. To the right of the PS-wave velocity plots, we present a shaded caliper log (labeled as Borehole Diameter).

5.0 DISCUSSION

As shown on Plate 1, the seismic velocities in Borehole LB-1 range from 650 to 2,100 feet per second (ft/s) for Vs and 3,900 to 6,800 ft/s for Vp. The static water level was reported to be at 32 feet below ground surface. The P-wave data were generally of poor quality above 32 feet due to the very weak signal recorded at the far receiver. The P-wave data quality improved below 32 feet which may be due to a transition from partially saturated alluvium above the local water table to fully water saturated alluvium. There were several borehole washouts detected in the caliper log between the bottom of casing and 30-ft bgs which also contributed to poor P-wave signal. The Vp values of less than 5000 fps presented here are only approximations.

In general, the Vs velocities are somewhat variable due to changes in stratigraphy. Higher Vs velocities generally correspond to more consolidated coarse-grained sediments like sands or gravels while lower velocity zones may correspond to finer material such as clays or muds.

6.0 STANDARD CARE

The scope of NORCAL's services for this project consisted of using geophysical methods to characterize the subsurface. The accuracy of our findings is subject to specific site conditions and limitations inherent to the techniques used. We performed our services in a manner consistent with the standard of care ordinarily exercised by members of the profession currently employing similar methods. No warranty, with respect to the performance of services or products delivered under this agreement, expressed or implied, is made by NORCAL.

We appreciate the opportunity to provide our services to Langan for this project. If you have any questions or require additional geophysical services, please do not hesitate to contact us.

Sincerely,
NORCAL Geophysical Consultants, Inc.

Charles Carter

Charles Carter
Professional Geophysicist PGp 1051

PROFESSIONAL GEOPHYSICIST
Charles G Carter
1051
1-11-2021
STATE OF CALIFORNIA

Donald J. Kirker

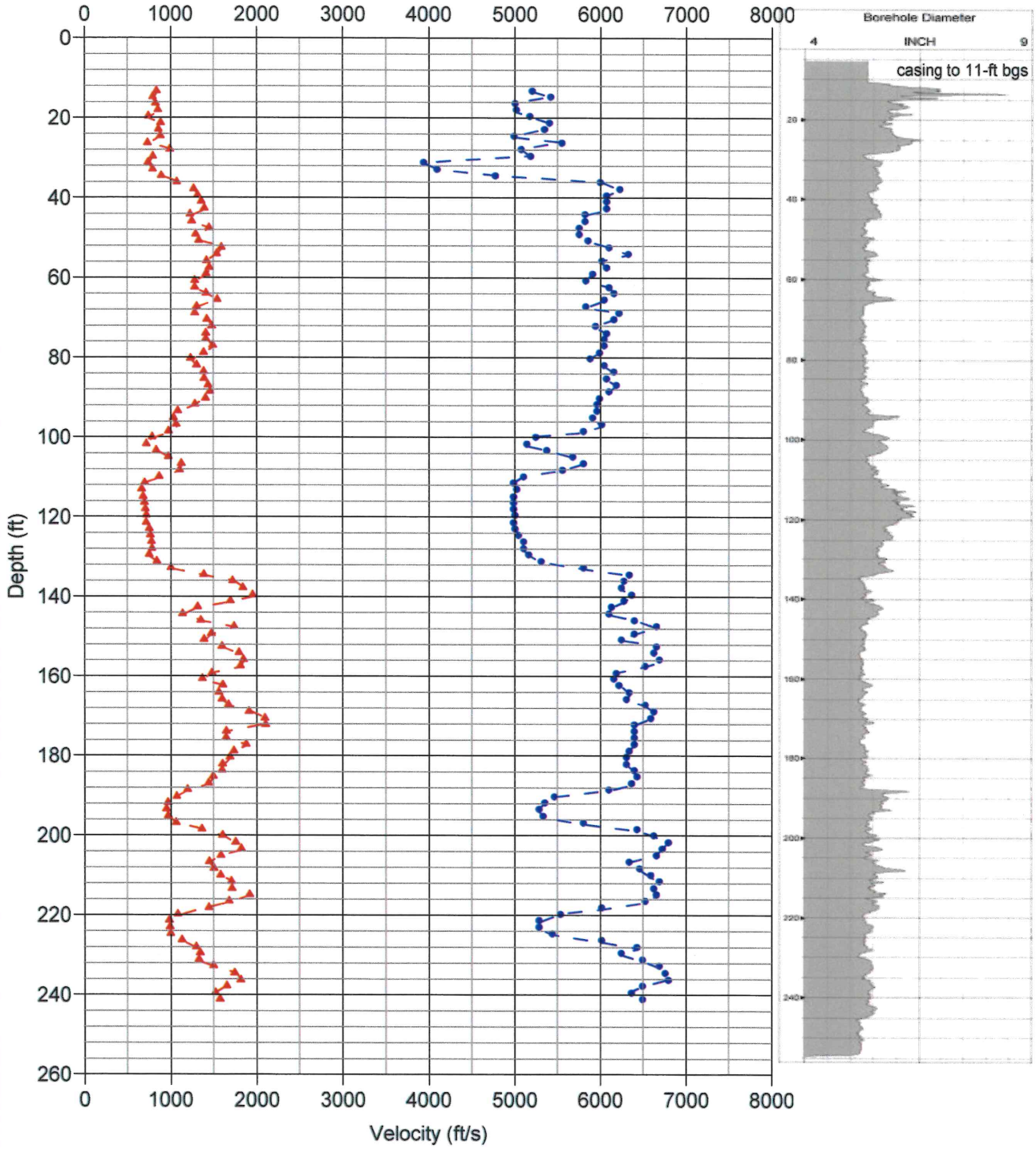
Donald J Kirker, PGp 997
Office Manager, Reviewer

PROFESSIONAL GEOPHYSICIST
DONALD KIRKER
No. 997
1-11-2021
STATE OF CALIFORNIA

WJH/DK

Enclosures: Plate 1: Suspension P- and S-wave Velocity Profile, LB-1
Appendix A: PS-wave Suspension Velocity Survey

LB-1



LEGEND

- Vs R1-R2
- Vp R1-R2

NORCAL	SUSPENSION P- & S-WAVE VELOCITY PROFILE BOREHOLE: LB-1	
	LOCATION: 469 Stevenson Street, San Francisco, CA	
	CLIENT: LANGAN	PLATE 1
JOB #: NS205151	NORCAL GEOPHYSICAL CONSULTANTS INC.	
Date: Dec., 2020	DRAWN BY: C. CARTER	APPROVED BY: CGC

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Appendix A:

Suspension P- and S-wave Velocity Survey

APPENDIX A

PS-WAVE SUSPENSION VELOCITY SURVEY

The Suspension logger is a highly specialized downhole tool that measures P- and S-wave velocities at discrete depths. The following presents a narrative on its operation and the data reduction procedures we used in computation of suspension P- and S-wave velocities. Also presented is a tabulated velocity data table interpreted for the suspension logging survey in Borehole LB-1.

1.0 METHODOLOGY

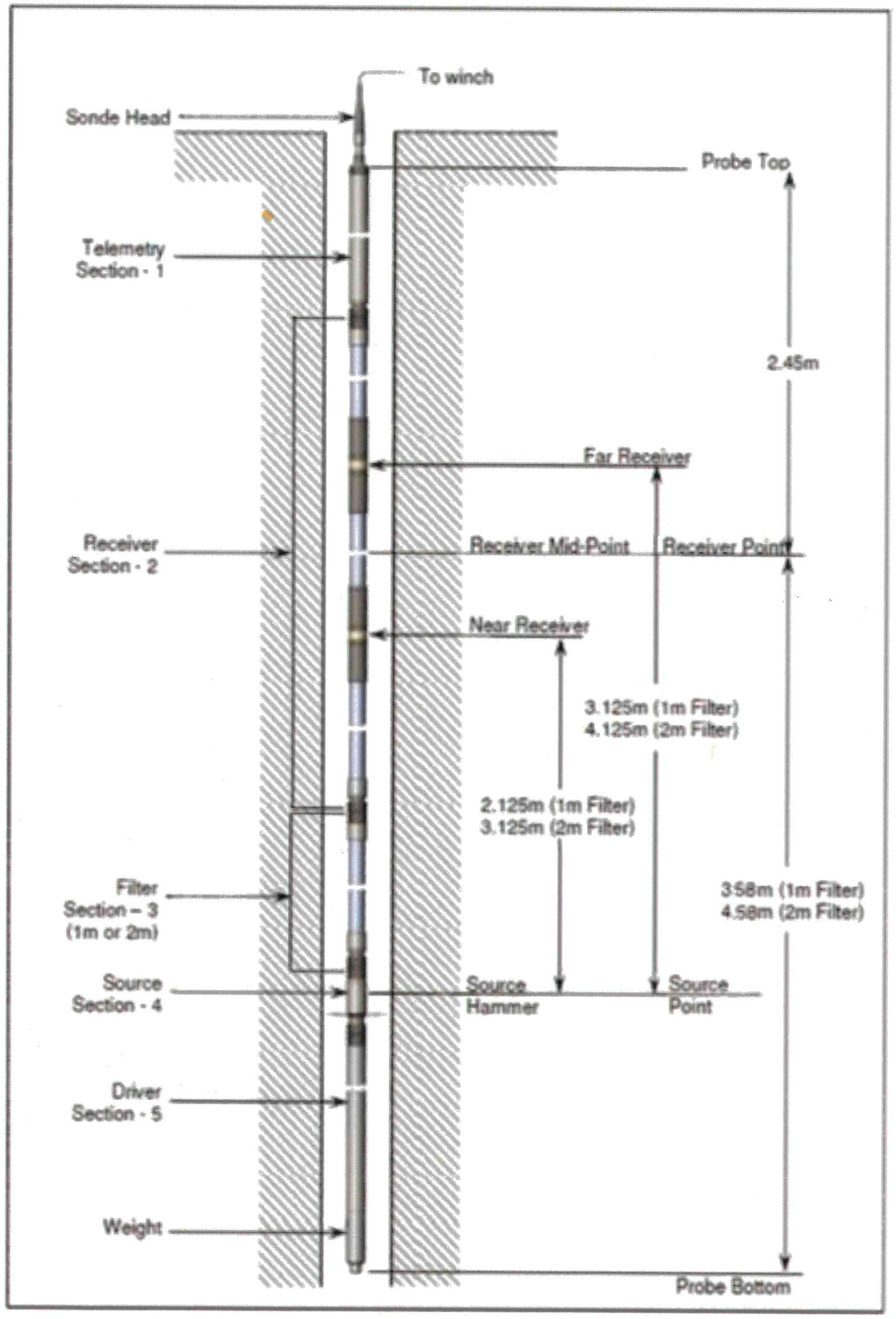
We measured downhole compressional (P-) and shear (S-) wave velocities using a Robertson Geologging, Ltd. digital suspension logging system. A schematic diagram depicting the probe configuration is shown in Figure A-1. The suspension logging tool is equipped with a dipole seismic energy source hammer located near the base of the probe and a pair of detectors (receivers) designated as near receiver (R1) and far receiver (R2), located within the middle to the upper sections of the probe. The distance from the energy source to the closest receiver was 6.97 feet (2.125 meters) when assembled with a detachable 1-meter isolation tube. The in-line distance between the receiver pair was 3.28-feet (1.0 meter). Each receiver contains one horizontal and one vertical oriented element. The horizontal receiver elements preferentially record shear wave motion. The vertical receiver elements preferentially record first arriving P-wave energy.

Suspension seismic data are collected at discrete depths in the fluid-filled portion of the borehole. At each measurement depth, the energy source is activated via commands from the surface control console. This activation causes a metal solenoid to strike the metal strike cylinder. This energy transmits through the fluid to the borehole wall which initiates a seismic wave ("flexure") in the adjacent formation. As this wave propagates radially into the formation a physical interaction between the flexure wave and the borehole wall creates shear waves together with a refracted compressional P-wave that travels up the borehole to the two detectors. The source hammer and horizontal elements in the receivers are oriented parallel to one another. By striking the metal strike cylinder on opposite sides of the probe (referred to as left strike and right strike) the amplitudes of both the positive and negative polarity S-waves are maximized.

When assembled with a 1-meter isolation tube, the suspension logging tool is approximately 19.5 feet long (Figure A-1). By definition, the depth reference point of the tool is half-way between the two receivers. Since this point is approximately 13-ft from the probe tip, the maximum depth of a suspension logging survey, given a non-sloughing borehole, will always be reported as 13 feet less than the total depth of the borehole. When in operation, the probe is centralized in the

borehole with flexible rubber rings positioned just below the source and just above the receiver section. This is necessary to maintain a gap between the probe housing and borehole wall.

Figure A-1: Suspension logger schematic diagram



2.0 DATA ACQUISITION

We measured seismic suspension velocities at stationary depth positions in the fluid-filled borehole distributed vertically at 0.5-meter intervals. The borehole was drilled to a maximum depth of 256-ft below ground (pavement) surface. Steel conductor casing was installed to 11-ft bgs. The water level in the borehole was less than 10-ft bgs during data acquisition. Since the PS logging needs a fluid-filled, open borehole to operate, the upper bound of the PS survey was approximately13-ft bgs.

At each measurement station, the energy source fired 3 times in succession. This cycling of the seismic energy resulting in a "left" and "right" strike for the shear waves (recorded with the horizontal elements) and a third strike for the P-waves (recorded with the vertical elements). Depending on frequency response, we recorded S-waves by applying various low pass filters (2.4 KHz) to the signals detected by the horizontal receiver elements. These filter settings were much higher than the observed center fundamental frequencies of the S-wave signal. This filtering was used to suppress interference from the onset of earlier arriving P-waves. We recorded P-wave waveforms using a 20 KHz low pass filter.

3.0 DATA ANALYSIS

3.1 SEISMIC RECORDS

Suspension P- and S-wave velocities were calculated with the computer software programs ***PSLogger Application*** Version 1.121 and ***PSLOG Analysis*** Version 1.0.001. Both programs are published by ***Robertson Geologging, Ltd.*** (2009). Sample suspension seismic records are presented in Figures A-2, -3, and A-4. These records display six seismic wave-traces. The upper four traces were detected by the horizontal receiver elements and are used to identify S-wave arrivals. These traces are labeled according to the wave type (S-wave=shear), the direction of impact (l=left and r=right) and the relative distance from the source (n=near and f=far). For example, the top wave trace is labeled "srf" because it was recorded to identify S-waves using a right strike and was detected by the far receiver. The seismic wave traces produced by a right-hand strike of the source (Cycle 1) are color coded red. Those resulting from a left-hand strike (Cycle 2) are color coded green.

The lower two traces were detected by the vertical receiver elements and are used to identify P-wave arrivals. These traces are labeled according to the wave type (P-wave = compressional P or primary) and the relative distance from the source (n=near and f=far). For example, the bottom wave trace is labeled "pn" because it was recorded to identify P-waves by the near receiver. These seismic wave traces are produced during Cycle 3 and are colored blue. Since they were

detected by the vertical elements in the receivers, the direction of impact is inconsequential and is not addressed by separate waveforms.

Figure A-2: Sample seismic record from LB-1 at depth ~10.5-m bgs.

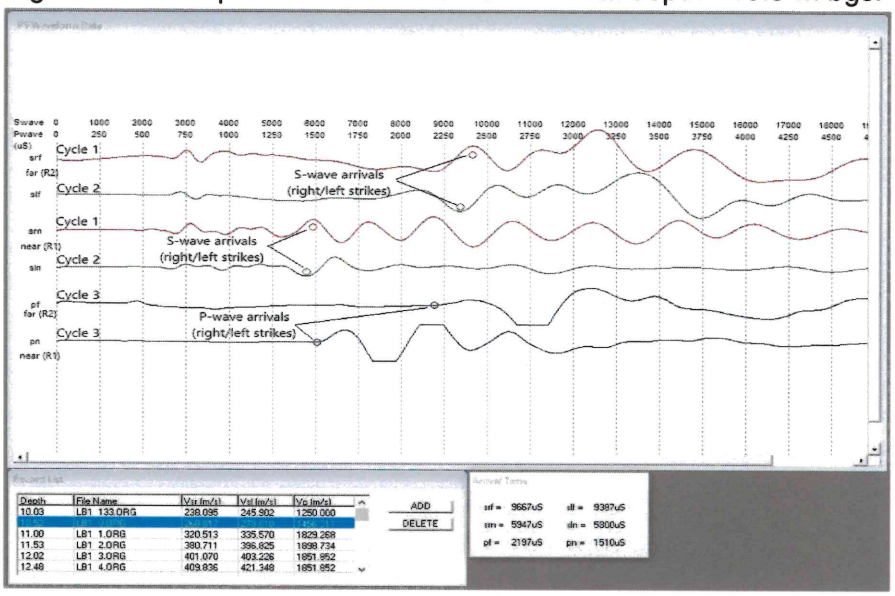


Figure A-3 Sample seismic record from LB-1 at depth ~22.6-m bgs

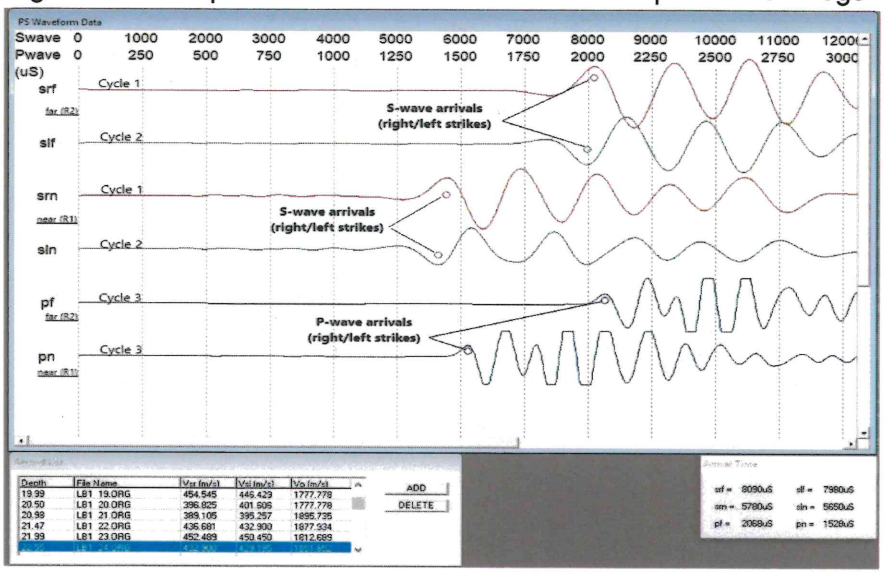
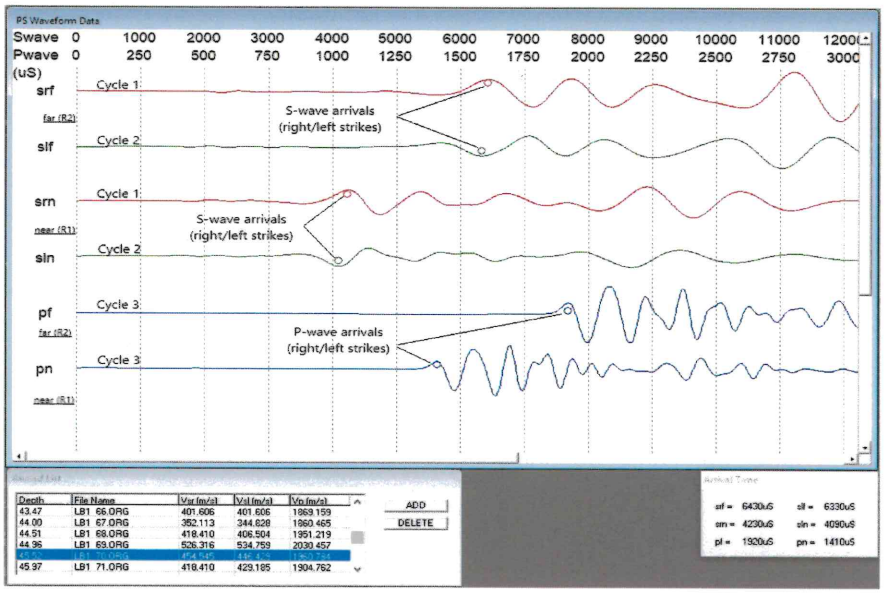


Figure A-4 Sample Waveform Record from LB-1 at a depth of ~45.5-m bgs



3.2 S-WAVE ARRIVALS

On the seismic records shown in Figures A-2, A-3 and A-4, the red traces (Cycle 1) were created by right strikes or impacts and the green traces (Cycle 2) were created by left strikes. Pairing the traces produced by opposite directions of impact reveals a phase reversal that is associated with the onset (arrival) of S-wave energy. However, because there can be slight discrepancies in timing between Cycle 1 and Cycle 2, the reversal point may not occur at the same exact time on both traces. Therefore, the onset of S-wave energy is further defined as the point where there is also a significant increase or decrease in amplitude within the phase reversal time window. These arrival times are depicted by open dots on the upper four wave traces.

3.3 P-WAVE ARRIVALS

P-wave arrivals are identified as the point where the wave traces produced by Cycle 3 (blue) change from straight lines to sinusoidal wave forms. These points are referred to as "first breaks". First breaks are either up or down and exceed a minimum threshold. Often it is less ambiguous to pick the first peak of the wavelet from each receiver (R1 and R2). The point of the break or peak are represented by blue circles on the lower two wave traces.

3.4 SEISMIC VELOCITY CALCULATIONS

Velocities are calculated by dividing the distance between the two receivers R1 and R2 by the difference in arrival times (AT in seconds) to those receivers. These are considered interval velocities. The general form of the equation is as follows:

$V_{(R2-R1)} = (X_{R2}-X_{R1})/(AT_{R2}-AT_{R1})$

Where $(X_{R2}-X_{R1})$ = 1 meter (3.2809 feet); AT_{R2} = arrival time at **far** detector, AT_{R1} = = arrival time at **near** detector.

The ***PSLogger Application*** program calculates two interval Vs velocities based on arrival time differences based on the right strike polarity of Cycle 1 (***Vsr***) records; the left strike polarity of Cycle 2 (***Vsl***) records and one ***Vp*** interval velocity based on the arrival time differences selected on Cycle 3 records.

3.5 INTERVAL SEISMIC VELOCITIES

Final output of velocities and arrival times were made with the reduction program ***PSLOG Analysis***. The output of this program consists of four interval velocities; three S-wave (Vs) and one P-wave (Vp). The interval Vs were computed using the Cycle 1 (VsRight) and Cycle 2 (VsLeft) travel times and their average (VsAvg). The interval Vp was computed using the Cycle 3 travel times.

4.0 DATA PRESENTATION

All P- and S-wave velocities interpreted for Borehole LB-1 are presented in Table 1 below and are differentiated into both Metric and Imperial Units. The columns below indicating metric units are shown on the left. The columns indicating imperial units are shown on the right and present the Vs and Vp data as depths in feet and velocities in feet per second. These average or interval Vs and Vp velocities have columns shaded blue and are displayed graphically on the depth versus velocity profile on Plate 1 within the main body of the report. The depths of the measurements are based on a probe reference point that is half-way between the near and far receivers.

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Table 1, LB-01 PS-wave Velocity Table

METRIC UNITS DEPTHS & INTERVAL VELOCITIES			IMPERIAL UNITS DEPTHS AND INTERVAL VELOCITIES		
Depth	VsAvg	Vp	Depth	VsAvg	Vp
Meters	M/sec.	M/sec.	Ft./sec.	Ft./sec.	Ft./sec.
4.0	256.5	1587.3	13.3	841.2	5206.4
4.5	242.0	1652.9	14.8	793.7	5421.5
5.0	252.6	1526.7	16.4	828.5	5007.6
5.5	261.4	1530.6	18.0	857.2	5020.4
6.0	226.9	1578.9	19.6	744.2	5178.9
6.5	270.6	1648.4	21.3	887.5	5406.6
7.0	263.2	1630.4	22.9	863.3	5347.8
7.5	269.8	1522.8	24.5	885.1	4994.9
8.0	223.9	1692.5	26.2	734.3	5551.5
8.5	303.3	1548.4	27.9	994.9	5078.7
9.0	243.1	1581.0	29.6	797.4	5185.8
9.5	225.5	1202.4	31.1	739.7	3943.9
10.0	242.0	1250.0	32.9	793.8	4100.0
10.5	273.8	1456.3	34.5	898.1	4776.7
11.0	328.0	1829.3	36.1	1076.0	6000.0
11.5	388.8	1898.7	37.8	1275.2	6227.8
12.0	402.1	1851.9	39.4	1319.0	6074.1
12.5	415.6	1851.9	40.9	1363.1	6074.1
13.0	426.2	1851.9	42.6	1397.8	6074.1
13.5	375.0	1775.1	44.1	1230.0	5822.5
14.0	381.7	1775.1	45.9	1251.9	5822.5
14.5	442.5	1754.4	47.5	1451.3	5754.4
15.0	395.3	1754.4	49.1	1296.6	5754.4
15.5	406.6	1785.7	50.7	1333.6	5857.1
16.0	485.4	1860.5	52.4	1592.3	6102.3
16.5	469.5	1929.3	54.1	1539.9	6328.0
17.0	433.8	1834.9	55.8	1423.0	6018.3
17.5	443.5	1851.9	57.4	1454.7	6074.1
18.0	432.1	1801.8	59.0	1417.4	5909.9
18.5	392.2	1777.8	60.7	1286.5	5831.1
19.0	392.2	1860.5	62.4	1286.3	6102.3
19.5	432.0	1877.9	63.9	1416.9	6159.6
20.0	470.6	1843.3	65.5	1543.5	6046.1

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METRIC UNITS DEPTHS & INTERVAL VELOCITIES			IMPERIAL UNITS DEPTHS AND INTERVAL VELOCITIES		
Depth	VsAvg	Vp	Depth	VsAvg	Vp
Meters	M/sec.	M/sec.	Ft./sec.	Ft./sec.	Ft./sec.
20.5	399.2	1777.8	67.2	1309.4	5831.1
21.0	392.2	1895.7	68.8	1286.4	6218.0
21.5	434.8	1877.9	70.4	1426.1	6159.6
22.0	451.5	1812.7	72.1	1480.8	5945.6
22.6	431.0	1851.9	74.0	1413.8	6074.1
23.0	431.2	1843.3	75.4	1414.5	6046.1
23.5	455.6	1843.3	77.0	1494.5	6046.1
24.0	422.8	1826.5	78.8	1386.9	5990.9
24.5	376.7	1793.7	80.3	1235.4	5883.4
25.0	398.4	1843.3	82.0	1306.8	6046.1
25.5	422.9	1877.9	83.5	1386.9	6159.6
26.0	424.7	1851.9	85.3	1392.9	6074.1
26.5	438.6	1886.8	86.9	1438.6	6188.7
27.0	445.4	1860.5	88.5	1461.0	6102.3
27.5	430.2	1826.5	90.2	1411.1	5990.9
28.0	392.9	1818.2	91.7	1288.8	5963.6
28.5	332.2	1818.2	93.4	1089.7	5963.6
29.0	316.5	1801.8	95.1	1038.0	5909.9
29.5	325.7	1834.9	96.7	1068.4	6018.3
30.0	299.0	1769.9	98.5	980.6	5805.3
30.5	240.1	1600.0	99.9	787.6	5248.0
31.0	219.6	1568.6	101.7	720.4	5145.1
31.5	255.4	1639.3	103.3	837.9	5377.0
32.0	297.7	1731.6	104.9	976.4	5679.7
32.5	344.2	1769.9	106.6	1129.1	5805.3
33.0	337.9	1694.9	108.2	1108.3	5559.3
33.5	266.0	1556.4	109.9	872.3	5105.1
34.0	213.2	1520.9	111.5	699.4	4988.6
34.5	202.8	1532.6	113.1	665.3	5026.8
35.0	208.1	1520.9	114.9	682.6	4988.6
35.5	213.0	1520.9	116.4	698.6	4988.6
36.0	215.8	1520.9	118.0	707.7	4988.6
36.5	219.3	1526.7	119.6	719.3	5007.6
37.0	219.1	1520.9	121.4	718.6	4988.6
37.5	229.6	1526.7	123.0	753.2	5007.6

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METRIC UNITS DEPTHS & INTERVAL VELOCITIES			IMPERIAL UNITS DEPTHS AND INTERVAL VELOCITIES		
Depth	VsAvg	Vp	Depth	VsAvg	Vp
Meters	M/sec.	M/sec.	Ft./sec.	Ft./sec.	Ft./sec.
38.0	233.9	1538.5	124.6	767.3	5046.2
38.5	237.5	1556.4	126.2	779.1	5105.1
39.0	239.2	1556.4	127.9	784.7	5105.1
39.5	229.4	1574.8	129.5	752.3	5165.4
40.0	257.4	1619.4	131.2	844.3	5311.7
40.5	306.3	1769.9	132.8	1004.8	5805.3
41.0	422.8	1932.4	134.5	1386.9	6338.2
41.5	525.1	1913.9	136.0	1722.4	6277.5
42.0	561.8	1904.8	137.7	1842.8	6247.6
42.5	595.3	1941.7	139.5	1952.4	6368.9
43.0	517.2	1913.9	141.0	1696.5	6277.5
43.5	401.6	1869.2	142.6	1317.3	6130.8
44.0	348.5	1860.5	144.3	1143.0	6102.3
44.5	412.5	1951.2	146.0	1352.9	6400.0
45.0	530.5	2030.5	147.5	1740.2	6659.9
45.5	450.5	1951.2	149.3	1477.6	6400.0
46.0	423.8	1904.8	150.8	1390.1	6247.6
46.5	487.3	2030.5	152.5	1598.2	6659.9
47.0	547.5	2020.2	154.1	1795.8	6626.3
47.5	563.4	2040.8	155.8	1847.9	6693.9
48.0	552.8	1990.1	157.4	1813.0	6527.4
48.5	451.5	1886.8	159.2	1480.8	6188.7
49.0	417.6	1877.9	160.7	1369.7	6159.6
49.5	490.3	1895.7	162.2	1608.2	6218.0
50.0	476.2	1932.4	164.0	1561.9	6338.2
50.5	487.8	1923.1	165.8	1600.0	6307.7
51.0	510.3	1990.1	167.2	1673.9	6527.4
51.5	583.2	2020.2	168.9	1912.9	6626.3
52.0	639.0	2010.1	170.5	2095.9	6593.0
52.5	641.3	1951.2	172.2	2103.3	6400.0
53.0	502.2	1951.2	173.8	1647.1	6400.0
53.5	501.3	1951.2	175.4	1644.1	6400.0
54.0	573.1	1951.2	177.1	1879.8	6400.0
54.5	529.3	1932.4	178.8	1736.2	6338.2
55.0	515.5	1923.1	180.3	1690.7	6307.7

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METRIC UNITS DEPTHS & INTERVAL VELOCITIES			IMPERIAL UNITS DEPTHS AND INTERVAL VELOCITIES		
Depth	VsAvg	Vp	Depth	VsAvg	Vp
Meters	M/sec.	M/sec.	Ft./sec.	Ft./sec.	Ft./sec.
55.5	489.1	1923.1	182.1	1604.2	6307.7
56.0	487.8	1951.2	183.7	1600.0	6400.0
56.5	456.6	1960.8	185.2	1497.7	6431.4
57.0	439.6	1941.7	186.9	1441.8	6368.9
57.5	365.7	1860.5	188.6	1199.4	6102.3
58.0	327.3	1666.7	190.3	1073.7	5466.7
58.5	296.3	1632.7	191.8	971.9	5355.1
59.0	290.7	1612.9	193.5	953.5	5290.3
59.5	297.2	1626.0	195.2	974.8	5333.3
60.0	325.2	1769.9	196.9	1066.8	5805.3
60.5	415.8	1960.8	198.5	1363.8	6431.4
61.0	489.2	2020.2	200.0	1604.7	6626.3
61.5	535.0	2072.5	201.7	1754.8	6797.9
62.0	555.6	2051.3	203.3	1822.2	6728.2
62.5	483.1	2030.5	205.0	1584.6	6659.9
63.0	442.5	1932.4	206.6	1451.4	6338.2
63.5	458.8	1970.4	208.3	1504.7	6463.1
64.0	482.0	2010.1	210.0	1580.8	6593.0
64.5	520.8	2040.8	211.5	1708.3	6693.9
65.0	522.2	2020.2	213.3	1712.8	6626.3
65.5	584.8	2030.5	214.9	1918.2	6659.9
66.0	511.5	1990.1	216.4	1677.8	6527.4
66.5	440.6	1834.9	218.1	1445.0	6018.3
67.0	331.1	1687.8	219.8	1086.1	5535.9
67.5	300.8	1612.9	221.4	986.6	5290.3
68.0	303.0	1612.9	223.0	994.0	5290.3
68.5	305.4	1659.8	224.7	1001.5	5444.0
69.0	346.1	1834.9	226.3	1135.1	6018.3
69.5	396.1	1960.8	228.0	1299.1	6431.4
70.0	409.8	1904.8	229.5	1344.3	6247.6
70.5	405.7	1980.2	231.2	1330.8	6495.0
71.0	456.7	2040.8	232.7	1497.8	6693.9
71.5	532.1	2061.9	234.5	1745.1	6762.9
72.0	554.0	2072.5	236.2	1817.2	6797.9
72.5	503.8	1980.2	237.8	1652.4	6495.0

METRIC UNITS DEPTHS & INTERVAL VELOCITIES			IMPERIAL UNITS DEPTHS AND INTERVAL VELOCITIES		
Depth	VsAvg	Vp	Depth	VsAvg	Vp
Meters	M/sec.	M/sec.	Ft./sec.	Ft./sec.	Ft./sec.
73.0	464.4	1941.7	239.4	1523.4	6368.9
73.5	479.7	1980.2	241.1	1573.5	6495.0

5.0 QUALITY ASSURANCE

For quality assurance purposes, a source to receiver analysis is conducted. Depth verses interval velocities are displayed with velocities obtained from a source to near receiver (S-R1) analysis in Figure A-5 below. There is a 2.125 m separation between the source and near receiver. Therefore, the S-R1 velocities are an average velocity over 2.1 m rather than the average velocity over 1 m between the near and far receivers. The center point between the source and near receiver is 1.56 m lower on the probe than the mid-point between the two receivers. The S-R1 velocity for the record acquired at 10m, for example, is reported at a depth of 11.56 m. The source to receiver velocity is calculated with the following equation

$$V_{(S\text{-}R1)} = (X_S - X_{R1})/(AT_{R1} - SD)$$

where the S-R1 separation is 2.125m, AT_{R1} = arrival time at **near** detector and SD is the source delay which was 0.29 ms for this survey. The source delay varies from log to log but is influenced by the probe's internal electronics and amount of wear on the source springs.

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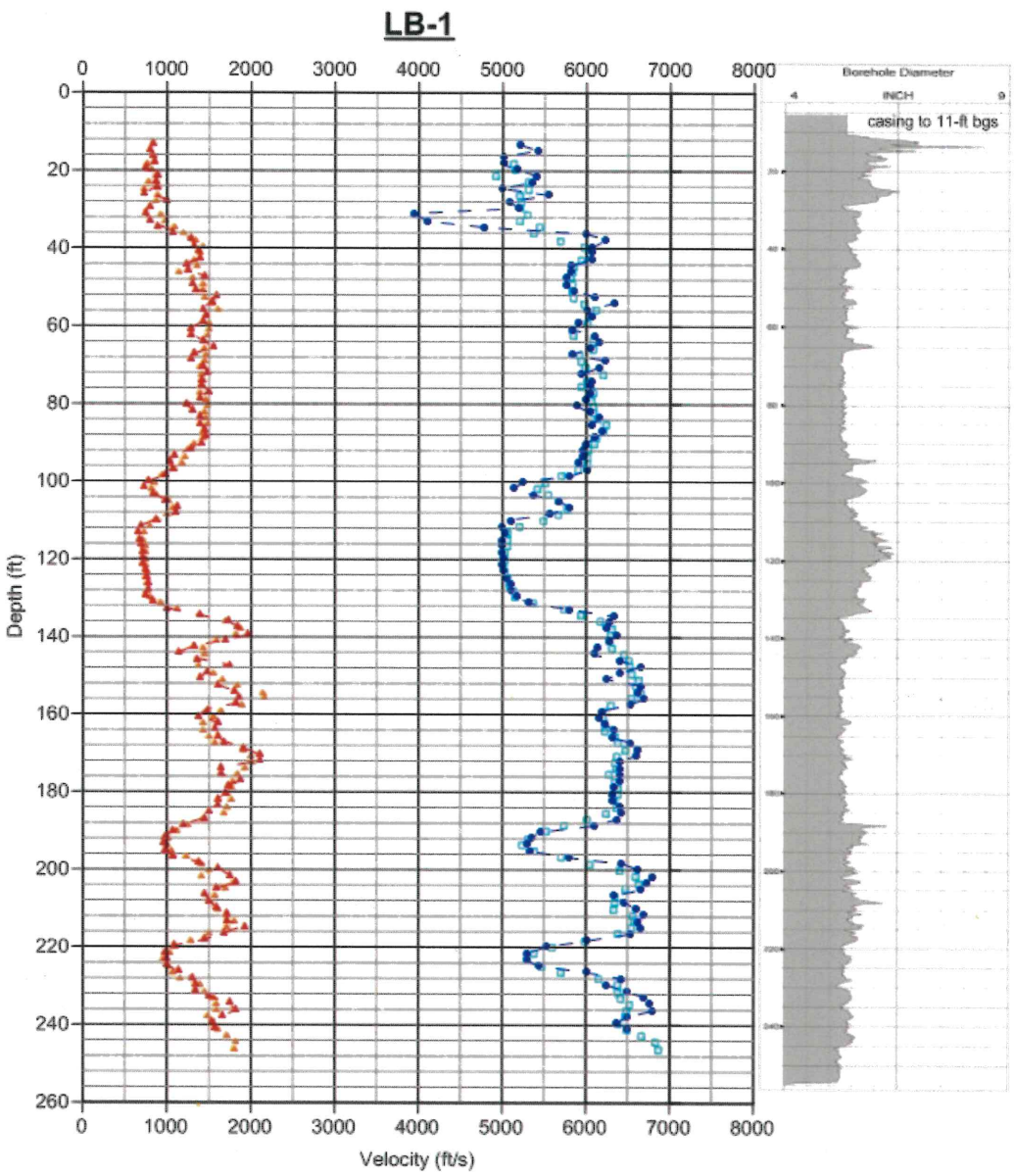

LEGEND

- Vs R1-R2
- Vs S-R1
- Vp R1-R2
- Vp S-R1

NORCAL	SUSPENSION P- & S-WAVE VELOCITY PROFILE with S-R1 BOREHOLE: LB-1	
	LOCATION: 469 Stevenson Street, San Francisco, CA	
	CLIENT: LANGAN	FIGURE
JOB #: NS205151	NORCAL GEOPHYSICAL CONSULTANTS INC.	A-5
Date: Dec., 2020	DRAWN BY: C. CARTER / APPROVED BY: CGC	

APPENDIX D

SITE SPECIFIC RESPONSE SPECTRA

APPENDIX D

SITE-SPECIFIC RESPONSE SPECTRA

This appendix presents the details of our estimation of the level of ground shaking at the site during future earthquakes. We developed site-specific response spectra for two levels of ground shaking. These correspond to the Risk-Targeted Maximum Considered Earthquake (MCE_R) and Design Earthquake (DE) as defined in the 2019 California Building Code (CBC). Consistent with the provisions of ASCE 7-16 and Tall Building Initiative (TBI 2017, Version 2.03), we performed a Probabilistic Seismic Hazard Analysis (PSHA), deterministic analysis and ground response analysis to develop site-specific horizontal response spectra for two levels of shaking, corresponding to:

- Risk-Targeted Maximum Considered Earthquake (MCE_R), which corresponds to the lesser of two percent probability of exceedance in 50 years (2,475-year return period) or 84th percentile of the controlling deterministic event both considering the maximum direction as described in ASCE 7-16.

- Design Earthquake (DE), which corresponds to 2/3 of the MCE_R

D1.0 PROBABILISTIC SEISMIC HAZARD ANALYSIS

Because the location, recurrence interval, and magnitude of future earthquakes are uncertain, we performed a PSHA, which systematically accounts for these uncertainties. The results of a PSHA define a uniform hazard for a site in terms of a probability that a particular level of shaking will be exceeded during the given life of the structure.

To perform a PSHA, information regarding the seismicity, location, and geometry of each source, along with empirical relationships that describe the rate of attenuation of strong ground motion with increasing distance from the source, are needed. The assumptions necessary to perform the PSHA are that:

- the geology and seismic tectonic history of the region are sufficiently known, such that the rate of occurrence of earthquakes can be modeled by historic or geologic data

- the level of ground motion at a particular site can be expressed by an attenuation relationship that is primarily dependent upon earthquake magnitude and distance from the source of the earthquake

- the earthquake occurrence can be modeled as a Poisson process with a constant mean occurrence rate.

As part of the development of the site-specific spectra, we performed a PSHA to develop a site-specific response spectrum for 2 percent probability of exceedance in 50 years and for 50 percent probability of exceedance in 30 years. The PSHA spectra were developed using the

OpenSHA platform. The approach used in the PSHA is based on the probabilistic seismic hazard model developed by Cornell (1968) and McGuire (1976). Our analysis modeled the faults in the Bay Area as linear sources, and earthquake activities were assigned to the faults based on historical and geologic data. The levels of shaking were estimated using ground motion prediction equations (attenuation relationships) that are primarily dependent upon the magnitude of the earthquake and the distance from the site to the fault, as well as the average shear wave velocity of the upper 30 meters, V_{S30}.

D1.1 Probabilistic Model

In probabilistic models, the occurrence of earthquake epicenters on a given fault is assumed to be uniformly distributed along the fault. This model considers ground motions arising from the portion of the fault rupture closest to the site rather than from the epicenter. Fault rupture lengths were modeled using fault rupture length-magnitude relationships given by Wells and Coppersmith (1994).

The probability of exceedance, $P_e(Z)$, at a given ground-motion, Z, at the site within a specified time period, T, is given as:

$$P_e(Z) = 1 - e^{-V(z)T}$$

where V(z) is the mean annual rate of exceedance of ground motion level Z. V(z) can be calculated using the total-probability theorem.

$$V(z) = \sum_i v_i \iint P[Z > z \mid m, r] f_{M_i}(m) f_{R_i|M_i}(r; m)\, dr\, dm$$

where:

v_i = the annual rate of earthquakes with magnitudes greater than a threshold M_{oi} in source i

P [Z > z | m,r] = probability that an earthquake of magnitude m at distance r produces ground motion amplitude Z higher than z

f_{Mi} (m) and $f_{Ri|Mi}$ (r;m) = probability density functions for magnitude and distance

Z represents peak ground acceleration, or spectral acceleration values for a given frequency of vibration. The peak accelerations are assumed to be log-normally distributed about the mean with a standard error that is dependent upon the magnitude and attenuation relationship used.

D1.2 Source Modeling and Characterization

The segmentation of faults, maximum magnitudes, and recurrence rates were modeled using the data presented in the Uniform California Earthquake Rupture Forecast Version 3 (UCERF3) as detailed in the United States Geological Survey Open File Report 2013-1165. These and other faults of the region are shown on Figure 3 in the main text. Table D-1 presents the distance and direction from the site to the fault, mean moment magnitude, mean slip rate, and fault length for individual fault segments in UCERF3 source model. The mean moment magnitude presented on Table D-1 was computed assuming full rupture of the segment using Hank and Bakun (2008) relationship.

TABLE D-1
Source Zone Parameters

Fault Segment	Approx. Distance from fault (km)	Direction from Site	Mean Moment Magnitude[1]	Mean Slip Rate (mm/yr)	Fault Length (km)
San Andreas 1906 event	13.3	Southwest	8.1	17.2	464
Total Hayward-Rodgers Creek Healdsburg	17	East	7.6	7.3	213
Total San Gregorio	18	West	7.6	3.6	219
Pilarcitos	20	Southwest	6.7	0.7	51
Contra Costa (Lafayette)	29	East	6.1	0.8	8
Contra Costa Shear Zone (connector)	30	East	6.6	0.9	30
Franklin	31	Northeast	6.7	1.1	38
Contra Costa (Larkey)	32	East	6.0	0.8	8
Contra Costa (Dillon Point)	33	Northeast	6.1	0.7	11
Total Calaveras	33	East	7.5	8.0	186
Monte Vista - Shannon	34	South	7.0	0.8	60
Mount Diablo Thrust	34	East	6.6	1.6	25
Mission (connected)	35	East	6.1	0.8	28
Concord	39	East	6.4	3.4	18
Green Valley	41	Northeast	6.8	3.8	43
Contra Costa (Vallejo)	41	Northeast	5.6	0.6	4
Contra Costa (Lake Chabot)	42	Northeast	5.6	0.7	4
Clayton	45	East	6.4	0.7	16
West Napa	46	Northeast	6.8	1.3	44
Greenville	48	East	7.1	2.3	80
Bennett Valley	51	North	6.5	1.0	33
Butano	52	South	6.7	0.7	46
Great Valley 05 Pittsburg - Kirby Hills	53	Northeast	6.3	1.0	21
Great Valley 04b Gordon Valley	70	Northeast	6.6	0.9	28
Hunting Creek - Berryessa	73	North	6.7	4.3	44
Great Valley 07 (Orestimba)	77	East	6.8	0.5	66
Sargent	81	Southeast	6.8	1.7	57
Maacama	84	North	7.4	7.9	175
Great Valley 04a Trout Creek	92	Northeast	6.4	1.2	19
Monterey Bay-Tularcitos	98	Southeast	7.2	0.6	86

[1] Mean Moment Magnitude based on entire fault length rupturing using Hank and Bakun (2008)

D1.3 Attenuation Relationships

We understand the proposed building will have a basement and mat foundation that extends 46 to 52 feet below the ground surface. Based on the subsurface conditions, the site is classified as a stiff soil profile, Site Class D. Using the subsurface information including shear wave velocity measurements, we estimated the shear wave velocity of the upper 100 feet (30 meters), V_{S30}, is approximately 1,080 feet per second (330 meters per second). Furthermore, NGAW-2 database indicates that depths Z_1 and $Z_{2.5}$ are about 125 meters and 0.850 kilometer, respectively. These values were used in the development of site-specific spectra.

The Pacific Earthquake Engineering Research Center (PEER) embarked on the NGA-West 2 project to update the previously developed ground motion prediction equations (attenuation relationships), which were mostly published in 2014. We used the relationships by Abrahamson et al. (2014), Boore et al. (2014), Campbell and Bozorgnia (2014) and Chiou and Youngs (2014). These attenuation relationships include the average shear wave velocity in the upper 100 feet. These relationships were developed using the same earthquake database and hence equally credible, therefore, the average of the relationships (using equal weights for each attenuation relationship) is appropriate and was used to develop the recommended spectra.

The NGA relationships database includes the most up-to-date recorded and processed data. They were developed for the "average" (Rot_{D50}) horizontal components of spectral acceleration.

D2.0 PSHA RESULTS

Figure D-1 presents the Rot_{D50} results of the PSHA for the 2 percent probability of exceedance in 50 years hazard level (2,475-year return period) using the four relationships discussed above as well as the average of these relationships. These results were developed from OpenSHA Hazard Spectrum Application 1.5.2 (UCERF3 model).

ASCE 7-16 specifies the development of MCE_R site-specific response spectra in the maximum direction. Shahi and Baker (2014) provide scaling factors that modify the Rot_{D50} spectra to provide spectral values for the maximum response (maximum direction). We used the scaling factors presented in Table 1 of Shahi and Baker (2014) for ratios of $Sa_{RotD100}$/ Sa_{RotD50} to modify the average of the PSHA results for two percent probability of exceedance in 50 years. The maximum direction spectrum is also shown on Figure D-1.

Figure D-2 presents the deaggregation plots of the PSHA results for the 2 percent probability of exceedance in 50 years hazard level. From the examination of these results, it can be seen that the San Andreas fault dominates the hazard at the project site at different periods of interest.

D3.0 DETERMINISTIC ANALYSIS

We also performed a deterministic analysis to develop the MCE_R spectrum at the site. In a deterministic analysis, a given magnitude earthquake occurring at a certain distance from the

source is considered as input into an appropriate ground motion attenuation relationship. On the basis of the deaggregation results, we developed deterministic spectra for a Moment Magnitude of 8.06 on the San Andreas fault at a distance of 13.3 kilometers from the site.

The same attenuation relationships and weighting factors as discussed in Section D1.3 were used in our deterministic analysis. Figure D-8 presents the 84th percentile deterministic results for the San Andreas scenario. The average of the four attenuation relationships for theRot_{D50} are also presented on that figure. Similar to the PSHA results, we developed the 84th percentile deterministic spectrum in the maximum direction using the Shahi and Baker (2014) ratios.

D4.0 RECOMMENDED SPECTRA

The MCE_R as defined in ASCE 7-16 is the lesser of the maximum direction PSHA spectrum having a two percent probability of exceedance in 50 years (2,475-year return period) or the maximum direction 84th percentile deterministic spectrum of the governing earthquake scenario and the DE spectrum is defined as 2/3 times the MCE_R spectrum. In addition, the MCE_R spectrum is defined as a risk targeted response spectrum, which corresponds to a targeted collapse probability of one percent in 50 years. The USGS Risk-Targeted Ground Motion calculator was used to determine the risk coefficients for each period of interest for the probabilistic spectrum. We used these risk coefficients to develop the risk-targeted PSHA spectrum.

Furthermore, we followed the procedures outlined in Chapter 21 of ASCE 7-16 and Supplement No. 1 to develop the site-specific spectra for MCE_R and DE. Chapter 21 of ASCE 7-16 requires the following checks:

- the largest spectral response acceleration of the resulting 84th percentile deterministic ground motion response spectra shall not be less than 1.5 × Fa where F_a is equal to 1.0.
- the DE spectrum shall not fall below 80 percent of Sa determined in accordance with Section 11.4.6, where F_a (1.0) and F_v (2.5) are determined using Table 11.4-1 and 11.4-2, respectively for site class D.
- The site-specific MCE_R spectral response acceleration at any period shall not be taken as less than 150 percent of the site-specific design response spectrum determined in accordance with Section 21.3.

Table D-2 presents digitized values of the site-specific spectra for the PSHA 2,475-year return period (max. dir.) and the 84th percentile deterministic (max. dir.). The largest spectral response

acceleration of the 84th percentile deterministic response spectrum is 1.807g and is greater than $1.5 \times F_a$ (where F_a = 1.0 for Site Class D); therefore, no further scaling of the 84th percentile deterministic spectra was needed.

Figure D-4 and Table D-2 present a comparison of the site-specific spectra for the risk-targeted 2,475-year return period PSHA and the 84th percentile deterministic spectra in the maximum direction. In this case, the 84th percentile deterministic spectrum is less than or equal to the risk-targeted PSHA spectrum for a 2 percent probability of exceedance in 50 years (2,475 year return period) for periods less than or equal to 10.0 seconds. The lower of these two spectra should be used as the basis for the development of the MCE_R spectrum. The DE spectrum is defined as 2/3 times the MCE_R; however the DE spectrum should not be less than 80 percent of the DE code spectrum as determined using F_a equal to 1.0 and F_v equal to 2.5 (per Section 21.3 of ASCE 7-16). As shown on Figure D-4 and Table D-2 the DE spectrum is greater than or equal to 80 percent of the of the DE code spectrum for all periods less than 1.0 second, and is less for periods of 1.0 second and greater. 80 percent of the DE code spectrum is used for periods at and greater than 1.0 second.

TABLE D-2

Comparison of Site-specific and Code Spectra for Development of MCE_R Spectrum per ASCE 7-16
Sa (g) for 5 percent damping

Period (sec.)	Risk Targeted PSHA – 2,475-Year Return Period Max. Dir.	Deter-ministic 84th Percentile Max. Dir.	Lesser of PSHA and Deter-ministic (Initial MCE_R)	2/3 of Initial MCE_R (Initial DE)	ASCE 7-16 - 80% DE per Section 21.3 Site Class D; F_v = 2.50	Recommended Spectra	
						DE	MCE_R
0.01	0.926	0.731	0.731	0.487	0.320	0.487	0.731
0.10	1.669	1.170	1.170	0.780	0.560	0.780	1.170
0.20	2.182	1.599	1.599	1.066	0.800	1.066	1.599
0.30	2.295	1.791	1.791	1.194	0.800	1.194	1.791
0.40	2.195	1.807	1.807	1.205	0.800	1.205	1.807
0.50	2.022	1.721	1.721	1.148	0.800	1.148	1.721
0.75	1.565	1.377	1.377	0.918	0.800	0.918	1.377
1.00	1.196	1.090	1.090	0.727	0.800	0.800	1.200
1.50	0.779	0.749	0.749	0.500	0.533	0.533	0.800
2.00	0.569	0.546	0.546	0.364	0.400	0.400	0.600
3.00	0.371	0.365	0.365	0.243	0.267	0.267	0.400
4.00	0.272	0.270	0.270	0.180	0.200	0.200	0.300
5.00	0.213	0.208	0.208	0.138	0.160	0.160	0.240
7.50	0.122	0.118	0.118	0.079	0.107	0.107	0.160
10.00	0.077	0.073	0.073	0.048	0.080	0.080	0.120

The recommended MCE_R and DE spectra are presented in Table D-3 and on Figure D-5.

TABLE D-3

Recommended MCE_R and DE Spectra
Sa (g) for 5 percent damping

Period (seconds)	MCE_R	DE
0.01	0.731	0.487
0.10	1.170	0.780
0.20	1.599	1.066
0.30	1.791	1.194
0.40	1.807	1.205
0.50	1.721	1.148
0.75	1.377	0.918
1.00	1.200	0.800
1.50	0.800	0.533
2.00	0.600	0.400
3.00	0.400	0.267
4.00	0.300	0.200
5.00	0.240	0.160
7.50	0.160	0.107
10.00	0.120	0.080

Because site-specific procedure was used to determine the recommended response spectra, the corresponding values of S_{MS}, S_{M1}, S_{DS} and S_{D1} per Section 21.4 of ASCE 7-16 should be used as shown in Table D-4.

TABLE D-4

Design Spectral Acceleration Value

Parameter	Spectral Acceleration Value (g's)
S_{MS}	1.626
S_{M1}	1.200
S_{DS}	1.084[2]
S_{D1}	0.800[3]

[2] S_{DS} is based on the site-specific response spectra and is based on 90 percent of the maximum spectral acceleration within the period range of 0.2 to 5 seconds; it is governed by 90 percent of the spectral acceleration at a period of 0.4 seconds.

[3] S_{D1} is based on the site-specific response spectra and is the maximum of the product of period, T, and spectral acceleration, Sa, for periods from 1.0 to 5.0 seconds; it is governed by the product of the period and spectral acceleration at a period of 1.5 seconds.

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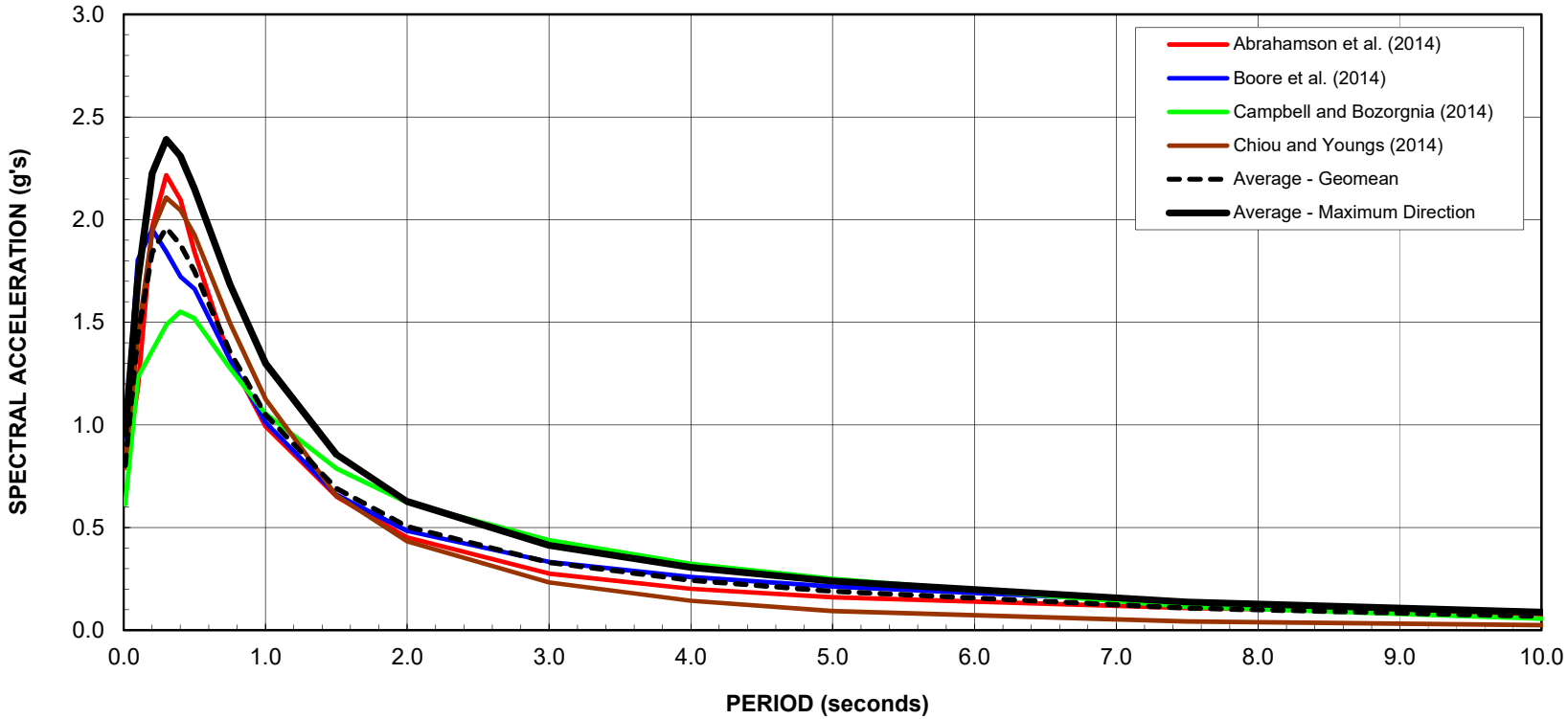

Notes

1. Damping Ratio = 5%
2. Estimated V_{S30} = 330 m/s
3. Maximum direction factors from Shahi and Baker (2014)
4. Z_1 = 125 m, $Z_{2.5}$ = 0.850 km

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Project	Figure Title	Project No.	Figure No.
469 Stevenson Street SAN FRANCISCO CITY & COUNTY CALIFORNIA	RESULTS OF PSHA, 2 PERCENT PROBABILITY OF EXCEEDANCE IN 50 YEARS	731690402 Date 8/20/2021 Scale AS SHOWN Prepared By: PDB	D-1

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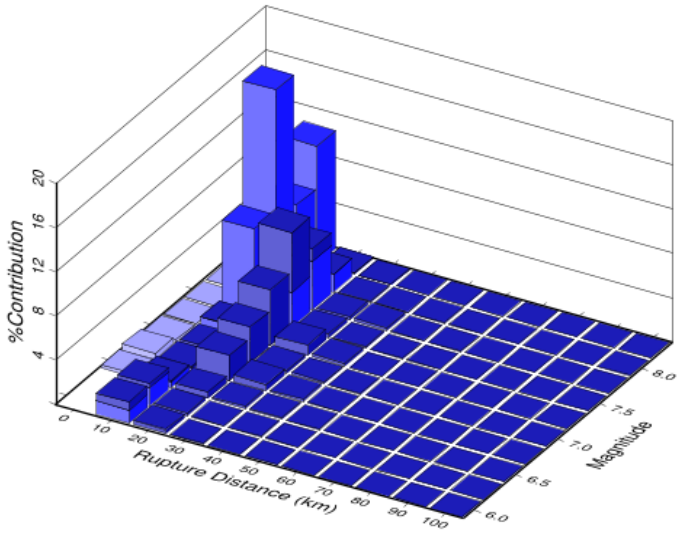
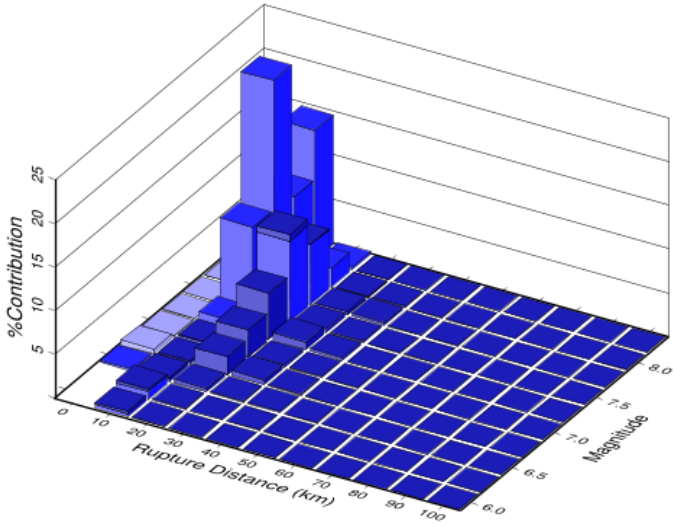
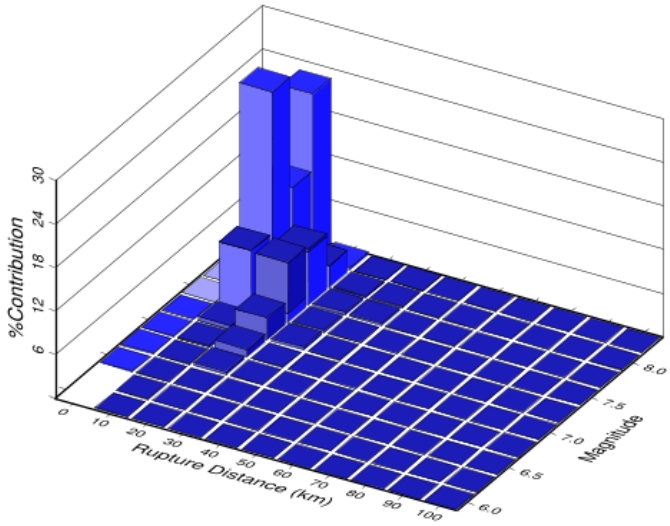


(a) PGA



(b) S_a, T = 1.0 second



(c) S_a, T = 4.0 seconds

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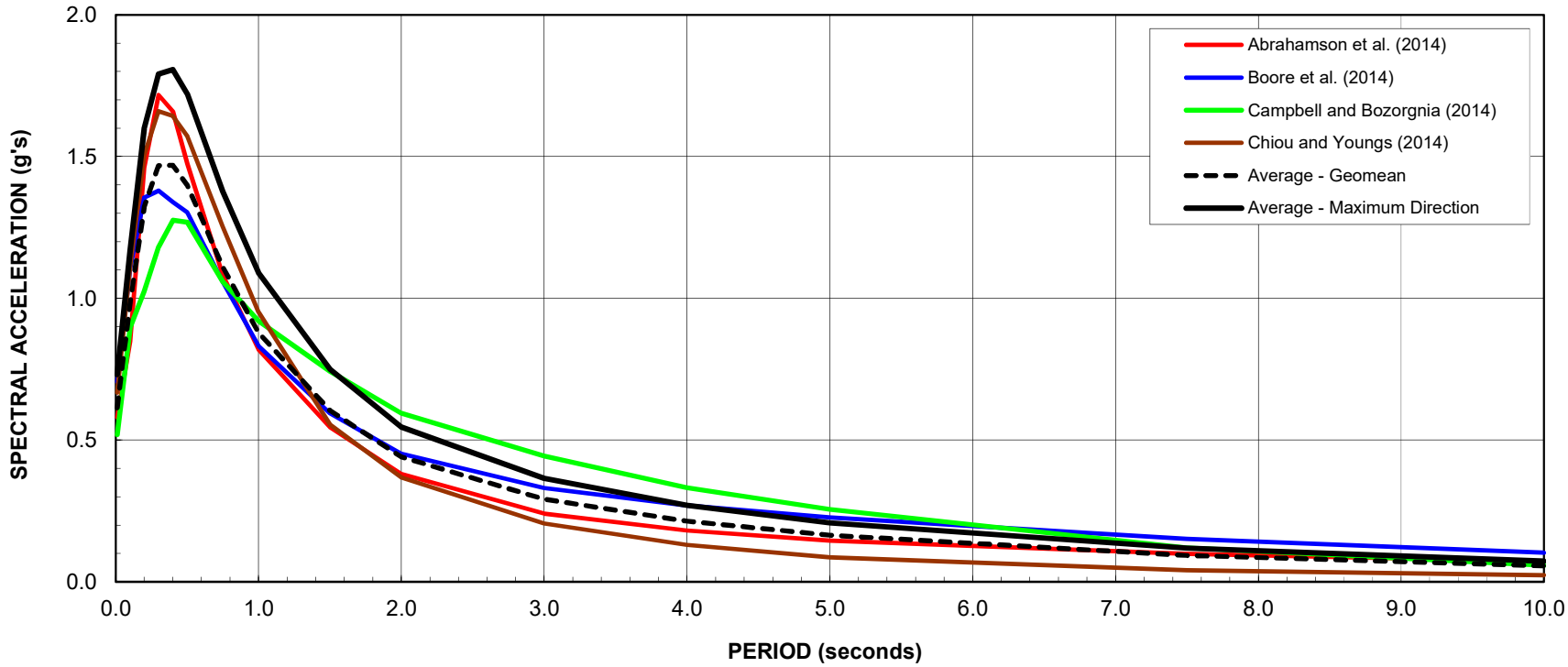

Notes

1. Damping Ratio = 5%
2. Estimated V_{S30} = 330 m/s
3. Maximum direction factors from Shahi and Baker (2014)
4. Deterministic results are for a Moment Magnitude 8.06 occuring on the Northern San Andreas about 13.3 km from the site

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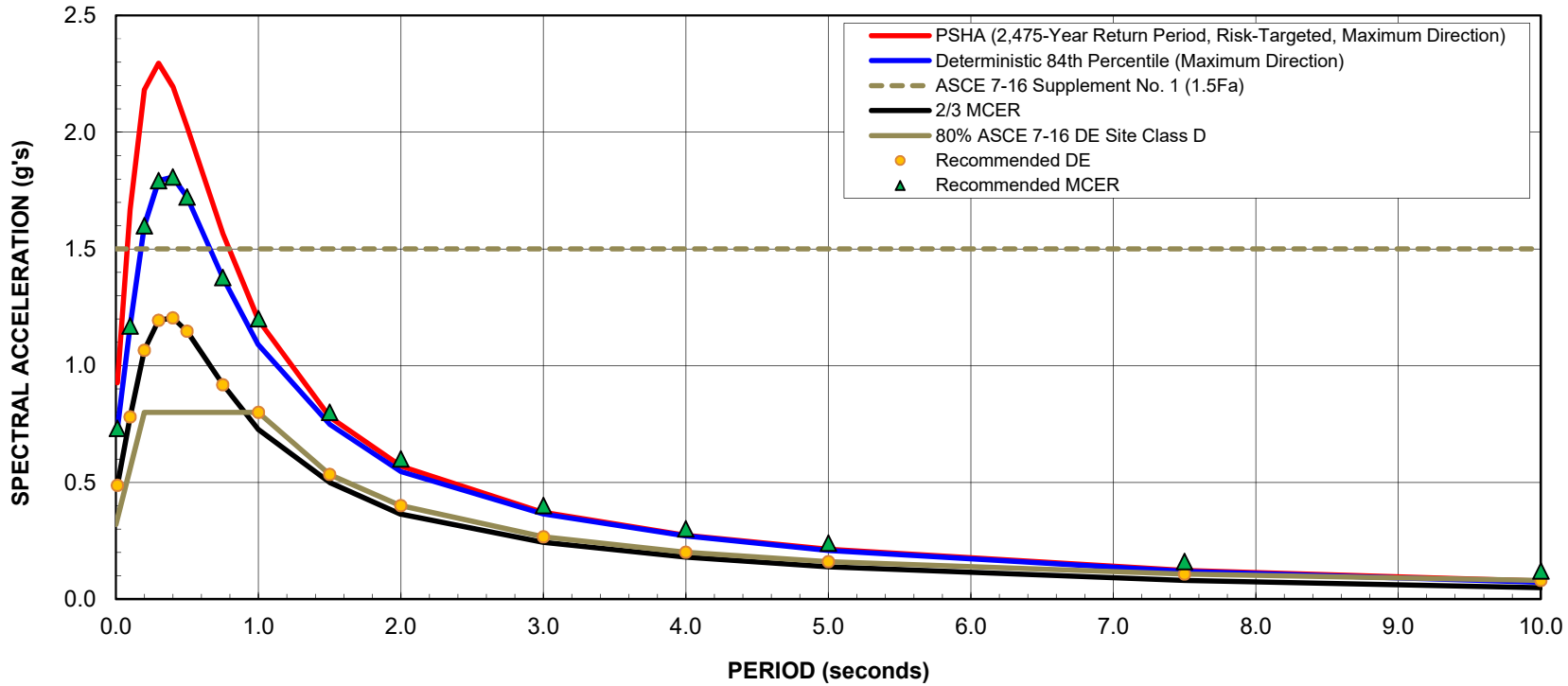

Notes

1. Damping Ratio = 5%
2. Estimated V_{S30} = 330 m/s
3. Maximum direction factors from Shahi and Baker (2014)
4. Deterministic results are for a Moment Magnitude 8.06 occuring on the Northern San Andreas about 13.3 km from the site

LANGAN 135 Main Street, Suite 1500 San Francisco, California 94105 T: 415.955.5200 F: 415.955.5201 www.langan.com LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	Project 469 Stevenson Street SAN FRANCISCO CITY & COUNTY CALIFORNIA	Figure Title COMPARISON OF PROBABILISTIC, DETERMINISTIC AND DETERMINISTIC LOWER LIMIT SPECTRA	Project No. 731668503 Date 8/20/2021 Scale AS SHOWN Prepared By: PDB	Figure No. D-4

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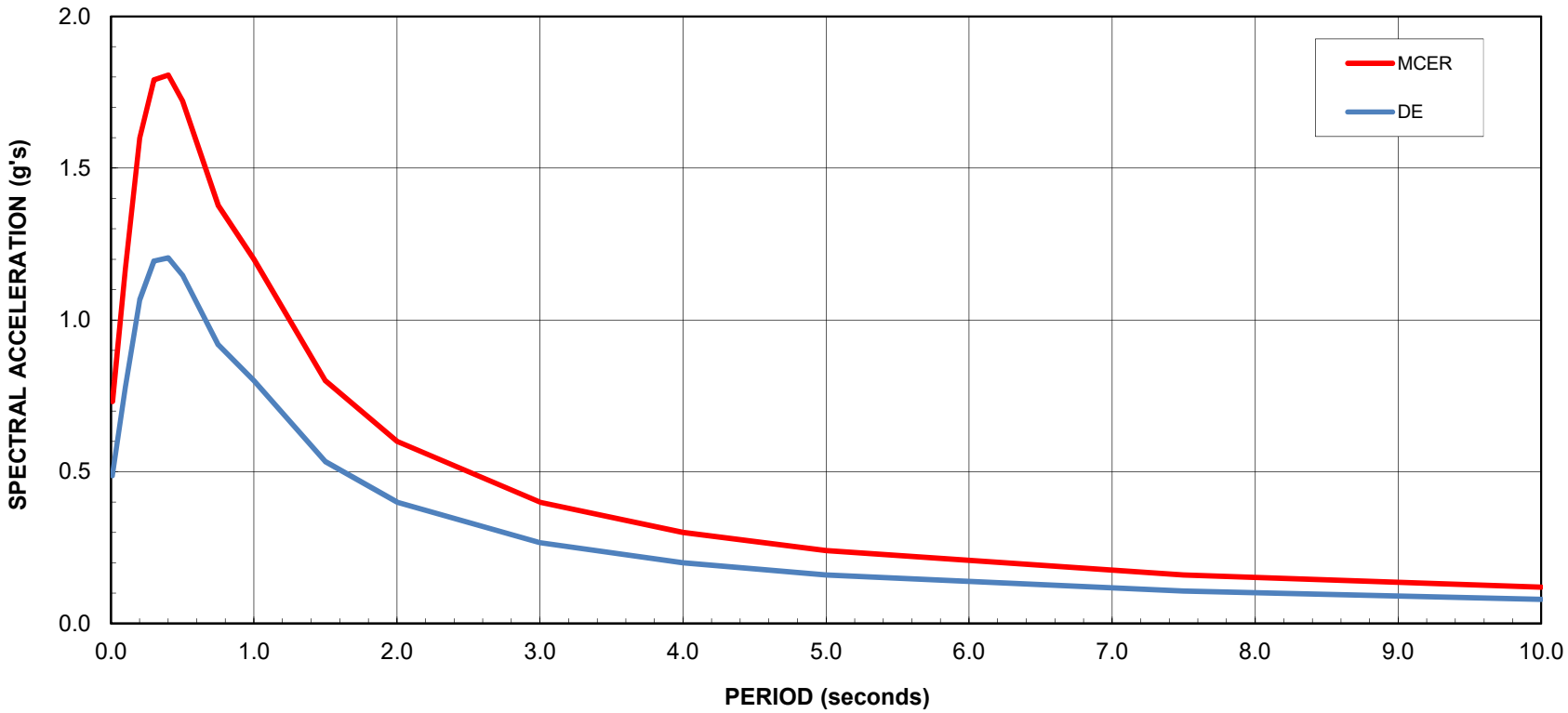

Notes

1. Damping Ratio = 5%
2. Estimated V_{S30} = 330 m/s

LANGAN 135 Main Street, Suite 1500 San Francisco, California 94105 T: 415.955.5200 F: 415.955.5201 www.langan.com LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	Project 469 Stevenson Street SAN FRANCISCO CITY & COUNTY CALIFORNIA	Figure Title RECOMMENDED HORIZONTAL SPECTRA	Project No. 731690402 Date 8/20/2021 Scale AS SHOWN Prepared By: PDB	Figure No. D-5

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DISTRIBUTION

Electronic copy: Jenny Delumo, AICP (she/hers)
Senior Planner and Transportation Review Team Lead
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QUALITY CONTROL REVIEWER

Richard D. Rodgers, GE
Senior Consultant

APPENDIX L2

27 September 2022

Jenny Delumo, AICP (she/hers)
Senior Planner and Transportation Review Team Lead
Environmental Planning Division
San Francisco Planning Department
49 South Van Ness Avenue, Suite 1400
San Francisco, California 94103

Subject: Geotechnical Feasibility
469 Stevenson Street
San Francisco, California
Langan Project No.: 731690403

Dear Ms. Delumo:

This letter presents our conclusions regarding the geotechnical feasibility of the proposed development at 469 Stevenson Street in San Francisco. Our conclusions are based on (1) results of our preliminary geotechnical investigation report dated 30 June 2022, and (2) performance of existing developments near the project site with similar foundations (mats), foundation loads and subsurface conditions.

DESCRIPTION AND GEOTECHNICAL FEASIBILITY OF PROPOSED DEVELOPMENT

A summary of the proposed development, site subsurface conditions, and our conclusions regarding the geotechnical feasibility of the project and probable foundation is presented below.

Project Description

The proposed development addressed in our June 2022 report, includes a 27-story tower (approximately 274 feet tall) with a 1- to 6-level podium. The structure would include a three-level basement that would extend beneath the entire site. Average dead plus live foundation pressures would be about 7,040 pounds per square foot (psf) for the 27-story tower, 2,860 psf for the six-level podium, and 1,760 psf for the one-level podium. Assuming a 4-foot-thick mat for the podium and a 10-foot-thick mat for the tower, the excavation for the basement and mat would extend 46 to 52 feet below existing site grades.

The 2022 preliminary report is based on the results of our Phase 1 field investigation performed at the project site in 2020. The June 2022 report presents preliminary conclusions regarding the geotechnical aspects of the project including project feasibility from a geotechnical standpoint and feasibility of a mat for the support of the proposed structure; the report was not intended to meet requirements of Administrative Bulletin (AB) -111[1]. Because the project would be classified

[1] Guidelines and Procedures for Structural, Geotechnical, and Seismic Hazard Engineering Design Review, November 21, 2018 (Updated 01/01/2020 for code references).

as a Tall Building (height of levels above the average level of the ground surface adjacent to the structure greater than 240 feet), a design level geotechnical investigation report would need to comply with AB-111.

The Phase 1 field investigation performed in 2020 included drilling two borings to bedrock (depths of 250 and 265 feet below site grades), performing laboratory testing on representative soil samples, and performing suspension logging to measure soil shear wave velocities in one of the borings. We used this information to perform preliminary engineering analyses and to develop preliminary conclusions regarding the geotechnical aspects of the proposed development.

Subsurface Conditions and Mat Foundation

The site is outside of the historical Bay shoreline, locally referred to as the Sullivan Marsh and within the regional seismic hazards zones map. In general, the site is underlain by fill, Dune sand, Marsh deposit, Colma Formation, marine clay known locally as Old Bay Clay, alluvium/residual soil, and Franciscan Complex bedrock. The groundwater level within the project site could rise to within 16 feet from existing street grades, which corresponds to Elevation 1.7 feet[2].

The excavation for the proposed structure and mat would extend below the fill, Dune sand, Marsh deposit, and upper portion of the Colma Formation. The dense to very dense Colma Formation anticipated below depths of 37 to 38 feet bgs at the project site, is about 60 to 77½ feet thick, and is generally strong and relatively incompressible. The top of Colma Formation is near Elevation 4.4 to 2.4 feet; the bottom of Colma Formation is near Elevation -57.7 to -73.2 feet. The Colma Formation is underlain by a 24- to 37-foot thick layer of Old Bay Clay.

The proposed structure could be supported on a mat bearing on dense to very dense Colma Formation provided the settlement in the Old Bay Clay induced by the anticipated building loads is acceptable.

Geotechnical Feasibility

The results of our June 2022 preliminary investigation indicate construction of the proposed structure would be feasible from a geotechnical standpoint. Furthermore, the results of our preliminary settlement analyses indicate settlement under the static building loads would be on the order of 1 to 2 inches at the podium, and 2 to 3¾ inches at the tower portions of the structure, with differential settlement of up to 2.5 inches between the center and corners of the building footprint, and less than one inch of differential settlement between a lateral distance of 30 feet. These settlements, calculated to within the next 50 years, meet the settlement criteria included in AB-111. Per AB-111, "the total short-term and long-term computed settlement of the foundation under gravity and seismic loads should not exceed 4 inches."

The feasibility of a mat foundation should be confirmed with a Phase 2 field investigation and laboratory testing program, and additional engineering analyses using the results of the Phase 1

[2] Elevations reference CCSF-VD13 NAVD88 Vertical Datum (CCSF-VD13). The historic SFCD is about 11.35 feet below the CCSF 2013 datum.

and Phase 2 investigations. If the supplemental field investigation and engineering analyses indicate a mat is not feasible, then deep foundations that extend to bedrock would be required to support the proposed structure.

Per Section 13 of AB-111, recommendations for geotechnical instrumentation and construction monitoring would be included in the design level geotechnical investigation report. In addition, settlement monitoring of the completed structure would be performed for a period of 10 years after construction per AB-111 Section 15, and submitted annually to DBI to confirm the estimated time rate of settlement of the building is not exceeded.

DEVELOPMENTS COMPLETED NEAR THE PROJECT SITE WITH SIMILAR FOUNDATION LOADS AND SUBSURFACE CONDITIONS

To support our conclusion regarding the project feasibility and feasibility of a mat foundation, we present two recent developments completed in the vicinity of the site, with similar foundation loads and subsurface conditions, supported on mats. In addition, we are presenting a summary of existing developments near the project site, with similar foundation loads and subsurface conditions that are also supported on mat foundations. The locations of the projects are shown on the attached site location map, Figure 1.

5M Development – M2 Tower – 434 Mina Street, San Francisco

The 220-foot tall (20-story) residential tower at 434 Mina Street is a concrete building with two basement levels (finished floor at Elevation 7.5 feet) that was completed in early 2022. It is supported on a mat that varies from 4- to 8-foot-thick that bears on improved soil that extends to dense to very dense Colma Formation. The Colma Formation extends to Elevation -66.5 to -75 feet, and is underlain by 56 to 61 feet of stiff to very stiff Old Bay Clay. The Old Bay Clay is underlain by alluvial/colluvium deposits (hard clay and very dense sand and gravel) to the top of bedrock, anticipated at 260 to 280 feet below street grades. Foundation pressures range from 8,000 psf at the tower and 4,100 to 5,900 psf for the podium. Long term settlement under the static building loads was calculated on the order of 2.5 to 3 inches, with differential settlement of up to 2 inches between the center and corners of the building footprint, and less than one inch of differential settlement between columns, which meets the AB-111 settlement criteria.

The building settlement is being monitored, and measured settlement is forwarded to the DBI; settlement last measured in September 2021 (95 percent of building load), was about 3/8 to ½ inch; settlement will be monitored for at least 10 years per City requirements.

5M Development – H1 Tower – 415 Natoma Street

The 395-foot (25-story) tall office tower at 415 Natoma Street is a steel frame building with two basement levels extending about 25 feet below street grades (finished floor near Elevation -2 feet), completed in February 2021. It is supported on a 6- to 9-foot-thick mat (bottom of mat extends to depths of 32 to 35 feet below street grades, corresponding to about Elevation -9 feet), bearing on soil improvement that extends to dense to very dense Colma Formation, or directly on competent Colma Formation. The Colma Formation extends to Elevation -62 to -69 feet, and

is underlain by 75 to 88 feet of stiff to very stiff Old Bay Clay. The Old Bay Clay is underlain by alluvial deposits (hard clay and very dense sand) and colluvium (very dense sand and gravel) to the top of bedrock, at about 260 feet below street grades. Foundation pressures range from 5,000 psf at the tower to 3,000 psf for the remainder of the building footprint. Long term settlement under the static building loads was calculated on the order of 2.5 to 3 inches, with differential settlement of about 1.5 to 2 inches between the center and corners of the building footprint, and less than one inch of differential settlement between columns, which meets the AB-111 settlement criteria.

The geotechnical investigation and seismic studies for the 415 Natoma Street project were prepared per Administrative Bulletins AB-082[3] and AB-111 and were approved by the geotechnical member(s) of the Engineering Design Review Team (EDRT) assigned to the project by SFDBI during the review of the site permit.

The 350-foot-tall building is also being monitored for settlement and the data is forwarded to DBI. Settlement last measured in September 2021 was about ½ inch; settlement will be monitored for at least 10 years per City requirements.

Summary of Other Similar Existing Improvements

Existing improvement with similar or higher foundation pressures, supported on a mat bearing either directly on Colma Formation, or, on soil improvement extending into the Colma Formation are listed below:

- 39-story Marriott Hotel at 55 Fourth Street, completed in 1989
- 48-story Four Seasons Hotel at 757 Market Street, completed in 2001
- 39-story Intercontinental Hotel at 888 Howard Street, completed in 2008
- 40-story Paramount Rental Apartments at 680 Mission Street, completed in 2002

Settlement data is not available for the four structures listed above, because they were constructed prior to the 2019 AB-111.

[3] Guidelines and Procedures for Structural, Geotechnical, and Seismic Hazard Engineering Design Review, November 21, 2018 (Updated 01/01/2020 for code references).

CONCLUSIONS

On the basis of the results of our June 2022 preliminary geotechnical investigation report and performance of existing developments in the site vicinity with similar foundation loads and subsurface conditions supported on mats, we conclude the project is feasible from a geotechnical standpoint. In addition, our initial conclusion is that a mat would be feasible for the support of the proposed structure. However, the feasibility of a mat will need to be confirmed by a design level geotechnical investigation report approved by the EDRT assigned to the project by SFDBI during the review of the site permit. If you have any questions, please call.

Sincerely,
Langan Engineering & Environmental Services, Inc.

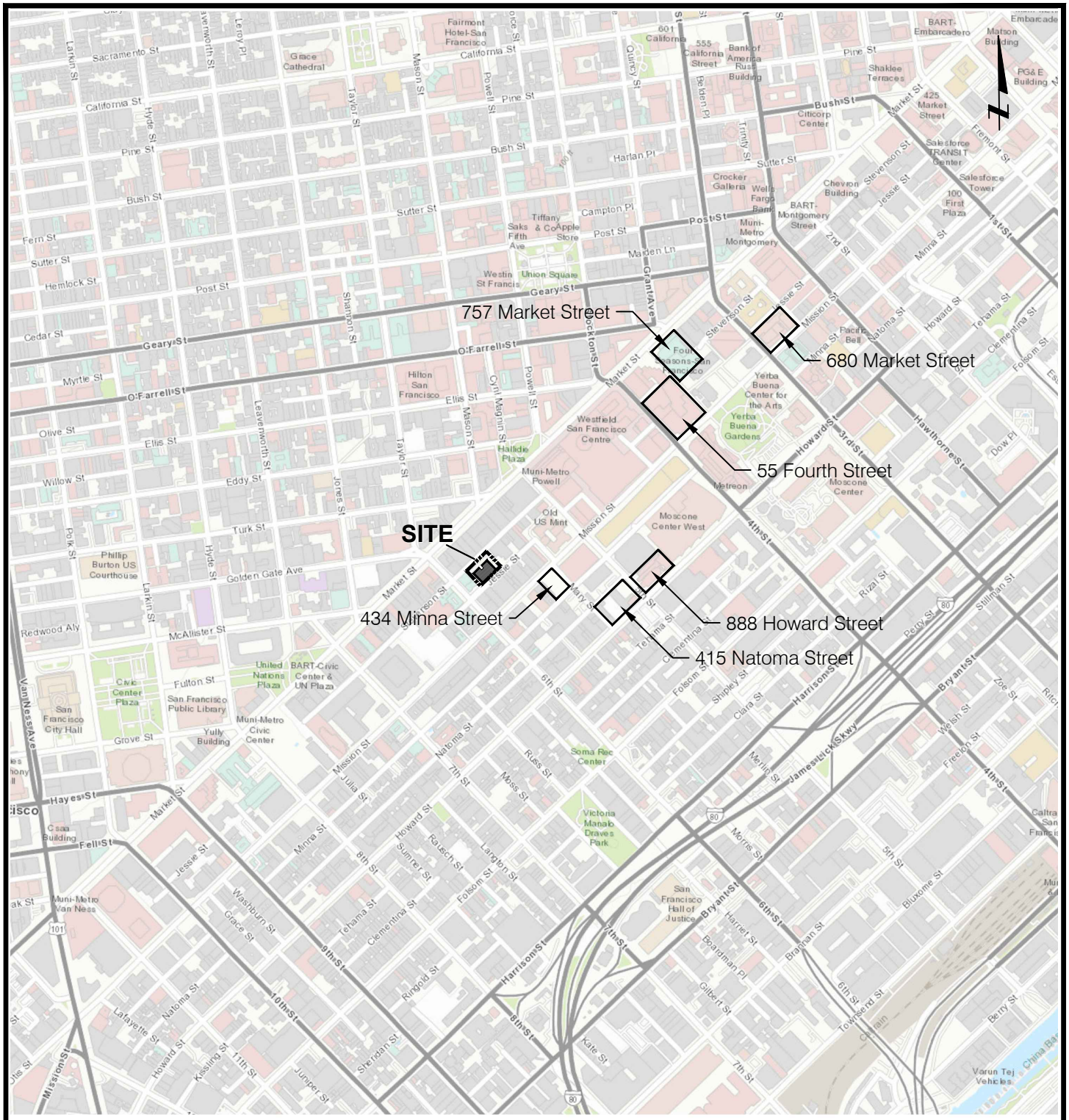
Peter Brady, GE
Senior Project Engineer

Maria Flessas, GE
Principal

Attachment: Figure 1, Site Location Map

731690403.01_Geotech Feasibility updated 469 Stevenson Street

FIGURE



Note:
Topographic base map is provided through Langan's Esri Arc GIS software licensing and Arc GIS online, National Geographic Society, i-cubed.

0 1,000 Feet

Approximate scale

LANGAN Langan Engineering and Environmental Services, Inc. 135 Main Street, Suite 1500 San Francisco, CA 94105 T: 415.955.5200 F: 415.955.5201 www.langan.com	Project **469 STEVENSON STREET** SAN FRANCISCO SAN FRANCISCO COUNTY CALIFORNIA	Figure Title **SITE LOCATION MAP**	Project No. 731690403 Date 09/09/2022 Drawn By AG Checked By PB	Figure **1**

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Filename: \\langan.com\data\SF\data4\731690402\Project Data\CAD\02\2D-DesignFiles\Geotechnical\731690402-B-GI0101_SiteLocMap-FaultMap-MM Scale.dwg Date: 9/9/2022 Time: 15:23 User: jfrank Style Table: Langan.stb Layout: Figure 1 Site Loc

APPENDIX L3

AGDI

1205 Contra Costa Dr
El Cerrito, CA 94530
(510) 816-1323

October 27, 2022

City & County of San Francisco, Department of Building Inspection (SFDBI)

49 South Van Ness Avenue

San Francisco, California 94013

Attention: Mr. Willy Yau – Acting Manager, Plan Review Services Division

Subject: **Peer Review Letter – Geotechnical Peer Review Services Related to Foundation Design of the Proposed Highrise Building Located at 469 Stevenson Street in San Francisco, California.**

Dear Mr. Yau:

This letter presents the results of peer review services provided by Applied GeoDynamics, Inc. (AGDI) related to foundation design of the proposed high-rise building to be located at 469 Stevenson Street in San Francisco, California. Langan is the project geotechnical engineer of record.

PROJECT DESCRIPTION & UNDERSTANDING

The site is a 28,790-square-foot asphalt-paved surface parking lot in the South of Market (SoMa) District of the City of San Francisco, between Stevenson Street and Jessie Street, east of 6th Street. The Clearway Energy Station T high-pressure steam cogeneration plant bounds the site to the northeast; three, three-story residential hotel buildings (35-37, 39-41, and 43-45 6th Street) and a seven-story residential hotel building (47-55 6th Street) bound the site to the southwest. Information regarding basements and foundations for the adjacent structures are not available at this time.

We understand the proposed structure will include a 27-story tower (approximately 274 feet tall) with a 1- to 6-level podium. The structure will include a three-level basement that would extend beneath the entire site. The tower will occupy the majority of the site and will abut Jessie Street. Per Magnusson Klemencic Associates (MKA), the project structural engineer, preliminary average dead plus live foundation pressures are 7,040 pounds per square foot (psf) for the 27-story tower, 2,860 psf for the six-level podium, and 1,760 psf for the one-level podium portions.

The site is covered by 8 to 8.5 feet of sandy fill; 19 to 19.5 feet of loose to medium dense native sand; 6.5 to 10 feet of marsh deposit; and dense to very dense sand to a depth of 98 to 114.5 feet below ground surface (bgs). The loose to medium dense sandy fill, native sand, and marsh deposit, extend about 40 bgs. A 24 to 37 feet thick stiff sandy clay layer, locally referred to as Old Bay clay, is present below the dense to very dense sand. The Old Bay clay layer is underlain by alluvium consisting of dense to very dense sand and hard clay layers extending to bedrock. Bedrock of Franciscan Formation is about 250 feet below ground surface.

A proposed foundation system consists of a mat foundation placed directly at the surface of dense Colma sand layer about 40 feet bgs. The mat foundation will be 4 feet thick under the podium and 10 feet thick under the tower.

PEER REVIEW OBJECTIVE

The objective of the project was to render an opinion regarding the short-term and long-term (consolidation) settlement of the building and whether there would be a need to support the mat foundation on piles extending down to bedrock as potentially necessitated by the presence of Old Bay clay layer between the dense Colma sand layer and the alluvium. It is noted that excessive settlement of the Millennium Tower (i.e., 301 Mission Street building) in San Francisco caused by consolidation of the Old Bay clay layer has prompted the engineering community and building officials to pay extra attention to long-term settlement of shallow foundations where Old Bay clay layer is present.

More specifically, the objective of the peer review was to answer the following questions: Based on AGDI's professional opinion and on available information:

1. Does AGDI agree with the conclusions reached in the preliminary geotechnical report about the feasible foundation type for the proposed project at 469 Stevenson Street?
2. Could the geotechnical issues that occurred at 301 Mission Street building (Millennium Tower) occur at this site?

SCOPE OF WORK

AGDI's scope of services included the following tasks:

1. Review of Langan's preliminary geotechnical report titled "Preliminary Geotechnical Study, 469 Stevenson Street, San Francisco, California", dated June 30, 2022;
2. Review of Langan's report titled "Scope of Geotechnical Services, Seismic Studies, Design Level Geotechnical Investigation, 469 Stevenson Street, San Francisco, California", dated August 31, 2022, with respect to number and depth of borings / cone penetration tests, drilling and sampling method, number and type of laboratory tests, and approach to settlement calculation / foundation design;
3. Review of foundation loads during static loading conditions;
4. Performing simplified (hand calculation) of short-term and long-term foundation settlement;
5. Discussion with the design team and review of their short-term and long-term foundation settlement calculations; and
6. Preparing this peer review letter.

DISCUSSION

We understand that (a) top of 10-foot mat foundation under the tower will be 35 feet below the existing ground surface, (b) 25 feet of post-construction hydrostatic uplift pressure will act against the bottom of the mat foundation, and (c) static gravity load applied to the foundation is about 7,000 psf.

Based on the results of consolidation tests performed as part of preliminary geotechnical investigation, it appears that the past pressure, P_P, within Old Bay clay ranges from 15 ksf to 27.4 ksf with an average value of 18.8 ksf with an OCR (over-consolidation ratio) ranging from 1.63 to 2.11 with an average value of 1.92.

The post construction pressure applied to the center of Old Bay clay layer is estimated to be on average about 65 percent of the past pressure, and as such, the settlement within Old Bay clay will be controlled by recompression index which ranges from 0.04 to 0.08 with an average value of 0.06. The

average recompression index is six times lower than the average compression index ranging from 0.33 to 0.44 with an average value of 0.38 based on laboratory tests performed. We note that the moisture content and average recompression index of Old Bay clay at this site is somewhat higher than those of typical Old Bay clay layers in the area.

Due to the presence of dense and thick Colma sand layer, the ground heave associated with rebound caused by removal of 40 feet of soil expected to be fairly small.

Based on the above parameters and results of simplified (hand) calculation, the post-construction, long-term (consolidation) foundation settlement is expected to fall well within values generally accepted from foundation and structural design point of view.

SUMMARY OF FINDINGS

On the basis of our review of material / information provided including:

- Preliminary geotechnical report,
- Proposed scope of geotechnical services during final geotechnical studies,
- Proposed foundation system which consists of 4 to 10 feet thick mat placed directly at the surface of dense Colma sand layer about 40 feet below the existing ground surface,
- Foundation gravity loads of about 7,000 pounds per square feet under the tower,
- Subsurface conditions including thickness and compressibility (past pressure, over-consolidation ratio, compression index, and recompression index) of Old Bay clay layer below dense Colma sand layer, and
- Discussion with Maria Flessas of Langan on October 6, 2022,

we judge that the proposed foundation system will have an acceptable settlement as predicted by the geotechnical engineer of record based on our independent, simplified (hand) calculation of short-term and long-term (consolidation) settlement provided that the thickness and compressibility of Old Bay clay layer to be identified through additional borings, sampling, and testing during the final phase of geotechnical investigation will prove to be consistent with those of subsurface conditions at the existing boring locations.

Furthermore, we judge that (a) considering the magnitude of gravity loads applied to the mat foundation at this site, (b) unloading which will occur due to 40 feet of excavation / soil removal, (c) hydrostatic uplift pressure after termination of dewatering, and (d) limited thickness of Old Bay clay layer at this site, large / unacceptable settlements observed at the Millennium Tower will not occur at this site. While deep foundation extending down to bedrock would have been an appropriate foundation system for the Millennium Tower, it won't necessarily be an appropriate foundations system for this project. This is because depending on type / number of piles and axial load on each pile, the elastic shortening of deep foundation may fall within the same range as that of the proposed shallow foundation placed directly at the surface of dense Colma sand layer. This is to say that the use of deep foundations extending to bedrock would not necessarily result in less settlement than a mat foundation supported directly at the surface of dense Colma sand layer.

In summary, it is our opinion that the proposed foundation system and plans for final geotechnical investigation are in compliance with the guidelines provided in the SFDBI AB-111.

It is noted that AGDI's conclusions were solely based on project-specific information and didn't use any information / data from other projects in San Francisco including those related to the Millennium Tower design, litigation, or foundation retrofit.

SUGGESTED LABORATORY TESTING DURING FINAL PHASE OF |GEOTECHNICAL INVESTIGATION

It is suggested that two complete sets of laboratory tests be performed at each of the two proposed boring locations during the final phase of geotechnical investigation. Each set would include (a) two consolidation tests with unloading performed at the level of past pressure, (b) consolidated triaxial tests (TXCU) on samples taken from 1/3 and 2/3 of Old Bay clay layer, and (c) moisture-density tests.

Pocket Penetorameter and Field Torvane tests may be used for field classification and rough estimate of consistency of cohesive soil, but values obtained from these tests should not be used in engineering analysis.

Furthermore, considering geometry and subsurface conditions present at this site, we concur that settlement calculations based on SETTLE 3D program would be appropriate.

The structural design of mat foundation should use a long-term modulus of subgrade reaction considering long-term (consolidation) settlement of the foundation under sustained gravity loads.

LIMITATION OF PEER REVIEW

AGDI's scope of peer work was limited to evaluation of short-term and long-term (consolidation) foundation settlement and didn't include geotechnical review of seismic design parameters, shoring, dewatering, underpinning of adjacent foundations (if required), or impact of construction on adjacent buildings, streets, and other improvements.

CLOSURE

We appreciate the opportunity to provide geotechnical peer review services to SFDBI on this project. If you have any question regarding this report, please call us at (510) 816-1323.

Sincerely,

APPLIED GEODYNAMICS, INC.

Shahria-Vahdan

Shahriar Vahdani, Ph.D., P.E.
Senior Consultant

SV:ap
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Ms. Maria Flessas (Langan)
Ms. Jenny Delumo (San Francisco Planning Department)
Ms. Anna Radonich (Stantec)
Ms. Kaela Johnson (Stantec)