
# 447 BATTERY AND 530 SANSOME STREET

San Francisco Planning
Case No. **2024-007066ENV**

State Clearinghouse No. 2024110311

| | | | |
|---|---|---|---|
| *Public Draft EIR* | *Draft EIR Publication Date:* | March 11, 2025 | *Written comments should be sent to:*<br>**Sherie George**<br>**Environmental Coordinator**<br>49 South Van Ness Ave, Suite 1400<br>San Francisco, CA 94102<br>or<br>CPC.447Battery530SansomeEIR@sfgov.org |
| | *Historic Preservation Commission Public Hearing Date:* | April 2, 2025 | |
| | *Draft EIR Public Hearing Date:* | April 10, 2025 | |
| | *Draft EIR Public Comment Period:* | March 11, 2025–April 28, 2025 | |

San Francisco Planning


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San Francisco Planning

# CONTENTS

## Appendices



## Figures

**Tables**

# ABBREVIATIONS

| Abbreviation | Definition |
|---|---|
| **2017 Clean Air Plan** | *2017 Clean Air Plan: Spare the Air, Cool the Climate* |
| **2020 Citywide HRA** | 2020 Citywide Health Risk Assessment |
| **ABAG** | Association of Bay Area Governments |
| **ADA** | Americans with Disabilities Act |
| **air district** | Bay Area Air Quality Management District |
| **APEZ** | Air Pollutant Exposure Zone |
| **ARPP** | archeological resource preservation plan |
| **ARR** | Archeological Resources Report |
| **BART** | Bay Area Rapid Transit |
| **California Register** | California Register of Historical Resources |
| **Caltrans** | California Department of Transportation |
| **CCR** | California Code of Regulations |
| **CDFG** | California Department of Fish and Game |
| **CDFW** | California Department of Fish and Wildlife |
| **CEQA** | California Environmental Quality Act |
| **CFR** | Code of Federal Regulations |
| **CNEL** | Community Noise Equivalent Level |
| **CO** | carbon monoxide |
| **dB** | decibel |
| **dBA** | A-weighting decibel |
| **DLOP** | Driveway and Loading Operations Plan |
| **DPM** | diesel particulate matter |
| **EIR** | environmental impact report |
| **ERO** | Environmental Review Officer |
| **EV** | electric vehicle |
| **FHWA** | Federal Highway Administration |
| **FTA** | Federal Transit Administration |
| **EIR** | environmental impact report |
| **ERO** | Environmental Review Officer |
| **HABS** | National Park Service's Historic American Buildings Survey |

| Abbreviation | Definition |
|---|---|
| **HALS** | Historic American Landscape Survey |
| **HHDT** | heavy-heavy duty trucks |
| **HPC** | San Francisco Historic Preservation Commission |
| **HRA** | health risk assessment |
| **HRE** | Historic Resource Evaluation |
| **HRER Part I** | Historic Resource Evaluation Response Part I |
| **HRER Part II** | Historic Resource Evaluation Response Part II |
| **$L_{dn}$** | day-night sound level |
| **LDA** | light-duty auto |
| **LDT1** | light-duty truck 1 |
| **LDT2** | light-duty truck 2 |
| **LEED** | Leadership in Energy and Environmental Design |
| **$L_{eq}$** | equivalent continuous noise level |
| **LHDT** | light heavy-duty truck |
| **$L_{max}$** | maximum, instantaneous noise level |
| **LTS** | less-than-significant or negligible impact; no mitigation required |
| **LTSM** | less than significant impact, after mitigation |
| **MDV** | medium-duty vehicle |
| **MEISR** | maximally exposed individual sensitive receptor |
| **MHDT** | medium heavy-duty truck |
| **micrograms per cubic meter** | $\mu g/m^3$ |
| **MLD** | Most Likely Descendant |
| **mph** | miles per hour |
| **MTC** | Metropolitan Transportation Commission |
| **Muni** | San Francisco Municipal Railway |
| **NA** | not applicable |
| **NAHC** | Native American Heritage Commission |
| **National Register** | National Register of Historic Places |
| **NHPA** | National Historic Preservation Act |
| **NI** | no impact |
| **$NO_2$** | nitrogen dioxide |
| **NOP** | notice of preparation |
| **NOx** | nitrogen oxides |

| Abbreviation | Definition |
|---|---|
| **NWIC** | Northwest Information Center |
| **OEHHA** | Office of Environmental Health Hazard Assessment |
| **PAR** | Preliminary Archeology Review |
| **$PM_{10}$** | respirable particulate matter |
| **$PM_{2.5}$** | fine particulate matter |
| **ppb** | part per billion |
| **ppm** | parts per million |
| **PPV** | peak particle velocity |
| **regional board** | San Francisco Bay Regional Water Quality Control Board |
| **RMS** | root mean square |
| **ROG** | reactive organic gases |
| **S** | significant |
| **SB** | Senate Bill |
| **Secretary's Standards** | *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* |
| **SEL** | sound exposure level |
| **SF-CHAMP** | San Francisco Chained Activity Modeling Process |
| **SFMTA** | San Francisco Municipal Transportation Agency |
| **$SO_2$** | sulfur dioxide |
| **SU** | significant and unavoidable adverse impact, no feasible mitigation |
| **SUM** | significant and unavoidable adverse impact, after mitigation |
| **TAC** | toxic air contaminant |
| **TAZ** | transportation analysis zone |
| **TMP** | transportation management plan |
| **TOG** | total organic gases |
| **TRU** | transportation refrigeration unit |
| **USGS** | United States Geological Survey |
| **VdB** | vibration decibels |
| **VMT** | vehicle miles traveled |
| **VOC** | volatile organic compound |

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# SUMMARY

## S.1 Introduction

This document is a draft environmental impact report (EIR) for the proposed 447 Battery and 530 Sansome Street project (proposed project). This chapter of the EIR provides a summary of the proposed project, a summary of anticipated environmental impacts of the proposed project and identified mitigation measures, a summary of alternatives including identification of the environmentally superior alternative, and areas of controversy to be resolved.

## S.2 Project Summary

The San Francisco Fire Department, the San Francisco Real Estate Division, and EQX JACKSON SQ HOLDCO LLC (project sponsors) propose to redevelop the 24,830-square-foot project site located on the block bound by Sansome Street to the west, Washington Street to the north, Battery Street to the east, and Merchant Street to the south. The proposed 447 Battery and 530 Sansome streets project (proposed project) would involve demolition of the existing 17,800-square-foot, 3-story commercial building at 425 Washington Street (Block/Lot 0206/014), and the 12,862-square-foot, 2-story commercial building at 439–445 Washington Street (Block/Lot 0206/013) owned by EQX JACKSON SQ HOLDCO LLC; the 20,154-square-foot, 3-story commercial building at 447 Battery Street (Block/Lot 0206/002) owned by Battery Street Holdings LLC; and the 18,626-square-foot fire station at 530 Sansome Street (Block/Lot 0206/017) owned by the City and County of San Francisco. During construction, Fire Station 13 operations (including personnel and firetrucks) would temporarily relocate to nearby offsite existing San Francisco Fire Department facilities prior to demolition of 530 Sansome Street and until construction of a replacement fire station is completed. No construction or tenant improvements would be required for temporary relocation. No interruption of fire department service would occur and relocated fire department operations would continue to serve the Financial District neighborhood and the city in general.

The project sponsors propose to construct a 4-story replacement fire station and a separate high-rise building up to 41 stories tall. The replacement fire station would be located on the 447 Battery Street parcel and would include approximately 31,200 square feet (including basement with 18 vehicle parking spaces and four class 1 bicycle spaces) in a 4-story, approximately 55-foot-tall building (60 feet total to the roof, including amenity space on the fourth floor and rooftop mechanical equipment) on the eastern portion of the project site. The high-rise building, approximately 544 feet tall (574 feet total, including rooftop mechanical equipment), would be located on the remaining three parcels and would include approximately 7,405 square feet of retail/restaurant space; between approximately 344,840 and 390,035 square feet of office space; approximately 27,195 square feet of office amenity space; between approximately 127,710 and 188,820 square feet of hotel space for approximately 100 to 200 hotel rooms; and approximately 10,135 square feet of ballroom/pre-function/meeting space. There would be three below-grade levels under the high-rise building, which would provide approximately 74 vehicle parking spaces, 77 class 1 bicycle parking spaces, and utility rooms. The proposed project would provide 20 class 2 bicycle parking spaces on streets adjacent to the project site, and one passenger loading zone on Sansome Street, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

The proposed project would convert all of Merchant Street between Battery and Sansome streets into a shared street/living alley with approximately 12,695 square feet of privately maintained public open space improvements. **Table S-1** summarizes the characteristics of the proposed project, including the types and amounts of land uses, building heights, vehicle and bicycle parking, and other features.

## Table S-1 447 Battery and 530 Sansome Street Project Characteristics

| Project Component | Existing (sf) | Proposed (sf) | Net New (sf) |
|---|---|---|---|
| **Fire Station 13** | | | |
| Height of Building | Approx. 40’ | 60’ (to top of rooftop appurtenances) | 20’ |
| Number of Stories | 3 | 4 (above grade) | 1 |
| Office | 20,155 | 0 | -20,155 |
| Public Facility (Fire Station) | 0 | 24,440 | 24,440 |
| Below Grade | 0 | 6,760 | 6,760 |
| Parking Spaces [a] | 0 | 18 | 18 |
| Class 1 Bicycle Parking Spaces [b] | 0 | 4 | 4 |
| Class 2 Bicycle Parking Spaces [b] | 0 | 0 | 0 |
| Car Share Parking Spaces [c] | 0 | 0 | 0 |
| **SUBTOTAL** | **20,155** | **31,200** | **11,045** |
| **Mixed Use Hotel High-Rise Building** | | | |
| Height of Building | 44’ | 574’ (to top of rooftop appurtenances) | 530’ |
| Number of Stories | 2–3 | 41 (above grade) | 38-39 |
| Public Facility (Fire Station) | 18,625 | 0 | -18,625 |
| Hotel | 0 | Between 127,710 (approx. 100 hotel rooms, 3,660 SF Hotel Lobby) and 188,820 (approx. 200 hotel rooms, 3,660 SF Hotel Lobby on Level 3) [d] | Between 127,710 and 188,820 |
| Hotel Ballroom/Pre-Function/Meeting | 0 | 10,135 | 10,135 |
| Back of House (BOH) for Hotel and Office Uses | 0 | 16,170 | 16,170 |
| Office | 20,720 | Between 344,840 and 390,035 [d] | Between 324,120 and 369,315 |
| Office Amenities | 0 | 27,195 | 27,195 |
| Retail/Restaurant | 0 | 7,405 | 7,405 |
| Passenger Loading/Parking Area | 0 | 705 | 705 |
| Below Grade | 8,850 | 52,410 | 43,560 |
| Parking Spaces | 21 | 74 | 53 |
| Loading Spaces [e] | 0 | 1,840 | 1,840 |

| Project Component | Existing (sf) | Proposed (sf) | Net New (sf) |
|---|---|---|---|
| Class 1 Bicycle Parking Spaces [b] | 0 | 77 | 77 |
| Class 2 Bicycle Parking Spaces [b] | 0 | 20 | 20 |
| Car Share Parking Spaces [c] | 0 | 0 | 0 |
| **SUBTOTAL** | **48,195** | **649,510** | **601,315** |
| **PROJECT TOTAL** | | **680,710** | **612,360** |

SOURCES: Skidmore, Owings & Merrill LLP, ALTA, San Francisco Fire Department, 2024

ABBREVIATION: sf = square feet

NOTES:

a. Parking provided exceeds limits on accessory parking in San Francisco Planning Code due to fire department parking requirements. The fire department parking spaces would be entitled as a non-accessory parking garage.
b. Bike parking is calculated per San Francisco Planning Code section 155.2. The proposed project provides 20 of the 29 Code-required class 2 bicycle parking spaces. The remaining requirement (nine spaces) would be satisfied by payment of the in-lieu payment pursuant to Planning Code section 430 and in accordance with the Development Agreement approval process.
c. A Planning Code section 166 modification is proposed for car share parking.
d. The square footage calculations for each use vary from those shown in the plan set submitted for the project because they do not include basement square footage.
e. Loading spaces are calculated per San Francisco Planning Code article 1.5, section 152.1.

The project sponsor estimates that construction of the proposed project would last approximately 39 months, beginning in 2027.

## S.3 Summary of Impacts and Mitigation Measures

This draft EIR analyzes the potential environmental effects of the proposed project. The initial study (Appendix B) of this draft EIR determined that the following topics would have either no significant impacts or impacts that can be reduced to less than significant with mitigation: land use and land use planning; population and housing; archaeological resources and human remains; tribal cultural resources; transportation and circulation; noise; greenhouse gas emissions; wind; shadow; recreation; utilities and services systems; public services; biological resources; geology and soils; hydrology and water quality; hazards and hazardous materials; mineral resources; energy; agricultural and forestry resources; and wildfire. Discussion and analysis of impacts in these resource areas are presented in the initial study.

The initial study found that the proposed project could result in significant impacts associated with the resource topic areas listed below. Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, of this draft EIR presents detailed discussion and analysis of these resource topic areas.

- Section 3.A, Historic Architectural Resources
- Section 3.B, Air Quality

**Table S-2**, p. S-5, and **Table S-3**, p. S-15, summarize the potential impacts of the proposed project, identify the significance of each impact, and present the full text of mitigation measures that would avoid or reduce significant impacts and would be required to be implemented if the proposed project is approved. Impacts and mitigation measures presented in Chapter 3 of this draft EIR are summarized in Table S-2. Impacts and mitigation measures presented in the initial study are summarized in Table S-3.

As indicated in Table S-2 and discussed in detail in Chapter 3, the analysis conducted for this EIR determined that the proposed project would result in significant and unavoidable impacts in the following areas, even with implementation of feasible mitigation measures:

- Historic Architectural Resources:
  - The proposed project would cause a substantial adverse change in the significance of onsite historical resources, as defined in section 15064.5, including a resource listed in article 10 of the San Francisco Planning Code. (Impact CR-1)
- Air Quality:
  - The proposed project would result in emissions of fine particulate matter ($PM_{2.5}$) and toxic air contaminants that could expose sensitive receptors to substantial pollutant concentrations. (Impact AQ-3)
  - The proposed project, in combination with cumulative projects, would result in exposure of sensitive receptors to substantial levels of fine particulate matter ($PM_{2.5}$) and toxic air contaminants. (Impact C-AQ-1)

## Table S-2 Summary of Impacts of the Proposed Project Identified in the EIR

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **EIR Section 3.A, Historic Architectural Resources** | | | |
| **Impact CR-1:** The proposed project would cause a substantial adverse change in the significance of an individually eligible historical resource as defined in CEQA Guidelines section 15064.5, including those resources listed in article 10 or article 11 of the planning code. | S | **Mitigation Measure M-CR-1a: Documentation of the 447 Battery Street Building.** Prior to issuance of the Pre-Construction Environmental Compliance Letter, the project sponsor shall submit to the department for review photographic and narrative documentation of the 447 Battery Street building. The documentation shall be funded by the project sponsor and undertaken by a qualified professional who meets the standards for history, architectural history, or architecture (as deemed appropriate by the department's preservation staff), as set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, part 61). The department's preservation staff will determine the specific scope of the documentation considering the individual property's character-defining features and reasons for significance identified in Impact CR-1. The documentation scope shall be reviewed and approved by the department prior to any work on the documentation. A documentation package shall consist of the required forms of documentation and shall include a summary of the historic resource and an overview of the documentation provided. The types and level of documentation will be determined by department staff and may include any of the following formats:<br>• *HABS/HALS-Like Measured Drawings*—A set of Historic American Building/Historic American Landscape Survey-like (HABS/HALS-like) measured drawings that depict the existing size, scale, and dimension of the 447 Battery Street building. The department's preservation staff will accept the original architectural drawings or an as-built set of architectural drawings (plan, section, elevation, etc.). The department's preservation staff will assist the consultant in determining the appropriate level of measured drawings. A cover sheet may be required that describes the historic significance of the property.<br>• *HABS/HALS-Like Photographs*—Digital photographs of the interior and the exterior of the 447 Battery Street building. Large-format negatives are not required. The scope of the digital photographs shall be reviewed by the | SUM |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | department's preservation staff for concurrence, and all digital photography shall be conducted according to current National Park Service standards. The photography shall be undertaken by a qualified professional with demonstrated experience in HABS photography.<br>• *HABS/HALS-Like Historical Report*—A written historical narrative and report shall be provided in accordance with the HABS/HALS Historical Report Guidelines. The written history shall follow an outline format that begins with a statement of significance supported by the development of the architectural and historical context in which the structure was built and subsequently evolved. The report shall also include architectural description and bibliographic information.<br>• The project sponsor, in consultation with the department, shall conduct outreach to determine which repositories may be interested in receiving copies of the documentation. Potential repositories include but are not limited to, the San Francisco Public Library, the Environmental Design Library at the University of California, Berkeley, the Northwest Information Center, San Francisco Architectural Heritage, the California Historical Society, and Archive.org. The final approved documentation shall be provided in electronic form to the department and the interested repositories. The department will make electronic versions of the documentation available to the public for their use at no charge.<br>The professional(s) shall submit the completed documentation for review and approval by the department's preservation staff. All documentation must be reviewed and approved by the department prior to the issuance of the Pre-Construction Environmental Compliance Letter for a proposed project.<br>**Mitigation Measure M-CR-1b: Salvage Plan.** Prior to the issuance of the Pre-Construction Environmental Compliance Letter, the project sponsor shall consult with the department's preservation staff as to whether any character-defining building materials may be salvaged, in whole or in part, during demolition or alteration. The project sponsor shall make a good faith effort to salvage and protect such character-defining building materials to be used as part of the interpretative program (if required), incorporated into the architecture of the new building that will be constructed on the site, or offered | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | to non-profit or cultural affiliated groups. If this proves infeasible, the sponsor shall attempt to donate significant character-defining features or features of interpretative or historical interest to a historical organization or other educational or artistic group. The project sponsor may prepare a salvage plan for review and approval by the department's preservation staff prior to issuance of the Pre-Construction Environmental Compliance Letter.<br><br>**Mitigation Measure M-CR-1c: Public Interpretative Program.** The project sponsor shall facilitate the development of a public interpretive program focused on the history of the 447 Battery Street building and its significant historic context. The interpretive program should be developed and implemented by a qualified design professional with demonstrated experience in displaying information and graphics to the public in a visually interesting manner, as well as a professionally qualified historian or architectural historian, or community group approved by the department. The primary goal of the program is to educate visitors of the building's historical themes, associations, and broader historical, social, and physical landscape contexts.<br><br>The interpretive program shall be initially outlined in an interpretive plan subject to review and approval by the department's preservation staff prior to issuance of the Pre-Construction Environmental Compliance Letter for the project. The plan shall include the general parameters of the interpretive program including the substance, media, and other elements of the interpretative program. The interpretive program shall include within publicly accessible areas of the project site permanent display(s) of interpretive materials concerning the history and design features of the 447 Battery Street building. The display shall be placed in a prominent, public setting within, on the exterior of, or in the vicinity of the newly constructed buildings or other features within the project site. The interpretive material(s) shall be made of durable all-weather materials and may also include digital media in addition to a permanent display. The interpretive material(s) shall be of high quality and installed to allow for high public visibility. Content developed for other mitigation measures, as applicable, including the oral history and documentation programs, may be used to inform and provide content for the | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | interpretive program. The interpretive program may also incorporate video documentation completed under M-CR-1a, Documentation of the 447 Battery Street Building, as applicable to provide a narrated video that describes the materials, construction methods, current condition, historical use, historic context and cultural significance of the historic resource.<br><br>The detailed content, media, and other characteristics of such an interpretive program shall be coordinated and approved by the department's preservation staff. The final components of the public interpretation program shall be constructed and an agreed upon schedule for their installation and a plan for their maintenance shall be finalized prior to issuance of a Temporary Certificate of Occupancy.<br><br>The interpretive program shall be developed in coordination with other interpretative programs as relevant/applicable, such as interpretation required under Mitigation Measure M-CR-1d, Interpretation and Relocation Plan for the Sculpture Untitled, archeological resource mitigation measures, tribal cultural resource mitigation measures, Native American land acknowledgments, or other public interpretation programs.<br><br>The department will also ensure that any information gathered through the interpretative program development is integrated with SF Survey and Citywide historic context statement summarized above.<br><br>**Mitigation Measure M-CR-1d: Interpretation and Relocation Plan for the Sculpture *Untitled*.**<br><br>*Interpretation for the Sculpture Untitled.* The project sponsor shall facilitate the development of an interpretive program focused on the history and design of the sculpture *Untitled*. The primary goal of the program is to educate the public about the sculpture, the work of artist Henri Marie-Rose, and the historical association of the sculpture with the Embarcadero Center and Fire Station 13.<br><br>The interpretive program shall be developed, approved, and implemented under the standards described in Mitigation Measure M-CR-1c, Public Interpretative Program. | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | *Relocation Plan for the Sculpture Untitled.* Prior to issuance of the architectural addendum to the site permit, the project sponsor shall provide a relocation plan to be reviewed and approved by planning department preservation staff to ensure that the sculpture will be removed from the building, transported, and stored during construction in a manner that will protect the historical resource. The relocation plan shall identify the storage location for the sculpture and storage and monitoring protocols. The sculpture shall be relocated to the exterior of the new fire station portion of the project, either along its east (Battery Street) or south (Merchant Street) façade; or, if approved by planning department preservation staff, to another prominent publicly accessible location on the project site. The relocation plan shall also include an initial reinstallation plan and maintenance plan for the sculpture and schedule for reviewing and finalizing those plans in consultation with planning department preservation staff prior to issuance of the temporary certificate of occupancy. | |
| **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. | LTS | No mitigation required. | NA |
| **EIR Section 3.B, Air Quality** | | | |
| **Impact AQ-1:** During construction, the proposed project would not result in a cumulatively considerable net increase in a criteria air pollutant for which the project region is in nonattainment status under an applicable federal, state, or regional ambient air quality standard. | LTS | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Impact AQ-2:** During operation, the proposed project would not result in a cumulatively considerable net increase of a criteria air pollutant for which the project region is in nonattainment under an applicable federal, state, or regional ambient air quality standard. | LTS | No mitigation required. | NA |
| **Impact AQ-3:** The proposed project would result in emissions of fine particulate matter ($PM_{2.5}$) and toxic air contaminants that could expose sensitive receptors to substantial pollutant concentrations. | S | **Mitigation Measure M-AQ-3a: Clean Off-Road Construction Equipment.** The project sponsor shall comply with the following:<br>1. *Engine Requirements.* All off-road equipment shall meet the following requirements:<br>a. All air compressors, cement and mortar mixers, concrete/industrial saws, fixed cranes, pumps, and welders shall be electric. If grid electricity is not available at the site, propane or natural gas for these off-road equipment shall be used until electricity is available. These equipment pieces shall not be gasoline or diesel powered.<br>b. Zero-emission off-road equipment shall be used for all off-road equipment used during each construction phase and activity, if commercially available. Available technologies currently include battery-electric and hydrogen fuel cell technologies. Portable equipment shall be powered by grid electricity if available. If grid electricity is not available, a portable electric charging station shall be used to power electric equipment. Forklifts shall be powered by propane if electric versions are not commercially available.<br>c. All engines that cannot be electrically powered must meet or exceed either U.S. Environmental Protection Agency or California Air Resources Board (air board) Tier 4 Final off-road emission standards. This adherence shall be verified through submittal of an equipment inventory and Certification Statement to the ERO. The Certification Statement must state that each contractor agrees to compliance and acknowledges that a significant violation of this requirement shall | SUM |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | constitute a material breach of the contractor's agreement and/or the general contract with the project applicant.<br>d. For purposes of this mitigation measure, zero-emission off-road equipment shall ordinarily be considered "commercially available" if the vehicle is capable of serving the intended purpose and is included in the California Air Resources Board's Advanced Clean Equipment (ACE) List, https://ww2.arb.ca.gov/our-work/programs/msei/off-road-advance-clean-equipment, included in California Air Resources Board's Clean Off-Road Equipment Voucher Incentive Project (CORE) catalog, https://californiacore.org/equipmentcatalog/, or listed as available in the US on the Global Commercial Vehicle Drive to Zero Off-Road Zero-Emission Technology Inventory (ZETI) inventory, https://globaldrivetozero.org/tools/zeti-offroad/.<br>2. *Waivers.*<br>a. The ERO may waive the electric engine requirement of item 1.b if electric power is limited or infeasible at the project site or if equipment is not commercially available, as defined above. The ERO shall be responsible for the final determination of commercial availability, based on all the facts and circumstances at the time the determination is made. For the ERO to make a determination that such vehicles are commercially unavailable, the operator must submit documentation from a minimum of three (3) zero-emission off-road equipment dealers identified on the ACE or CORE websites demonstrating the inability to obtain the required zero-emission off-road equipment needed within 6 months. If the ERO grants the waiver, the contractor must submit documentation that the equipment used for on-site power generation meets the requirements of item 1.c.<br>b. The ERO may waive the equipment requirements of item 1.c if (1) the contractor does not have the required type of equipment within its current available inventory or has ordered such equipment at least 60 days in advance and has made a good faith effort to lease or rent such equipment but it is not available; (2) a particular piece of Tier 4 final off-road equipment is technically or financially infeasible; (3) the | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | equipment would not produce desired emissions reduction due to expected operating modes; or (4) there is a compelling emergency need to use off-road equipment that is not Tier 4 Final compliant. If the ERO grants the waiver, the contractor must use the next cleanest piece of off-road equipment that is commercially available, or another alternative that results in comparable reductions of DPM emissions.<br>3. *Construction Emissions Minimization Plan.* Before starting onsite construction activities, the project sponsor shall submit a Construction Emissions Minimization Plan (Plan) to the ERO for review and approval. The Plan shall state, in reasonable detail, how the contractor will meet the requirements of item 1.<br>a. The Plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include but is not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, expected fuel type (e.g., diesel, gasoline, electric, propane, natural gas), and hours of operation.<br>b. The project sponsor shall make the Plan available to the public for review onsite during working hours. The contractor shall post a notice summarizing the Plan. The notice shall also state that the public may ask to inspect the Plan for the project at any time during working hours and shall explain how to request to inspect the Plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.<br>4. *Reporting.* After start of construction activities, the project sponsor shall submit annual reports to the ERO documenting compliance with the Plan. Within six months of the completion of construction activities, the project sponsor shall submit to the ERO a final report summarizing construction activities, including the start and end dates and duration of each construction phase, and the specific information required in the Plan.<br>5. *Certification Statement and Onsite Requirements.* Prior to commencing construction activities, the project sponsor shall certify that all applicable | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | requirements of the Plan have been incorporated into contract specifications. The effectiveness of Mitigation Measure M-AQ-3a was evaluated in the health risk assessment. Mitigation Measure M-AQ-3a would reduce TAC emissions associated with off-road construction equipment by requiring electric and U.S. EPA Tier 4 Final engines. Tier 4 Final off-road engines emit approximately 71 percent less DPM and exhaust $PM_{2.5}$ than default fleet construction equipment.<br>**Mitigation Measure M-AQ-3b: Operational Truck Emissions Reduction.** The project sponsor shall incorporate the following measures into the project design and construction contracts (as applicable) to reduce emissions associated with operational trucks, along with the potential health risk caused by exposure to TACs. These features shall be submitted to the planning department ERO for review and approval prior to the issuance of building permits and shall be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City. Emissions from project-related diesel trucks shall be reduced by implementing the following measures:<br>1. Prohibit trucks from idling for more than two minutes, and post "no idling" signs at the site entry point, at all loading locations, and throughout the project site.<br>2. Equip all truck delivery bays with electrical hook-ups for diesel trucks at loading docks to accommodate plug-in electric truck transport refrigeration units (TRUs) or auxiliary power units during project operations.<br>3. Encourage the use of trucks equipped with diesel TRUs to meet U.S. Environmental Protection Agency Tier 4 emission standards.<br>4. Prohibit TRUs from operating at loading docks for more than thirty minutes, and post signs at each loading dock presenting this TRU limit. | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Impact AQ-4:** The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. | LTS | No mitigation required. | NA |
| **Impact AQ-5:** The proposed project would conflict with or obstruct implementation of the 2017 Clean Air Plan. | LTS | No mitigation required. | NA |
| **Impact C-AQ-1:** The proposed project, in combination with cumulative projects, would result in exposure of sensitive receptors to substantial levels of fine particulate matter ($PM_{2.5}$) and toxic air contaminants. | S | Mitigation Measure M-AQ-3a would apply. | SUM |
| **Impact C-AQ-2:** The proposed project, in combination with cumulative projects, would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people. | LTS | No mitigation required. | NA |

IMPACT CODES:
NA = Not Applicable
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

## Table S-3 Summary of Impacts of the Proposed Project Identified in the Initial Study

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Initial Study Section E.1, Land Use and Planning** | | | |
| **Impact LU-1:** The proposed project would not physically divide an established community. | NI | No mitigation required. | NA |
| **Impact LU-2:** The proposed project would not cause a significant physical environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. | LTS | No mitigation required. | NA |
| **Impact C-LU-1:** The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to land use and planning. | LTS | No mitigation required. | NA |
| **Initial Study Section E.2, Population and Housing** | | | |
| **Impact PH-1:** The proposed project would not induce substantial unplanned population growth, either directly or indirectly. | LTS | No mitigation required. | NA |
| **Impact PH-2:** The proposed project would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing. | NI | No mitigation required. | NA |
| **Impact C-PH-1:** The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to population and housing. | LTS | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Initial Study Section E.3, Cultural Resources** | | | |
| **Impact CR-2:** The proposed project could cause a substantial adverse change in the significance of an archeological resource. | S | **Mitigation Measure M-CR-2a: Archeological Testing.**<br>*Archeological Testing Program.* The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes a historical resource under CEQA. The project sponsor shall retain the services of an archeological consultant from the rotational Qualified Archeological Consultants List (QACL) maintained by the planning department. After the first project approval action or as directed by the Environmental Review Officer (ERO), the project sponsor shall contact the department archeologist to obtain the names and contact information for the next three archeological consultants on the QACL. The archeological consultant shall undertake an archeological testing program as specified herein. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the ERO.<br>All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment and shall be considered draft reports subject to revision until final approval by the ERO. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a | LTS |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | significant archeological resource as defined in CEQA Guidelines section 15064.5 (a)(c).<br><br>A California Native American tribe traditionally and culturally affiliated with a geographic area of the project at their discretion shall provide a Native American cultural sensitivity training to all project contractors. A California Native American tribe traditionally and culturally affiliated with a geographic area of the project at their discretion shall provide monitoring of the archeological testing for Native American archeological resources.<br><br>*Archeological Testing Plan.* The archeological testing program shall be conducted in accordance with the approved Archeological Testing Plan (ATP). The archeological consultant and the ERO shall consult on the scope of the ATP, which shall be approved by the ERO prior to any project-related soils disturbing activities commencing. The ATP shall be submitted first and directly to the ERO for review and comment and shall be considered a draft subject to revision until final approval by the ERO. The archeologist shall implement the testing as specified in the approved ATP prior to and/or during construction. The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, lay out what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ATP shall also identify the testing method to be used, the depth or horizonal extent of testing, and the locations recommended for testing and shall identify archeological monitoring requirements for construction soil disturbance as warranted. | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | *Paleoenvironmental Analysis of Paleosols.* When a submerged paleosol is identified, irrespective of whether cultural material is present, samples shall be extracted and processed for dating, flotation for paleobotanical analysis, and other applicable special analyses pertinent to identification of possible cultural soils and for environmental reconstruction. The results of analysis of collected samples shall be reported on in the results report that is submitted to planning as described in Archeological Resources Report section below.<br><br>*Discovery Treatment Determination.* At the completion of the archeological testing program, the archeological consultant shall submit a written summary of the findings to the ERO. The findings memo shall describe and identify each resource and provide an initial assessment of the integrity and significance of encountered archeological deposits.<br><br>If the ERO in consultation with the archeological consultant determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, the ERO, in consultation with the project sponsor, shall determine whether preservation of the resource in place is feasible. If so, the proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource and the archeological consultant shall prepare an archeological resource preservation plan (ARPP), which shall be implemented by the project sponsor during construction. The consultant shall submit a draft ARPP to the planning department for review and approval.<br><br>If preservation in place is not feasible, a data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | resource is feasible. The ERO in consultation with the archeological consultant shall also determine if additional treatment is warranted, which may include additional testing and/or construction monitoring.<br><br>*Archeological Sensitivity Training.* If it is determined that the project would require ongoing archeological monitoring, the archeological consultant shall provide a training to the prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc. firms); or utilities firm involved in soils-disturbing activities within the project site. The training shall advise all project contractors to be on the alert for evidence of the presence of the expected archeological resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource by the construction crew.<br><br>*Consultation with Descendant Communities.* On discovery of an archeological site associated with descendant Native Americans, the Overseas Chinese, or other potentially interested descendant group an appropriate representative of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to offer recommendations to the ERO regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A California Native American tribe traditionally and culturally affiliated with a geographic area of the project or appropriate representative of the descendant group at their discretion shall provide a cultural sensitivity training to all project contractors. The ERO and project sponsor shall work with the tribal representative or other representatives of | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | descendant communities to identify the scope of work to fulfill the requirements of this mitigation measure, which may include participation in preparation and review of deliverables (e.g., plans, interpretive materials, artwork). Representatives shall be compensated for their work as identified in the agreed upon scope of work. A copy of the Archeological Resources Report (ARR) shall be provided to the representative of the descendant group.<br><br>*Archeological Data Recovery Plan.* An archeological data recovery program shall be conducted in accordance with an Archeological Data Recovery Plan (ADRP) if all three of the following apply: (1) a resource has potential to be significant, (2) preservation in place is not feasible, and (3) the ERO determines that an archeological data recovery program is warranted. The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.<br><br>The scope of the ADRP shall include the following elements:<br>• *Field Methods and Procedures.* Descriptions of proposed field strategies, procedures, and operations. | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | • *Cataloguing and Laboratory Analysis.* Description of selected cataloguing system and artifact analysis procedures.<br>• *Discard and Deaccession Policy.* Description of and rationale for field and post-field discard and deaccession policies.<br>• *Security Measures.* Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.<br>• *Final Report.* Description of proposed report format and distribution of results.<br>• *Curation.* Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.<br>*Coordination of Archeological Data Recovery Investigations.* In cases in which the same resource has been or is being affected by another project for which data recovery has been conducted, is in progress, or is planned, in order to maximize the scientific and interpretive value of the data recovered from both archeological investigations, the following measures shall be implemented:<br>a) In cases where archeological investigations have not begun for both of the projects, both archeological consultants and the ERO shall consult on coordinating and collaboration on archeological research design, data recovery methods, analytical methods, reporting, curation, and interpretation to ensure consistent data recovery and treatment of the resource.<br>b) In cases where archeological data recovery investigation is already under way or has been completed for a prior | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | project, the archeological consultant for the subsequent project shall consult with the prior archeological consultant, if available; review prior treatment plans, findings and reporting; and inspect and assess existing archeological collections/inventories from the site prior to preparation of the archeological treatment plan for the subsequent discovery, and shall incorporate prior findings in the final report of the subsequent investigation. The objectives of this coordination and review of prior methods and findings will be to identify refined research questions; determine appropriate data recovery methods and analyses; assess new findings relative to prior research findings; and integrate prior findings into subsequent reporting and interpretation.<br><br>*Human Remains and Funerary Objects.* The treatment of human remains and funerary objects discovered during any soil-disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Office of the Chief Medical Examiner of the City and County of San Francisco (Medical Examiner). The ERO also shall be notified immediately upon the discovery of human remains. In the event of the Medical Examiner's determination that the human remains are Native American remains, the Medical Examiner shall notify the California State Native American Heritage Commission (NAHC), which will appoint a Most Likely Descendant (MLD). The MLD will complete his or her inspection of the remains and make recommendations or preferences for treatment within 48 hours of being granted access to the site (Public Resources Code section 5097.98(a)).<br><br>The landowner may consult with the project archeologist and project sponsor and shall consult with the MLD and ERO on preservation in place or recovery of the remains and any | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | scientific treatment alternatives. The landowner shall then make all reasonable efforts to develop an Agreement with the MLD, as expeditiously as possible, for the treatment and disposition, with appropriate dignity, of human remains and funerary objects (as detailed in CEQA Guidelines section 15064.5(d)). Per PRC section 5097.98 (b)(1), the Agreement shall address and take into consideration, as applicable and to the degree consistent with the wishes of the MLD, the appropriate excavation, removal, recordation, scientific analysis, custodianship prior to reinterment or curation, and final disposition of the human remains and funerary objects. If the MLD agrees to scientific analyses of the remains and/or funerary objects, the archeological consultant shall retain possession of the remains and funerary objects until completion of any such analyses unless otherwise specified in the Agreement, after which the remains and funerary objects shall be reinterred or curated as specified in the Agreement.<br><br>Both parties are expected to make a concerted and good faith effort to arrive at an Agreement, consistent with the provisions of PRC section 5097.98. However, if the landowner and the MLD are unable to reach an Agreement, the landowner, ERO, and project sponsor shall ensure that the remains and/or mortuary materials are stored securely and respectfully until they can be reinterred on the property, with appropriate dignity, in a location not subject to further or future subsurface disturbance, consistent with state law.<br><br>Treatment of historic-period human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activity, additionally, shall follow protocols laid out in the project's archeological treatment documents, and in any related agreement established between the Medical Examiner and the ERO. | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | The project archeologist shall retain custody of the remains and associated materials while any scientific study scoped in the treatment document is conducted and the remains shall then be curated or respectfully reinterred by arrangement on a case-by case-basis.<br><br>*Cultural Resources Public Interpretation Plan.* The project archeological consultant shall submit a Cultural Resources Public Interpretation Plan (CRPIP) if a significant archeological resource is discovered during a project. As directed by the ERO, a qualified design professional with demonstrated experience in displaying information and graphics to the public in a visually interesting manner, local artists, or community group may also be required to assist the project archeological consultant in preparation of the CRPIP. If the resource to be interpreted is a tribal cultural resource, the CRPIP shall be prepared in consultation with and developed with the participation of Ohlone tribal representatives. The CRPIP shall describe the interpretive product(s), locations or distribution of interpretive materials or displays, the proposed content and materials, the producers or artists of the displays or installation, and a long-term maintenance program. The CRPIP shall be sent to the ERO for review and approval. The CRPIP shall be implemented prior to occupancy of the project.<br><br>*Archeological Resources Report.* Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the testing program to the ERO. The archeological consultant shall submit a draft Archeological Resources Report (ARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological, historical research methods employed in the archeological testing/monitoring/data recovery program(s) | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | undertaken, and if applicable, discusses curation arrangements. Formal site recordation forms (CA DPR 523 series) shall be attached to the ARR as an appendix.<br><br>Once approved by the ERO, copies of the ARR shall be distributed as follows: California Archeological Site Survey Northwest Information Center (NWIC) shall receive one copy and the ERO shall receive a copy of the transmittal of the ARR to the NWIC. The environmental planning division of the planning department shall receive one bound hardcopy of the ARR. Digital files that shall be submitted to the environmental division include an unlocked, searchable PDF version of the ARR, GIS shapefiles of the site and feature locations, any formal site recordation forms (CA DPR 523 series), and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. The PDF ARR, GIS files, recordation forms, and/or nomination documentation should be submitted via USB or other stable storage device. If a descendant group was consulted during archeological treatment, a PDF of the ARR shall be provided to the representative of the descendant group.<br><br>*Curation.* Significant archeological collections and paleoenvironmental samples of future research value shall be permanently curated at an established curatorial facility or Native American cultural material shall be returned to local Native American tribal representatives at their discretion. The facility shall be selected in consultation with the ERO. Upon submittal of the collection for curation the sponsor or archeologist shall provide a copy of the signed curatorial agreement to the ERO.<br><br>**Mitigation Measure M-CR-2b: Treatment of Submerged and Deeply Buried Resources.** This measure applies to projects that would include subgrade excavation to depths that | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | would penetrate to native soil or below Young Bay Mud, or entail the use of piles, soil improvements or other deep foundations in landfill areas within former creeks, ponds, bay marshes or waters of the bay that may be sensitive for submerged or buried historical or Native American archeological resources; and shall be implemented in the event of the discovery of a submerged or deeply buried resource during archeological testing, archeological monitoring, or soil-disturbing construction activities that occur when an archeologist is not present. In addition to the measures detailed below, for any project during which a significant archeological resource is identified, a preservation or treatment determination shall be made consistent with the provisions of Mitigation Measure M-CR-2a.<br><br>The following shall be undertaken upon discovery of a potentially significant deeply buried or submerged resource to minimize significant effects from deep project excavations, soil improvements, pile construction, or construction of other deep foundation systems, in cases where the environmental review officer (ERO) has determined through consultation with the project sponsor, and with tribal representatives as applicable, that preservation-in-place—the preferred mitigation—is not a feasible or effective option.<br><br>*Submerged or Buried Resource Treatment Determination.* If the resource cannot feasibly or adequately be preserved in place, documentation and/or archeological data recovery shall be conducted, as described in Mitigation Measure M-CR-2a. However, by definition, submerged or deeply buried resources sometimes are located deeper than the maximum anticipated depth of project excavations, such that the resource would not be exposed for investigation, and/or under water or may otherwise pose substantial | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | access, safety or other logistical constraints for data recovery; or the cost of providing archeological access to the resource may demonstrably be prohibitive.<br><br>In circumstances where the constraints identified above limit physical access for documentation and data recovery, the ERO, project sponsor, project archeologist, and tribal representative (for Native American archeological resources), shall consult to explore alternative documentation and treatment options to be implemented in concert with any feasible archeological data recovery. The appropriate treatment elements, which would be expected to vary with the type of resource and the circumstances of discovery, shall be identified by the ERO based on the results of consultation from among the treatment measures listed below. Additional treatment options may be developed and agreed upon through consultation if it can be demonstrated that they would be equally or more effective in recovering or amplifying the value of the data recovered from physical investigation of the affected resources by addressing applicable archeological research questions and in disseminating data and meaningfully interpreting the resource to the public.<br><br>Each treatment option below, or a combination of the treatment measures, in concert with any feasible standard data recovery methods applied as described above, would be effective in mitigating significant impacts to submerged and buried resources. The ERO, in consultation with the project archeologist and project sponsor, shall identify which of these measures that, individually or in combination, will be applicable and effective in recovering sufficient data, enhancing the research value of the data recovery, meaningfully interpreting the resource to the public, or otherwise effectively mitigating the loss of data or associations that | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | will result from project construction. Multiple treatment measures shall be adopted in combination, as needed to adequately mitigate data loss and, as applicable, impacts to tribal cultural values, as determined in consultation with the ERO and, as applicable, tribal representatives.<br><br>The project archeologist shall document the results of the treatment program consultation with respect to the agreed upon scope of treatment in a treatment program memo, for ERO review and approval. Upon approval by the ERO, the project sponsor shall ensure that treatment program is implemented prior to and during construction, as applicable. Reporting, interpretive, curation and review requirements are the same as delineated under the other cultural resources mitigation measures that are applicable to the project, as noted above. The project sponsor shall be responsible for ensuring the implementation of all applicable mitigation measures, as identified in the treatment program memo.<br><br>*Treatment Options*<br><br>• *Remote Archeological Documentation.* Where a historic feature cannot be recovered or adequately accessed in place by the archeologist due to size, bulk or inaccessibility, the archeologist shall conduct all feasible remote documentation methods, such as 3-D photography using a remote access device, remote sensing (e.g., ground penetrating radar with a low range (150 or 200 MHz) antenna), or other appropriate technologies and methods, to document the resource and its context. The project sponsor and contractor shall support remote archeological documentation as needed, by assisting with equipment access (e.g., drone, lights and camera or laser scanner mounted on backhoe); providing personnel qualified to enter the excavation to facilitate remote documentation; and accommodating | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | training of construction personnel by the project archeologist so that they can assist in measuring or photographing the resource from inside the excavation in cases when the archeologist cannot enter.<br>• *Modification of Contractor's Excavation Methods.* At the request of the ERO, the project sponsor shall consult with the project archeologist and the ERO to identify potential modifications to the contractor's excavation and shoring methods to facilitate data recovery to prevent damage to the resource before it has been documented, to assist in exposure and facilitate observation and documentation, and to assist in data recovery. Examples include improved dewatering during excavation, use of a smaller excavator bucket or toothless bucket, providing a location where spoils can be spread out and examined by the archeologist prior to being offhauled, and phasing or benching of deep excavations to facilitate observation and/or deeper archeological trenching.<br>• *Data Recovery through Open Excavation.* If a project will include mass excavation to the depth of the buried/ submerged deposit, archeological data recovery shall include manual (preferred) or controlled mechanical sampling of the deposit. If project construction would not include mass excavation to the depth of the deposit but would impact the deposit through deep foundation systems or soil improvements, the ERO and the project sponsor shall consult to consider whether there are feasible means of providing direct archeological access to the deposit (e.g., excavation of portion of the site that overlies the deposit to the subject depth so that a sample can be recovered). The feasibility consideration shall include an estimate of the project cost of excavating to the necessary depth and of providing shoring and | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | dewatering sufficient to allow archeological access to the deposit for manual or mechanical recovery.<br>• *Mechanical Recovery.* If site circumstances limit access by archeologists to the find, the ERO, project archeologist, and project sponsor shall consult on the feasibility of mechanically removing the feature/ deposit or portion of it intact for off-site documentation and analysis, preservation, and interpretive use. The consultation above shall include consideration as to whether such recovery is logistically feasible and can be accomplished without major data loss. The specific means and methods and the type and size of the sample shall be identified, and the recovery shall be implemented as determined feasible by the ERO. The project sponsor shall assist with mechanical recovery and transport and curation of recovered materials and shall provide for an appropriate and secure off-site location for archeological documentation and storage as needed.<br>• *Salvage of Historic Materials.* Samples or sections of historical features that cannot be preserved in place (e.g., structural members of piers or wharves, sections of wooden sea wall, rail alignments, or historic utility or paving features of particular data value or interpretive interest) shall be tested for contamination and, if not contaminated, shall be salvaged for interpretive use or other reuse, such as display of a reconstructed resource; use of timbers or planks for site furniture and signage structures; installation in publicly accessible open spaces; or other uses of public interest. Historic wood and other salvageable historic structural material not used for interpretation shall be recovered for reuse, consistent with the San Francisco Ordinance No. 27-06, which requires recycling or reuse of all construction and | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | demolition debris material removed from a project. If the project has the potential to encounter such features, the project sponsor shall plan in advance for reuse of salvaged historic materials to the greatest extent feasible, including identification of a location for interim storage and identification of potential users and reuses.<br>• *Data Recovery Using Geoarcheological Cores.* If it is deemed infeasible to expose a significant deposit resource for archeological data recovery, geoarcheological coring of the identified deposit shall be conducted at horizontal grid intervals of no greater than 15 feet within areas that will be impacted by project construction. The maximum feasible core diameter shall be used for data recovery coring. The objective of coring is to obtain a minimum of a five percent sample of the estimated total volume of the resource within areas that will impacted by project construction. However, due to the small size of each core, this method alone generally cannot recover a 5 percent sample volume or a sufficient quantity of data to adequately characterize the range of activities that took place at the site. For this reason, if the coring sample constitutes less than five percent of the estimated total volume of the archeological deposit that will be directly impacted by project construction, the project sponsor may elect implementation of one or more of the following additional compensatory measures to amplify the value of the recovered data.<br>• *Compensatory Treatment Measures:*<br>– *Scientific Analysis of Data from Comparable Archeological Sites/"Orphaned Collections."* The ERO and the project archeologist shall consult to identify a known archeological site or historical feature, or curated collections or samples recovered during prior | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | investigation of similar sites or features are available for further analysis; and for which site-specific or comparative analyses would be expected to provide data relevant to the interpretation or context reconstruction for the affected site. Examples would include reanalysis or comparative analysis of artifacts or archival records; faunal or paleobotanical analyses; dating; isotopes studies; or such other relevant studies based on the research design developed for the affected site and on data sets available from the impacted resource and comparative collections. The scope of analyses shall be determined by the ERO based on consultation with the project archeologist, the project sponsor and, for sites of Native American origin Native American representatives.<br>– *Additional Off-Site Data Collection and/or Analysis for Historical and Paleoenvironmental Reconstruction.* The ERO and project archeologist shall identify existing geoarcheological data and geotechnical coring records on file with the city; and/or cores extracted and preserved during prior geotechnical or geoarcheological investigations that could contribute to reconstruction of the environmental setting in the vicinity of the identified resource, to enhance the historical and scientific value of recovered data by providing additional data about Native American archeological environmental setting and stratigraphic sensitivity; and/or provide information pertinent to the public interpretation of the significant resource. Relevant data may also be obtained through geoarcheological coring at accessible sites identified by the ERO through consultation with San Francisco public agencies and private project sponsors. | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Impact CR-3:** The proposed project could disturb human remains, including those interred outside of formal cemeteries. | S | Mitigation Measures M-CR-2a and M-CR-2b would apply. | LTS |
| **Impact C-CR-2:** The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on archeological resources and human remains. | S | Mitigation Measures M-CR-2a and M-CR-2b would apply. | LTS |
| **Initial Study Section E.4, Tribal Cultural Resources** | | | |
| **Impact TCR-1:** The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code section 21074. | S | **Mitigation Measure M-TCR-1: Tribal Cultural Resources Program.**<br><br>*Preservation in Place.* In the event of the identification or discovery of a tribal cultural resource, the Environmental Review Officer (ERO), the project sponsor, and California Native American tribes traditionally and culturally affiliated with a geographic area of the project shall consult to determine whether preservation in place would be feasible and effective. The planning department shall notice California Native American tribes traditionally and culturally affiliated with a geographic area who will be given the opportunity to opt in to coordination regarding tribal cultural resources. This would include collaboration and review of the preservation plan proposed for the resource. If it is determined that preservation-in-place of the tribal cultural resource would be both feasible and effective, then the project sponsor in consultation with local Native American representatives and the ERO shall prepare a tribal cultural resource preservation plan (TCRPP). If the tribal cultural resource is an archeological resource of Native American origin, the archeological consultant shall prepare an archeological resource preservation plan (ARPP) in consultation with the local Native American representative, which shall be implemented by the project sponsor during | LTS |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | construction. The consultant shall submit a draft ARPP to Planning for review and approval.<br><br>*Interpretive Program.* The project sponsor, in consultation with California Native American tribes traditionally and culturally affiliated with a geographic area of the project, shall prepare a Tribal Cultural Resources Public Interpretation Plan (TCRIP) to guide Tribal Cultural Resource interpretive program. The TCRIP may be prepared in tandem with the Cultural Resources Public Interpretation Plan (CRPIP) if required. The TCRIP shall be submitted to ERO for review and approval prior to implementation of the program. The plan shall identify, as appropriate, proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists, oral histories with local Native Americans, cultural displays, educational panels, or other interpretive elements agreed upon by the ERO, sponsor, and local Native American representatives. Upon approval of the TCRIP and prior to project occupancy, the interpretive program shall be implemented by the project sponsor. The ERO and project sponsor shall work with the tribal representative to identify the scope of work to fulfill the requirements of this mitigation measure, which may include participation in preparation and review of deliverables (e.g., plans, interpretive materials, artwork). Tribal representatives shall be compensated for their work as identified in the agreed upon scope of work. | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Impact C-TCR-1:** The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts to tribal cultural resources. | S | Mitigation Measures M-CR-2a, M-CR-2b, and M-TCR-1 would apply. | LTS |
| **Initial Study Section E.5, Transportation and Circulation** | | | |
| **Impact TR-1:** Construction of the proposed project would require a substantially extended duration or an intense activity, but the secondary effects of that construction would not create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with emergency access or accessibility for people walking or bicycling; or substantially delay public transit. | LTS | No mitigation required. | NA |
| **Impact TR-2:** Operation of the proposed project would not create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations. | LTS | No mitigation required. | NA |
| **Impact TR-3:** Operation of the proposed project would not interfere with accessibility for people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access. | LTS | No mitigation required. | NA |
| **Impact TR-4:** Operation of the proposed project would not substantially delay public transit. | LTS | No mitigation required. | NA |
| **Impact TR-5:** The proposed project would not cause substantial additional vehicle miles traveled or substantially induce additional automobile travel. | LTS | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Impact TR-6:** Operation of the proposed project would result in a loading deficit, but the secondary effects would not create potentially hazardous conditions for people walking, bicycling, or driving or substantially delay public transit. | LTS | No mitigation required. | NA |
| **Impact C-TR-1:** The proposed project, in combination with cumulative projects, would not result in significant construction-related transportation impacts. | LTS | No mitigation required. | NA |
| **Impact C-TR-2:** The proposed project, in combination with cumulative projects, would not result in operation-related cumulative transportation and circulation impacts. | LTS | No mitigation required. | NA |
| **Initial Study Section E.6, Noise** | | | |
| **Impact NO-1:** Construction of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. | S | **Mitigation Measure M-NO-1: Construction Noise Control.** Prior to issuance of the Pre-Construction Environmental Compliance Letter, the project sponsor shall submit a construction noise control plan to the Environmental Review Officer (ERO) or the ERO's designee for approval. The construction noise control plan shall be prepared by a qualified acoustical engineer, with input from the construction contractor, and include all feasible measures to reduce construction noise. The construction noise control plan shall identify noise control measures to meet the daytime and nighttime performance targets for construction activities as identified below at noise-sensitive receptors (residences and hotels) and commercial receptors. The project sponsor shall ensure that requirements of the construction noise control plan are included in the contract specifications. | LTS |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | If nighttime construction is required, the plan shall include specific measures to reduce nighttime construction noise.<br><br>The plan shall include specific measures to reduce daytime construction noise to a performance target of 90 dBA exterior noise level and less than 10 dBA over ambient noise levels at noise-sensitive receptors; nighttime construction noise to a performance target of 80 dBA at nighttime noise-sensitive uses, less than 5 dBA increase over the ambient noise level at the property line and an interior noise level of 45 dBA; and daytime construction noise to a performance target of 100 dBA exterior noise level at commercial receptors. The plan shall also include measures for notifying the public of construction activities, complaint procedures, and a plan for monitoring construction noise levels in the event complaints are received.<br><br>The construction noise control plan shall include the following measures to the degree feasible, or other effective measures necessary to reduce construction noise levels, as required:<br>• Use construction equipment that is in good working order, and inspect mufflers for proper functionality;<br>• Select "quiet" construction methods and equipment (e.g., improved mufflers, use of intake silencers, engine enclosures);<br>• Use construction equipment with lower noise emission ratings whenever possible, particularly for air compressors;<br>• Prohibit the idling of inactive construction equipment for more than 5 minutes;<br>• Locate stationary noise sources (such as compressors) as far from nearby noise-sensitive receptors as possible, | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | muffle such noise sources, and construct barriers around such sources and/or the construction site.<br>• Avoid placing stationary noise-generating equipment (e.g., generators, compressors) within noise-sensitive buffer areas (as determined by the acoustical engineer) immediately adjacent to neighbors.<br>• Enclose or shield stationary noise sources from neighboring noise-sensitive properties with noise barriers to the extent feasible. To further reduce noise, locate stationary equipment in pit areas or excavated areas, if feasible; and<br>• Install temporary barriers, barrier-backed sound curtains and/or acoustical panels around working powered impact equipment and, if necessary, around the project site perimeter. When temporary barrier units are joined together, the mating surfaces shall be flush with each other. Gaps between barrier units, and between the bottom edge of the barrier panels and the ground, shall be closed with material that completely closes the gaps, and dense enough to attenuate noise.<br>The construction noise control plan shall include the following measures for notifying the public of construction activities, complaint procedures and monitoring of construction noise levels:<br>• Designation of an on-site construction noise manager for the project;<br>• Notification of neighboring noise-sensitive receptors within 300 feet of the project construction area at least 30 days in advance of high-intensity noise-generating activities (e.g., activities that may generate noise levels greater than 90 dBA at noise-sensitive receptors or | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | 100 dBA at commercial receptors) about the estimated duration of the activity;<br>• A sign posted on-site describing noise complaint procedures and a complaint hotline number that shall always be answered during construction;<br>• A procedure for notifying the planning department of any noise complaints within one week of receiving a complaint;<br>• A list of measures for responding to and tracking complaints pertaining to construction noise. Such measures may include the evaluation and implementation of additional noise controls at sensitive receptors; and<br>• Conduct noise monitoring (measurements) at the beginning of major construction phases (e.g., demolition, grading, excavation) and during high-intensity construction activities to determine the effectiveness of noise attenuation measures and, if necessary, implement additional noise control measures.<br>The project sponsor shall notify the ERO or their designee of any night noise permit application filed with the Department of Building Inspection on the day of filing and any emergency/unanticipated activity with the potential to exceed standards as soon as possible. The project sponsor shall implement the following noise reduction technique to reduce nighttime construction noise:<br>• Provide acoustically rated shielding around the concrete pump engine. This measure would be expected to reduce noise levels by 5 to 10 dBA depending on the proximity of shielding to the pump engine. | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Impact NO-2:** Operation of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. | S | **Mitigation Measure M-NO-2: Noise Analysis and Attenuation for Stationary Mechanical Equipment.** Prior to issuance of any building permit, the project sponsor shall engage a qualified acoustical engineer to prepare a project-specific stationary mechanical equipment acoustical analysis based on the final design, equipment selection and locations for the high-rise building and replacement fire station. The analysis shall show compliance with the standards in section 2909(b) and 2909(d) for the mixed-use high-rise building and replacement fire station. Attenuation requirements for compliance and specifications for the acoustical screens shall be identified, if needed. All recommendations from the acoustical analysis necessary to ensure that noise sources would meet applicable requirements of the noise ordinance and/or not result in substantial increases in ambient noise levels shall be incorporated into the building design and operations. The project sponsor shall submit this analysis with the final mechanical equipment design to the ERO or the ERO's designee for approval. | LTS |
| **Impact NO-3:** Construction of the proposed project could generate excessive groundborne vibration or groundborne noise levels. | S | **Mitigation Measure M-NO-3: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction.** Prior to issuance of the Pre-Construction Environmental Compliance Letter, the project sponsor shall submit a Pre-construction Survey and Vibration Management and Monitoring Plan to the ERO or the ERO's designee for approval. The plan shall identify all feasible means to avoid damage to the potentially affected building at 401 Washington Street. 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. | LTS |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | *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 the potentially affected building at 401 Washington Street. Since the potentially affected building is not historic, a structural engineer or other professional with similar qualifications shall document and photograph the existing conditions of the building. The project sponsor shall submit the survey to the ERO or the officer's designee for review and approval prior to the start of vibration-generating construction activity.<br><br>*Vibration Management and Monitoring Plan.* The project sponsor shall undertake a monitoring plan to avoid or reduce project-related construction vibration damage to the adjacent building at 401 Washington Street to ensure that any such damage is documented and repaired. Prior to issuance of the Pre-Construction Environmental Compliance Letter, the project sponsor shall submit the Plan to the ERO for review and approval.<br><br>The Vibration Management and Monitoring Plan shall include, at a minimum, the following components, as applicable:<br>• *Maximum Vibration Level.* Based on the anticipated construction and condition of the affected building at 401 Washington Street, a qualified acoustical/vibration consultant in coordination with a structural engineer (or professional with similar qualifications) shall establish a maximum vibration level that shall not be exceeded at this building, 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, a PPV of 0.3 inch per second for | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | older residential structures, and a PPV of 0.5 inch per second for new residential structures and modern industrial/commercial buildings).<br>• *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).<br>• *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., drilled shafts [caissons] could be substituted for driven piles, if feasible, based on soil conditions, or smaller, lighter equipment could be used in some cases).<br>• *Buffer Distances.* The plan shall identify 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.<br>• *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.<br>– 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.<br>– The qualified structural engineer or other professional with similar qualifications (for effects on | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | non-historic buildings and/or structures) 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.<br>– The structural engineer or other professional with similar qualifications 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.<br>– If vibration has damaged nearby buildings and/or structures that are not historic, the structural engineer or other professional with similar qualifications shall immediately notify the ERO and prepare a damage report documenting the features of the building and/or structure that has been damaged.<br>– 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.<br>• *Periodic Inspections.* The plan shall identify the intervals and parties responsible for periodic inspections. The qualified structural engineer or other professional with similar qualifications (for effects on historic and non-historic buildings and/or structures) 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. | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | • *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.<br><br>*Vibration Monitoring Results Report.* After construction is complete the project sponsor shall submit to the ERO a final report from the qualified structural engineer or other professional with similar qualifications. 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-NO-1:** The proposed project, in combination with cumulative projects, would not result in significant cumulative noise and vibration impacts. | S | Mitigation Measure M-NO-1 would apply. | LTS |
| **Initial Study Section E.8, Greenhouse Gas Emissions** | | | |
| **Impact C-GG-1:** The proposed project would generate greenhouse gas emissions, but not at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. | LTS | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Initial Study Section E.9, Wind** | | | |
| **Impact WI-1:** The proposed project would result in a net increase in wind hazards in publicly accessible areas of substantial pedestrian use. | S | **Mitigation Measure M-WI-1: Tree Planting and Maintenance.** In order to reduce wind hazard exceedances on and around the project site the project sponsor must plant and maintain in perpetuity a minimum of 14 street trees along the frontages of the project site; including seven on the south side of Washington Street, two on the east side of Sansome Street, and five on the north side of Merchant Street. The project sponsor shall also prepare a maintenance plan for review and approval by the planning department to ensure maintenance in perpetuity of the streetscape features required pursuant to this measure. The maintenance plan shall also be reviewed and approved by public works with respect to streetscape features (landscaping) in the public right-of-way. | LTS |
| **Impact C-WI-1:** The proposed project, in combination with cumulative projects, would alter wind in a manner that substantially affects public areas. | S | Mitigation Measure M-WI-1 would apply. | LTS |
| **Initial Study Section E.10, Shadow** | | | |
| **Impact SH-1:** The proposed project would not create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces. | LTS | No mitigation required. | NA |
| **Impact C-SH-1:** The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact. | LTS | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Initial Study Section E.11, Recreation** | | | |
| **Impact RE-1:** The proposed project would increase the use of existing parks and other recreational facilities, but not to such an extent such that substantial physical deterioration of the facilities would occur or be accelerated. | LTS | No mitigation required. | NA |
| **Impact RE-2:** The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. | NI | No mitigation required. | NA |
| **Impact C-RE-1:** The proposed project, combined with cumulative projects, would not result in significant cumulative impacts to recreational. | LTS | No mitigation required. | NA |
| **Initial Study Section E.12, Utilities and Service Systems** | | | |
| **Impact UT-1:** The proposed project would not require or result in the relocation or construction of new or expanded, water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. | LTS | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Impact UT-2:** Sufficient water supplies are available to serve the proposed project and reasonably foreseeable future development in normal, dry, and multiple dry years unless the 2018 Bay-Delta Plan Amendment is implemented; in that event the SFPUC may develop new or expanded water supply facilities to address shortfalls in single and multiple dry years but this would occur with or without the proposed project. Impacts related to new or expanded water supply facilities cannot be identified at this time or implemented in the near term; instead, the SFPUC would address supply shortfalls through increased rationing, which could result in significant cumulative effects, but the project would not make a considerable contribution to impacts from increased rationing. | LTS | No mitigation required. | NA |
| **Impact UT-3:** The proposed project would not generate solid waste in excess of state or local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. | LTS | No mitigation required. | NA |
| **Impact UT-4:** The proposed project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. | NI | No mitigation required. | NA |
| **Impact C-UT-1:** The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on utilities and service systems. | LTS | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Initial Study Section E.13, Public Services** | | | |
| **Impact PS-1:** The proposed project would increase the demand for public services such as fire protection, police protection, schools, or other services but not to an extent that construction of new or physically altered facilities would be required. | LTS | No mitigation required. | NA |
| **Impact C-PS-1:** The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on public services. | LTS | No mitigation required. | NA |
| **Initial Study Section E.14, Biological Resources** | | | |
| **Impact BI-1:** The proposed project would not have a substantial adverse effect, either directly or indirectly through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service; and would not interfere with the movement of native resident or wildlife species or with established native resident or migratory wildlife corridor, or impede the use of native wildlife nursery sites. | LTS | No mitigation required. | NA |
| **Impact BI-2:** The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. | LTS | No mitigation required. | NA |
| **Impact C-BI-1:** The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to biological resources. | LTS | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| **Initial Study Section E.15, Geology and Soils** | | | |
| **Impact GE-1:** The proposed project would not exacerbate the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, liquefaction, seismically induced ground failure, or landslides. | LTS | No mitigation required. | NA |
| **Impact GE-2:** The proposed project would not result in substantial soil erosion or the loss of topsoil. | LTS | No mitigation required. | NA |
| **Impact GE-3:** The proposed project would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project. | LTS | No mitigation required. | NA |
| **Impact GE-4:** The proposed project would not create substantial risks to life or property as a result of being located on expansive soil. | LTS | No mitigation required. | NA |
| **Impact GE-5:** The proposed project would not directly or indirectly destroy a unique geologic feature of the site. | NI | No mitigation required. | NA |
| **Impact GE-6:** The proposed project could directly or indirectly destroy a unique paleontological geologic feature. | S | **Mitigation Measure M-GE-6a: Worker Environmental Awareness Training Construction.** Prior to commencing construction, and ongoing throughout ground-disturbing activities (e.g., excavation, utility installation), the property sponsor and/or their designee shall engage a qualified paleontologist meeting the standards specified by the Society of Vertebrate Paleontology (Society of Vertebrate Paleontology 2010) to train all project construction workers regarding how to recognize paleontological resources and on the contents of the paleontological resources alert sheet, as provided by the department. The Paleontological Resources Alert Sheet shall be prominently displayed at the | LTS |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | construction site during ground-disturbing activities for reference regarding potential paleontological resources.<br><br>In addition, the paleontologist shall inform the project sponsor, contractor, and construction personnel of the immediate stop work procedures and other procedures to be followed if bones or other potential fossils are unearthed at the project site. Should new workers that will be involved in ground-disturbing activities begin employment after the initial training has occurred, the construction supervisor shall ensure that they receive the worker awareness training as described above.<br><br>The paleontologist shall complete the standard form/affidavit confirming the timing of the worker awareness training and submit it to the environmental review officer (ERO). The affidavit shall confirm the project's location, the date of training, the location of the informational handout display, and the number of participants. The affidavit shall be transmitted to the ERO within five business days of conducting the training.<br><br>**Mitigation Measure M-GE-6b: Discovery of Unanticipated Paleontological Resources during Construction.** In the event of the discovery of an unanticipated paleontological resource during construction, ground-disturbing activities shall temporarily be halted within 25 feet of the find until the discovery is examined by a qualified paleontologist as recommended by the Society of Vertebrate Paleontology standards[1] and Best Practices in Mitigation Paleontology.[2] The paleontologist shall consult the ERO. Work within the | |

[1] Society of Vertebrate Paleontology, *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*, 2010.
[2] Murphy, Paul C., Knauss, Georgia E., Fisk, Lanny H., Demere, Thomas A., Reynolds, Robert E. 2019. *Best Practices in Mitigation Paleontology, Proceedings of the San Diego Society of Natural History, Number 47*.

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | sensitive area shall resume only when deemed appropriate by the qualified paleontologist in consultation with the ERO.<br><br>The qualified paleontologist shall determine (1) if the discovery is scientifically significant; (2) the necessity for involving other responsible or resource agencies and stakeholders, if required or determined applicable; and (3) methods for resource recovery. If a paleontological resource assessment results in a determination that the resource is not scientifically important, this conclusion shall be documented in a Paleontological Evaluation Letter to demonstrate compliance with applicable statutory requirements (e.g., Federal Antiquities Act of 1906, CEQA Guidelines section 15064.5, California Public Resources Code chapter 17, section 5097.5, Paleontological Resources Preservation Act 2009). The Paleontological Evaluation Letter shall be submitted to the ERO for review within 30 days of the discovery.<br><br>If the qualified paleontologist determines that a paleontological resource is of scientific importance, and there are no feasible measures to avoid disturbing this paleontological resource, the qualified paleontologist shall prepare a Paleontological Impact Reduction Program (impact reduction program). The impact reduction program shall include measures to fully document and recover the resource of scientific importance. The qualified paleontologist shall submit the impact reduction program to the ERO for review and approval. The impact reduction program shall be submitted to the ERO for review within 10 business days of the discovery. Upon approval by the ERO, ground-disturbing activities in the project area shall resume and be monitored as determined by the qualified paleontologist for the duration of such activities. | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | The mitigation program shall include (1) procedures for construction monitoring at the project site; (2) fossil preparation and identification procedures; (3) curation of paleontological resources of scientific importance into an appropriate repository; and (4) preparation of a Paleontological Resources Report (report or paleontology report) at the conclusion of ground-disturbing activities. The report shall include dates of field work, results of monitoring, fossil identifications to the lowest possible taxonomic level, analysis of the fossil collection, a discussion of the scientific significance of the fossil collection, conclusions, locality forms, an itemized list of specimens, and a repository receipt from the curation facility. The project sponsor shall be responsible for the preparation and implementation of the mitigation program, in addition to any costs necessary to prepare and identify collected fossils, and for any curation fees charged by the paleontological repository. The paleontology report shall be submitted to the ERO for review within 30 business days from conclusion of ground-disturbing activities, or as negotiated following consultation with the ERO.<br><br>**Mitigation Measure M-GE-6c: Preconstruction Paleontological Evaluation for Projects located in Class 3 (Moderate) Sensitivity Areas.** The project site is located in San Francisco in Moderate Sensitivity Area (class 3), which require ground disturbance activities deeper than 5 feet and would include the removal of more than 2,500 cubic yards of soil. The property owner shall engage a qualified paleontologist to complete a site-specific Preconstruction Paleontological Resources Evaluation (paleontology preconstruction evaluation) prior to commencing soil-disturbing activities occurring on the project site. Prior to issuance of any demolition or building permit, the property | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | owner shall submit the Preconstruction Paleontological Evaluation to the ERO for approval.<br><br>The purpose of the site-specific preconstruction evaluation is to identify early the potential presence of significant paleontological resources on the project site. At a minimum, the study shall include:<br>1. Project Description<br>2. Regulatory Environment – outline applicable federal, state and local regulations<br>3. Summary of Sensitivity Classification<br>4. Research Methods, including but not limited to:<br>4.1. Field studies conducted by the approved paleontologist to check for fossils at the surface and assess the exposed sediments<br>4.2. Literature Review to include an examination of geologic maps and a review of relevant geological and paleontological literature to determine the nature of geologic units in the project area<br>4.3. Locality Search to include outreach to the University of California Museum of Paleontology in Berkeley<br>5. Results: To include a summary of literature review and finding of potential site sensitivity for paleontological resources; and depth of potential resources if known.<br>6. Recommendations for any additional measures that could be necessary to avoid or reduce any adverse impacts to recorded and/or inadvertently discovered paleontological resources of scientific importance, in addition to paleontology standard requirements for Worker Environmental Awareness Training during Construction (M-GE-6a) and Discovery of Unanticipated | |

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| | | Paleontological Resources during Construction (M-GE-6b). Such measures could include:<br>6.1. *Avoidance:* If the cost of fossil recovery or other impact reduction options is determined to be too high, or permanent damage to the resource caused by surface disturbance is considered to be unavoidable, given the proposed construction, it may be necessary to "avoid" or "reroute" the portion of the project that intersects the fossil locality in order to prevent adverse impacts on the resource. Avoidance should also be considered if a known fossil locality appears to contain critical scientific information that should be left undisturbed for subsequent scientific evaluation. Avoidance for later scientific research is the typical mitigation recommendation made for scientifically significant extensive paleontological discoveries.<br>6.2. *Fossil Recovery:* If isolated small-, medium-, or large-sized fossils are discovered within a project area during field surveys or construction monitoring, and they are determined to be scientifically significant, they should be recovered. Fossil recovery may involve simply collecting a fully exposed fossil from the ground surface, or may involve a systematic excavation, depending upon the size and complexity of the fossil discovery. Fossil excavations should be designed in such a way as to minimize construction delays while properly collecting the fossil and associated data according to professional paleontological standards.<br>6.3. *Sampling:* Scientifically significant microfossils (vertebrate, invertebrate, plant, or trace fossils) may be identified in rock matrix during surveys or | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
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| | | monitoring, or, if they are known to occur elsewhere in the same geologic unit or type of deposit in the general area, a determination of their presence or absence may require the use of test sampling of rock matrix for screen-washing in a paleontological laboratory. In some cases, depending upon the geologic unit involved, test sampling may be appropriate even if microfossils are not visible in the field. The fossils found, if any, will then be inspected and evaluated to determine their significance and whether additional steps are necessary to reduce paleontological impacts. Such steps may include collection of additional matrix for screen-washing. The decision to sample may not be made until monitoring is occurring, because it is usually triggered by conditions in the field.<br>6.4. *Monitoring:* If scientifically important paleontological resources are known to be present in an area, or if there is a moderate or high likelihood that subsurface fossils are present in geologic units or members thereof within a given project area based on prior field surveys, museum records, or scientific or technical literature, paleontological monitoring of construction excavations would be required. Monitoring involves systematic inspections of graded cut slopes, trench sidewalls, spoils piles, and other types of construction excavations for the presence of fossils, and the fossil recovery and documentation of these fossils before they are destroyed by further ground-disturbing actions. Standard monitoring is typically used in the most paleontologically sensitive geographic areas/geologic units (moderate, high and very high potential); while spot-check monitoring is typically used in geographic areas/geologic units of | |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| | | moderate or unknown paleontological sensitivity (moderate or unknown potential). The goal of monitoring is to identify scientifically significant subsurface fossils as soon as they are unearthed in order to minimize damage to them and remove them and associated contextual data from the area of ground disturbance, thereby resulting in subsurface paleontological clearance. Microfossil sampling, macrofossil recovery, and avoidance of fossils may all occur during any monitoring program. | |
| **Impact C-GE-1:** The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on geology and soils. | LTS | No mitigation required. | NA |
| **Initial Study Section E.16, Hydrology and Water Quality** | | | |
| **Impact HY-1:** The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. | LTS | No mitigation required. | NA |
| **Impact HY-2:** The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin. | LTS | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Impact HY-3:** The proposed project would not substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river or the addition of impervious surfaces that would result in substantial erosion, siltation, or flooding; substantially increase the rate or amount of surface runoff and result in flooding onsite or offsite; or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. | LTS | No mitigation required. | NA |
| **Impact HY-4:** The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. | LTS | No mitigation required. | NA |
| **Impact C-HY-1:** The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on hydrology and water quality. | LTS | No mitigation required. | NA |
| **Initial Study Section E.17, Hazards and Hazardous Materials** | | | |
| **Impact HZ-1:** The proposed project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials. | LTS | No mitigation required. | NA |
| **Impact HZ-2:** The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment. | LTS | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Impact HZ-3:** The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. | LTS | No mitigation required. | NA |
| **Impact HZ-4:** The proposed project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. | LTS | No mitigation required. | NA |
| **Impact HZ-5:** The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. | LTS | No mitigation required. | NA |
| **Impact C-HZ-1:** The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts related to hazards and hazardous materials. | LTS | No mitigation required. | NA |
| **Initial Study Section E.18, Mineral Resources** | | | |
| **Impact MI-1:** The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. | NI | No mitigation required. | NA |
| **Impact MR-2:** The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. | NI | No mitigation required. | NA |
| **Impact C-MI-1:** The proposed project, in combination with cumulative projects, would not result in a cumulative impact on mineral resources. | NI | No mitigation required. | NA |

| Environmental Impact | Level of Significance prior to Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|---|---|---|---|
| **Initial Study Section E.19, Energy** | | | |
| **Impact EN-1:** The proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation; or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. | LTS | No mitigation required. | NA |
| **Impact C-EN-1:** The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts related to the waste, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct state or local plan for renewable energy or energy efficiency. | LTS | No mitigation required. | NA |

IMPACT CODES:
NA = Not Applicable
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

## S.4 Summary of Project Alternatives

CEQA Guidelines section 15126.6(a) states that an EIR must describe and evaluate a reasonable range of alternatives to a project that would feasibly attain most of the project's basic objectives but avoid or substantially lessen any identified significant adverse environmental effects of the project. An EIR is not required to consider every conceivable alternative to a project or alternatives that are infeasible. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

Chapter 5, Alternatives, of this draft EIR presents the alternatives analysis as required by CEQA for the proposed project. The discussion includes the methodology used to select alternatives to the proposed project for detailed CEQA analysis, with the intent of developing potentially feasible alternatives that could avoid or substantially lessen the significant impacts identified while still meeting most of the project's basic objectives. Based on the screening process, the following alternatives were selected for detailed analysis in this draft EIR:

- Alternative A: No Project Alternative
- Alternative B: 41-Story Building Full Preservation Alternative
- Alternative C: 19-Story Building Full Preservation Alternative
- Alternative D: Partial Preservation Alternative

Detailed descriptions of the selected alternatives and summaries of their impacts are presented below.

### S.4.1 Alternative A: No Project Alternative

#### *Description of Alternative*

Under Alternative A, the project site would not be developed as described in Chapter 2, Project Description. The four existing buildings at 447 Battery Street, 530 Sansome Street, 425 Washington Street, and 439–445 Washington Street would not be demolished. Under Alternative A, the existing Fire Station 13 would remain at 530 Sansome Street and the project site would not be developed with a replacement fire station and 41-story high-rise mixed use building. There would be no modifications to the existing historic building at 447 Battery Street or the sculpture *Untitled* at 530 Sansome Street.

#### *Summary of Impacts*

Under Alternative A, none of the impacts associated with the proposed project as described in Chapter 3 and the initial study (Appendix B) of this draft EIR would occur. The existing project site would be retained in its current condition and no construction or demolition would occur. Under Alternative A, the existing Fire Station 13 would remain at 530 Sansome Street and the project site would not be developed with a replacement fire station and 41-story high-rise mixed use building. Alternative A would have no significant impacts related to historic architectural resources and air quality. Therefore, the No Project Alternative would avoid the significant and unavoidable impacts of the proposed project.

## S.4.2 Alternative B: 41-Story Building Full Preservation Alternative

### *Description of Alternative*

Alternative B would retain the historic 447 Battery Street building. The existing buildings at 530 Sansome Street, 425 Washington Street, and 439–445 Washington Street would be demolished and a 4-story replacement fire station and 41-story, mixed-use building would be constructed on these parcels. The 44-foot-tall, 4-story fire station would be integrated into the 41-story building and provide 20,154 square feet on floors 1 through 4. Floor 1 would contain gear and equipment rooms, firetruck parking bays, and office space. A mezzanine on the second floor would contain a kitchen and dining area, as well as a day room and small terrace. The third floor would contain additional office space, locker and laundry rooms, and a dorm room. The fourth floor would contain a fitness room and library. The 41-story, approximately 544-foot-tall building (574 feet total, including rooftop mechanical equipment) would provide approximately 4,700 square feet of retail/restaurant space; approximately 372,035 to 417,230 square feet of office space; and between approximately 127,710 to 188,820 square feet of hotel space that would accommodate 100 to 200 guest rooms. Similar to the proposed project, two loading spaces would be located on the first floor with ingress and egress from Washington Street. Under Alternative B, three below-grade levels would provide 65 accessory vehicle parking spaces (46 for the high-rise building uses and 19 spaces for fire department personnel and department vehicles), bicycle parking spaces, and utility rooms for the fire station, hotel, office, and retail/restaurant uses in approximately 59,170 square feet. The below-grade parking would be accessed from Merchant Street.

The 447 Battery Street building would be adaptively reused for purposes unrelated to the hotel or uses in in the replacement fire station or 41-story building. Under Alternative B, the 447 Battery Street frontage would not be under the control of the project sponsor. Therefore, only the 4,810 square foot portion of Merchant Street west of the 447 Battery Street building along the high-rise building would be improved as a privately maintained public open space.

Overall, Alternative B would have an approximately 31,026-square-foot reduction in development compared to the proposed project (about 5 percent less than the proposed project's total building area). Under Alternative B, the building height would be 574 feet, the same as the proposed project.

Alternative B would have an approximately 39-month construction duration similar to the proposed project with overlapping phases. Construction of Alternative B would be similar to the proposed project both in magnitude and duration. Construction of the basement levels and foundation installation would require excavation extending to approximately 15 feet below ground surface (bgs) for the replacement fire station and approximately 51 feet bgs for the high-rise building. Overall, excavation of the basement levels would remove approximately 42,000 cubic yards of soil.

### *Summary of Impacts*

Alternative B would avoid one significant and unavoidable impact identified for the proposed project. This alternative would substantially lessen the severity of the following impact, reducing it from significant and unavoidable with mitigation to less than significant.

- Significant and unavoidable impact on a historic resource would be avoided by retaining and adaptively reusing the 447 Battery Street building.

Significant and unavoidable impacts identified for the proposed project that would not be substantially reduced under Alternative B and would still occur include the following:

- Significant and unavoidable project-level and cumulative health risk impacts would be similar to those of the proposed project because the construction program and proximity to sensitive receptors would be similar. Alternative B contribution to construction-related health risk would exceed thresholds, and the impacts would remain significant and unavoidable even with mitigation.

Significant impacts that could be mitigated to less than significant that were identified for the proposed project and would still apply to Alternative B include impacts related to: archeological resources and human remains; tribal cultural resources; project and cumulative construction-related increases in ambient noise levels to sensitive receptors; operational noise levels of stationary equipment; project and cumulative construction-related vibration impacts; wind; and paleontological resources.

## S.4.3 Alternative C: 19-Story Building Full Preservation Alternative

### *Description of Alternative*

Alternative C would retain the historic 447 Battery Street building. The existing buildings at 530 Sansome Street, 425 Washington Street, and 439–445 Washington Street would be demolished and a 4-story replacement fire station and 19-story, mixed-use building would be constructed on these parcels. The 44-foot-tall, 4-story fire station would be integrated into the 19-story building and provide 20,240 square feet on floors 1 through 4. Floor 1 would contain gear and equipment rooms, firetruck parking bays, and office space. A mezzanine on the second floor would contain a kitchen and dining area, as well as a day room and small terrace. The third floor would contain additional office space, locker and laundry rooms, and a dorm room. The fourth floor would contain a fitness room and library. The 19-story, approximately 218-foot-tall building (236 feet total, including rooftop mechanical equipment) would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors; approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate about 200 guest rooms. Under Alternative C, three below-grade levels would provide 48 accessory vehicle parking spaces (30 for commercial uses and 18 for fire department personnel and department vehicles), one loading space, two vehicle service spaces, bicycle parking spaces, and utility rooms for the replacement fire station, hotel, and retail/restaurant uses in approximately 52,650 square feet. The below-grade parking would be accessed from Merchant Street.

The 447 Battery Street building would be adaptively reused for purposes unrelated to the hotel or uses in in the replacement fire station or 19-story building. Under Alternative C, the 447 Battery Street frontage would not be under the control of the project sponsor. Therefore, only the 4,810 square foot portion of Merchant Street west of the 447 Battery Street building along the high-rise building would be improved as a privately maintained public open space.

Overall, Alternative C would have an approximately 357,461-square-foot reduction in development compared to the proposed project (about 53 percent less than the proposed project's total building area). Under Alternative C, building heights would be substantially reduced in height from a maximum height of 574 feet under the proposed project to a height of 218 feet.

Alternative C would require excavation associated with site preparation but to a lesser degree than the proposed project because the 447 Battery Street parcel would not have a below-grade parking level. Construction of Alternative C would last 29 months with overlapping phases. Construction of the basement levels and foundation installation would require excavation extending to approximately 40 feet bgs. Overall, excavation of the basement levels would remove approximately 28,000 cubic yards of soil. Alternative C is the 19-story mixed-use project that was previously approved by the City with a Mitigated Negative Declaration (Case No. 2019-07481ENV).

### *Summary of Impacts*

Alternative B would avoid all of the significant and unavoidable impacts identified for the proposed project. This alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant.

- Significant and unavoidable impact on a historic resource would be avoided by retaining and adaptively reusing the 447 Battery Street building.
- Significant and unavoidable project-level and cumulative health risk impacts would be reduced to less than significant with mitigation.

Significant impacts that could be mitigated to less than significant that were identified for the proposed project and would still apply to Alternative C include impacts related to: archeological resources and human remains; tribal cultural resources; project and cumulative construction-related vibration impacts; and paleontological resources. However, unlike the proposed project, impacts related to construction-related increases in ambient noise levels at sensitive receptors and operational noise levels of stationary equipment would be less than significant and would not require Mitigation Measures M-NO-1 and M-NO-2. Similarly, unlike the proposed project, impacts related to wind would be less than significant and not require Mitigation Measure M-WI-1.

## S.4.4 Alternative D: Partial Preservation Alternative

### *Description of Alternative*

Alternative D would modify the building at 447 Battery Street to house the relocated fire station. All other buildings on the project site would be demolished and replaced by a 41-story high-rise building as under the proposed project. To accommodate the new fire station, the east and south exterior walls of 447 Battery Street would be retained, and the ground floor of the Battery Street façade would be modified to accommodate fire trucks. On Battery Street, the three existing recessed storefronts would be modified to four openings and would be taller and wider, with headers reaching to just below the sills of the second-floor windows. On Merchant Street, three new pedestrian entrances would be added and a new vehicular opening would be cut into the southwest corner to provide access to the replacement fire station below-grade parking.

Because the column spacing of the building's current structural system is too narrow and the first-floor height is too short to accommodate fire trucks, a new structural system would be required. Alternative D would not retain the north and west façades and the south and east facades would no longer be load-bearing. The interior structure would not be retained and all interior floors and walls would be removed and replaced under Alternative D. To provide enough floor-to-ceiling height and to meet building code

requirements, the new third floor would be higher than the existing third floor. The modifications at the third-floor window openings would make the windows partially blind where new structural elements pass the openings.

The replacement fire station under the Alternative D would be 4 stories and 55 feet tall, including the mechanical penthouse level, totaling 18,908 square feet.

Alternative D would have an approximately 39-month construction duration with overlapping phases similar to the proposed project. Construction of Alternative D would be similar to the proposed project both in magnitude and duration. Construction of the basement levels and foundation installation would require excavation extending to approximately 15 feet bgs for the replacement fire station and approximately 51 feet bgs for the high-rise building. Overall, excavation of the basement levels would remove approximately 42,000 cubic yards of soil.

### *Summary of Impacts*

Significant and unavoidable impacts identified for the proposed project that would not be substantially reduced under Alternative D and would still occur include the following:

- Although Alternative D would retain more character-defining features than the proposed project, Alternative D would still cause material impairment to the historical resource, resulting in an impact that would be significant and unavoidable with mitigation, same as under the proposed project.
- Significant and unavoidable project-level and cumulative health risk impacts would be similar to those of the proposed project because the construction program and proximity to sensitive receptors would be similar. Alternative D contribution to construction-related health risk would exceed thresholds, and the impacts would remain significant and unavoidable even with mitigation.

Significant impacts that could be mitigated to less than significant that were identified for the proposed project and would still apply to Alternative D include impacts related to: archeological resources and human remains; tribal cultural resources; project and cumulative construction-related increases in ambient noise levels to sensitive receptors; operational noise levels of stationary equipment; project and cumulative construction-related vibration impacts; wind; and paleontological resources.

## S.5 Comparison of the Proposed Project and Alternatives

**Table S-4**, p. S-65, presents a summary comparison of the impacts of the proposed project and all the alternatives. **Table S-5**, p. S-71, summarizes the ability of each of alternatives to meet the objectives of the proposed project.

## Table S-4 Comparison of Environmental Impacts of the Proposed Project Impacts of the Alternatives

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **SUMMARY OF IMPACTS FOR TOPICS IN THIS DRAFT EIR** | | | | | |
| **Section 3.A, Historic Architectural Resources** | | | | | |
| **Impact CR-1:** The proposed project would cause a substantial adverse change in the significance of an individually eligible historical resource as defined in CEQA Guidelines section 15064.5, including those resources listed in article 10 or article 11 of the planning code. | Significant and unavoidable with mitigation (SUM) | Less than the proposed project (NI) | Less than the proposed project (LTS) | Less than the proposed project (LTS) | Less than the proposed project (SUM) |
| **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. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section 3.B, Air Quality** | | | | | |
| **Impact AQ-1:** During construction, the proposed project would not result in a cumulatively considerable net increase in a criteria air pollutant for which the project region is in nonattainment status under an applicable federal, state, or regional ambient air quality standard. | Less than significant (LTS) | Less than the proposed project (NI) | Less than the proposed project (LTS) | Less than the proposed project (LTS) | Less than the proposed project (LTS) |
| **Impact AQ-2:** During operation, the proposed project would not result in a cumulatively considerable net increase of a criteria air pollutant for which the project region is in nonattainment under an applicable federal, state, or regional ambient air quality standard. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Impact AQ-3:** The proposed project would result in emissions of fine particulate matter ($PM_{2.5}$) and toxic air contaminants that could expose sensitive receptors to substantial pollutant concentrations. | Significant and unavoidable with mitigation (SUM) | Less than the proposed project (NI) | Similar to the proposed project (SUM) | Less than the proposed project (LTSM) | Similar to the proposed project (SUM) |

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **Impact AQ-4:** The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Impact AQ-5:** The proposed project would conflict with or obstruct implementation of the 2017 Clean Air Plan. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Impact C-AQ-1:** The proposed project, in combination with cumulative projects, would result in exposure of sensitive receptors to substantial levels of fine particulate matter ($PM_{2.5}$) and toxic air contaminants. | Significant and unavoidable with mitigation (SUM) | Less than the proposed project (NI) | Similar to the proposed project (SUM) | Less than the proposed project (LTSM) | Similar to the proposed project (SUM) |
| **Impact C-AQ-2:** The proposed project, in combination with cumulative projects, would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |
| **SUMMARY OF IMPACTS FOR TOPICS IN THE INITIAL STUDY** | | | | | |
| **Section E.1, Land Use and Planning** | | | | | |
| All impacts | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.2, Population and Housing** | | | | | |
| All impacts | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **Section E.3, Cultural Resources** | | | | | |
| **Impact CR-2:** The proposed project could cause a substantial adverse change in the significance of an archeological resource. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) |
| **Impact CR-3:** The proposed project could disturb human remains, including those interred outside of formal cemeteries. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) |
| **Impact C-CR-2:** The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on archeological resources and human remains. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) |
| **Section E.4, Tribal Cultural Resources** | | | | | |
| **Impact TCR-1:** The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code section 21074. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) |
| **Impact C-TCR-1:** The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts to TCRs. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) |
| **Section E.5, Transportation and Circulation** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **Section E.6, Noise** | | | | | |
| **Impact NO-1:** Construction of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |
| **Impact NO-2:** Operation of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |
| **Impact NO-3:** Construction of the proposed project could generate excessive groundborne vibration or groundborne noise levels. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |
| **Impact C-NO-1:** The proposed project, in combination with cumulative projects, would not result in significant cumulative noise and vibration impacts. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |
| **Section E.8, Greenhouse Gas Emissions** | | | | | |
| **Impact C-GG-1:** The proposed project would generate greenhouse gas emissions, but not at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.9, Wind** | | | | | |
| All impacts | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **Section E.10, Shadow** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.11, Recreation** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.12, Utilities and Service Systems** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.13, Public Services** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.14, Biological Resources** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.15, Geology and Soils** | | | | | |
| **Impact GE-6:** The proposed project could directly or indirectly destroy a unique paleontological geologic feature. | LTSM | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| All other geology and soils impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.16, Hydrology and Water Quality** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.17, Hazards and Hazardous Materials** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.18, Mineral Resources** | | | | | |
| No impacts | NI | Similar to the proposed project (NI) | Similar to the proposed project (NI) | Similar to the proposed project (NI) | Similar to the proposed project (NI) |
| **Section E.19, Energy** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.20, Agriculture and Forestry Resources** | | | | | |
| None applicable | — | — | — | — | — |
| **Section E.21, Wildfire** | | | | | |
| None applicable | — | — | — | — | — |

IMPACT CODES:
NA = Not Applicable
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

## Table S-5 Summary of Ability of Alternatives to Address Project Objectives

| Project Objectives | Alternative A: No Project Alternative | Alternative B: 41-Story Full Preservation Alternative | Alternative C: 19-Story Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|
| | Does the alternative address the objective? | | | |
| 1. Leverage new commercial development to provide City with a new state-of-the-art fire station and financial contributions to support new affordable housing production. | No | No | No | Partially |
| 2. Build a new commercial development to generate both daytime and nighttime activity in the City's Financial District and provide employment opportunities and demand for area businesses in a transit-rich and walking-friendly area of the City. | No | Yes | Yes | Yes |
| 3. Build the City a new fire station in a separate structure that meets the City's Fire Department programmatic and design requirements for a state-of-the-art facility, while accommodating the contemplated commercial development on a distinct portion of the project site. | No | No | No | Partially |
| 4. Improve Merchant Street between Sansome and Battery streets to complete a pedestrian-oriented connection between Maritime Plaza and Transamerica Redwood Park. | No | Partially | Partially | Yes |
| 5. Build adequate parking and vehicular and loading access to serve the needs of project workers and visitors. | No | Partially | Partially | Partially |
| 6. Create a new luxury hotel catering to tourists and businesses. | No | Yes | Yes | Yes |
| 7. Create new office space meeting the programmatic and locational needs of financial service firms. | No | Partially | Partially | Yes |
| 8. Allow flexibility in the allowable amount of office and hotel uses to be developed to meet the future and evolving needs in San Francisco's downtown area. | No | Yes | No | Yes |

## S.6 Environmentally Superior Alternative

CEQA Guidelines section 15126(c) requires an EIR to identify the alternative to the proposed project that would have the least adverse environmental impacts (i.e., the "environmentally superior alternative"). Alternative A (No Project Alternative) is considered the environmentally superior alternative because none of the significant or less-than-significant impacts that would occur with proposed project implementation would occur with implementation of Alternative A. However, Alternative A does not meet any of the project sponsors' objectives.

When the environmentally superior alternative is the No Project Alternative, CEQA requires another alternative to be identified as the environmentally superior alternative. Alternative C would not result in material impairment to a historic resource and would have a less-than-significant impact to an article 10 landmark. Alternative C would also result in a less than significant project and cumulative health risk contribution with mitigation. Because Alternative C would reduce the significant and unavoidable historic architectural resource impacts and air quality impacts to less-than-significant levels with mitigation, Alternative C is considered the environmentally superior alternative.

## S.7 Areas of Known Controversy and Issues to Be Resolved

Based on the comments received on the notice of preparation of an EIR, potential areas of controversy for the proposed project include:

- Construction-related air quality, health risk, and noise impacts
- Pedestrian circulation and access to adjacent building during construction
- Handling of hazardous waste during construction

# CHAPTER 1
# INTRODUCTION

## 1.A Project Summary

This environmental impact report (EIR) analyzes the potential environmental effects associated with the 447 Battery and 530 Sansome Streets Project (proposed project). The San Francisco Fire Department, the San Francisco Real Estate Division, and EQX JACKSON SQ HOLDCO LLC (project sponsors) propose to redevelop the 24,830-square-foot project site located on the block bound by Sansome Street to the west, Washington Street to the north, Battery Street to the east, and Merchant Street to the south. The proposed project would involve demolition of the existing 17,800-square-foot, 3-story commercial building at 425 Washington Street (Block/Lot 0206/014); the 12,862-square-foot, 2-story commercial building at 439–445 Washington Street (Block/Lot 0206/013) owned by EQX JACKSON SQ HOLDCO LLC; the 20,154-square-foot, 3-story commercial building at 447 Battery Street (Block/Lot 0206/002) owned by Battery Street Holdings LLC; and the 18,626-square-foot fire station at 530 Sansome Street (Block/Lot 0206/017) owned by the City and County of San Francisco.

The project sponsors propose to construct a 4-story replacement fire station and a separate high-rise building up to 41 stories tall. The replacement fire station would be located on the 447 Battery Street parcel and would include approximately 31,200 square feet (including basement) in a 4-story, approximately 55-foot-tall building (60 feet total, including rooftop mechanical equipment) on the eastern portion of the project site. There would be one below-grade level under the 4-story replacement fire station, which would provide 18 vehicle parking spaces, four class 1 bicycle spaces, and mechanical, electrical, and plumbing space. The high-rise building, approximately 544 feet tall (574 feet total, including rooftop mechanical equipment), would be located on the remaining three parcels and would include approximately 7,405 square feet of retail/restaurant space; between approximately 344,840 and 390,035 square feet of office space; approximately 27,195 square feet of office amenity space; between approximately 127,710 and 188,820 square feet of hotel space for approximately 100 to 200 hotel rooms; and approximately 10,135 square feet of ballroom/pre-function/meeting space. There would be three below-grade levels under the high-rise building, which would provide approximately 74 vehicle parking spaces, 77 class 1 bicycle parking spaces, and utility rooms. The proposed project would provide 20 class 2 bicycle parking spaces on streets adjacent to the project site, and one passenger loading zone on Sansome Street, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

The proposed project would convert all of Merchant Street between Battery and Sansome streets into a shared street/living alley with approximately 12,695 square feet of privately maintained public open space improvements. Streetscape improvements include installation of a raised crosswalk and roadway ramp at the intersection of Sansome and Merchant streets, and installation of benches under the proposed street trees.

## 1.B Purpose of This EIR

This EIR was prepared in accordance with all criteria, standards, and procedures of the California Environmental Quality Act (CEQA), as amended (California Public Resources Code section 21000 et seq.); the CEQA Guidelines (California Code of Regulations title 14, section 15000 et seq.); and San Francisco Administrative Code chapter 31. In accordance with CEQA section 21067 and CEQA Guidelines sections 15367 and 15050–15053, the City and County of San Francisco (city) is the lead agency, under whose authority this document has been prepared.

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

As defined in CEQA Guidelines section 15382, a "significant effect on the environment" is:

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

CEQA requires an EIR to be prepared before the first discretionary decision is made to approve a project that may cause a significant effect on the environment that cannot be mitigated. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental impacts of a project, identify mitigation measures to lessen or eliminate significant adverse impacts, and examine feasible alternatives to the project.

The city must consider the information in this EIR and make certain findings with respect to each significant effect identified. The decision makers will review and consider the information in this EIR, along with other information available through the public review processes, before they decide to approve, disapprove, or modify the proposed project or adopt an alternative to the proposed project.

## 1.C Type of EIR

This document is a project-level EIR, pursuant to CEQA Guidelines section 15161. A project-level EIR focuses on changes in the environment that would result from construction and operation of a specific project. Furthermore, this EIR is also a focused EIR, pursuant to CEQA Guidelines section 15063(c)(3). An initial study was prepared for the proposed project in accordance with sections 15062 and 15082 (refer to Appendix B of this EIR). The initial study is being published concurrently with the EIR, and comments will be accepted on the initial study during the public review period for the EIR.[3] The initial study identifies the topics for which the proposed project would result in less-than-significant impacts or impacts that could be reduced to less than significant with implementation of the mitigation measures identified in the initial study, and therefore do not require further analysis in this EIR. Thus, this EIR focuses the environmental analysis on the topics

[3] Under CEQA Guidelines section 15128, the EIR must contain a brief statement indicating the reasons why certain effects were determined not to be significant and, thus, are not studied in detail in this EIR.

identified in the initial study (i.e., historic architectural resources, air quality) with the potential to have significant environmental impacts.

An EIR is an informational document used by a lead agency (in this case, the city) when considering approval of a project. The purpose of an EIR is to provide public agencies and members of the public with detailed information regarding the environmental effects of implementing a proposed project. An EIR should analyze a project's environmental consequences, identify ways to reduce or avoid a project's potential environmental effects, and identify alternatives to a project that can avoid or reduce impacts.

This EIR provides information to be used in the planning and decision-making process. It is not the purpose of an EIR to recommend approval or denial of a project.

Before it can approve the proposed project, the City, as the lead agency and decision-making entity, must certify that this EIR has been completed in compliance with CEQA, that the information in the EIR has been considered, and that the EIR reflects the city's independent judgment. CEQA requires decision makers to balance the benefits of a project against its unavoidable environmental consequences. If environmental impacts are identified as significant and unavoidable, the city may still approve the project if it finds that social, economic, or other benefits outweigh the unavoidable impacts. The city would then be required to state in writing the specific reasons for approving the project, based on information in the EIR and other information sources in the administrative record. This reasoning is called a "statement of overriding considerations" (Public Resources Code section 21081; CEQA Guidelines section 15093). In addition, the city must adopt a mitigation monitoring and reporting program, describing the measures that were made a condition of project approval to avoid or mitigate significant effects on the environment (Public Resources Code section 21081.6; CEQA Guidelines section 15097). The mitigation monitoring and reporting program, which is adopted at the time of project approval, is designed to ensure compliance with the project description and EIR mitigation measures during and after project implementation. If the city decides to approve the proposed project, it will be responsible for verifying that the mitigation monitoring and reporting program for the proposed project is implemented. The EIR will be used primarily by the city during approval of future discretionary actions and permits.

## 1.D CEQA Environmental Review Process

CEQA Guidelines sections 15080 and 15097 set forth the EIR process, which includes multiple phases involving notification and input from responsible agencies and the public, as described below.

### 1.D.1 Notice of Preparation of an Environmental Impact Report

Consistent with the requirements of CEQA Guidelines sections 15063 and 15082, the San Francisco Planning Department (planning department) has made a good-faith effort during the preparation of the draft EIR to contact all responsible and trustee agencies; organizations and persons who may have an interest in the proposed project; and all applicable government agencies, including the Governor's Office of Land Use and Climate Innovation.[4]

In accordance with CEQA Guidelines sections 15063 and 15082, the planning department published and distributed a notice of preparation (NOP) of an EIR for the proposed project on November 6, 2024. The NOP

[4] As of July 1, 2024, the Governor's Office of Planning and Research was renamed the Governor's Office of Land Use and Climate Innovation.

was sent to governmental agencies, organizations, and persons interested in the proposed project, and publication of the NOP initiated the 30-day public scoping period for this EIR, which started on November 6, 2024, and ended on December 9, 2024. The NOP included a description of the proposed project and a request for agencies and the public to submit comments on the scope of the environmental issues that should be addressed in this EIR. The NOP is included as Appendix A of this document.

The outreach effort also included the circulation of a Notice of Availability (NOA) of a NOP that an EIR would be prepared on November 6, 2024, which began a 30-day comment period that ended on December 9, 2024. The NOA of NOP requested that agencies and interested parties' comment on the scope and content of the environmental information to be included in the draft EIR. The planning department mailed the NOA of the NOP to tenants and property owners within 300 feet of the project site and sent email notifications to neighborhood groups and individuals that requested project notifications from the planning department. The planning department posted these notices on the planning department's environmental review webpage and filed the NOA with San Francisco County Clerk's office. The planning department also published a newspaper advertisement in the San Francisco Examiner on November 6, 2024, announcing the opportunity for public comment on the project. On January 15, 2025, the Historic Preservation Commission held a meeting focused on the scoping of preservation alternatives, comments from which are summarized in Chapter 5.A.

In total, the planning department received comments from two agencies and two individuals. The comments received in response to the NOP during the public scoping period are included in Appendix A of this document.

## 1.D.2 Scoping Comments

The planning department has considered the comments made by the public and agencies in preparation of this EIR, as summarized in **Table 1-1**. Comments on the NOP that relate to environmental issues are addressed and analyzed throughout this EIR and initial study (see Appendix B for the initial study). The scoping comments, as summarized in the table below, also indicate areas of controversy known to the lead agency and issues to be resolved, per CEQA Guidelines section 15123.

### Table 1-1 Summary of Scoping Comments

| EIR or Initial Study Section | Comment |
|---|---|
| **EIR** | |
| **Chapter 3B** Air Quality | • Construction-related air quality and health risk impacts |
| **Initial Study** | |
| **Section E.5** Transportation and Circulation | • Pedestrian circulation and access to adjacent building during construction |
| **Section E.6** Noise | • Construction-related noise impacts |
| **Section E.17** Hazards and Hazardous Materials | • Address lead-based paint or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk surveys for buildings to be demolished.<br>• Test imported and soil fill materials to assess contaminants of concern. |

## 1.D.3 Draft EIR and Initial Study Public Review Process

The CEQA Guidelines and San Francisco Administrative Code chapter 31 encourage public participation in the planning and environmental review processes. The planning department provides opportunities for the public to present comments and concerns regarding this EIR and its appendices, including the initial study (Appendix B), throughout the environmental review process. These opportunities include a public review and comment period and a public hearing before the San Francisco Planning Commission (planning commission).

The public review period for the draft EIR is from March 11, 2025, to April 28, 2025. The San Francisco Historic Preservation Commission (HPC) will hold a public hearing on this draft EIR to consider providing its comments on the draft EIR. The public hearing will be held April 2, 2025, beginning at **12:30 p.m. or later**. Additional information may be found on the planning department's website at https://sfplanning.org/historic-preservation-commission. The planning commission will hold a public hearing on this EIR during the 45-day public review and comment period for this EIR to solicit public comment on the information presented in this draft EIR. The public hearing will be held on April 10, 2025, beginning at **12 p.m. or later**. Additional information may be found on the planning department's website at https://sfplanning.org/hearings-cpc-grid.

The draft EIR, initial study, and all attachments are available for public review and comment on the planning department's Negative Declarations and EIRs web page (http://www.sf-planning.org/sfceqadocs). A USB or paper copy of the draft EIR will be mailed upon request. Referenced materials will also be made available for review upon request. Contact the EIR coordinator, Sherie George, at CPC.447Battery530SansomeEIR@sfgov.org or 628.652.7558 to make a request.

Governmental agencies, interested organizations, and other members of the public are invited to submit written comments on the adequacy, accuracy, and scope of the draft EIR and initial study during the public review period. The comments should address the sufficiency of the document with respect to identifying and analyzing possible significant environmental impacts and determining how they may be avoided or mitigated.

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

San Francisco Planning Department
Attention: Sherie George, Environmental Coordinator
49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103

Or by email to:
CPC.447Battery530SansomeEIR@sfgov.org

Comments on the draft EIR are most helpful when they address the environmental analysis itself or suggest specific alternatives and/or additional measures that would better mitigate significant environmental impacts of the proposed project.

Members of the public are not required to provide personal identifying information when they communicate with the 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 department's website or in other public documents.

### 1.D.4 Final EIR and EIR Certification

Following the close of the public review and comment period for this draft EIR, the city will prepare and publish a document titled "Responses to Comments." This document will contain all written, email, and recorded oral comments received on this draft EIR and written responses to those comments, along with copies of the letters or emails received, a transcript of the public hearing on the draft EIR, and any necessary revisions to the draft EIR. The draft EIR and the Responses to Comments document will constitute the final EIR. 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 San Francisco Administrative Code Chapter 31. 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 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.D.5 Mitigation Monitoring and Reporting Program

At the time of project approval, CEQA and the CEQA Guidelines require agencies to adopt a mitigation monitoring and reporting program that is made a condition of project approval in order to mitigate or avoid significant impacts on the environment (CEQA section 21081.6; CEQA Guidelines section 15097). This EIR identifies and presents mitigation measures and improvement measures that would form the basis of such a mitigation monitoring and reporting program. Any mitigation and improvement measures adopted by the city as conditions for approval of the proposed project would be included in the mitigation monitoring and reporting program.

## 1.E Organization of This EIR

Consistent with CEQA Guidelines sections 15120 to 15132, this EIR describes the proposed project, required approvals, and existing land use plans and policies applicable to the proposed project (see initial study Section C, Compatibility with Existing Zoning and Plans for a discussion of plans and policies applicable to the proposed project); identifies potential environmental impacts of the proposed project, mitigation measures where those impacts are significant, and cumulative adverse impacts to which the proposed project could make a substantial contribution; discusses growth-inducing and significant unavoidable effects of the project; and evaluates alternatives to the proposed project that could avoid or reduce significant impacts while still meeting most of the proposed project's objectives.

This EIR has been organized as follows:

- **Summary.** This chapter summarizes the EIR by providing an overview of the proposed project, the environmental impacts that would result from the proposed project, mitigation measures identified to reduce or eliminate the impacts, project alternatives and their comparative environmental effects, and areas of controversy and issues to be resolved.
- **Chapter 1, Introduction.** This chapter includes a discussion of the purpose of the EIR, a discussion of the environmental review process, a summary of the comments received on the scope of the EIR, a summary of changes to the proposed project since publication of the NOP, and a brief outline of the document's organization.
- **Chapter 2, Project Description.** This chapter provides a detailed description of the proposed project, including the project's objectives, the project location, the existing project site's land use characteristics, project components and characteristics, the construction schedule and anticipated activities, and identifies required project approvals.
- **Chapter 3, Environmental Setting, Impacts, and Mitigation Measures.** This chapter provides the analysis for the historic architectural resources and air quality topics identified for further analysis. This topic contains a description of the environmental setting (or existing conditions), regulatory framework, approach to the analysis, project-level and cumulative impacts, and mitigation measures as applicable.
- **Chapter 4, Other CEQA Issues.** Pursuant to CEQA Guidelines section 15126.2, this chapter summarizes any growth-inducing impacts that could result from the proposed project, irreversible changes to the environment, and significant and unavoidable environmental impacts. This chapter also presents any areas of controversy left to be resolved.
- **Chapter 5, Alternatives.** This chapter presents and evaluates alternatives to the proposed project, including the required No Project Alternative, that could feasibly attain most of the project objectives as well as reduce identified significant adverse impacts of the proposed project. This chapter also compares their environmental effects to those of the proposed project. It also identifies the environmentally superior alternative. Alternatives evaluated in this chapter include the following:
  - Alternative A, No Project Alternative
  - Alternative B, 41-Story Building Full Preservation Alternative
  - Alternative C, 19-Story Building Full Preservation Alternative
  - Alternative D, Partial Preservation Alternative
- **Chapter 6, Report Preparers.** This chapter lists the EIR authors and consultants; project sponsor and consultants; and agencies and persons consulted.
- **Appendices.** The following appendices are included in this EIR:
  - Appendix A, Notice of Preparation and Comments Received
  - Appendix B, Initial Study
  - Appendix C, Historic Resource Evaluations
    - C1, Historic Resource Evaluation, Part 1, 530 Sansome Street
    - C2, Historic Resource Evaluation Response, Part 1, 530 Sansome Street

- C3, Historic Resource Evaluation Response, Part 2, 530 Sansome Street
- C4, Historic Resource Evaluation, Part 1, 447 Battery Street
- C5, Historic Resource Evaluation Response, Part 1, 447 Battery Street
- C6, Historic Resource Evaluation Response, Part 2, 447 Battery Street
- C7, Historical Evaluation of 425 and 439–445 Washington Street
- C8, Preservation Alternatives Memorandum

– Appendix D, Transportation Supporting Information
– Appendix E, Noise and Vibration Supporting Information
– Appendix F, Air Quality Supporting Information
  - F1, Air Quality Methodology Memorandum
  - F2, Air Quality and Health Risk Assessment Results Memorandum
– Appendix G, Pedestrian Wind Study
– Appendix H, Shadow Analysis Report
– Appendix I, Water Supply Assessment

# CHAPTER 2
# PROJECT DESCRIPTION

## 2.A Project Overview

The San Francisco Fire Department, the San Francisco Real Estate Division, and EQX JACKSON SQ HOLDCO LLC (project sponsors) propose to redevelop the 24,830-square-foot project site located on the block bound by Sansome Street to the west, Washington Street to the north, Battery Street to the east, and Merchant Street to the south. The proposed 447 Battery and 530 Sansome streets project (proposed project) would involve demolition of the existing 17,800-square-foot, 3-story commercial building at 425 Washington Street (Block/Lot 0206/014), and the 12,862-square-foot, 2-story commercial building at 439–445 Washington Street (Block/Lot 0206/013) owned by EQX JACKSON SQ HOLDCO LLC; the 20,154-square-foot, 3-story commercial building at 447 Battery Street (Block/Lot 0206/002) owned by Battery Street Holdings LLC; and the 18,626-square-foot fire station at 530 Sansome Street (Block/Lot 0206/017) owned by the City and County of San Francisco. During construction, Fire Station 13 operations (including personnel and firetrucks) would temporarily relocate to nearby offsite existing San Francisco Fire Department facilities prior to demolition of 530 Sansome Street and until construction of a replacement fire station is completed. No construction or tenant improvements would be required for temporary relocation. No interruption of fire department service would occur and relocated fire department operations would continue to serve the Financial District neighborhood and the city in general.

The project sponsors propose to construct a 4-story replacement fire station and a separate high-rise building up to 41 stories tall. The replacement fire station would be located on the 447 Battery Street parcel and would include approximately 31,200 square feet (including basement with 18 vehicle parking spaces and four class 1 bicycle spaces) in a 4-story, approximately 55-foot-tall building (60 feet total to the roof, including amenity space on the fourth floor and rooftop mechanical equipment) on the eastern portion of the project site. The high-rise building, approximately 544 feet tall (574 feet total, including rooftop mechanical equipment), would be located on the remaining three parcels and would include approximately 7,405 square feet of retail/restaurant space; between approximately 344,840 and 390,035 square feet of office space; approximately 27,195 square feet of office amenity space; between approximately 127,710 and 188,820 square feet of hotel space for approximately 100 to 200 hotel rooms; and approximately 10,135 square feet of ballroom/pre-function/meeting space. There would be three below-grade levels under the high-rise building, which would provide approximately 74 vehicle parking spaces, 77 Class 1 bicycle parking spaces, and utility rooms. The proposed project would provide 20 class 2 bicycle parking spaces on streets adjacent to the project site, and one passenger loading zone on Sansome Street, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

The proposed project would convert all of Merchant Street between Battery and Sansome streets into a shared street/living alley with approximately 12,695 square feet of privately maintained public open space improvements.

## 2.B Project Sponsor Objectives

The project sponsor seeks to achieve the following objectives through implementation of the proposed project:

1. Leverage new commercial development to provide City with a new state-of-the-art fire station and financial contributions to support new affordable housing production.
2. Build a new commercial development to generate both daytime and nighttime activity in the City's Financial District and provide employment opportunities and demand for area businesses in a transit-rich and walking-friendly area of the City.
3. Build the City a new fire station in a separate structure that meets the City's Fire Department programmatic and design requirements for a state-of-the-art facility, while accommodating the contemplated commercial development on a distinct portion of the project site.
4. Improve Merchant Street between Sansome and Battery streets to complete a pedestrian-oriented connection between Maritime Plaza and Transamerica Redwood Park.
5. Build adequate parking and vehicular and loading access to serve the needs of project workers and visitors.
6. Create a new luxury hotel catering to tourists and businesses.
7. Create new office space meeting the programmatic and locational needs of financial service firms.
8. Allow flexibility in the allowable amount of office and hotel uses to be developed to meet the future and evolving needs in San Francisco's downtown area.

## 2.C Project Location and Site Characteristics

### 2.C.1 Project Location

The approximately 24,830-square-foot project site consists of four lots (Assessor's Block 0206, Lots 002, 013, 014, and 017) located on the block bound by Sansome Street to the west, Washington Street to the north, Battery Street to the east, and Merchant Street to the south (see **Figure 2-1**). The project site is located in the Financial District neighborhood of San Francisco. The project site is in the C-3-O Downtown-Office district and a 200-S Height and Bulk district.

Streets surrounding the project site have one to three lanes and are not considered major arterials. Sansome Street is a north–south two-way street, with two to three lanes running north and one lane running south.[5] Battery Street is a north–south one-way street with two lanes. Washington Street is an east–west one-way two-lane street. Merchant Street is an east–west one-way service alley between Battery and Sansome streets. Commercial loading zones are located on the southeast corner of Sansome Street in front of Fire Station 13, on the north side of Merchant Street in front of 439–445 Washington Street, and the west side of Battery Street in front of 447 Battery Street. One on-street parking space is provided on the north side of Merchant Street in front of 425 Washington Street, and angled street parking is located on the south side of

[5] Sansome Street has two northbound lanes during the weekday p.m. peak period (3 to 7 p.m.) and one northbound lane at all other times.


SOURCE: San Francisco Planning Department, 2024; ESA, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-1**
**PROJECT LOCATION**

Washington Street adjacent to the project site. The north side of Washington Street between Battery and Sansome streets is designated for law enforcement vehicles only. All on-street parking in the project area is metered and subject to time restrictions, except for law enforcement vehicles.

The nearest major thoroughfares are Columbus Avenue to the west, Market Street to the south, and The Embarcadero to the east. However, both Battery and Sansome streets support important functions related to circulation by serving as major routes for regional traffic into and out of the Financial District (particularly commuters residing in the East Bay and North Bay) as well as local traffic from residents living in neighborhoods northwest of downtown. Regional roadways that serve the project site are I-80, I-280, and U.S. 101, all three of which have on- and off-ramps within 0.5 mile of the project site.

The project site is within an area served by several San Francisco Municipal Railway (Muni) transit lines. Muni Lines 10-Townsend, 12-Folsom/Pacific, 41-Union, and 30X-Marina Express serve bus stops near the project site. In addition, Muni operates numerous surface buses and the F line historic streetcar on Market Street approximately 0.4 mile southeast of the project site. Muni also operates the Muni Metro light rail system, which in the project vicinity runs underground beneath Market Street- and in the Central Subway. The closest underground Muni stations to the project site are the Chinatown – Rose Pak Station, located 0.4 mile west of the project site, and the Embarcadero and Montgomery stations, located approximately 0.5 mile southeast and south of the project site, respectively. These stations are served by the J-Church, K Ingleside, L-Taraval, M-Ocean View, N-Judah, and T-Third Muni Metro light rail lines. In addition to Muni operations, the following regional transit services are accessible from the project site: Bay Area Rapid Transit (BART), Golden Gate Bridge Highway and Transportation District (Golden Gate Transit and Golden Gate Ferry), San Mateo County Transit District (SamTrans), and San Francisco Bay Ferry. Class III[6] bicycle routes are located along Sansome Street in both directions between Washington and Market streets. A class IV separated bikeway facility is located along the east side of Battery Street.

## 2.C.2 Existing Site Characteristics

The project site is fully developed with no permeable surfaces (see **Figure 2-2**). The project site is generally flat with a ground surface elevation of approximately 23 feet above mean sea level. The site is generally rectangular in shape, with approximately 99 feet of frontage on Sansome Street, 74 feet of frontage on Battery Street, 179 feet of frontage on Washington Street, and 276 feet of frontage on Merchant Street. The project site covers most of Block 0206, except for lot 018-124 at 423 Washington Street which has approximately 97 feet of frontage on Washington Street and 25 feet on Battery Street. The two buildings at 425 and 439–445 Washington Street were built in 1906 and 1907, respectively, and a third story was added to the building at 425 Washington Street in 1928. Neither building is eligible for listing on the California Register of Historical Resources (California Register), nor are they eligible for inclusion in the nearby Jackson Square Historic District.[7] The Fire Station 13 was constructed in 1974. The sculpture mounted on the fire station building's north façade (referred to as *Untitled)* is considered individually eligible for listing in the California Register, and both the building and *Untitled* are contributors to the Embarcadero Center Historic District.[8,9] The Embarcadero Center Historic District is eligible for listing in the California Register under Criterion 3 as a distinguishable complex whose buildings were designed by the architect of merit John C. Portman, Jr., in the Brutalist style.

[6] Class III bicycle routes are signed bike routes that allow bicycles to share travel lanes with vehicles.
[7] San Francisco Planning Department, *Preservation Team Review Form, 425 and 439-445 Washington Street,* February 11, 2018.
[8] San Francisco Planning Department, *Historic Resources Evaluation Response Part I, San Francisco*, December 3, 2020.
[9] Environmental Science Associates, *Historic Resources Evaluation Report, Part 1, 530 Sansome Street*, September 2020.


SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-2**
**PROJECT SITE AND ADJACENT LAND USES**

The fire station currently operates 24 hours per day and seven days per week and includes 34 full-time personnel, 10 of which are on site at any given time. An approximately 74-foot-wide curb cut provides access to the fire trucks from Sansome Street, and an approximately 10-foot-wide curb cut on Merchant Street provides access to the existing ground-level garage with 21 parking spaces for Fire Station 13 employees and fire department vehicles and equipment.

The three-story building at 447 Battery Street is currently designated as a historical landmark under article 10 of the planning code and is considered a historic resource.[10] The firm that initially occupied the 447 Battery building was Thierbach and Company, a medium-sized, San Francisco-based coffee roasting and wholesaling company led by Charles Frederick Thierbach. In 1912, Michael P. Jones joined the firm, which changed its name, accordingly, to the Jones-Thierbach Coffee Company. The Jones-Thierbach Coffee Company occupied the building until 1966. After the company vacated, the property was converted to an office and retail building in 1967. The building is occupied by a wine bar on the ground floor and an enterprise software firm on the second floor. The remainder of the building is vacant.

## 2.C.3 Surrounding Land Uses and Existing Zoning/Height Bulk Requirements

The project site is primarily surrounded by office uses with ground-floor retail uses (see Figure 2-2, p. 2-5,). U.S. Citizenship and Immigration Services offices are located to the north at 444 Washington Street. The Transamerica Pyramid and associated Transamerica Redwood Park are located to the west at 600 Montgomery Street. A 9-story office building with ground-floor retail uses is also located to the west at 545 Sansome Street. A 7-story office building with ground-floor retail uses and a basement is located to the east at 423 Washington Street. An 8-story office building is located to the south at 500 Sansome Street.

The nearest residential buildings include the 21-story mixed-use building at 550 Battery Street (the Gateway apartments and townhomes) and a 23-story mixed-use residential building northeast of the project site. The nearest hotels are the Club Quarters Hotel at 424 Clay Street and The Jay Hotel at 333 Battery Street, immediately south of the project site, and the Hilton at 750 Kearny Street, two blocks west of the project site. Although the project site is adjacent to 3- and 7-story buildings, the area includes high-rise buildings as well, such as the Transamerica Pyramid, the second -tallest building in San Francisco, One Maritime Plaza, and the 21-story mixed-use building at 550 Battery Street.

Vegetation in the immediate vicinity of the project site is generally limited to street trees. Nearby public parks and open spaces include Maritime Plaza, Transamerica Redwood Park, Sydney G. Walton Square, Ferry Park, Sue Bierman Park, Empire Park, Portsmouth Square Plaza, St. Mary's Square, Market/Battery Plaza, and One Bush Plaza.

The project site is within San Francisco’s Financial District neighborhood and the Downtown Area Plan area, as identified in the San Francisco General Plan. The project site is also within a C- 3-O (Downtown Office) zoning district and a 200-S height and bulk district. This height district allows for a building height of 200 feet. An “S” designation establishes bulk controls for the base, lower tower, and upper tower of a building. The bulk controls for a lower tower are a maximum length of 160 feet, a maximum floor size of 20,000 square feet, and a maximum diagonal dimension of 190 feet. The bulk controls for an upper tower are a maximum length of 130 feet, a maximum average floor size of 12,000 square feet, a maximum floor size for any floor of 17,000 square feet, and a maximum average diagonal dimension of 160 feet for the upper tower. The project

[10] See EIR Section 3.A, Historic Resources.

site is not within a historic district. The Washington-Broadway Special Use District and the Jackson Square Special Use District are directly north of the project site. Waterfront Special Use District 3 is three blocks north of the project site. In addition, the project site is one block southeast of the Jackson Square Historic District, two blocks northeast of the Commercial-Leidesdorff Conservation District, and two blocks north of the Front-California Conservation District.

## 2.D Project Description

**Table 2-1** summarizes the proposed project's characteristics. The replacement fire station would be located on the 447 Battery Street parcel and would include approximately 31,200 square feet (including basement) in a 4-story, approximately 55-foot-tall building (60 feet total to the roof, including an amenity space on the fourth floor and rooftop mechanical equipment) on the eastern portion of the project site. There would be one below-grade level under the 4-story replacement fire station. The 6,760-square-foot below-grade level under the four-story replacement fire station would provide 18 parking spaces, four class I bicycle parking spaces, equipment storage space, and utility rooms. The site plan is shown in **Figure 2-3**, p. 2-9) and overall site elevations for both buildings are shown in **Figure 2-4** and **Figure 2-5**, pp. 2-10 and 2-11. Building sections of the replacement fire station are shown in **Figure 2-6** and **Figure 2-7**, pp. 2-12 and 2-13.

### Table 2-1 Proposed Project Characteristics

| Project Component | Existing (sf) | Proposed (sf) | Net New (sf) |
|---|---|---|---|
| **Fire Station 13** | | | |
| Height of Building | Approx. 40' | 60' (to top of rooftop appurtenances) | 20' |
| Number of Stories | 3 | 4 (above grade) | 1 |
| Office | 20,155 | 0 | -20,155 |
| Public Facility (Fire Station) | 0 | 24,440 | 24,440 |
| Below Grade | 0 | 6,760 | 6,760 |
| Parking Spaces [a] | 0 | 18 | 18 |
| Class 1 Bicycle Parking Spaces [b] | 0 | 4 | 4 |
| Class 2 Bicycle Parking Spaces [b] | 0 | 0 | 0 |
| Car Share Parking Spaces [c] | 0 | 0 | 0 |
| **SUBTOTAL** | **20,155** | **31,200** | **11,045** |
| **Mixed Use High-Rise Building** | | | |
| Height of Building | 44' | 574' (to top of rooftop appurtenances) | 530' |
| Number of Stories | 2–3 | 41 (above grade) | 38-39 |
| Public Facility (Fire Station) | 18,625 | 0 | -18,625 |
| Hotel | 0 | Between 127,710 (approx. 100 hotel rooms, 3,660 SF Hotel Lobby) and 188,820 (approx. 200 hotel rooms, 3,660 SF Hotel Lobby on Level 3)d | Between 127,710 and 188,820 |

| Project Component | Existing (sf) | Proposed (sf) | Net New (sf) |
|---|---|---|---|
| Hotel Ballroom/Pre-Function/Meeting | 0 | 10,135 | 10,135 |
| Back of House (BOH) for Hotel and Office Uses | 0 | 16,170 | 16,170 |
| Office | 20,720 | Between 344,840 and 390,035 d | Between 324,120 and 369,315 |
| Office Amenities | 0 | 27,195 | 27,195 |
| Retail/Restaurant | 0 | 7,405 | 7,405 |
| Passenger Loading/Parking Area | 0 | 705 | 705 |
| Below Grade | 8,850 | 52,410 | 43,560 |
| Parking Spaces | 21 | 74 | 53 |
| Loading Spaces [e] | 0 | 1,840 | 1,840 |
| Class 1 Bicycle Parking Spaces [b] | 0 | 77 | 77 |
| Class 2 Bicycle Parking Spaces [b] | 0 | 20 | 20 |
| Car Share Parking Spaces [c] | 0 | 0 | 0 |
| **SUBTOTAL** | **48,195** | **649,510** | **601,315** |
| **PROJECT TOTAL** | | **680,710** | **612,360** |

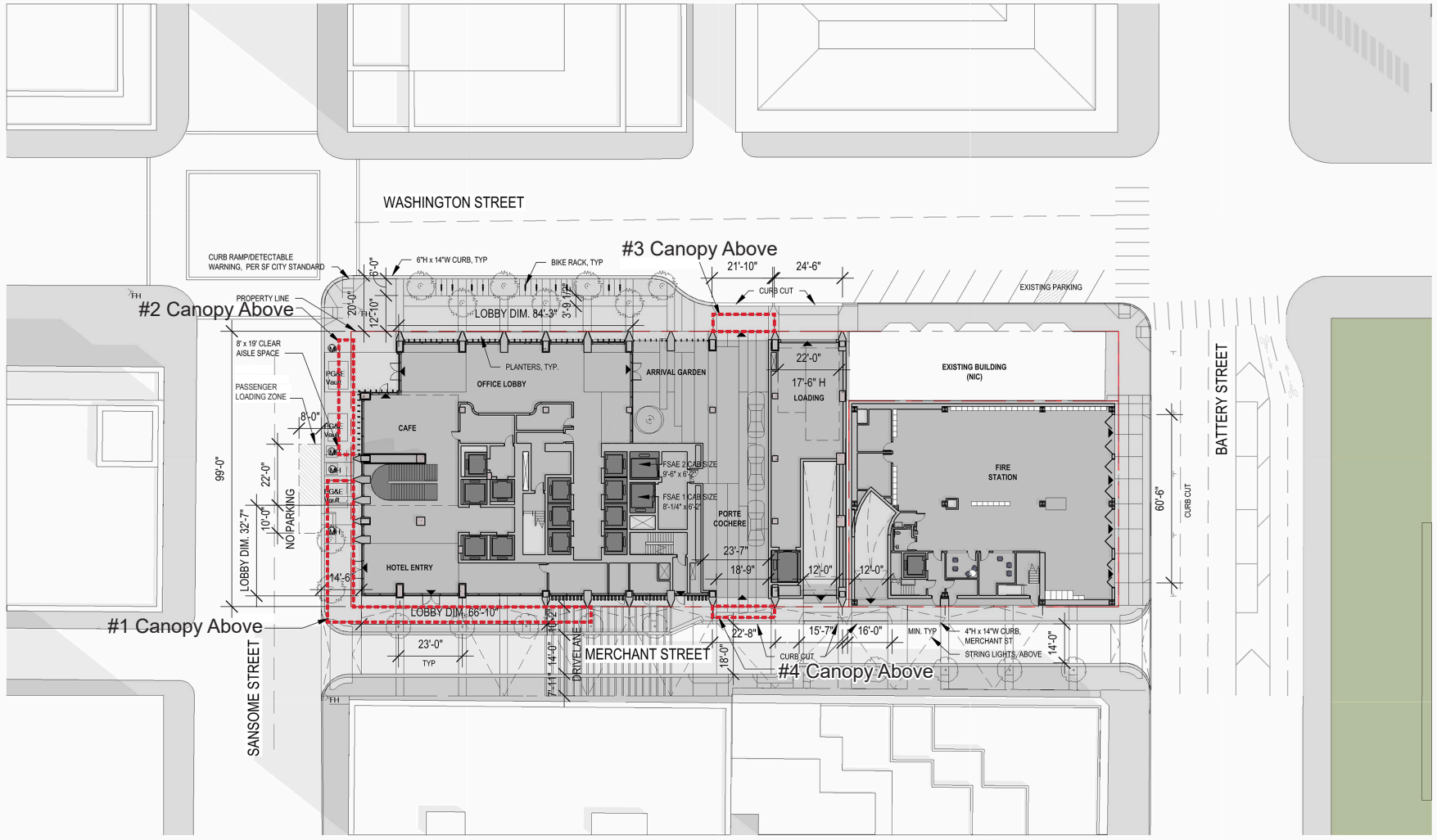
SOURCES: Skidmore, Owings & Merrill LLP, ALTA, San Francisco Fire Department, 2024

ABBREVIATION: sf = square feet

NOTES:

a. Parking provided exceeds limits on accessory parking in San Francisco Planning Code due to fire department parking requirements. The fire department parking spaces would be entitled as a non-accessory parking garage.
b. Bike parking is calculated per San Francisco Planning Code section 155.2. The proposed project provides 20 of the 29 Code-required class 2 bicycle parking spaces. The remaining requirement (nine spaces) would be satisfied by payment of the in-lieu payment pursuant to Planning Code section 430 and in accordance with the Development Agreement approval process.
c. A Planning Code section 166 modification is proposed for car share parking.
d. The square footage calculations for each use vary from those shown in the plan set submitted for the project because they do not include basement square footage.
e. Loading spaces are calculated per San Francisco Planning Code article 1.5, section 152.1.

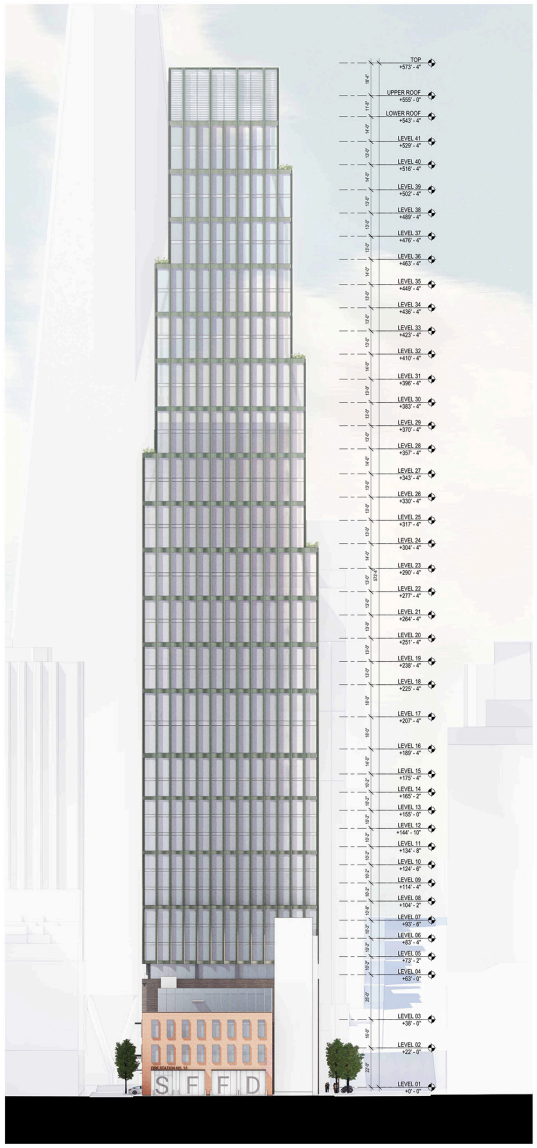
The approximately 544-foot tall high-rise building (approximately 574 feet total, including rooftop mechanical equipment) would be located on the remaining three parcels and would provide for a range of commercial uses with approximately 7,405 square feet of retail/restaurant space; between approximately 344,840 and 390,035 square feet of office space; approximately 27,195 square feet of office amenities (e.g., food and beverage, coworking spaces, and fitness space), between approximately 127,710 and 188,820 square feet of hotel space that would accommodate between 100 and 200 guest rooms, and approximately 10,135 square feet of ballroom/pre-function/meeting space. The range in hotel and office uses reflects that the proposed project approvals would allow for post-entitlement refinement to the final design to program five of the middle floors of the building as either office or hotel. There would be three below-grade levels under the high-rise building, which would provide 74 accessory vehicle parking spaces, 77 class 1 bicycle parking spaces, and utility rooms. Building sections of the proposed high-rise building are shown in **Figure 2-8** and **Figure 2-9**, pp. 2-14 and 2-15.



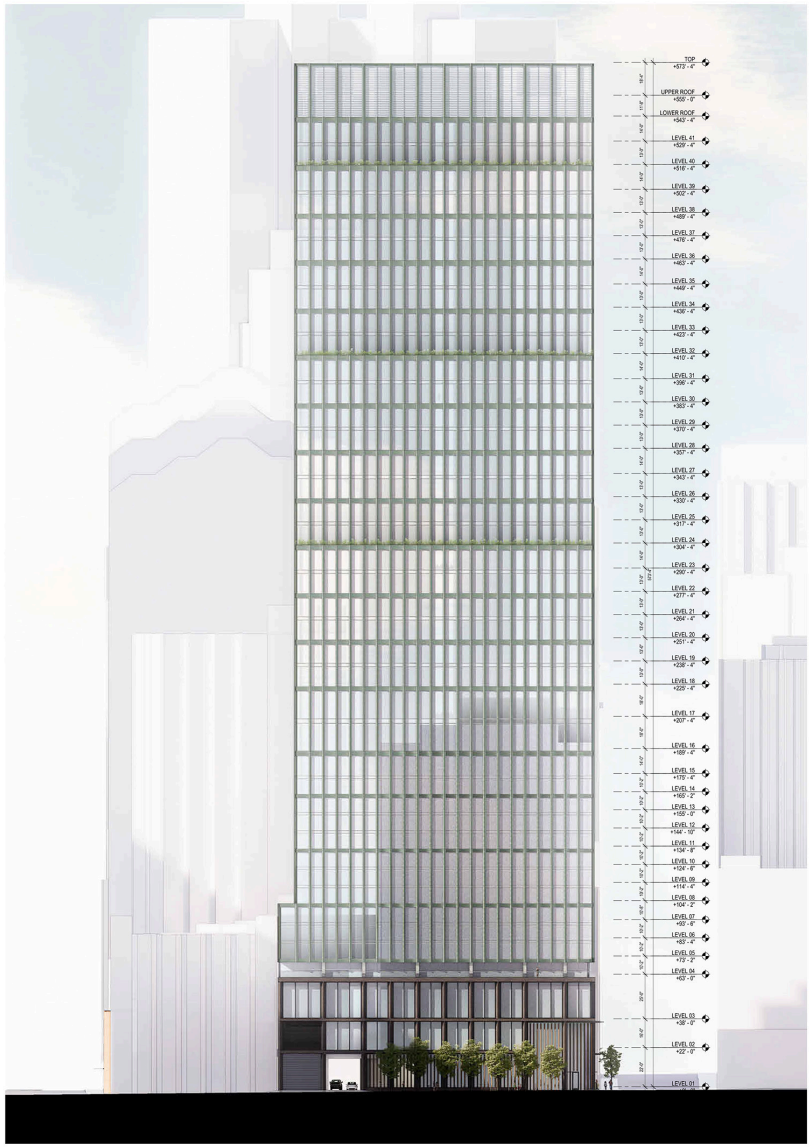

SOURCE: Skidmore, Owings & Merrill, LLP, 2025

447 Battery and 530 Sansome Street

**FIGURE 2-3**
**SITE PLAN**



EAST ELEVATION



NORTH ELEVATION

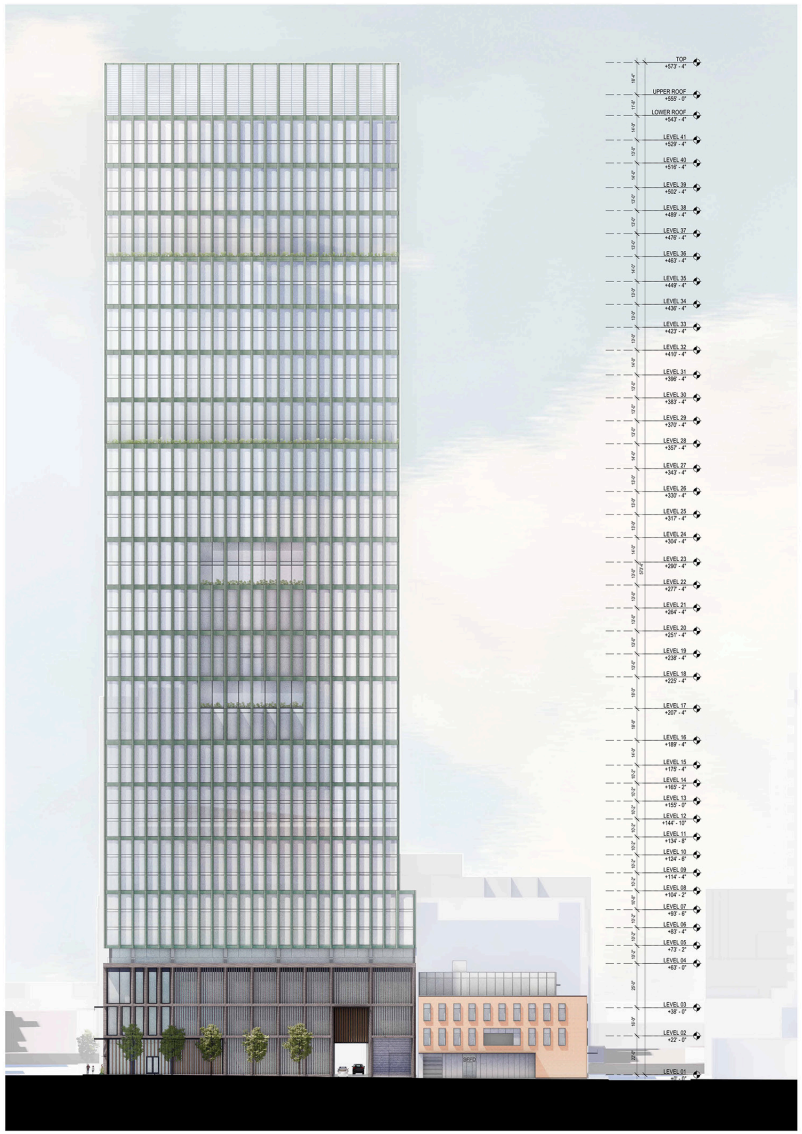
SOURCE: Skidmore, Owings & Merrill, LLP, 2025

447 Battery and 530 Sansome Street

**FIGURE 2-4**

**PROPOSED PROJECT EAST AND NORTH ELEVATIONS**

WEST ELEVATION



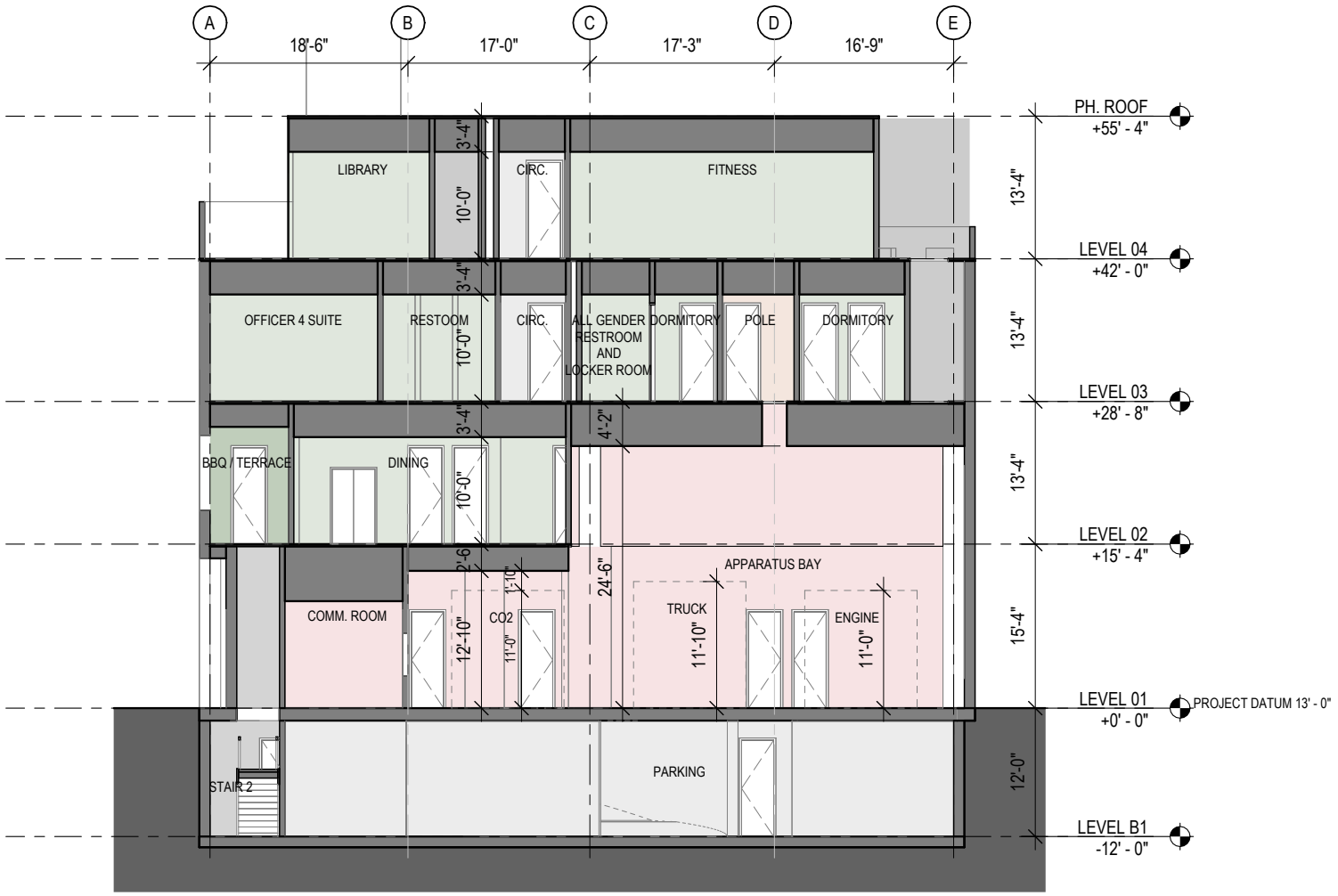
SOUTH ELEVATION

SOURCE: Skidmore, Owings & Merrill, LLP, 2025

447 Battery and 530 Sansome Street

**FIGURE 2-5**

**PROPOSED PROJECT WEST AND SOUTH ELEVATIONS**




SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-6**

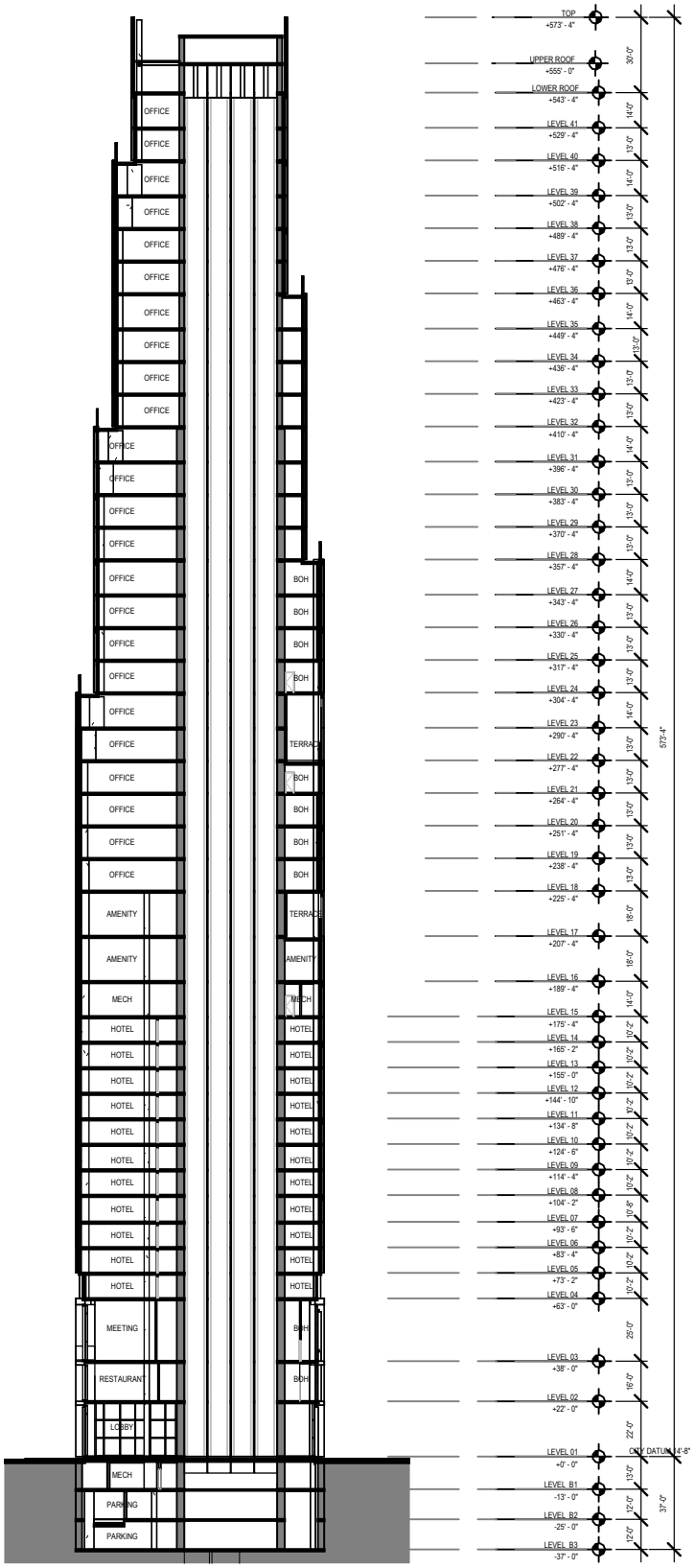
**REPLACEMENT FIRE STATION NORTH/SOUTH BUILDING SECTION**


SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-7**

**REPLACEMENT FIRE STATION EAST/WEST BUILDING SECTION**

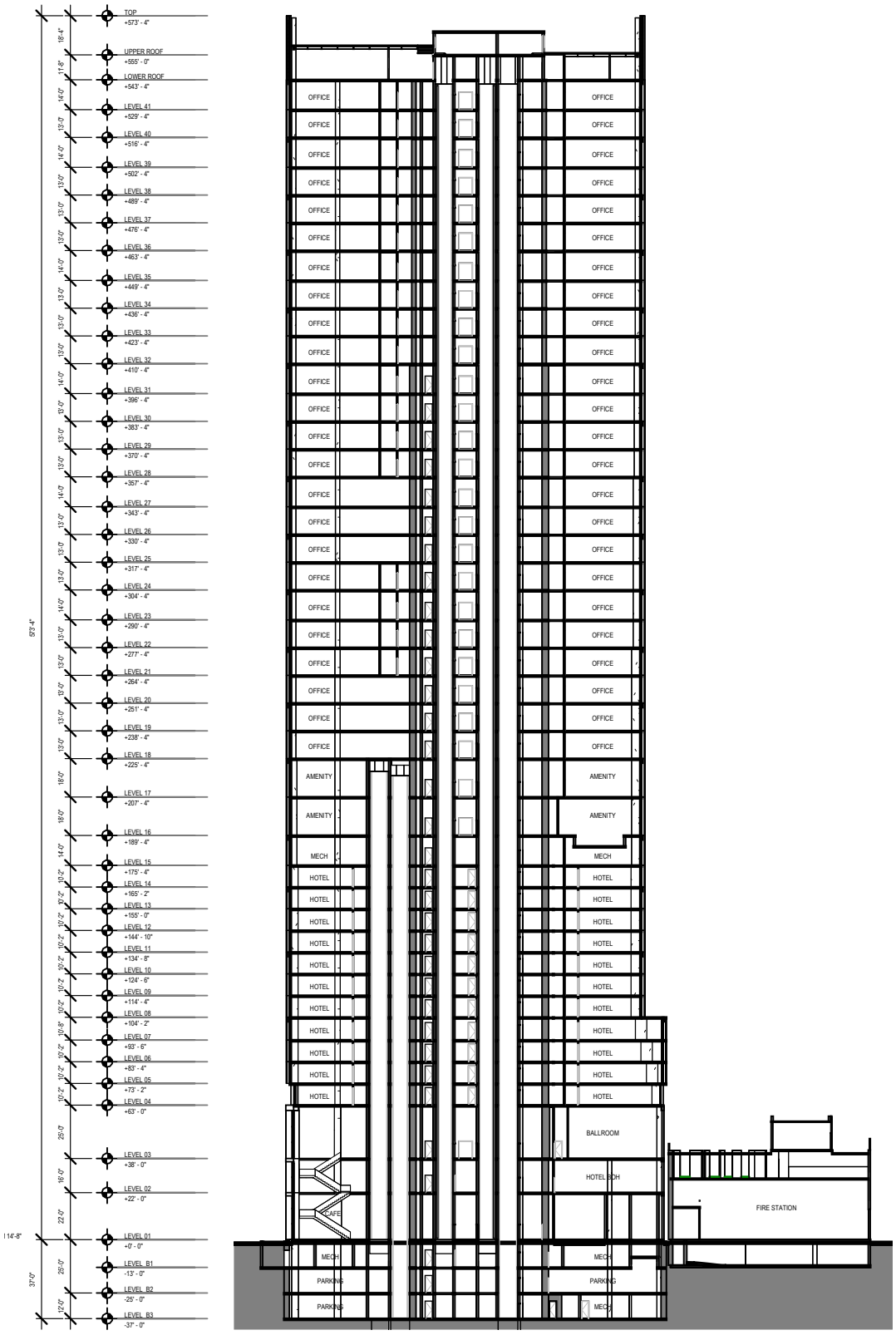



SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-8**

**HIGH-RISE BUILDING NORTH/SOUTH SECTION**




SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-9**

**HIGH-RISE BUILDING EAST/WEST SECTION**

The proposed project would provide a total of 20 class 2 bicycle parking spaces on streets adjacent to the project site and one passenger loading zone on Sansome Street, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval. The proposed project would include two loading spaces on the northeastern portion of the first floor of the high-rise building, with ingress and egress from Washington Street.

On the north façade of the existing Fire Station 13 building at 530 Sansome Street is a wall-mounted sculpture by artist Henri Marie-Rose named *Untitled*. The three-dimensional copper sculpture depicts firefighters with a hose battling a blaze next to the letters "SFFD." The sculpture *Untitled* would be integrated into the project and relocated to either the replacement fire station's east façade on Battery Street or south façade on Merchant Street (see Figure 2-3, p. 2-9).

## 2.D.1 447 Battery Street Replacement Fire Station

The proposed project includes demolition of the existing Fire Station 13 at 530 Sansome Street and construction of a replacement fire station on the eastern portion of the project site on the 447 Battery Street parcel. The replacement fire station would not result in an increase in staff or operations but would result in an adequately sized state-of-the-art station with built-in training features based on current operations. The proposed 55-foot-tall, 4-story fire station would provide approximately 24,440 square feet on Levels 1 through 4. In addition to the four floors above grade, the replacement fire station would have one 6,760-square-foot basement level reserved for equipment storage, utility rooms, parking spaces, and class I bicycle parking spaces (see **Figure 2-10**). The basement would be accessed internally via one egress stair and one elevator and externally via a vehicular ramp from Merchant Street. Fire apparatuses would access the station on Battery Street. The ground floor (Level 1) would contain the apparatus bays, a public lobby and restroom, gear and equipment rooms, a communications room, an office, and additional support spaces (see Figure 2-10). Level 2 would contain the living areas including dining and kitchen spaces and a day room, with a small exterior terrace (**Figure 2-11**, p. 2-18). Level 3 would be dedicated to sleeping quarters, restrooms, and locker space, while Level 4 would contain a fitness room, library, rooftop mechanical equipment, and an exterior training roof (see Figure 2-11 and **Figure 2-12**, p. 2-19).

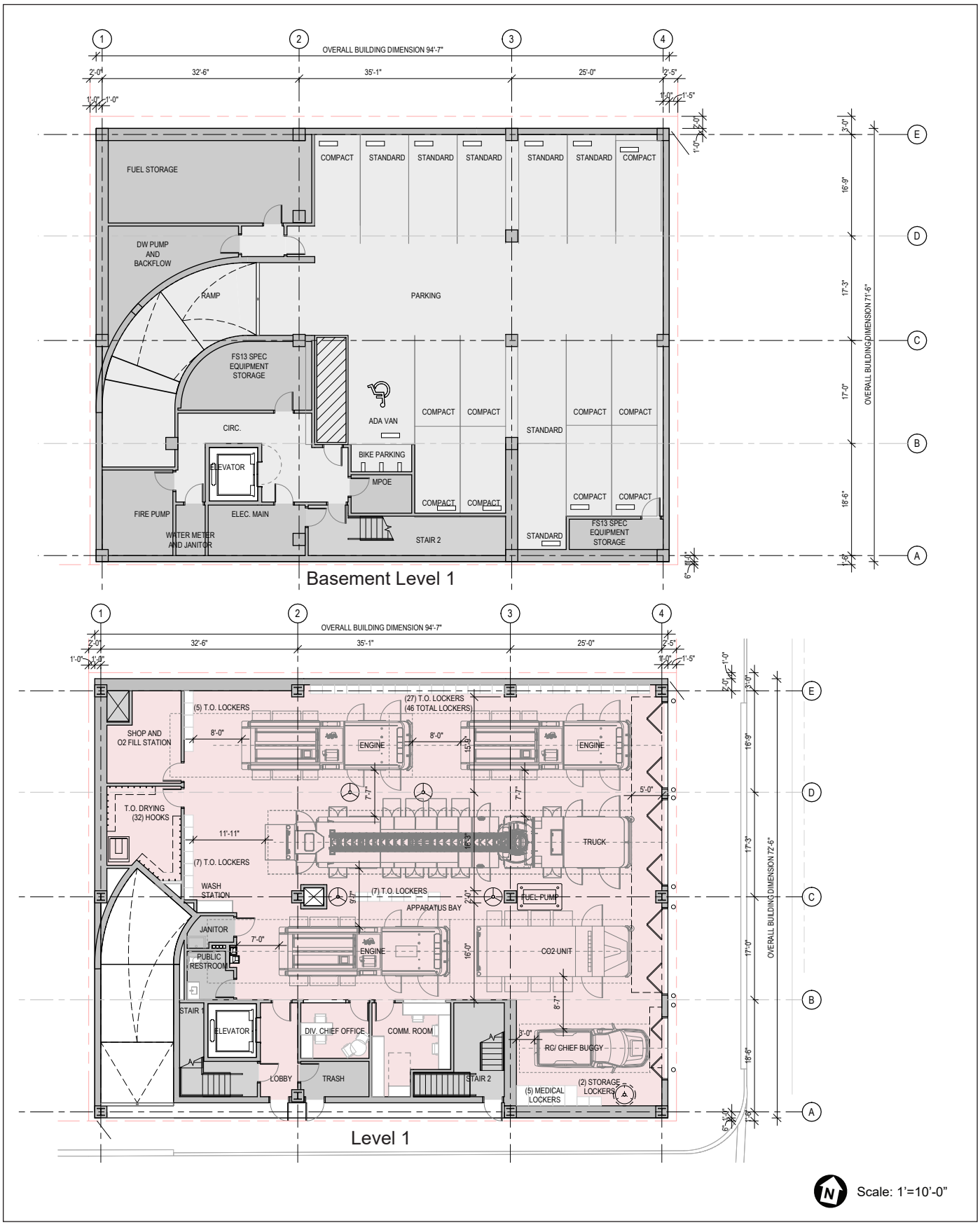
Fire station apparatuses responding to calls would either turn right on Battery Street and follow the southbound, one-way flow of traffic or turn left on Battery Street after employing a signal control stopping traffic at the intersection of Washington and Battery streets. Fire apparatuses returning to the station would approach the bays from the north and with the flow of one-way southbound traffic on Battery Street.

### Vehicle Parking

The proposed project would include 18 vehicle parking spaces for the fire department in the basement level of the replacement fire station (see Figure 2-10).

### Bicycle Parking

The proposed project would include four class 1 bicycle parking spaces on the basement level of the replacement fire station, subject to SFMTA and San Francisco Public Works approval.




SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-10**

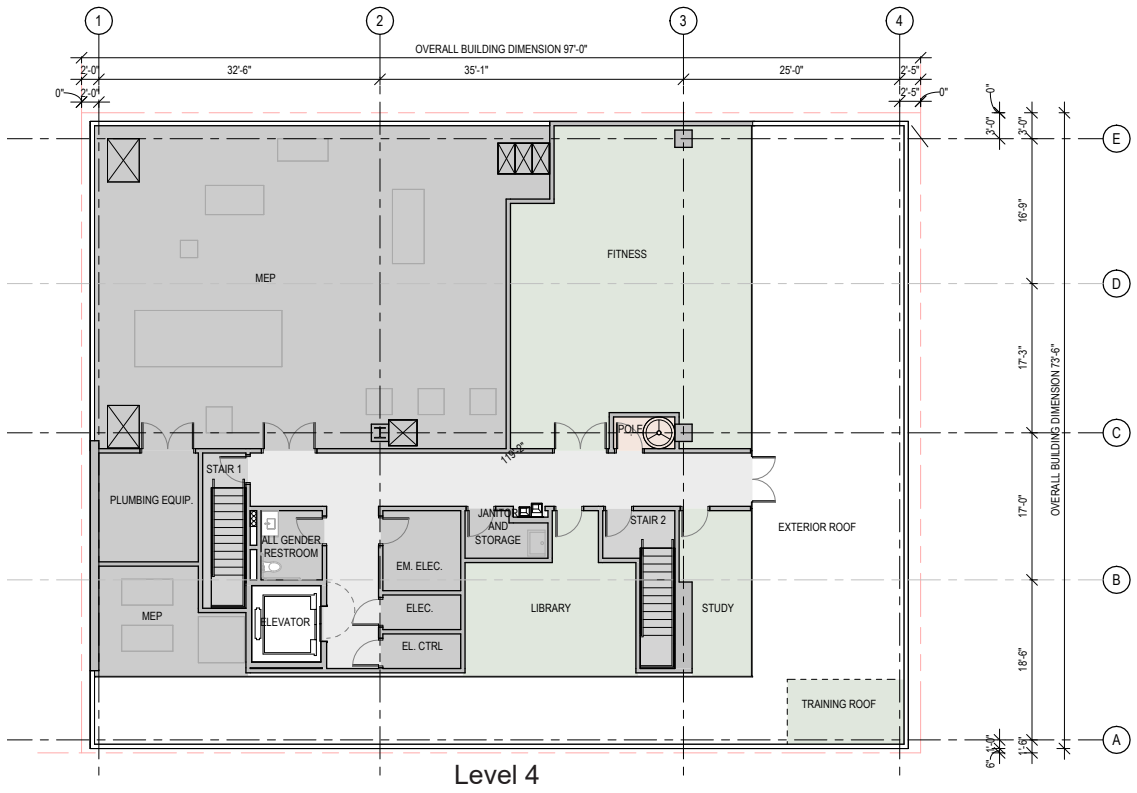
**REPLACEMENT FIRE STATION BASEMENT LEVEL 1 AND LEVEL 1 FLOOR PLAN**


SOURCE: Skidmore, Owings & Merrill, LLP, 2024

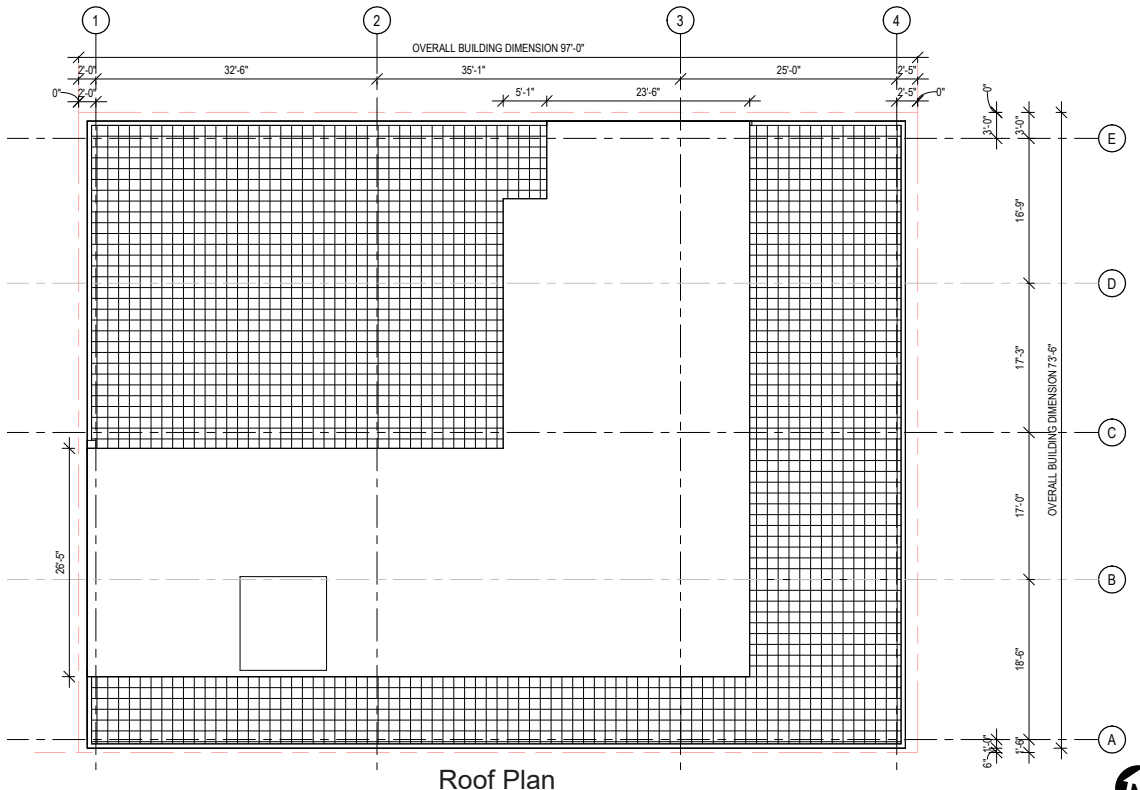
447 Battery and 530 Sansome Street

**FIGURE 2-11**

**REPLACEMENT FIRE STATION LEVELS 2-3 FLOOR PLAN**




Level 4




Roof Plan

Scale: 1'=10'-0"

SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-12**

**REPLACEMENT FIRE STATION LEVEL 4 FLOOR PLAN AND ROOF PLAN**

## 2.D.2 Mixed-Use High-Rise Building at 530 Sansome Street

**Figure 2-13** through **Figure 2-19**, pp. 2-21 through 2-27, show representative floor plans for the proposed project's mixed-use high-rise building.

### Retail/Restaurant Use

The high-rise building would include approximately 7,405 square feet of retail/restaurant use on Levels 1 through 3. The café and food and beverage space on the ground floor would be accessed from a pedestrian entrance on Sansome Street.

### Office Use

The high-rise building would include office use ranging between approximately 344,840 and 390,035 square feet. The representative floor plans show office use on Levels 18 through 41. Approximately 27,195 square feet of office amenities (e.g., food and beverage, fitness, and coworking spaces) would be located on two levels of the building (shown on Levels 16 and 17 in the representative floor plans). Outdoor terrace spaces would be located on the north or south end of the building on intermittent levels. The main office lobby would be located on Level 1 and would be accessible from Sansome Street. The office drop-off for passengers would be at the internal drive-through area on the east side of the main office lobby.

### Hotel Use

The high-rise building would include a hotel ranging between approximately 127,710 square feet (approximately 100 rooms) and 188,820-square-foot (approximately 200 guest rooms). The representative floor plans show hotel use with 200 rooms located on Levels 4 through 14. The hotel arrival space, accessible from both Sansome Street and Merchant Street, would be located at the southwest corner of Level 1. The main hotel lobby would be located on Level 3.

### Ballroom/Pre-function/Meeting Space

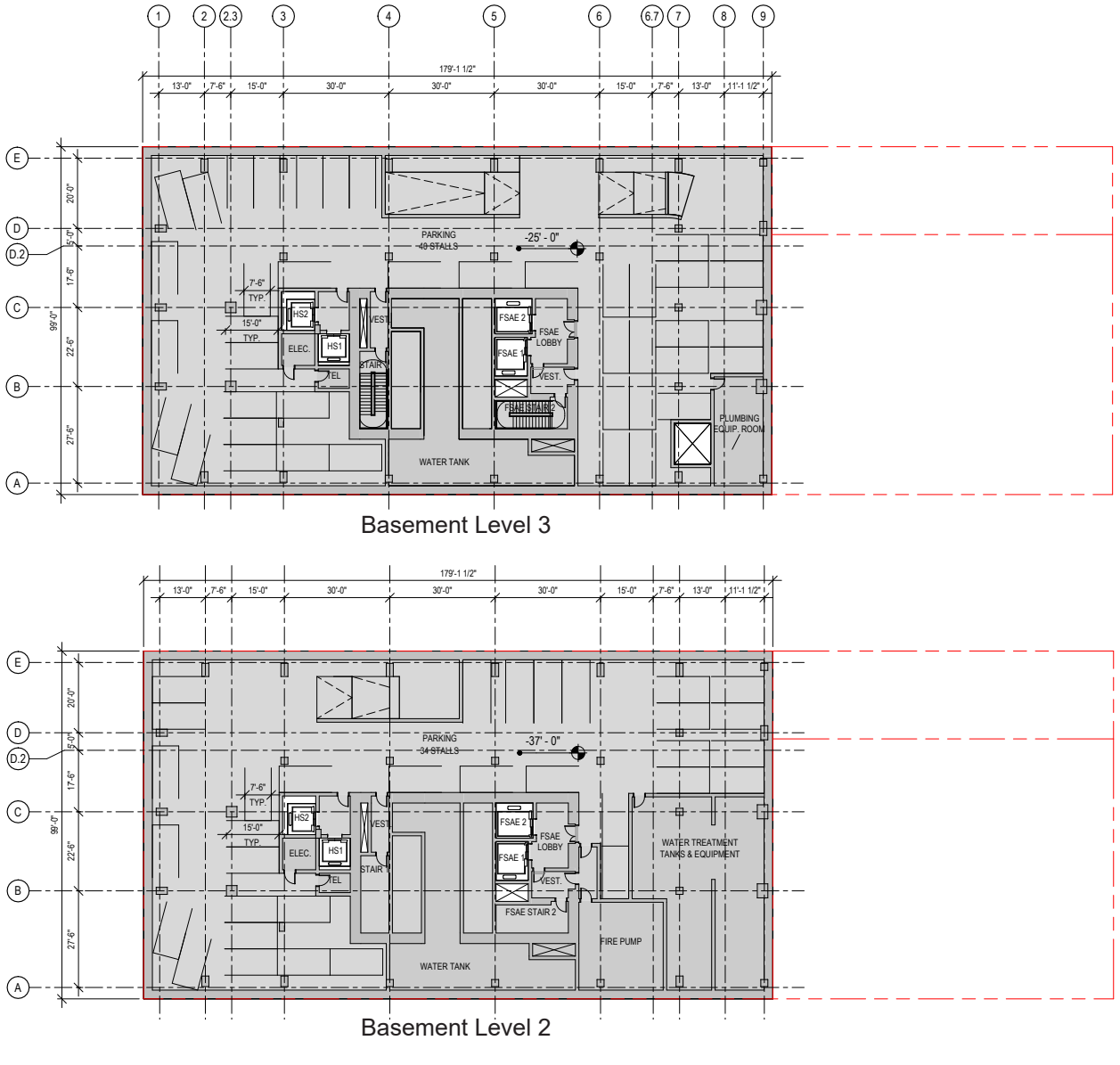
The high-rise building would include a ballroom, pre-function space, and meeting space, totaling approximately 10,135 square feet, on Level 3. The ballroom, pre-function space, and meeting space would be accessible from the hotel and office levels.

### Vehicle Parking

The proposed project would include 74 vehicle parking spaces for office and hotel uses on basement levels 2 and 3 under the high-rise building.

### Bicycle Parking

The proposed project would include 77 class 1 bicycle parking spaces on basement level 1 and 20 class 2 bicycle parking spaces on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval.

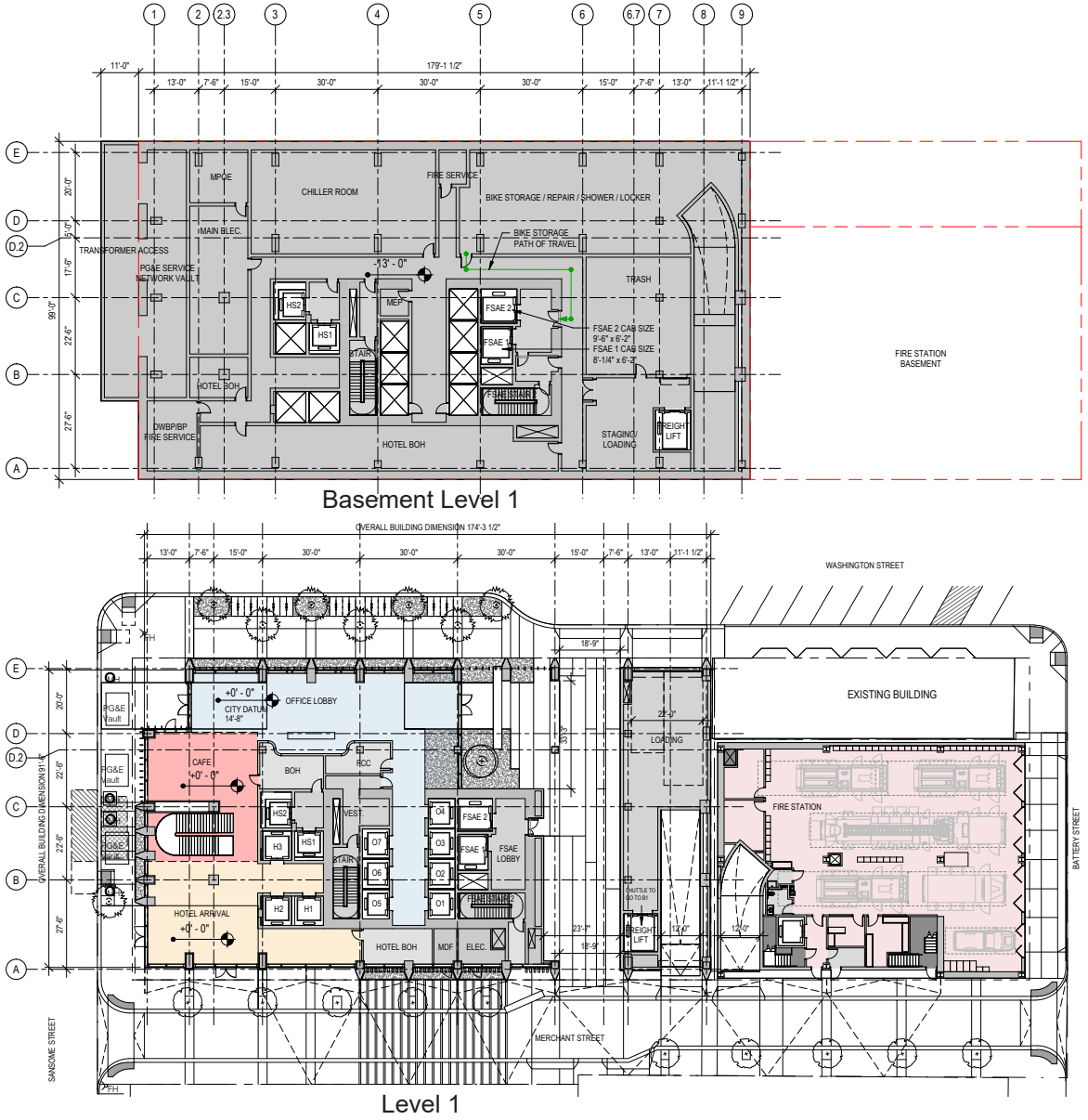



SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-13**

**HIGH-RISE BUILDING BASEMENT LEVELS 3 AND 2 FLOOR PLAN**




SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-14**

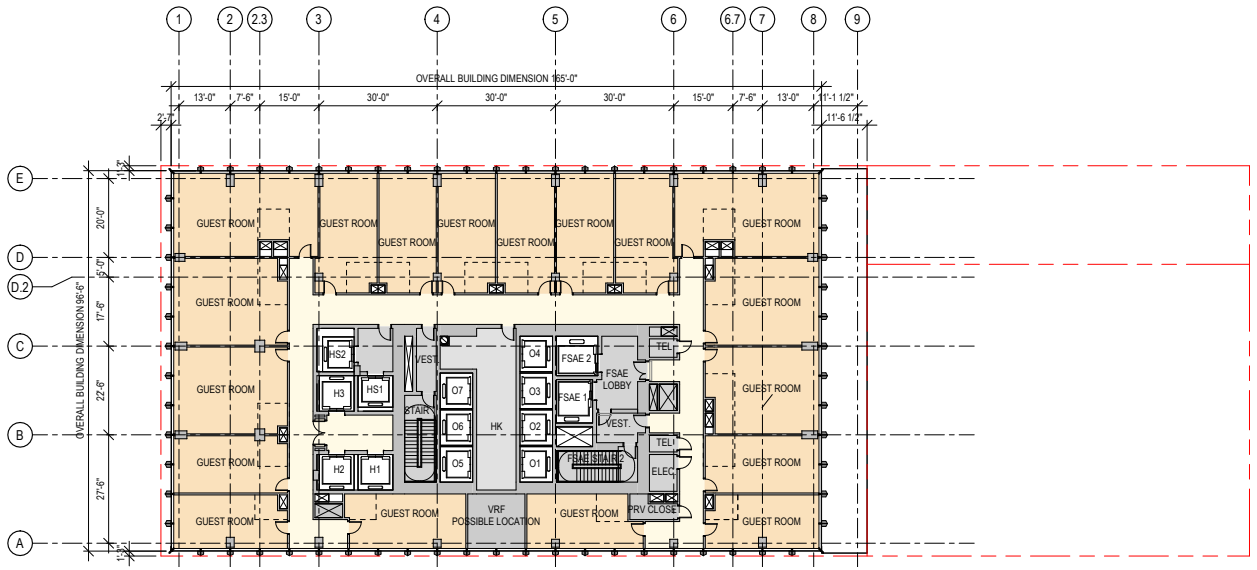
**HIGH-RISE BUILDING BASEMENT LEVEL 1 AND LEVEL 1 FLOOR PLAN**


SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-15**

**HIGH-RISE BUILDING LEVELS 2-3 FLOOR PLAN**

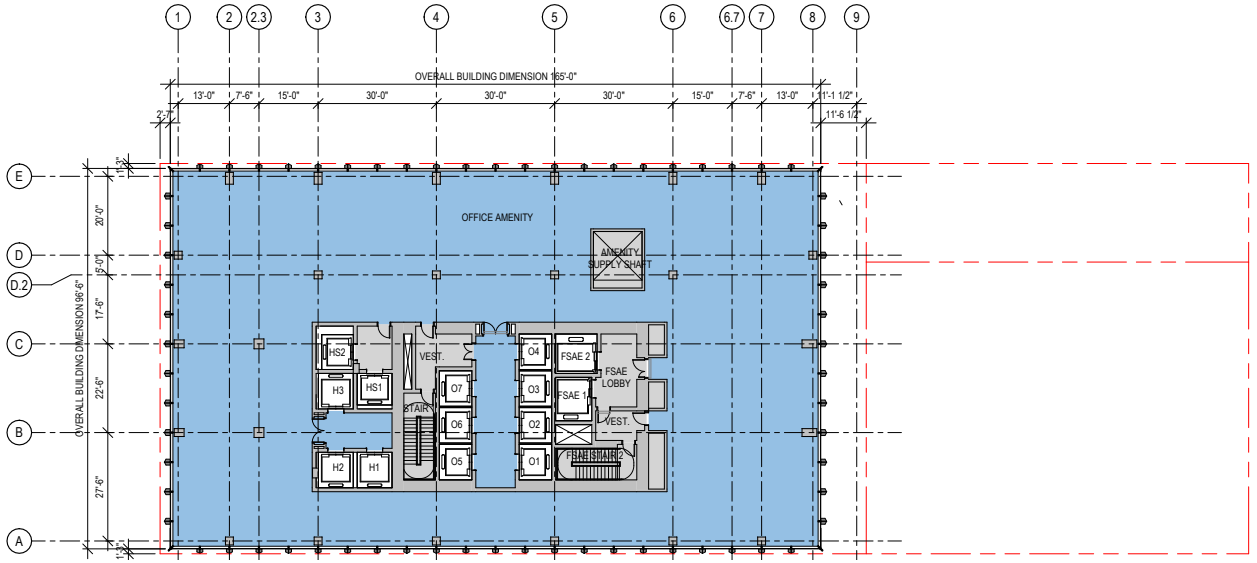



SOURCE: Skidmore, Owings & Merrill, LLP, 2024

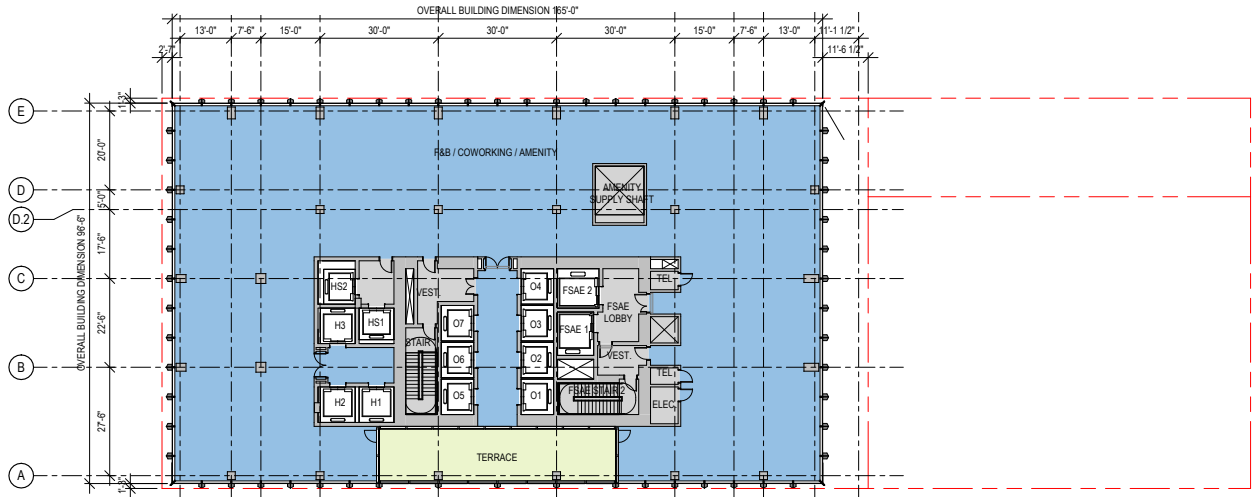
447 Battery and 530 Sansome Street

**FIGURE 2-16**

**HIGH-RISE BUILDING LEVELS 8 (TYPICAL HOTEL LEVEL) AND LEVEL 14 FLOOR PLAN**




Level 16




Level 17

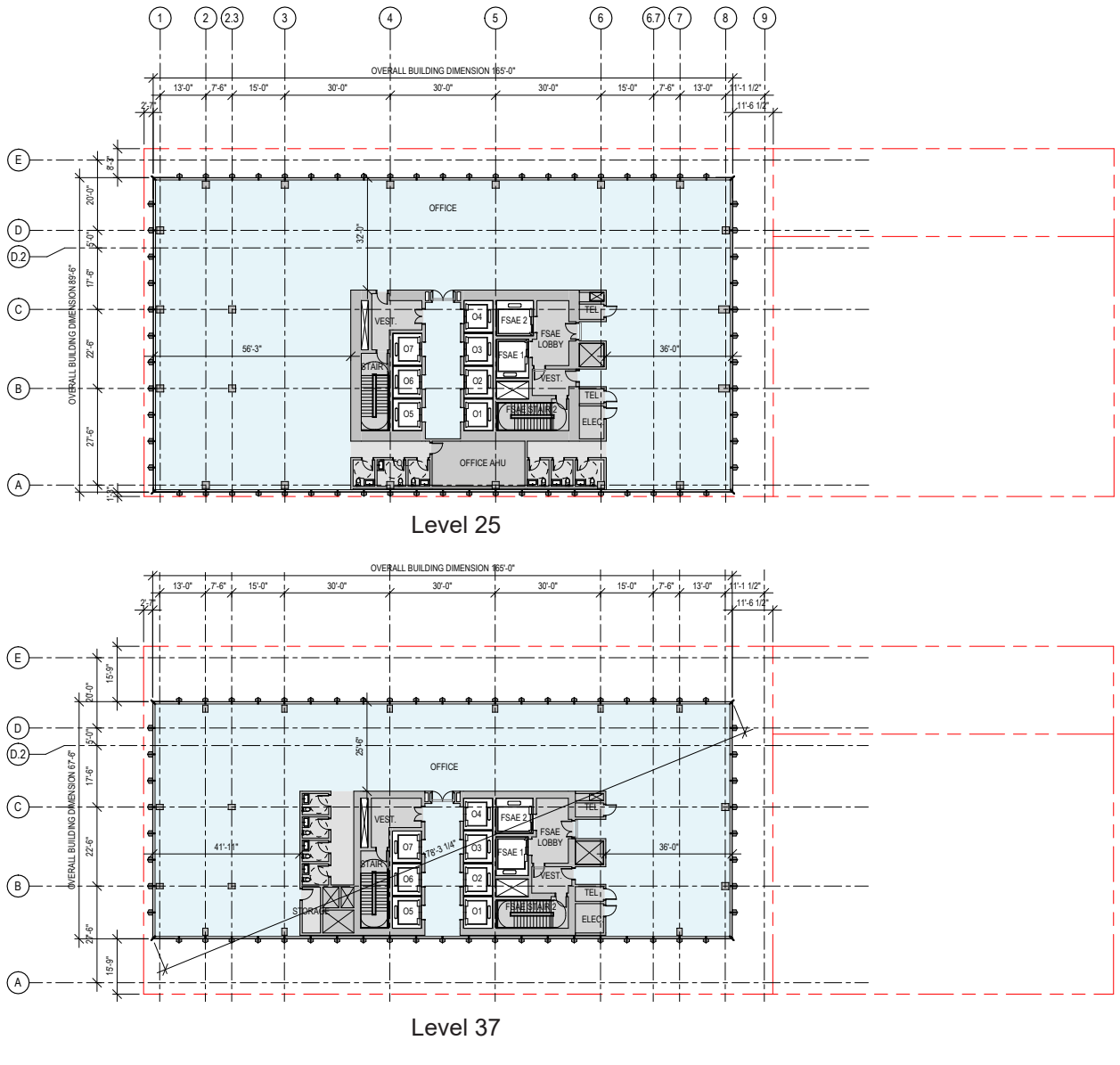
Scale: 1"=20'-0"

SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-17**

**HIGH-RISE BUILDING LEVELS 16-17 FLOOR PLAN**

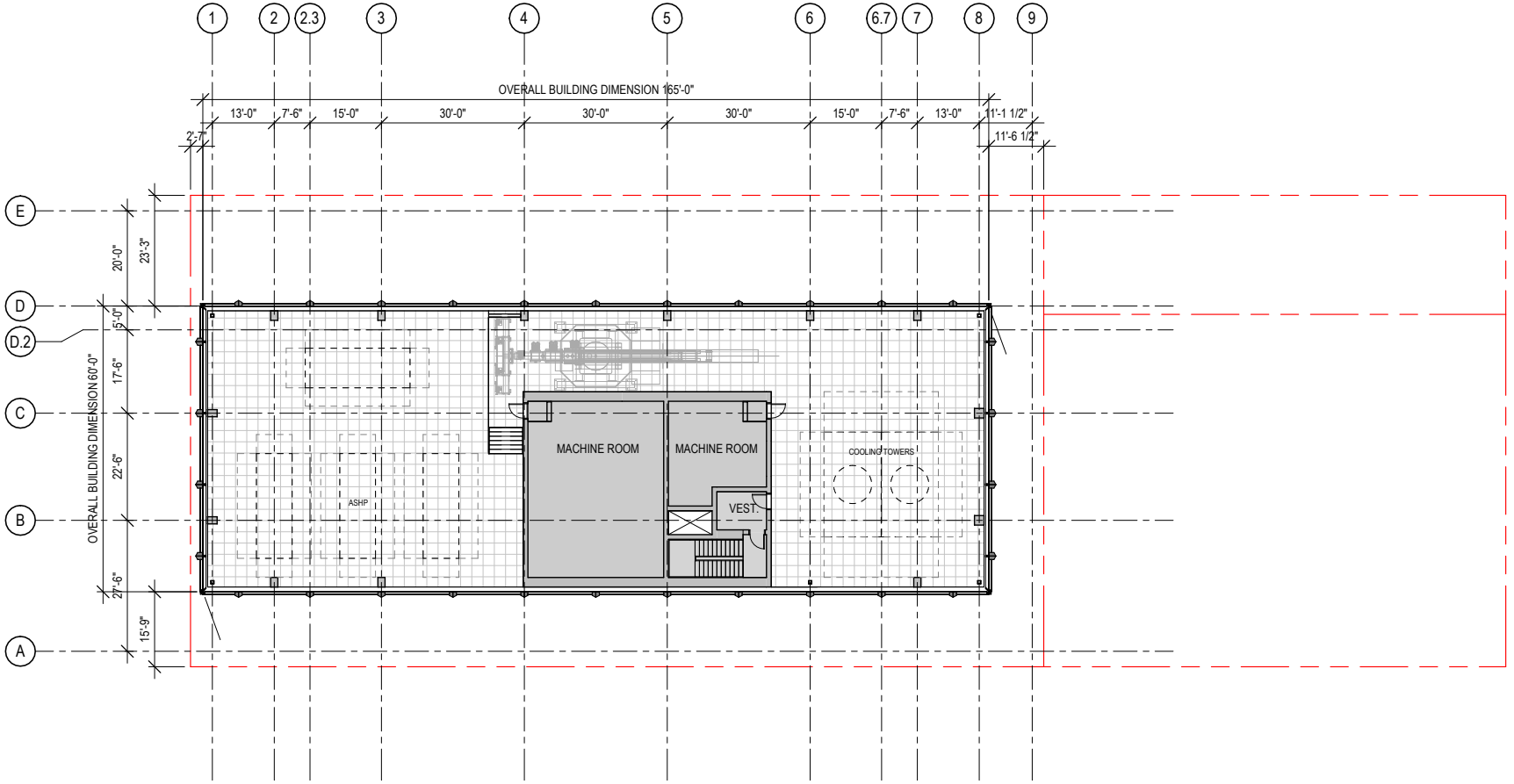



SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-18**

**HIGH-RISE BUILDING LEVELS 25 AND 37 – TYPICAL OFFICE LEVELS**




SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-19**

**HIGH-RISE BUILDING ROOF LEVEL**

### Wind-Reducing Canopies

The design of the high-rise building would include four solid wind-reducing canopies along the Sansome, Washington, and Merchant street façades (see Figure 2-3, p. 2-9):

- Canopy 1 would be elevated 20.5 feet above ground and would extend approximately 51 feet in length with a 9-foot depth along the southern half of the Sansome Street façade. The canopy would then continue along Merchant Street and extend 91.5 feet in length with a 5.5-foot depth.
- Canopy 2 would be elevated 38.5 feet above ground, extending approximately 41 feet in length with a 5-foot depth along the northern half of the Sansome Street façade.
- Canopy 3 would be elevated 20.5 feet above ground, extending 22 feet in length with a 6-foot depth along Washington Street above the porte-cochere.
- Canopy 4 would be elevated 38.5 feet above ground, extending 22 feet in length with a 4-foot depth along Merchant Street above the porte-cochere.

## 2.D.3 Vehicle and Loading Access

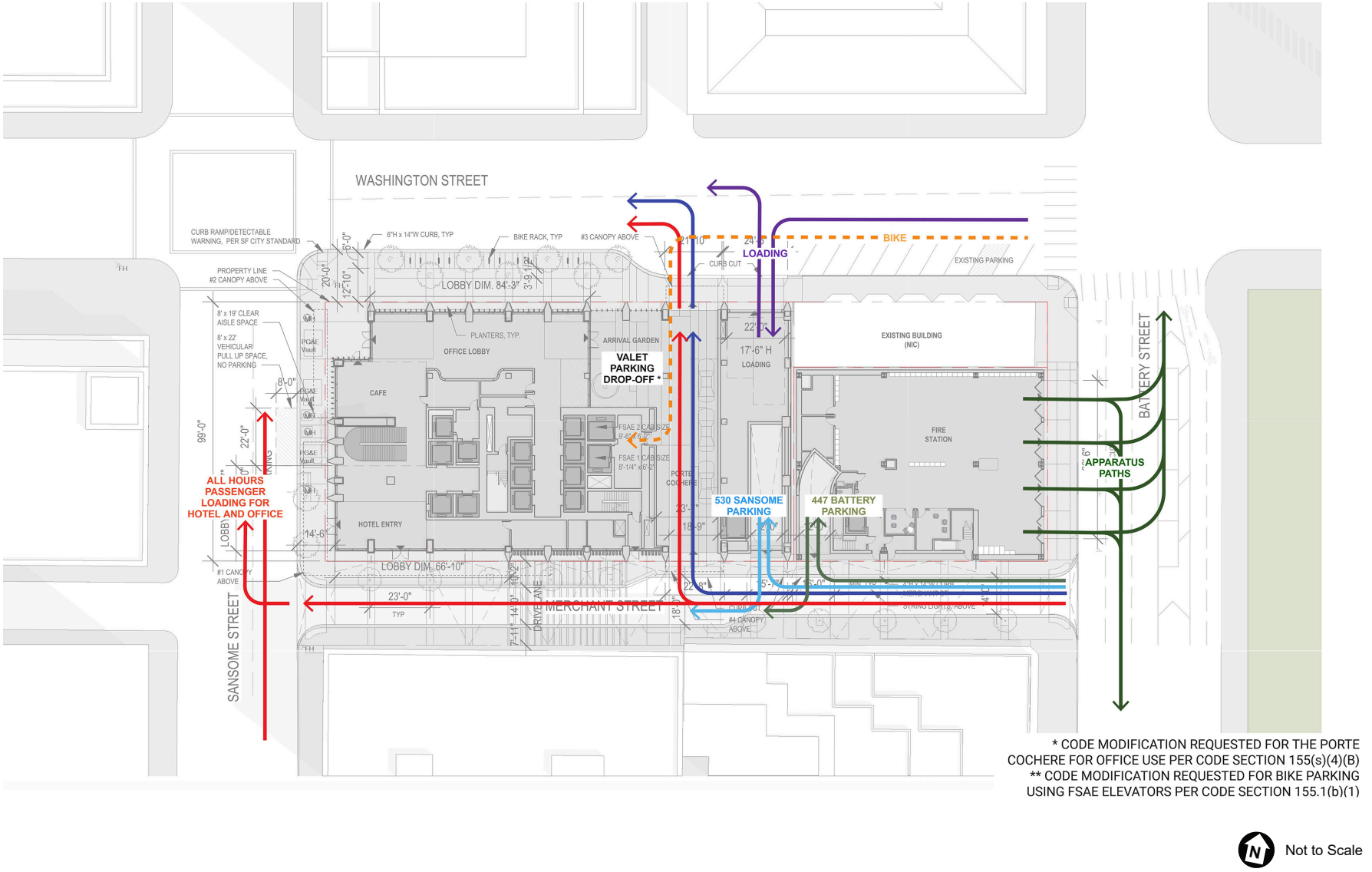
Firetruck access to the replacement fire station would occur via an approximately 70-foot-wide curb cut on Battery Street. Access to the fire department parking spaces located on the basement level of the replacement fire station would be from a ramp on Merchant Street.

The high-rise building would provide two loading dock spaces accessible from Washington Street via an approximately 25-foot-wide curb cut at the northeast corner of the first floor. The parking spaces located on the basement levels would be from a ramp on Merchant Street. The proposed project would remove up to 14 freight loading spaces on the block surrounding the project site, including one space on Sansome Street, eight spaces on Merchant Street, two spaces on Washington Street, and three spaces on Battery Street.

Office drop-off for passengers and hotel valet parking drop off would be located at the internal drive-through area on the east side of the main office lobby on Level 1. In addition, and subject to review and approval by the SFMTA, the proposed project would include a passenger loading zone that would extend along the east side of Sansome Street. The vehicle circulation plan is shown in **Figure 2-20**.

## 2.D.4 Streetscape Improvements and Open Space

Implementation of the proposed project would remove the three existing street trees along the north side of Merchant Street. The proposed project would comply with San Francisco Public Works Code requirements for street trees associated with new developments by including nine new street trees along Sansome and Washington streets and 10 new street trees along Merchant Street. An in-lieu fee would be paid for street tree plantings otherwise required by the public works code that cannot reasonably be accommodated on the site.




SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-20**
**VEHICLE CIRCULATION PLAN**

The proposed project would include conversion all of Merchant Street into a shared street/living alley[11] with approximately 12,695 square feet of privately maintained public open space improvements that would extend from Sansome Street to the eastern edge of the project site (see **Figure 2-21**). Streetscape improvements include installation of a raised crosswalk and roadway ramp at Merchant Street's intersections with Battery and Sansome streets, special paving, new street lighting and installation of street furnishings.

The proposed project would include a plan for driveway loading and operations and the project's privately maintained public open space improvements programming and activation plan on Merchant Street. The plans and programming would be subject to approval from the planning department, SFMTA, and San Francisco Public Works.

The proposed project would include removal of up to 17 existing on-street parking spaces along the southern side of Washington Street between Sansome and Battery streets and provide a freight loading zone in front of the loading dock on Washington Street for the high-rise building. The proposed project would include removal of four existing on-street parking spaces along the western edge of Battery Street to provide firetruck and apparatus access to the fire station. The proposed project would also include the removal of four existing on-street parking spaces along the east side of Battery Street adjacent to the bike lane.

Implementation of any proposed improvements within the public right-of-way would require coordination with city agencies, including SFMTA and San Francisco Public Works, for approvals regarding sidewalk widening and modifications to related infrastructure.

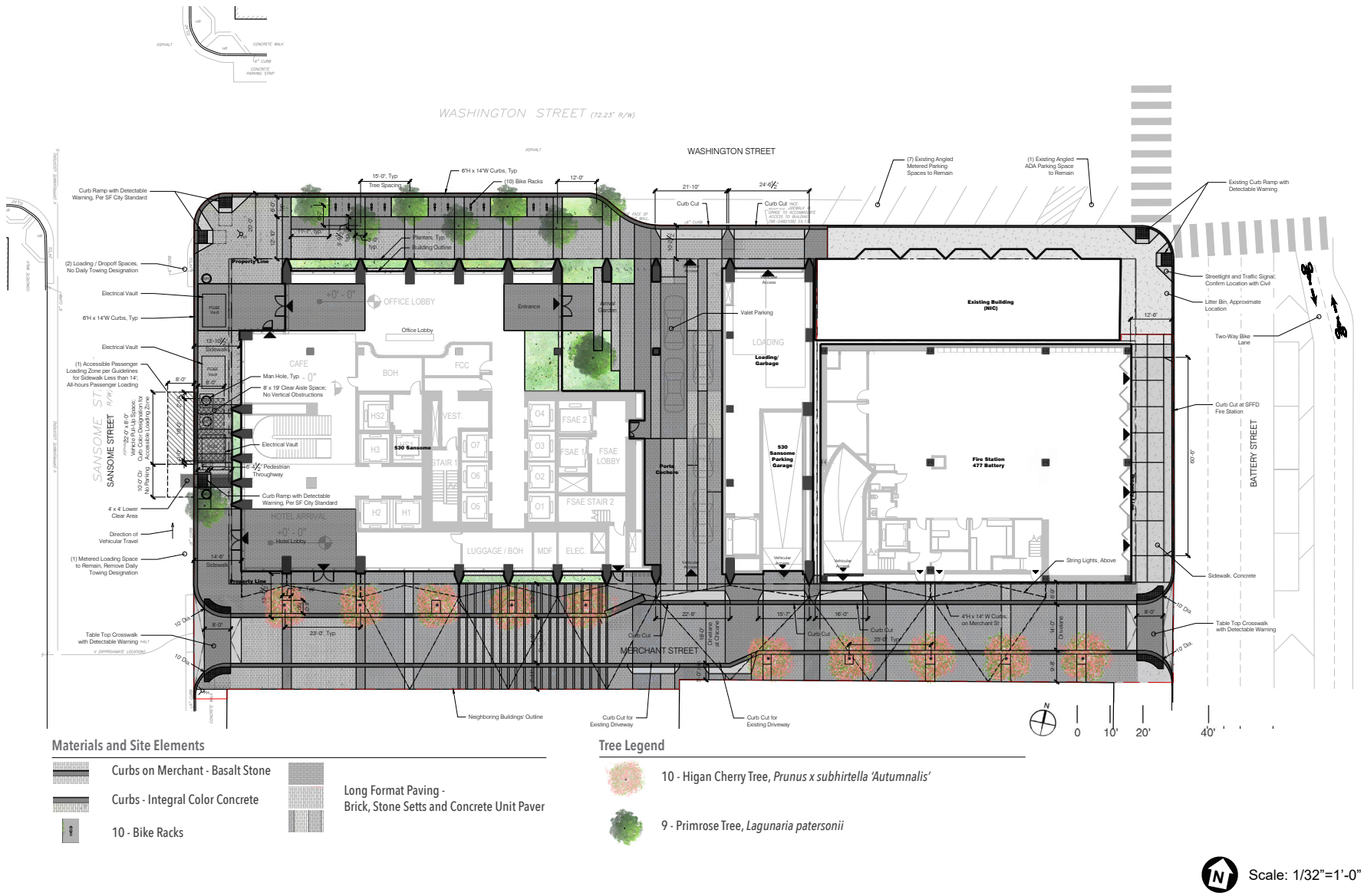
### 2.D.5 Utilities and Stormwater Retention

The proposed project would include connections to existing sewer, water, and electricity lines along Sansome, Battery, and Washington Streets. The proposed project also would include implementation of stormwater management in compliance with the City's 2016 Stormwater Management Requirements and Design Guidelines to ensure the proposed project meets performance measures set by the San Francisco Public Utilities Commission related to stormwater runoff rate and volume prior to connection to the existing combined sewer system.

## 2.E Project Construction

Construction of the proposed project would last approximately 39 months, beginning in 2027 (see **Table 2-2**). Construction would begin with mobilization and staging, followed by demolition and site preparation, structural and large utility work, and architectural and site work. Some construction stages would overlap. Demolition would take approximately one month. Excavation and shoring would last approximately 6 months. Foundation and below-grade construction would last about 22 months. Building construction and exterior and interior finishing phases would partially overlap and last approximately 32 months. Construction of the basement levels and foundation installation would require excavation extending to approximately 15 feet below ground surface (bgs) for the replacement fire station and approximately 51 feet bgs for the high-rise building. Overall, excavation of the basement levels would remove approximately 42,000 cubic yards of soil.

[11] A shared street/living alley is a narrow, low-volume traffic street designed to prioritize pedestrians, bicyclists, and provides space for social uses. Vehicles may access but with reduced speeds.




## Materials and Site Elements

- Curbs on Merchant - Basalt Stone
- Curbs - Integral Color Concrete
- 10 - Bike Racks
- Long Format Paving - Brick, Stone Setts and Concrete Unit Paver

## Tree Legend

- 10 - Higan Cherry Tree, *Prunus x subhirtella 'Autumnalis'*
- 9 - Primrose Tree, *Lagunaria patersonii*

Scale: 1/32"=1'-0"

SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 2-21**
**LANDSCAPE PLAN**

## Table 2-2 Preliminary Construction Schedule

| Construction Stage | Start | Finish | Duration |
|---|---|---|---|
| **Demolition** | 1/1/2027 | 2/5/2027 | 1 month |
| **Grading/Excavation** | 2/6/2027 | 7/31/2027 | 6 months |
| **Drainage/Utilities/Sub-Grade** | 3/14/2027 | 6/22/2027 | 3 months |
| **Foundations and Concrete Pour** | 4/4/2027 | 1/13/2029 | 22 months |
| **Building Construction** | 8/13/2027 | 3/20/2030 | 32 months |
| **Architectural coatings** | 4/16/2029 | 4/1/2030 | 12 months |
| **Paving** | 2/2/2030 | 4/1/2030 | 2 months |
| **TOTAL** | | | **39 months** |

SOURCE: Related, 2024

Construction workers driving to the project site could park at nearby garages or on-street parking spaces or they will take public transportation. Construction equipment and materials would be staged on-site and on sidewalks adjacent to the project site, including, but not limited to, a portion of the on-street angled parking area on the south side of Washington Street. Pedestrian traffic would be routed to a protected pedestrian lane in the on-street angled parking area on the south side of Washington Street. A full closure of Washington Street would occur for two days to erect and dismantle a tower crane, and the easternmost northbound lane on Sansome Street would be closed for one day during the mat foundation placement.[12] During project construction, closures of those same travel lanes on Sansome and Washington streets could be necessary for approximately 15 single-day periods for utility work. Nighttime closure of Merchant Street could be necessary for utility work.

During construction, fire department personnel and firetrucks would be relocated to nearby offsite fire stations and would continue to serve the Financial District neighborhood and the city in general. Relocation of fire equipment would take no more than approximately eight hours to complete.

Project construction would generally occur six to seven days per week and between the hours of 6 a.m. to 6 p.m., which extends beyond the normal hours of the section 2908 of the San Francisco Noise Ordinance (7 a.m. and 8 p.m.). Construction activities that would extend beyond normal hours (i.e., between 8 p.m. and 7 a.m.), include four to six 20-hour concrete pours for the foundation, crane and hoist erection and adjustment activities, utility work, site maintenance activities and material delivery and handling. Construction activities that extend beyond normal hours would be subject to review, permitting, and approval by the San Francisco Department of Building Inspection. **Table 2-3** presents a list of typical equipment expected to be used to construct the proposed project.

[12] No parking or loading is currently permitted on the easternmost northbound lane on Sansome Street between Washington and Merchant streets due to access requirements for Fire Station 13.

**Table 2-3 Project Construction Equipment**

| | |
|---|---|
| **Air compressor** | **Forklifts (gas-powered)** |
| **Backhoe** | **Generator** |
| **Bore/Drill rigs** | **Pavers and paving equipment** |
| **Cement and mortar mixers** | **Pumps** |
| **Concrete/industrial saws** | **Rollers** |
| **Concrete truck** | **Scraper** |
| **Compactor** | **Sweepers/scrubbers** |
| **Dump truck** | **Trenchers** |
| **Excavator** | **Welders** |
| **Flatbed truck** | |

SOURCE: Related, 2024

## 2.F Required Project Approvals

The following is a preliminary list of anticipated approvals for the proposed project and is subject to change. These approvals may be considered by City decision-makers in conjunction with the required environmental review, but they may not be granted until completion of the environmental review.

### 2.F.1 Local Agencies

**San Francisco Board of Supervisors**

- Approval of a Development Agreement for the proposed project, including legislation creating a master conditional use authorization process to approve the project, including modifications to certain Planning Code controls and Administrative Code provisions.
- Approval of General Plan Amendment to the Downtown Area Plan to permit construction of a building that is approximately 600 feet tall.
- Approval of a zoning map amendment for height district reclassification.
- Approval of Amendment to Conditional Property Exchange Agreement between City and EQX JACKSON SQ HOLDCO LLC regarding transfers of land to facilitate project implementation.
- Adoption of findings under the California Environmental Quality Act (CEQA).

**San Francisco Planning Commission**

- Recommend to the Board of Supervisors approval of a Development Agreement.
- Recommend to the Board of Supervisors approval of a General Plan Amendment to the Downtown Area Plan to permit construction of a building that is approximately 600-feet tall.
- Recommend to the Board of Supervisors approval of Zoning Map Amendment for Height District Reclassification: The building height of the proposed project would exceed the height limit of the existing

200-S Height and Bulk District. The Board of Supervisors would need to approve an amendment to the Zoning Map Height and Bulk Districts pursuant to Planning Code section 302 to permit construction of an approximately 600-foot-tall building.

- Approval of shadowing on publicly accessible open space under the jurisdiction of the Recreation and Park Commission (Maritime Plaza, Willie "Woo Woo" Wong Playground, Washington Square Park, and Sue Bierman Park) after consultation with the Recreation and Parks Commission (Planning Code section 295).
- Approval of a single Conditional Use Authorization pursuant to the Development Agreement legislation to approve the project including certain Planning Code modifications.
- Approval of an allocation of office square footage under Planning Code sections 320–325.
- Adoption of CEQA findings under the California Environmental Quality Act.

**San Francisco Historic Preservation Commission**

- Recommend to the Board of Supervisors approval of an ordinance to rescind the landmark designation for 447 Battery Street and/or obtain a Certificate of Appropriateness to demolish the 447 Battery Street building under Planning Code Article 10.

**San Francisco Recreation and Park Commission**

- Recommend to the Planning Commission approval of increase to annual cumulative shadow limit for Maritime Plaza and Sue Bierman Park.

**San Francisco Planning Department**

- Issuance of Pre-Construction Environmental Compliance letter.

**San Francisco Department of Building Inspection**

- Approval of demolition, grading, and building permit(s).

**San Francisco Municipal Transportation Agency**

- Approval of permits for streetscape modifications and color curb designations in the public right-of-way.
- Approval of parking and traffic changes including fire station striping on Battery Street and color curb zones.
- Approval of change to the transportation code for the conversion of the northbound lane on eastern side of Sansome Street adjacent to Project Site to an accessible passenger loading zone (approximately 75 feet in length) and daylighting zone (approximately 20 feet in length) at the approach of Washington Street.
- Approval of permits for construction within public right-of-way.

**San Francisco Public Works**

- Approval of permits for streetscape modifications in the public right-of-way.
- Approval of new, removed, or relocated street trees.
- Approval of any situations involving construction that would need to extend beyond normal hours (i.e., between 8 p.m. and 7 a.m.), which could include concrete pours, crane and hoist erection and adjustment activities, site maintenance activities and material delivery and handling.
- Approval of major encroachment permit for improvements to Merchant Street.

**San Francisco Department of Public Health**

- Approval of site mitigation plan pursuant to Maher Ordinance.
- Approval of a construction dust control plan, in accordance with San Francisco Health Code article 22B (Construction Dust Control Ordinance).

**Bay Area Air Quality Management District**

- Issuance of permits for the installation and operation, and testing of individual air pollution sources, such as emergency generators.

**San Francisco Public Utilities Commission**

- Approval of the use of groundwater wells during dewatering associated with construction.
- Approval of landscape and irrigation plans to extent project installs or modifies 5,000 square feet or more of landscape area.
- Approval of any changes to water and sewer lateral connections.
- Approval of erosion sediment control plans prior to commencing construction, pursuant to the Construction Site Runoff Ordinance.
- Approval of the project Water Supply Assessment.

**San Francisco Fire Commission**

- Approval of demolition of existing Fire Station 13 and construction of replacement Fire Station 13.

**San Francisco Arts Commission**

- Civic Design Review and approval of the design of the replacement Fire Station 13.
- Visual Arts Committee review of relocation plan for *Untitled* artwork

**Approval Action**

- Approval of the Conditional Use Authorization by the Planning Commission would constitute the approval action.

Certification of the final EIR by the Planning Commission establishes the start of the 30-day period for the appeal of the EIR to the Board of Supervisors pursuant to San Francisco Administrative Code section 31.16(c)(2).

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# CHAPTER 3
# ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

## Introduction to the Analysis

This chapter provides a project-level impact analysis of the potentially significant, physical environmental impacts of implementing the proposed project as described in Chapter 2, Project Description. Section 3.A, Historic Architectural Resources, and Section 3.B, Air Quality, both include a description of the environmental setting and regulatory framework; assessments of project impacts (i.e., offsite, onsite, construction-related, operational, direct, and indirect impacts) and cumulative impacts; and identifies mitigation measures that would reduce or avoid identified significant environmental impacts. This impact overview section describes the scope of analysis in the initial study and EIR and explains the format and basis for the impact analysis for all resource topics, including the cumulative impact analysis for these topics. This section also provides a brief overview of the existing and cumulative setting. The overview is supplemented by the environmental and cumulative setting identified in each resource topic subsection (e.g., historic architectural resource setting).

## Scope of Analysis

### *Initial Study*

As described in Chapter 1, Introduction, the planning department determined that an environmental impact report (EIR) is required for the proposed project in compliance with the California Environmental Quality Act (CEQA) and published a Notice of Preparation (NOP) (see Appendix A). As part of the preparation for the EIR, the planning department identified resource topics that could be adequately addressed in an initial study.

The initial study prepared for this EIR (Appendix B) concludes that many of the physical environmental impacts of the proposed project would result in no impact or less-than-significant impacts, and that mitigation measures agreed to by the project sponsor and required as conditions of approval would reduce significant impacts to a less-than-significant level. CEQA does not require further assessment of a project's less-than-significant impacts or those that can be reduced to less than significant with mitigation; thus, those issues are not included in this chapter. The issues addressed in the initial study are listed below. Also shown are the corresponding initial study sections and abbreviations in parentheses for each resource topic that are used in the naming of impact statements and mitigation measures:

- Section E.1, Land Use and Planning (LU)
- Section E.2, Population and Housing (PH)
- Section E.3, Cultural Resources (CR) (archeological resources)
- Section E.4, Tribal Cultural Resources (TCR)
- Section E.5, Transportation and Circulation (TR)

- Section E.6, Noise (NO)
- Section E.8, Greenhouse Gas Emissions (GG)
- Section E.9, Recreation (RE)
- Section E.10, Wind (WI)
- Section E.11, Shadow (SH)
- Section E.12, Utilities and Service Systems (UT)
- Section E.13, Public Services (PS)
- Section E.14, Biological Resources (BR)
- Section E.15, Geology and Soils (GE)
- Section E.16, Hydrology and Water Quality (HY)
- Section E.17, Hazards and Hazardous Materials (HZ)
- Section E.18, Mineral Resources (MR)
- Section E.19, Energy Resources (EN)
- Section E.20, Agriculture and Forestry Resources (AG)
- Section E.21, Wildfire (WF)

Refer to the initial study in Appendix B for a discussion and the impact analysis of the proposed project with respect to these resource topics.

### *EIR Topic*

The resource topic areas addressed in this chapter of the EIR are listed below, and the abbreviation for the resource topic used in the naming of impact statements and mitigation measures are shown in parenthesis:

- Section 3.A, Historic Architectural Resources (CR)
- Section 3.B, Air Quality (AQ)

The initial study determined that the proposed project could result in potentially significant impacts related to historical architectural resources and air quality, which are addressed in this EIR as Sections 3.A and 3.B, respectively.

## Overall Approach to Impact Analysis

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, this draft employs a "reasonable worst-case analysis" to identify the largest expected potential change from existing baseline conditions that the proposed project may create. This approach thus identifies the most severe impact that could occur, providing a conservative analysis of potential environmental impacts. The following sections provide an overview to the background and approach for the impact assessments that follow.

## Specific Approaches to the CEQA Analysis

### *Aesthetics and Parking Analysis (Senate Bill 743 and CEQA Section 21099)*

CEQA section 21099(d) provides that "aesthetics and parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment."[13] Accordingly, aesthetics and parking are not considered when determining whether a project that meets all of the following three criteria has the potential to result in significant environmental impacts:

- The project is in a transit priority area.[14]
- The project is on an infill site.[15]
- The project is a residential, mixed-use residential, or employment center development.[16]

The proposed project meets the first, second, and third criteria; therefore, this EIR does not consider aesthetics or the adequacy of parking in determining the significance of project impacts under CEQA.

CEQA section 21099(d) states that a lead agency maintains the authority to consider impacts on aesthetics pursuant to local design review ordinances or other discretionary powers and that impacts on aesthetics do not include impacts on historical or cultural resources. Therefore, there is no change in the planning department's methodology related to design review or impacts on historical resources.

The department recognizes that the public and decision makers may be interested in information pertaining to the aesthetic effects of a proposed project and may desire that such information be provided as part of the environmental review process. Therefore, some of the information that otherwise would have been provided in an aesthetics section of this EIR is included in Chapter 2, Project Description.

[13] See section 21099(d)(1) of the CEQA statute.
[14] CEQA section 21099(a)(7) defines a transit priority area as an area within 0.5 mile of an existing or planned major transit stop. A major transit stop is defined in CEQA section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency-of-service interval of 15 minutes or less during the morning and afternoon peak commute periods.
[15] CEQA section 21099(a)(4) defines an infill site as a lot in an urban area that has been previously developed or a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses.
[16] CEQA section 21099(a)(1) defines an employment center as a project on property zoned for commercial uses with a floor area ratio of no less than 0.75 in a transit priority area.

However, this information is provided solely for informational purposes and, pursuant to CEQA, is not used to determine the significance of the environmental impacts of the project.

## Scope and Organization of this Chapter

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

- **Introduction.** This subsection includes a brief description of the types of impacts that are analyzed as well as a summary of the impacts that were scoped out in the initial study (e.g., impacts that were determined to result in a less-than-significant impact or no impact), and a summary of comments received on the NOP that relate to a resource topic.
- **Environmental Setting.** This subsection presents a description of existing baseline physical conditions on the project site and in the surroundings at the time of issuance of the NOP, 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 the proposed project, as well as any mitigation measures that could avoid, eliminate, or reduce identified significant impacts. The analysis includes construction and operation of the proposed project, as applicable. This subsection is further divided to discuss the following topics.
  - **Significance Criteria.** The discussion under this heading lists the criteria—specific to each resource topic—used to identify and determine significant environmental effects of the proposed project. Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment. The guidelines implementing CEQA direct that this determination be based on scientific and factual data, including the entire record for the project, and not on argument, speculation, or unsubstantiated evidence. The significance criteria used in this draft EIR are based on planning department guidance used to assess the severity of environmental impacts of the proposed project, and on CEQA Guidelines Appendix G, using the procedures set forth in San Francisco Administrative Code chapter 31.10.
  - **Approach to Analysis.** The discussion under this heading describes the general approach and methodology used to apply the significance thresholds in evaluating the impacts of the proposed project. The methodology for applying significance criteria provides the basis for the impact analysis, which could be either qualitative or quantitative, depending on the specific impact. The methodology identifies the applicable regulatory guidelines, thresholds, standards, or accepted professional practices or protocols to be used to assess construction, operational, and cumulative impacts, as applicable.
  - **Impact Evaluation.** The discussion under this heading evaluates the potential for the proposed project to result in significant adverse effects on the existing physical environment. The proposed project's impacts are presented as individually numbered impact statements (shown in boldface type) that address each significance criterion. Each impact statement is keyed to a subject area abbreviation (e.g., CR for Cultural Resources) and an impact number (e.g., 1, 2, 3) for a combined alphanumeric code (e.g., Impact CR-1, Impact CR-2). Thus, Impact CR-1 would be the first impact in the Cultural Resources section and discusses the effects of the proposed project in response to the

first significance criterion. The impact statement concludes with a significance determination (see descriptions below under *Significance Determinations*).

Following each impact statement is a discussion that provides the analysis and rationale for the significance determination.

If the impact analysis concludes that an impact is significant, potentially feasible mitigation measure(s) are presented immediately following the impact analysis. CEQA Guidelines section 15126.4 directs preparers of an EIR to describe feasible measures that could minimize significant adverse impacts. Mitigation measures are developed to avoid, minimize, rectify, reduce, eliminate, or compensate for an impact resulting from project implementation. CEQA Guidelines section 15041 grants authority to the lead agency to require feasible changes in any or all activities involved in a project to substantially lessen or avoid significant effects on the environment. Pursuant to CEQA Guidelines section 15126.4, mitigation measures are not required for environmental impacts that are not found to be significant.

Feasible mitigation measures have been included in this chapter for specific environmental impacts, where applicable. The measures are indented and are numbered to correspond to the number of the impact analysis. For example, Mitigation Measure M-AQ-1a would be the first mitigation measure identified to address Impact AQ-1, Mitigation Measure M-AQ-1b would be a second mitigation measure identified for that impact, and so forth.

– **Cumulative Impacts.** The discussion under this heading considers the combined impacts of the proposed project and other closely related projects. A description of cumulative impacts and other related projects is provided below under *CEQA Requirements and Approach to Cumulative Impacts*.

## 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 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 and definitions:

- **No Impact (NI)** – No adverse physical changes (or impacts) to the environment are expected, or if the environmental resources does not occur in the proposed project area of the area of potential effects.
- **Less than Significant (LTS)** – Impact that does not exceed the defined significance criteria or is eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations. No mitigation is required for impacts determined to be less than significant.
- **Less than Significant with Mitigation (LTSM)** – Impact would or could result in a significant adverse effect, exceeding the defined significance criteria, but the impact is reduced to a less-than-significant level through implementation of the identified mitigation measures.

- **Significant and Unavoidable with Mitigation (SUM)** – Impact that exceeds the defined significance criteria and – although the impact can be reduced through compliance with existing local, state, and federal laws and regulations and/or implementation of all feasible mitigation measures – the residual impact would still exceed the defined significance criteria. Thus, even with implementation of feasible mitigation, the impact would be significant and therefore unavoidable.
- **Significant and Unavoidable (SU)** – 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 there are no feasible mitigation measures. Therefore, the impact would be significant and unavoidable.

CEQA Guidelines section 15125 states that the "environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." The environmental setting typically includes the existing physical conditions on the project site and vicinity at the time of NOP publication, including projects that are under construction. The environmental analysis then presents existing and existing-plus-project scenarios to identify environmental impacts that would occur from implementation of the proposed project. The analysis in this EIR uses the existing environmental setting as the baseline physical conditions to determine whether an impact is significant.

## CEQA Requirements and Approach to Cumulative Impact Analysis

### *CEQA Requirements for Cumulative Impact Analysis*

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 added to the impacts of other 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 lead 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 for effects attributable to the project alone.
- The focus of analysis should be on the cumulative impact to which the identified other projects contribute, rather than on 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 direct 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 past, present, and probable future projects producing closely related impacts that could combine with those of the 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 list of reasonably foreseeable future projects to be considered in the near-term cumulative impact analysis:

  – Similar Environmental Impacts. A relevant project contributes to effects on resources that are also affected by the proposed project. A relevant future project or plan is defined as one that is "reasonably foreseeable," such as a proposed project for which an application has been filed with the approving agency or has approved funding, or an approved plan that amended the land use controls applicable to an adjacent neighborhood.

  – Geographic Scope and Location. A relevant project is located within the defined geographic scope area for which effects could combine. The geographic scope varies on a resource-by-resource basis. For example, because health risk impacts from exposure to air pollutants are generally localized, the cumulative context for health risk analysis is the project site and vicinity within 1,000 feet of the project site or the maximally exposed receptor. In contrast, the geographic scope for evaluating cumulative effects on regional air quality consists of the affected air basin (i.e., the San Francisco Bay Area Air Basin).

  – Timing and Duration of Implementation. Effects associated with activities for a relevant project (e.g., short-term construction or demolition, or long-term operations) would likely coincide in timing with the effects of the proposed project.

The analyses in this EIR and initial study employ a list-based approach and projections-based approach, depending on the environmental topic analyzed. For instance, the cumulative analysis of cultural resources impacts (for historical architectural resources only) considers individual projects that are anticipated in the project site vicinity that may affect historical architectural resources also affected by the proposed project. By comparison, the cumulative population and housing analysis relies on a projection of overall citywide growth and other reasonably foreseeable projects, which is the typical methodology the planning department applies to analysis of population and housing impacts.

## *Cumulative Setting*

Cumulative projects within a 0.25-mile radius of the project site are listed below in **Table 3-1** and mapped on **Figure 3-1**, p. 3-11. These cumulative projects are projects that are currently under review by the planning department or a building permit is on file or has been approved by the San Francisco Department of Building Inspection (building department).

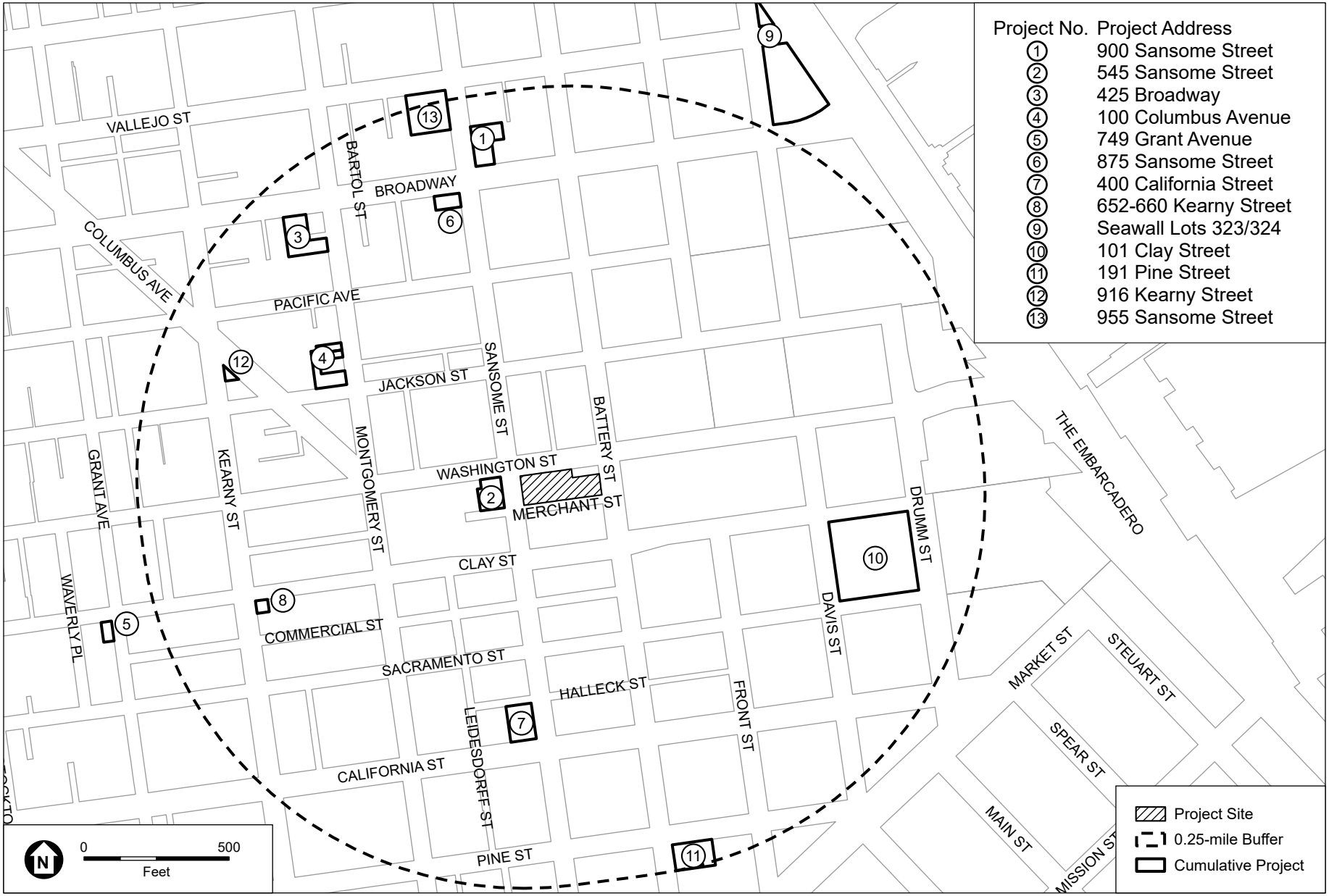
## Table 3-1 Cumulative Projects within a 0.25-Mile Radius of the Project Site

| Map No. | Address (Planning Department Case No.) | Description and Status | Dwelling Units | Hotel Rooms | Retail/ Commercial (sf) | Office (sf) | Other (sf) |
|---|---|---|---|---|---|---|---|
| **1** | 900 Sansome Street (2020-009619ENV) | Renovation and change of use of an existing two-story parking garage to an office building. Minor exterior modifications and no change to the building envelope. Building permit approved. | — | — | — | 28,863 | |
| **2** | 545 Sansome Street (2020-001410ENV) | Demolition of buildings at 501–505 and 517 Washington Street and expansion of the existing nine-story commercial and office building at 545 Sansome Street into a 15-story, approximately 198-foot-tall mixed-use office building with ground floor retail uses. Portions of the 545 Sansome Street non-primary façades would be removed to extend the building façade to meet Washington Street. Additionally, the proposed project would include a new building core and structural upgrades to improve the building's structural integrity and life safety systems and allow for a 6-story vertical addition that would be set back from the historic façades on Sansome and Mark Twain Alley.<br>In total, the project would add 49,977 net new square feet of office space, 2,979 net new square feet of ground-floor retail, and 1,250 square feet of POPOS. Project has been approved. | — | — | 6,410 (2,979 net new) | 105,224 (49,977 net new) | |
| **3** | 425 Broadway (2024-005966PRJ/ENV) | Modification of a previously approved project—Commission Motion No. 21055. Replace the existing 144-space car parking garage with a mixed-use project. Because of a below grade sewer easement that bisects the site, the project is comprised of two mixed-use buildings on a single lot (a 7 story over basement building facing Broadway and an 8-story building facing Montgomery Street) containing a total of 74 dwelling units. The project would have ground floor retail space fronting both Broadway and Montgomery Streets and a laundromat, and no office space or off-street parking. Common open space would be provided in a roof terrace and in the courtyard, which is an extension of Verdi Alley. Under planning department review. | 74 | | | | |

| Map No. | Address (Planning Department Case No.) | Description and Status | Dwelling Units | Hotel Rooms | Retail/ Commercial (sf) | Office (sf) | Other (sf) |
|---|---|---|---|---|---|---|---|
| **4** | 100 Columbus Ave (2022-004374PRJ) | Change a public parking lot use to a single-story office building with surrounding landscaping in the rear open area. Building permit approved. | — | — | — | 3,486 | — |
| **5** | 749 Grant Avenue (2019-003978ENV/PRJ) | Addition of two stories to existing two-story commercial building for residential use. The building would contain six residential units and 4,676 square feet of commercial use. Planning Approved. Permit filed. | 6 | | | 4,676 | |
| **6** | 875 Sansome (303 Broadway) (2024-006874PRJ/ENV) | Demolition of the existing two-story structure and new construction of a mixed-use, 8-story building with 1-story basement garage containing 21 dwelling units. Planning application filed. | 21 | — | — | — | — |
| **7** | 400 California Street (2020-010710PRJ) | Conversion of 9,330 square feet of ground floor space to office use. The property consists of the historic two-story Bank of California building (the bank) and adjacent 21-story office tower located at 430 California Street, which connected to the bank via two openings on the ground floor. The conversion to office space would retain the bank's historic features. Planning approved. | — | — | — | 9,330 | — |
| **8** | 652–660 Kearny Street (2024-000138PRJ/ENV) | Conversion of office use to residential. Construction of a bike room/trash room/electrical room on the first floor, conversion of the second floor office into two residential units, and construct a new deck and a stair penthouse. Planning Application on file. | 2 | — | — | — | — |
| **9** | Seawall Lots 323/324 (2015-016326PRJENV) | The proposed project involves the demolition of the existing parking lot and construction of a new, approx. 40-foot-tall building as a permanent theater for Teatro ZinZanni, a new 192 room hotel and a new privately financed, publicly accessible park. Planning Approved. Construction has not yet begun. | — | 192 | — | — | — |
| **10** | 101 Clay Street/ 3 Embarcadero Center (2023-005353PRJ) | Conversion of two vacant commercial spaces on the promenade level of 3 Embarcadero Center into a childcare facility (up to 146 kids) and use a portion of the promenade for outdoor childcare play area. Building permit approved. | — | — | — | — | 6,574 (childcare) |

| Map No. | Address (Planning Department Case No.) | Description and Status | Dwelling Units | Hotel Rooms | Retail/ Commercial (sf) | Office (sf) | Other (sf) |
|---|---|---|---|---|---|---|---|
| **11** | 191 Pine Street (2019-022734PRL) | Demolition of a wall to merge an existing restaurant at 191 Pine Street with adjacent retail space at 195 Pine Street to create new 5,686-square-foot restaurant. Building permit approved. | — | — | 5,686 | — | — |
| **12** | 916 Kearny Street (2022-006253PRL, 2019-019722PRJ/ENV) | Conversion of floors 3–6 in an existing building from office use to 15 tourist hotel rooms. Building permit approved. | — | 15 | — | — | — |
| **13** | 955 Sansome Street (2023-008196PRJ) | Demolition of existing 2-story parking garage and new construction of a 24-story above grade and 1-story below grade mixed-use structure. The building contains 13,710 square feet of retail space and 102 dwelling units (171,601 square feet). Project application under review. | 102 | — | 13,710 | — | — |
| **TOTAL** | | | **205** | **207** | **25,806 (2,979 net new)** | **151,579 (49,977 net new)** | **6,574** |

SOURCE: San Francisco Planning Department, 2024




SOURCE: San Francisco Planning Department, 2024; ESA, 2024

447 Battery and 530 Sansome Street

**FIGURE 3-1**

**CUMULATIVE PROJECTS WITHIN A 0.25-MILE RADIUS OF THE PROJECT SITE**

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# 3.A Historic Architectural Resources

## 3.A.1 Introduction

This section assesses the project's impacts on historic architectural resources. It outlines the regulatory framework for and describes the existing environmental setting related to this resource area; identifies potential historic architectural resources near the project site; evaluates potential direct and indirect impacts of the proposed project on historic architectural resources; and identifies mitigation measures to reduce potential adverse impacts. Project-related impacts on archeological resources, human remains, and tribal cultural resources are addressed in Appendix B, Initial Study, of this EIR.

### *Definitions and Data Sources*

A *historical resource* 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 of Historical Resources (California Register). In addition, a resource is presumed to be a historical resource if it is either (1) identified as significant in a local register of historical resources (e.g., San Francisco Planning Code article 10 and/or article 11) or (2) deemed significant because of its identification in a historical resources survey that meets the requirements of Public Resources Code section 5024.1(g), "unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant." CEQA section 21084.1 also permits a lead agency to determine that a resource constitutes a historical resource even if the resource does not meet the foregoing criteria.

For the purposes of this EIR, the term *historic architectural resource* is used to distinguish such resources from archeological resources, which may also be considered historical resources under CEQA. Archeological resources, including archeological resources that are potentially historical resources under CEQA Guidelines section 15064.5, are addressed in the initial study (Appendix B).

The information and analysis in this section are based on the following sources:

- *447 Battery Street, San Francisco, Historic Resource Evaluation* (447 Battery Street HRE);[17]
- *Historic Resource Evaluation Response for 447 Battery Street, Part I* (447 Battery Street HRER Part I);[18]
- *Historic Resource Evaluation Response for 447 Battery Street, Part II* (447 Battery Street HRER Part II);[19]
- *530 Sansome Street, San Francisco, Historic Resource Evaluation, Part 1* (530 Sansome Street HRE);[20]
- *Historic Resource Evaluation Response for 530 Battery Street, Part I* (530 Battery Street HRER Part I);[21]
- *Historic Resource Evaluation Response for 530 Sansome Street, Part II* (530 Battery HRER Part II);[22]

[17] Page & Turnbull, *447 Battery Street, San Francisco, Historic Resource Evaluation*, prepared for San Francisco Planning Department, October 2017.
[18] San Francisco Planning Department, *Historic Resource Evaluation Response for 447 Battery Street, Part I*, December 2017.
[19] San Francisco Planning Department, *Historic Resource Evaluation Response 447 Battery Street, Part II*, July 2020.
[20] Environmental Science Associates, *530 Sansome Street, San Francisco, Historic Resource Evaluation, Part I*, prepared for San Francisco Planning Department, September 2020.
[21] San Francisco Planning Department, *Historic Resource Evaluation Response for 530 Sansome Street, Part I*, December 2020.
[22] San Francisco Planning Department, *Historic Resource Evaluation Response for 530 Sansome Street, Part II*, December 2020.

- *Historical Evaluation of 425 and 439–445 Washington Street, San Francisco, According to California Register Criteria* (425 and 439–445 Washington Street HRE);[23] and
- *Preservation Team Review Form for 425 and 439–445 Washington Street* (PTR for 425 and 439–445 Washington Street).[24]

These documents are included in Appendices C.1 through C.7 of this EIR.

## 3.A.2 Regulatory Framework

The following section summarizes relevant federal, state, and local plans and policies related to historical resources.

### *Federal*

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

#### National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966 was enacted primarily to acknowledge the importance of protecting the heritage of the United States from rampant federal development. It was the triumph of more than a century of struggle by a grassroots movement of committed preservationists. The following describes the NHPA's responsibilities:

- Set the federal policy for preserving our nation's heritage.
- Establish a federal-state and federal-tribal partnership.
- Establish the National Register of Historic Places (National Register) and National Historic Landmarks Programs.
- Mandate the selection of qualified state historic preservation officers (SHPOs).
- Establish the Advisory Council on Historic Preservation.
- Charge federal agencies with responsible stewardship.
- Establish the role of certified local governments within the states.

The regulations supporting the federal policy for historic preservation set by the NHPA can be found in Code of Federal Regulations (CFR) title 36, part 800 (36 CFR 800), "Protection of Historic Properties." This provides guidelines on how to follow the policy set forth in the NHPA.

[23] William Kostura, *Historical Evaluation of 425 and 439–445 Washington Street, San Francisco, According to California Register Criteria,* prepared for San Francisco Planning Department, May 2017.
[24] San Francisco Planning Department, *Preservation Team Review Form for 425 and 439–445 Washington Street,* February 2018.

## National Register of Historic Places

The National Register is the nation's master inventory of cultural resources worthy of preservation. It is administered by the National Park Service, which is represented at the state level by the SHPO. The National Register includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archeological, or cultural significance at the federal, state, or local level. Resources that are listed in or have been found by the SHPO to be eligible for listing in the National Register are called *historic properties*.

Under the NHPA, a property is considered significant if it meets the NHPA listing criteria in 36 CFR 60.4, which read as follows:

> The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and
>
> (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) that are associated with the lives of persons significant in our past; or
>
> (c) that embody the characteristics of a type, period, or method of construction, or that represent works of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) 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:* The place where the historic property was constructed.
- *Design:* The combination of elements that create the form, plans, space, structure, and style of the 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.
- *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 are considered historical resources under CEQA.[25]

## 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 CFR 68 in 1995 and updated in 2017.[26] The Secretary's Standards for rehabilitation have been adopted by local government bodies across the country, including the City and County 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 requires 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

[25] *California Code of Regulations*, title 14, section 4851, Historical Resources Eligible for Listing in the California Register of Historical Resources, https://govt.westlaw.com/calregs/Document/I67F9B4365B4D11EC976B000D3A7C4BC3?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)&bhcp=1, accessed January 27, 2025.
[26] 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/orgs/1739/secretary-standards-treatment-historic-properties.htm, accessed January 27, 2025.

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 historical 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*

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 NHPA on a statewide level. The California Office of Historic Preservation also maintains the California Historical Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the state's jurisdiction.

## California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects in California. To be considered a historical resource, a property must generally be at least 50 years old; when acting as the CEQA lead agency, the San Francisco Planning Department uses a threshold of 45 years. A *historical resource* is defined in CEQA Guidelines section 15064.5 as a cultural resource (i.e., a built-environment resource, archaeological resource, or human remains) that meets at least one of the following criteria:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register.

(2) A resource included in a local register of historical resources, as defined in Public Resources Code section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of Public Resources Code section 5024.1(g), 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 a 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.

(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 historical resources (pursuant to section 5020.1(k) of the Public

> Resources Code), or identified in a historical resources survey (meeting the criteria in Public Resources Code section 5024.1[g]) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Public Resources Code section 5020.1(j) or 5024.1.

Therefore, under the CEQA Guidelines, even if a resource is not included in any federal, state, or local register or identified in a qualifying historical resources survey, a lead agency may still determine that any resource is a historical 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 whether a proposed project would have a significant effect on important historical resources or unique archaeological resources. If a resource is neither a unique archaeological resource nor a historical 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 historical 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 historical resource and must be subject to further analysis to assess whether they would result in material impairment of a historical resource's significance.

## California Register of Historical Resources

The California Register, administered by the California Office of Historic Preservation, is the authoritative guide to historical and archeological resources that are significant within the context of California's history. The eligibility criteria for inclusion in the California Register are based on and correspond to the National Register criteria. Under CEQA, certain resources are determined to be automatically included in the California Register, including California properties that are formally eligible for or listed in the National Register. These resources are considered historical resources by the San Francisco Planning Department for the purposes of CEQA. The criteria used for determining eligibility for listing in the California Register closely parallel those developed by the National Park Service for the National Register but also include relevance to California history. To be eligible for listing in the California Register as a historical resource, a resource must meet at least one of the following criteria (Public Resources Code section 5024.1[c]):

- **Criterion 1 (Event):** Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California.
- **Criterion 2 (Person):** Resources that are associated with the lives of persons important to history.
- **Criterion 3 (Design/Construction):** Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values.
- **Criterion 4 (Information Potential):** Resources or sites that have yielded or have the potential to yield information important in prehistory or history.

In addition, to be considered eligible for listing in the California Register, a historical resource must possess integrity. Consideration of integrity for evaluation of California Register eligibility closely follows the seven aspects of integrity that apply to the National Register (listed above).

## *Local*

### San Francisco General Plan

The Urban Design and Housing elements of the San Francisco General Plan (general plan) address issues related to historic preservation through policies that emphasize preserving notable landmarks and historic features, remodeling older buildings, and respecting the character of older buildings adjacent to new development. General plan policies related to cultural resources that are relevant to the proposed project are identified below.

#### *URBAN DESIGN ELEMENT*

The Urban Design Element of the general plan includes the following policies related to historic preservation:

> ***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 2.6:*** Respect the character of older development nearby in the design of new buildings.

#### *HOUSING ELEMENT*

The Housing Element of the general plan includes the following policy related to historic preservation:

> ***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 (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 the City's intent "that landmarks and historic buildings be preserved."

#### *SAN FRANCISCO HISTORIC PRESERVATION COMMISSION AND PLANNING CODE, ARTICLE 10*

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 commission approves certificates of appropriateness for individual landmarks and landmark districts designated under planning code article 10 and permits to alter for individual properties and conservation districts listed under article 11.[27] The HPC reviews and comments on CEQA documents for projects that affect historic resources and projects that are subject to review under NHPA section 106.

The San Francisco Charter gives the HPC the ability to identify, designate, and protect historic landmarks—buildings, sites, objects, and districts—from inappropriate alterations. Regulations in article 10 of the planning code control the way in which the HPC exercises its authority. Since adopting article 10 in 1967, the

[27] Article 11 applies only within the C-3 (Downtown) use districts, none of which include the project site. Therefore, article 11 is not discussed further.

City has designated 319 landmark sites (including the building at 447 Battery Street)[28] and 14 historic districts under article 10.[29] Any property that has been locally designated as an article 10 landmark or a contributor to an article 10 district is considered a CEQA historical resource.

### San Francisco Planning Department CEQA Review Procedures for Historical Resources

The planning department prepared the *CEQA Review Procedures for Historic Resources* to provide guidance in determining whether a resource is considered a historical resource as defined by CEQA.[30] The review procedures define the following three categories of properties:

- **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 historical resources, or properties for which the City has no information indicating that the property is a historical resource.

To determine whether a property is eligible as a historical resource for the purposes of CEQA, the planning department requires an evaluation of the property's individual significance for listing in the California Register and an examination of the property's relationship to any eligible historic district.

To assess impacts within historic districts, the planning department examines several factors such as the size and significance of the historic district, number and location of contributing features/non-contributing features, district integrity, district boundaries, and details of the proposed project. Assessments within historic districts are examined on a case-by-case basis, given the wide variety and unique nature of historical resources and historic districts.

## 3.A.3 Environmental Setting

The proposed project would entail the demolition of four buildings on the project site: 447 Battery Street (constructed in 1907), 425 and 439–445 Washington Street (both constructed between 1906 and 1907), and 530 Sansome Street (constructed in 1975). Additionally, the project would relocate one object, the sculpture *Untitled* by Henri Marie-Rose (created and installed in 1976), from 530 Sansome Street to the new fire station proposed for the 447 Battery Street site, or, if approved by planning department preservation staff, to another prominent publicly accessible location on the project site. The building at 447 Battery Street and the sculpture *Untitled* have been previously determined to be individually eligible for listing in the California Register, and they are considered individual historical resources. The building at 530 Sansome Street and the sculpture are contributors to the discontiguous Embarcadero Center Historic District (described below),

[28] 447 Battery Street was designated Landmark No. 299 in March 2022. San Francisco Board of Supervisors, "Ordinance No. 43-22: Article 10 Landmark Designation for 447 Battery Street (aka Jones-Thierbach Coffee Company Building)," File No. 211021, February 28, 2022 (recommended as amended), March 15, 2022 (officially passed), accessed November 8, 2024, https://sfplanninggis.org/docs/landmarks_and_districts/LM299.pdf#page=8.
[29] City and County of San Francisco, Article 10: Preservation of Historical Architectural and Aesthetic Landmarks, 2024, https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_planning/0-0-0-27871, accessed October 29, 2024.
[30] San Francisco Planning Department, Preservation Bulletin No. 16, *CEQA Review Procedures for Historic Resources*, Draft, March 31, 2008.

which has been determined eligible for listing in the California Register. The other two buildings, 425 and 439–445 Washington Street, have been determined to be ineligible for listing in the California Register, and they are not considered historical resources. Although all four buildings and the sculpture are discussed here to describe the environmental setting for the proposed project, only the historical resources are presented in the historical context and analysis that follow.

## *Architectural Descriptions of Historic-Age Buildings and Objects within the Project Site*

### 447 Battery Street

The building at 447 Battery Street (also known as the Jones-Thierbach Coffee Company Building), generally has a rectangular footprint that fills the majority of the parcel, with the exception of a light shaft along the western edge of the parcel formed by a recessed section of the building's rear façade. The three-story, 48-foot-tall building has a flat roof surrounded by a parapet. The exterior of the building features an exposed brick substratum laid in a common bond pattern. The internal structure features heavy timber beams.

The primary façade of this building, facing Battery Street to the east, has three non-original openings at the ground floor that contain recent storefront and entrance assemblies. Both the second and third stories feature seven evenly spaced structural bays, each of which contains a segmental arched opening with a non-original tripartite metal-sash window. The south façade, which faces Merchant Street, contains eight structural bays that also feature segmental arched openings. The ground-floor openings feature the same non-original window configurations as the primary façade, while the second and third stories feature steel-sash windows with divided lites. A non-original, metal-frame entrance has been inserted at one of the original window openings near the west end of the south façade.

A cornice formed by bands of brick courses spans the east and south façades immediately below the roofline. The cornice corbeling is still discernible on both façades, but sections of the brick were heavily damaged when the stucco cladding was removed. The north and west façades of 447 Battery Street abut the adjacent buildings and are not visible.[31]

### 425 Washington Street

The existing building at 425 Washington Street has a rectangular footprint that fills the entire parcel. The three-story, 41-foot-tall commercial building has frontage on Washington and Merchant streets. The east and west façades of 425 Washington Street abut the adjacent buildings and are not visible.

The primary façade of this building, facing Washington Street to the north, is clad in brick and features two bays that include fenestration on all three floors. The bays are bordered by simple brick moldings that terminate in arched window headers at the third floor. On the first story, the east (left) bay features a recessed entrance with pair of metal-frame doors and a transom, and the west bay is infilled and clad in stucco. The second and third floors of both bays feature fixed-over-awning, steel-sash windows, and spandrel panels clad in plaster delineate the floors.

The rear façade of 425 Washington Street, which faces Merchant Street to the south, is clad in textured stucco on the first and third stories and brick on the second story. The first floor features two recessed bays, both of

[31] San Francisco Planning Department, *447 Battery Street Draft Environmental Impact Report,* October 2020, p. 3.A-2.

which are covered with plywood, and one recessed, flush, metal pedestrian door. The second floor features three fixed, metal-sash windows, and three additional window openings are infilled with brick. A corbeled brick cornice with steel bolts (that secure tie rods on the interior) separate the second and third floors. The third floor features two pairs of fixed-over-awning, steel-sash windows. The façade terminates in metal coping at the roofline. The building is capped by a flat roof surrounded by parapets.[32]

## 439–445 Washington Street

The 439–445 Washington Street property has a rectangular footprint that fills the entire parcel. The two-story commercial building has frontage on Washington and Merchant streets. The east and west façades of 439–445 Washington Street abut the adjacent buildings and are not visible.

The primary façade of this building, which faces Washington Street to the north, is clad in red bricks and features three bays that include fenestration on both floors. The bays are bordered by simple brick moldings that terminate in segmental arched window headers at the second floor. On the first story, the east and center bays are infilled with plywood, and the west bay features recessed entry with a pair of paneled, wood doors and a glazed, wood-frame door accessible by concrete steps. On the second floor, all three bays feature fixed-over-awning, steel-sash windows, and the spandrel panels are used for signage. The façade terminates in a decorative cornice composed of three rows of stacked, offset, rowlock-bond bricks.

The rear façade of 439–445 Washington Street, which faces Merchant Street to the south, is clad in older (likely original) bricks that appear to have been sandblasted. The first floor features four segmental-arched openings, all of which are partially or entirely covered by plywood. The west opening also features a low, metal security gate. The second floor features six fixed-over-casement, steel-sash windows with a continuous sill course and decorative, lintel-like moldings above. The façade terminates in a corbeled cornice below a flat parapet at the roofline. The building is capped by a flat roof with five skylights surrounded by parapets.[33]

## 530 Sansome Street

The 530 Sansome Street property has a rectangular footprint that fills the entire parcel. The two-story-plus-mezzanine fire station is a poured-in-place, reinforced concrete building capped by a flat roof and has frontage on Washington, Sansome, and Merchant streets. The lower portion of the façade (which contains the first floor and mezzanine) is clad in vertically oriented metal panels, and the exposed concrete structure composes the upper portion (second floor). The east façade of 530 Sansome Street abuts the adjacent building and is not visible.

The primary façade of this building, which faces Sansome Street to the west, is composed of three structural bays. On the first floor, the north and center bays each feature a roll-up metal door that provides access into and out of the apparatus bays where vehicles are parked and maintained. The south (right) bay is clad in metal panels and features a glazed, metal-frame door with a fixed sidelight and two bands of metal-sash windows, one on the first floor and one at the mezzanine level. The exposed concrete structure at the second-floor level has no window or door openings. Circular metal emblems on the second floor of all façades read “SFFD” to identify the building as part of the San Francisco Fire Department.

[32] William Kostura, *Historical Evaluation of 425 and 439–445 Washington Street, San Francisco, According to California Register Criteria,* prepared for the San Francisco Planning Department, May 2017, p. 4.
[33] William Kostura, *Historical Evaluation of 425 and 439–445 Washington Street, San Francisco, According to California Register Criteria,* prepared for the San Francisco Planning Department, May 2017, pp. 4–5.

Like the primary façade, the secondary façade of 530 Sansome Street, which faces Washington Street to the north, and the tertiary façade, which faces Merchant Street to the south, feature two bands of metal-sash windows, one on the first floor and one at the mezzanine level. The south façade also features a roll-up, metal door at the east end of the first floor and a tall, vertical duct that rises above the roofline.[34]

### Sculpture *Untitled*

At the west end of the north façade of 530 Sansome Street is a wall-mounted sculpture by artist Henri Marie-Rose named *Untitled*. The three-dimensional, copper sculpture depicts firefighters with a hose next to the letters "SFFD."[35]

## *Neighborhood Development*

The project site is located in the present-day Financial District, which is bordered by Broadway on the north; San Francisco Bay on the east; Folsom Street on the south; and Kearny, Stockton, and Fourth streets on the west. The setting of 447 Battery Street experienced a substantial shift in character during the post–World War II period. During this period, the San Francisco Redevelopment Agency pushed forward plans to demolish a large portion of the city's produce market district—located near the waterfront immediately east of 447 Battery Street—and construct the Golden Gateway Redevelopment Project using federally subsidized urban renewal funds. The Golden Gateway ultimately filled a large swath of downtown bounded by Broadway, Battery Street, California Street, and The Embarcadero and introduced new low-rise and high-rise housing and office buildings, including the multi-building Embarcadero Center office and hotel complex (described below). Simultaneously, the Financial District expanded north along Montgomery, Sansome, and Battery streets, resulting in new privately funded commercial developments such as the iconic Transamerica Pyramid (1972), located approximately two blocks west of the project site.

This trend toward more dense urban development projects in support of commercial and financial firms displaced a number of the remaining industrial and warehousing businesses near the waterfront north of Market Street, with the area evolving into a de facto extension of the Financial District. Today, the parcels immediately north and south of 447 Battery Street feature modern commercial construction, while the buildings facing Merchant Street immediately west of the project site are remaining examples of two- or three-story, early-20th-century commercial buildings.[36]

## *Site Histories of Historical Resources*

### 447 Battery Street

The building at 447 Battery Street was constructed in 1907 in an area of San Francisco that was largely industrial and commercial in character around the turn of the 20th century and effectively leveled by the earthquake and fire that devastated much of the city in 1906. After that disaster, members of the city's political and business circles raced to rebuild areas within and adjacent to downtown San Francisco. Upon its construction, the building expressed the relatively straightforward design of an industrial warehouse for coffee storage and retail uses. The design featured minimal exterior ornamentation, which was limited to the

[34] Environmental Science Associates, *530 Sansome Street, San Francisco, Historic Resource Evaluation, Part I*, prepared for San Francisco Planning Department, September 2020, pp. 3 and 5.
[35] Environmental Science Associates, *530 Sansome Street, San Francisco, Historic Resource Evaluation, Part I*, prepared for San Francisco Planning Department, September 2020, p. 7.
[36] San Francisco Planning Department, *447 Battery Street Draft Environmental Impact Report,* October 2020, pp. 3.A-5–3.A-6.

evenly spaced bands of segmental arched windows and simple beltcourses on the Battery Street and Merchant Street façades.[37]

Photographs of 447 Battery Street taken after its construction indicate that the Battery Street and Merchant Street façades were originally clad in a light-colored material (likely stucco) that featured painted signage advertising the wares of the building's original tenant, the Jones-Thierbach Coffee Company. The building is an example of a warehouse and loft building, a commercial-and-industrial building type that was commonly constructed during the early 20th century in districts near the city's waterfront. The building featured large, ground-floor openings with storefront assemblies along the Battery Street façade. The upper stories featured open, flexible "loft" spaces that accommodated storage of the company's wholesale coffee, teas, and spices.[38]

The design of the Jones-Thierbach Coffee Company Building is attributed to Frank S. Van Trees, a classically trained Bay Area architect who also designed more architecturally ornate buildings elsewhere in San Francisco. The restrained design of the Jones-Thierbach Coffee Company Building suggests that Van Trees chose to employ a simplified architectural scheme that aligned with the building's utilitarian warehouse function.[39]

After six decades of use as a coffee and tea warehouse and roasting facility—initially as Thierbach and Company and subsequently the Jones-Thierbach Coffee Company—447 Battery Street was purchased by the Ron Kaufman Company in 1967. The new owner converted the building from its original industrial use to commercial office space and implemented alterations that included reconfiguring interior spaces and updating the building's outside appearance. The latter was accomplished by removing the cladding (likely through sandblasting) to reveal the brick construction of the exterior walls. Sandblasting began on the Battery Street façade during the 1990s but was halted before being implemented across the entire building. Original windows on the Battery Street and Merchant Street façades appear to have been replaced at that time. Other alterations that occurred include reconfiguration of the early 20th-century commercial storefronts facing Battery Street, which now contain modern metal-frame assemblies with awnings.[40]

## Sculpture *Untitled*

The sculpture installed on the north façade of 530 Sansome Street, known simply as *Untitled*, was designed by the Martiniquais-American sculptor Henri Marie-Rose (1922–2010). Marie-Rose's was the winning design selected by the San Francisco Arts Commission for a site-specific public artwork to be installed on the exterior of the recently completed Fire Station No. 13. The copper sculpture depicts firefighters with a hose next to the letters "SFFD." The San Francisco Arts Commission website lists three sculptures by Marie-Rose in its collection: *Jouons Ensemble* (1959, purchased by the commission for $650 in 1959), *Sailor and Mermaid* (1969, purchased in 1969 for $4,500), and *Untitled* (1976–77, purchased in 1976 for $6,000). Archival research did not identify the present location of *Jouons Ensemble*, and *Sailor and Mermaid* was stolen in the early 1990s. *Untitled* is believed to be the only remaining public artwork by Marie-Rose in San Francisco.[41]

[37] San Francisco Planning Department, *447 Battery Street Draft Environmental Impact Report,* October 2020, pp. 3.A-2 and 3.A-4.
[38] San Francisco Planning Department, *447 Battery Street Draft Environmental Impact Report,* October 2020, pp. 3.A-4–3.A-5.
[39] Ibid.
[40] Ibid.
[41] Environmental Science Associates, *530 Sansome Street, San Francisco, Historic Resource Evaluation, Part I*, prepared for San Francisco Planning Department, September 2020, pp. 28–29.

## Embarcadero Center Historic District

The Embarcadero Center is a commercial complex in San Francisco's Financial District whose principal components are four office towers ranging from 30 to 45 stories in height (One, Two, Three, and Four Embarcadero Center) and one 20-story hotel (Five Embarcadero Center, also known as the Hyatt Regency Hotel). The site was originally part of the produce market district, an area characterized by low-scale commercial warehouses and narrow streets. When urban renewal plans were implemented in the 1950s, City planner M. Justin Herman spearheaded a plan to redevelop the nearly 10-acre site comprising five city blocks. Called a "city-within-a-city," the Embarcadero Center project was built over 14 years in tandem with the growth of the Financial District. The developers were Trammell Crow, Portman Holdings, and David Rockefeller & Associates, and the architect was John C. Portman Jr.[42]

The construction schedule was aggressive, comprising four successive phases of development that overlapped to maintain progress. Construction of Phase 1 began in July 1968 with One Embarcadero Center, which was completed in March 1971. That same month, Phase 2 began with the construction of Five Embarcadero Center, which was completed in May 1973. Phase 3 began in March 1972 with the construction of Two Embarcadero Center, which was completed in April 1974. Phase 4 began that same month with the groundbreaking of Three Embarcadero Center, which was completed in September 1976, followed by Four Embarcadero Center, which was constructed between January 1976 and May 1981. At 4.8 million square feet of office, retail, hotel, dining, and entertainment space, the Embarcadero Center is one of the largest mixed-use complexes in the western United States.[43]

The construction of the new fire station at 530 Sansome Street (as part of Embarcadero Center Phase 4) was an afterthought that had to be efficiently incorporated into the overall project schedule. The Embarcadero Center master plan was approved in April 1967, the first phase of construction began in July 1968, and it was not until April 1969 that the City identified the need to replace the existing fire station at 115 Drumm Street to accommodate the construction of Three Embarcadero Center. The selection of location (April 1969), design (ca. 1970–73), construction (1974–75), and operation (fall 1975) of 530 Sansome Street could very well have held up the purchase of the 115 Drumm Street property (May 1974) and its demolition (May 1975), consequently delaying the timely completion of Three Embarcadero Center. Fortunately, it did not.[44]

Brutalism is the predominant architectural style of the Embarcadero Center. Brutalist features on display include the buildings' rough, unadorned, poured-in-place concrete construction with visible imprints of wood formwork; deeply shadowed irregular openings; massive cubic forms; rectangular block-like shapes; recessed windows that read as voids; and precast concrete panels with exposed joinery. Bold geometric patterns are also found on the circular tile paving design, which repeats throughout the complex's pedestrian shopping plazas.[45]

In 1984, the Embarcadero Center won the Urban Land Institute's Award of Excellence for Large-Scale Urban Development, a prestigious award recognizing projects that "[exemplify] superior design, relevance to

[42] Environmental Science Associates, *530 Sansome Street, San Francisco, Historic Resource Evaluation, Part I*, prepared for San Francisco Planning Department, September 2020, p. 17.
[43] Ibid.
[44] Environmental Science Associates, *530 Sansome Street, San Francisco, Historic Resource Evaluation, Part I*, prepared for San Francisco Planning Department, September 2020, pp. 17–18.
[45] Environmental Science Associates, *530 Sansome Street, San Francisco, Historic Resource Evaluation, Part I*, prepared for San Francisco Planning Department, September 2020, pp. 18–19.

contemporary issues and needs, and resourceful utilization of land while improving the quality of the living environment."[46]

The Embarcadero Center continued to grow in size with the 1989 completion of a fifth office tower at 275 Battery Street, known as Embarcadero West.[47]

## *Overview of California Register Significance Evaluations*

The planning department's preservation staff reviewed historic resource evaluations and issued determinations of significance with respect to the four California Register criteria in the following three documents:

- 447 Battery Street HRER Part I (December 2017)
- PTR for 423 and 439–455 Washington Street (February 2018)
- 530 Sansome Street HRER Part I (December 2020)

The following provides a summary of the California Register eligibility evaluations as presented in the three documents issued by planning department preservation staff.

### 447 Battery Street

The building at 447 Battery Street was determined to be individually eligible for listing in the California Register under Criteria 1 and 3. Under Criterion 1 (events), it is directly associated with reconstruction efforts in downtown San Francisco after the widespread destruction caused by the 1906 earthquake and fire. It is also significant under Criterion 1 for its association with the Jones-Thierbach Coffee Company and the city's coffee industry. Under Criterion 3 (design/construction), the building is significant as "an outstanding example of a late 19th/early 20th century store-and-warehouse building."[48] The period of significance under Criteria 1 and 3 extends from 1907, when the 447 Battery Street building was originally constructed, to 1967, when it ceased to be used for the manufacture and warehousing of coffee.[49]

Although the building lacks integrity of setting and has diminished integrity of materials, the HRER Part I concludes that 447 Battery Street retains sufficient integrity to convey its significance as an individually eligible historical resource.

The 447 Battery Street HRER Part I identifies the following character-defining features:

- Three-story height and roughly rectangular footprint
- Exterior walls constructed of brick masonry
- Openings for storefronts and a building entry on Battery Street
- Regular, evenly spaced rhythm of window openings on the first (Merchant Street only), second, and third stories; the westernmost two bays on Merchant Street are slightly closer together

[46] Steve Womersley (ed.), *John Portman and Associates: Selected and Current Works* (Mulgrave, Victoria, Australia: The Images Publishing Group Pty. Ltd., 2002), p. 226.
[47] Environmental Science Associates, *530 Sansome Street, San Francisco, Historic Resource Evaluation, Part I*, prepared for San Francisco Planning Department, September 2020, p. 19.
[48] San Francisco Planning Department, *Historic Resource Evaluation Response for 447 Battery Street, Part I*, December 2017, p. 8.
[49] San Francisco Planning Department, *Historic Resource Evaluation Response for 447 Battery Street, Part I*, December 2017, p. 4.

- Slightly projecting brick sill and a segmental arch head at window openings
- Brick cornice consisting, from bottom to top, of a projecting bandcourse, a flat frieze, several courses of corbeling, and projecting coping[50]

Subsequent to the determination of 447 Battery Street as a historical resource, the building was designated as an article 10 landmark (Landmark No. 299) in March 2022.[51]

The following provides a summary of the California Register eligibility evaluation presented in the 447 Battery Street HRER Part I.

### *CRITERION 1 (EVENTS)*

447 Battery Street was determined to be individually eligible under Criterion 1 due to its associations with reconstruction after the 1906 earthquake and fire and with the development of the coffee industry in San Francisco.

Regarding the association with post-1906 reconstruction, the specific association of 447 Battery Street with this citywide historical phenomenon relates to its status as one of the most prominent of a small number of buildings from this era that survive in a part of the Financial District that experienced major changes in the second half of the 20th century. By 1950, few changes had been made to the largely commercial and industrial character of the area to the east of Battery Street, where produce sales remained prominent. West of Battery Street, more offices and banks had spread north from California Street. However, during the mid and late 20th century, the blocks west of Battery Street were razed as part of the Golden Gateway Redevelopment Project, the bayside waterfront deteriorated, and the Embarcadero Freeway was constructed. As a result of these and other major changes to the neighborhood, 447 Battery Street is one of the last vestiges within its immediate context of the neighborhood's earlier history.

The building at 447 Battery Street is located in an area that was the center of the highly significant local coffee industry for the entire 19th and early 20th centuries, and it is the only remaining building in the area whose original use was as a coffee roastery and warehouse. Historically, the coffee industry was concentrated in the North of Market area, with a few coffee merchants located in the South of Market area; however, this trend slowly reversed after the 1906 earthquake and fire, and by 1955 the vast majority of coffee businesses were concentrated south of Market Street. Compared to the large industrial complexes related to the coffee industry that remain in the South of Market area (e.g., the Hills Brothers Coffee Plant at 2 Harrison Street and the J.A. Folger and Company Building at 101 Howard Street), 447 Battery Street is relatively small, illustrating that the industry comprised many smaller operations.

### *CRITERION 2 (PEOPLE)*

447 Battery Street was determined to be ineligible under Criterion 2. Occupied exclusively by the Thierbach & Co./Jones-Thierbach Co. for the first 60 years of its existence, the 447 Battery Street building was occupied by

[50] San Francisco Planning Department, *Historic Resource Evaluation Response for 447 Battery Street, Part I*, December 2017, pp. 9–10.
[51] San Francisco Board of Supervisors, "Ordinance No. 43-22: Article 10 Landmark Designation for 447 Battery Street (aka Jones-Thierbach Coffee Company Building)," File No. 211021, February 28, 2022 (recommended as amended), March 15, 2022 (officially passed), accessed November 8, 2024, https://sfplanninggis.org/docs/landmarks_and_districts/LM299.pdf#page=8.

a number of different businesses and retailers after its conversion to office use in 1967–68. None of the owners or occupants were identified as being historically important in national, regional, or local contexts.

### *CRITERION 3 (DESIGN/CONSTRUCTION)*

447 Battery Street was determined to be individually eligible for listing under Criterion 3 as a notable example of the brick store-and-warehouse building type that was common during the 19th and early 20th centuries, but that has become increasingly rare in this part of San Francisco. The broader North of Market area does contain a number of brick loft-and-warehouse-type buildings built in the aftermath of the 1906 earthquake and fire; however, most of these buildings (e.g., 405, 407, and 705 Sansome Street and 568 Sacramento Street) were designed in more exuberant architectural styles that feature a profusion of ornamental features. Relatively few buildings can match the minimalist aesthetic and simple, repetitive pattern of fenestration seen in the design of 447 Battery Street. Within the immediate vicinity, dominated as it is by mid- to late-20th-century redevelopment, there is nothing similar to the 447 Battery Street building.

### *CRITERION 4 (INFORMATION POTENTIAL)*

This criterion typically applies to rare construction types when involving historic architectural resources. Because 447 Battery Street is not an example of a rare construction type, it is not individually eligible for listing under Criterion 4.

### *PERIOD OF SIGNIFICANCE*

The period of significance under Criteria 1 (events) and 3 (design/construction) extends from 1907, when the 447 Battery Street building was originally constructed, to 1967, when it ceased to be used for the manufacture and warehousing of coffee.[52]

### *OVERVIEW OF INTEGRITY ANALYSIS*

*Integrity* is the ability of a property to convey its significance. To be considered a historical resource, a property must be shown to be historically significant and to retain sufficient integrity to convey that significance. As noted above, there are seven aspects of integrity:

- *Location:* The place where the historic property was constructed or the historic event occurred
- *Design:* The combination of elements that create the form, plan, space, structure, and style of property
- *Setting:* The physical environment of a historic property
- *Materials:* The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property
- *Workmanship:* Physical evidence of the crafts of a particular culture or people during any given period in history or prehistory
- *Feeling:* A property's expression of the aesthetic or historic sense of a particular period of time
- *Association:* The direct link between an important historic event or person and a historic property

[52] San Francisco Planning Department, *Historic Resource Evaluation Response for 447 Battery Street, Part I*, December 2017, p. 8.

Although the building lacks integrity of setting and with diminished integrity of materials, the HRER Part I concludes that 447 Battery Street retains sufficient integrity to convey its significance as a historical resource individually eligible for the California Register under Criteria 1 and 3.

### *CHARACTER-DEFINING FEATURES*

With regard to the significance of 447 Battery Street under Criterion 1 (events) and Criterion 3 (design/construction), the 447 Battery Street HRER Part I identifies the following character-defining features:

- Three-story height and roughly rectangular footprint
- Exterior walls constructed of brick masonry
- Openings for storefronts and a building entry on Battery Street
- Regular, evenly spaced rhythm of window openings on the first (Merchant Street only), second, and third stories; the westernmost two bays on Merchant Street are slightly closer together
- Slightly projecting brick sill and a segmental arch head at window openings
- Brick cornice consisting of, from bottom to top, a projecting bandcourse, a flat frieze, several courses of corbeling, and projecting coping

## Embarcadero Center Historic District

The 530 Sansome Street HRER Part I identifies a discontiguous Embarcadero Center Historic District that is eligible for listing in the California Register under Criterion 3 as a distinguishable complex whose buildings were designed by architect of merit John C. Portman Jr. in the Brutalist style. The historic district is characterized in the HRER Part I as follows:

> *The Planning Department previously found that Embarcadero Center 1–5 was eligible for listing as a complex, based largely on the [*San Francisco Modern Architecture and Landscape Design 1935–1970 Historic Context Statement*] and a history/context document prepared by Page & Turnbull [i.e.,* Embarcadero Center Lobbies Historic Structures Report "Lite," *completed in July 2018]. Though the Department did not assess the fire station at that time, given its inseparable link to the development of the overall Embarcadero Center, shared architect, and common embodiment of Brutalism, 530 Sansome appears to be contributory to a discontiguous Embarcadero Center Historic District eligible under Criteria [*sic*] 3. Such a district would be composed of [Embarcadero Center] 1–5 and 530 Sansome, all of which would be contributory, with a period of significance ranging from 1971 [to] 1982 (representing the completion of the first structure through the last). The boundaries of this discontiguous district would include the 530 Sansome parcel, as well those [sic] for [Embarcadero Center] 1–5.*[53]

The 530 Sansome Street HRER Part I identifies the following contributors to the California Register–eligible Embarcadero Center Historic District:

- Embarcadero Center 1–5
- Fire station at 530 Sansome Street

[53] Ibid.

- Sculpture *Untitled* (installed on 530 Sansome Street)

The following physical characteristics of the Embarcadero Center Historic District that justify its eligibility for inclusion in the California Register are related to its Brutalist-style architecture:

- Rough unadorned poured concrete construction
- Massive form and heavy cubic shapes
- Visible imprints of wood grain forms
- Recessed windows that read as voids
- Repeating geometric patterns
- Strong right angles and simple cubic forms
- Deeply shadowed irregular openings
- Rectangular block-like shapes
- Precast concrete panels with exposed joinery[54]

## 530 Sansome Street

The planning department's preservation staff determined that 530 Sansome Street is not individually eligible for listing in the California Register under any criteria. Although the 530 Sansome Street building has always been operated as a City and County of San Francisco fire station, the building is not known to be associated with historic events, does not represent a significant development in the neighborhood, and is not historically important for its association in the development of the San Francisco Fire Department. It is not individually eligible under Criterion 1. There are no specific occupants that are historically associated with the building and it is not individually eligible under Criterion 2. The building is an example of the Brutalist style and is attributed to architect of merit John C. Portman Jr. Overall, the building is not an exceptional or distinguished example of the style or of Portman's work. Portman is best known for his large-scale buildings and complexes. The building is not individually eligible under Criterion 3. The building is not an example of a rare building type, and therefore is not individually eligible under Criterion 4.

The planning department's preservation staff also determined that 530 Sansome Street is a contributor to the California Register–eligible Embarcadero Center Historic District (described above), whose period of significance is 1971–82. Both the Embarcadero Center complex and 530 Sansome Street were designed by architect of merit John Portman in the Brutalist architectural style. Although it is not an individual historical resource, the building at 530 Sansome Street possesses the following character-defining features that are also shared by the Embarcadero Center:

- Massive cubic form
- Vertically oriented metal panels
- Darkened windows
- Blank, exposed concrete band at the upper level

[54] Character-defining features of the Brutalist style of architecture in San Francisco are identified in San Francisco Planning Department, *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement,* 2010, pp. 190–191.

- Apparatus bays
- Circular, metal SFFD sign
- Flat roof

## Sculpture *Untitled*

At the west end of the 530 Sansome Street building's north façade is a wall-mounted sculpture by artist Henri Marie-Rose named *Untitled*. The three-dimensional copper sculpture depicts firefighters with a hose next to the letters "SFFD." The sculpture *Untitled* is eligible for listing in the California Register under Criterion 3 as an object that is "a distinctive example of a master artist's work, has high artistic merit, and was designed specifically for a fire station."[55] It was created by Henri Marie-Rose, an artist of merit, and commissioned by the San Francisco Arts Commission as a site-specific artwork for 530 Sansome Street. It is believed to be the last surviving public artwork in San Francisco associated with Marie-Rose.

The sculpture was determined to be individually eligible for listing under Criterion 3 as a distinctive, site-specific object designed by a recognized artist of merit. The period of significance for *Untitled* is 1976, which corresponds to the year the sculpture was commissioned, created, and installed on the north façade of 530 Sansome Street.[56] The sculpture was also determined to be a contributor to the potentially eligible Embarcadero Center Historic District (described above). The 530 Sansome Street HRER Part I concludes that *Untitled* retains sufficient integrity to convey its significance as a historical resource individually eligible for the California Register under Criterion 3.[57]

The 530 Sansome Street HRER Part I identifies the following character-defining features of *Untitled*:

- Visually prominent position on a building occupying a corner location
- Visually prominent position on the exterior of Fire Station No. 13, with which the sculpture is historically associated
- Copper construction
- Verdigris (patina)
- Overall design that includes abstract figures and typographic elements[58]

## 425 and 439–445 Washington Street

A historic evaluation was prepared for 425 and 439–445 Washington Street in 2017 to assist the planning department's preservation staff in determining whether the existing buildings are historical resources. On February 12, 2021, the planning department concurred with the findings of the historic evaluation and determined that neither 425 Washington Street nor 439–445 Washington Street is eligible for listing in the California Register under any criteria, either individually or as part of a historic district, as summarized below.[59]

[55] San Francisco Planning Department, *Historic Resource Evaluation Response for 530 Sansome Street, Part I*, December 2020, p. 5.
[56] San Francisco Planning Department, *Historic Resource Evaluation Response for 447 Battery Street, Part I*, December 2017, p. 4.
[57] San Francisco Planning Department, *Historic Resource Evaluation Response for 530 Sansome Street, Part I*, December 2020, p. 7.
[58] San Francisco Planning Department, *Historic Resource Evaluation Response for 530 Sansome Street, Part I*, December 2020, p. 8.
[59] San Francisco Planning Department, *Preservation Team Review Form for 425 and 439–445 Washington Street,* February 2018.

The 425 Washington Street property is a three-story commercial building of brick construction with frontage on Washington and Merchant streets. It was constructed ca. 1906-07 for Rudolph Jordan and was designed by architect S.H. Woodruff. Archival research suggests that the building would be significant as one of the few remaining buildings associated with San Francisco's wholesale produce market, but both façades have been extensively altered; therefore, it does not retain sufficient integrity to convey its individual significance under Criterion 1. None of the owners or occupants—including chemist and assayer Abbott A. Hanks, who ran a laboratory in the building from 1907 to 1910—were found to have made lasting contributions to national, state, or local history or cultural heritage; therefore, the building is not individually eligible under Criterion 2. As a result of extensive alterations completed in 1966, 425 Washington Street is not individually eligible under Criterion 3 as a significant example of early-20th-century commercial architecture, nor is the 1966 remodel designed by Harada and Meu a significant example of modern design. The building is not an example of a rare building type, and it is therefore not individually eligible under Criterion 4.

The 439–445 Washington Street property is a two-story commercial building of brick construction with frontage on Washington and Merchant streets. Like its neighbor, it was constructed ca. 1906–07 by the Woodruff Company (and was likely designed by architect S.H. Woodruff). The building's early occupants had tangential relationships to the neighboring wholesale produce market, but these associations are neither direct nor continuous; therefore, it is not individually eligible under Criterion 1. None of the owners or occupants, including the long-running restaurant The Rainbow Club (1944–1968) and the well-known restaurant The Iron Pot (1982–1989), were found to have made lasting contributions to national, state, or local history or cultural heritage; therefore, the building is not individually eligible under Criterion 2. Because of extensive alterations completed in 1967, 439–445 Washington Street is not individually eligible under Criterion 3 as a significant example of early-20th-century commercial architecture, nor is the 1967 remodel designed by architect Gilbert Oliver a significant example of modern design. The building is not an example of a rare building type, and it is therefore not individually eligible under Criterion 4.

The 425 and 439–445 Washington Street buildings are located south of the Jackson Square article 10 landmark district, and the planning department's preservation staff also determined that the boundaries of the district should not be extended to include either or both of the subject buildings.

For these reasons, the 425 and 439–445 Washington Street buildings are not considered historical resources under CEQA.

## *Historic Architectural Resources Located Adjacent to the Project Site*

The following are previously identified historic architectural resources that meet the definition of a CEQA historical resource and are located in the vicinity of the project site:

- The building at 300 Clay Street (Alcoa Building) and Maritime Plaza (Block/Lots 0204/019, 0204/020, 0204/021, 0204/022, and 0204/023), a modern corporate office tower and public landscaped area atop a two-story parking garage, are opposite 447 Battery Street on the east side of Battery Street. The 300 Clay Street building and Maritime Plaza have been determined to be eligible for the California Register listing through local CEQA review.
- The U.S. Customhouse at 555 Battery Street (Block/Lot 0197/001) is a five-story, Beaux Arts–style federal office building at the northwest corner of the intersection of Battery and Washington streets, one-half block north of the project site. The U.S. Customhouse was listed in the National Register in 1975 and is therefore listed in the California Register. It qualifies as a historical resource under CEQA.

- The United States Appraisers Building at 630 Sansome Street (Block/Lot 0197/002) is a 16-story federal office building at the northeast corner of the intersection of Washington and Sansome streets, northwest of the project site. The building was determined eligible for California Register listing through local CEQA review.
- The building at 545 Sansome Street (Block/Lot 0207/035) is a nine-story commercial office building at the southwest corner of Sansome and Washington streets, approximately one block west of the project site. The building was determined eligible for California Register listing through local CEQA review.
- The Jackson Square Landmark District, which is locally designated under article 10, represents a concentration of surviving commercial buildings that date to as early as the mid-19th century, in an area generally bounded by Washington and Sansome streets and Pacific and Columbus avenues. The Jackson Square Landmark District is highly significant as a unique example of the urban fabric of San Francisco after the Gold Rush. The southeast corner of this district lies approximately one block northwest of the project site.
- The Commercial-Leidesdorff Conservation District, locally designated under article 11, is a small historic district that fills three quadrants of the city block bounded by Clay, Sansome, Sacramento, and Montgomery streets. The district's contributors include the small-scale commercial buildings constructed during the early 20th century that face the interior of the block, toward the narrow Leidesdorff and Commercial streets.

## 3.A.4 Impacts and Mitigation Measures

This section analyzes impacts of the proposed project on historical 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 (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany the discussion of each identified significant impact.

### *Significance Criteria*

The proposed project would have a significant impact on historical resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines section 15064.5, including those resources listed in article 10 or article 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 historical 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 do any of the following:

(A) Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register.

(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.

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

As noted above, a project that would comply with the Secretary's Standards is considered to have mitigated its impact to a less-than-significant level (CEQA Guidelines section 15064.5[b][3]). However, CEQA Guidelines section 15126.4(b)(2) states that "[i]n some circumstances, documentation of a historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur." In such cases, the demolition or substantial alteration of a historical resource would remain a significant and unavoidable impact on the environment even after the historical documentation has been completed.

## *Approach to Analysis*

Potential impacts on historical resources are assessed by identifying any activities (during either construction or operation) that could affect resources that have been identified as historical resources for the purposes of CEQA. Once a resource has been identified, it then must be determined whether the proposed project would "cause a substantial adverse change in the significance" of the resource, as described above. As such, in accordance with CEQA Guidelines section 15064.5(b)(2), the following analysis considers the potential for the proposed project to materially impair the significance of a historical resource by causing direct or indirect changes to the physical characteristics of the resource that convey its historical significance. Mitigation of impacts on historical resources may involve avoiding the resource, revising the project to minimize the effect, or, where avoidance or minimization is not feasible, documenting the resource. However, as noted above, documentation may not reduce impacts on a historical resource to a less-than-significant level.

## *Impact Evaluation*

**Impact CR-1: The proposed project would cause a substantial adverse change in the significance of an individually eligible historical resource as defined in CEQA Guidelines section 15064.5, including those resources listed in article 10 or article 11 of the planning code.** ***(Significant and Unavoidable with Mitigation)***

The proposed project would demolish four historic-age buildings on the project site: 447 Battery Street, 425 Washington Street, 439–445 Washington Street, and 530 Sansome Street. Additionally, it would relocate a historic-age object: the sculpture *Untitled*, which is installed on the north façade of 530 Sansome Street. In evaluating whether the proposed project would cause a substantial adverse change in the significance of a historical resource, the San Francisco Planning Department must first determine whether the existing buildings and object on the project site are historical resources.

The planning department's preservation staff determined that 447 Battery Street is an individual historical resource (447 Battery Street HRER Part I), the sculpture *Untitled* is an individual historical resource (530 Sansome Street HRER Part I), and the discontiguous Embarcadero Center Historic District is an eligible historical resource comprised of a small collection of contributory properties (530 Sansome Street HRER Part 1). Additionally, 530 Sansome Street and the sculpture *Untitled* were determined to be contributors to the Embarcadero Center Historic District (530 Sansome Street HRER Part 1). The buildings at 530 Sansome Street, 425 Washington Street, and 439–445 Washington Street were determined not to be individual historical resources as described above in *Overview of California Register Significance Evaluations*.

## 447 Battery Street

As discussed above, 447 Battery Street was determined individually eligible for listing in the California Register under Criterion 1 (event) and Criterion 3 (design/construction). Under Criterion 1, 447 Battery Street is directly associated with reconstruction efforts in downtown San Francisco after the widespread destruction caused by the 1906 earthquake and fire. It is also significant under Criterion 1 for its association with the Jones-Thierbach Coffee Company and San Francisco's coffee industry. Under Criterion 3, the building is significant as "an outstanding example of a late 19th/early 20th century store-and-warehouse building." The building's period of significance is 1907–1967.[60]

The proposed project would demolish the Jones-Thierbach Coffee Company Building at 447 Battery Street, which has been determined to be eligible for listing in the California Register and is a designated article 10 landmark (i.e., it is listed in an adopted local survey such that it qualifies as a historical resource under CEQA). The demolition of the 447 Battery Street building under the proposed project would result in a significant impact on a historical resource. To reduce this impact, the project sponsor would be required to implement **Mitigation Measures M-CR-1a, Documentation of the 447 Battery Street Building**; **M-CR-1b, Salvage Plan**; and **M-CR-1c, Public Interpretative Program**.

> **Mitigation Measure M-CR-1a: Documentation of the 447 Battery Street Building.** Prior to issuance of the Pre-Construction Environmental Compliance Letter, the project sponsor shall submit to the department for review photographic and narrative documentation of the 447 Battery Street building. The documentation shall be funded by the project sponsor and undertaken by a qualified professional who meets the standards for history, architectural history, or architecture (as deemed appropriate by the department's preservation staff), as set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, part 61). The department's preservation staff will determine the specific scope of the documentation considering the individual property's character-defining features and reasons for significance identified in Impact CR-1. The documentation scope shall be reviewed and approved by the department prior to any work on the documentation. A documentation package shall consist of the required forms of documentation and shall include a summary of the historic resource and an overview of the documentation provided. The types and level of documentation will be determined by department staff and may include any of the following formats:
>
> - *HABS/HALS-Like Measured Drawings*—A set of Historic American Building/Historic American Landscape Survey-like (HABS/HALS-like) measured drawings that depict the existing size, scale, and dimension of the 447 Battery Street building. The department's preservation staff will accept the original architectural drawings or an as-built set of architectural drawings (plan, section, elevation, etc.). The department's preservation staff will assist the consultant in determining the appropriate level of measured drawings. A cover sheet may be required that describes the historic significance of the property.
> - *HABS/HALS-Like Photographs*—Digital photographs of the interior and the exterior of the 447 Battery Street building. Large-format negatives are not required. The scope of the digital photographs shall be reviewed by the department's preservation staff for concurrence, and all digital photography shall be conducted according to current National Park Service standards.

[60] San Francisco Planning Department, *Historic Resource Evaluation Response for 447 Battery Street, Part I*, December 2017, p. 8.

The photography shall be undertaken by a qualified professional with demonstrated experience in HABS photography.

- *HABS/HALS-Like Historical Report*—A written historical narrative and report shall be provided in accordance with the HABS/HALS Historical Report Guidelines. The written history shall follow an outline format that begins with a statement of significance supported by the development of the architectural and historical context in which the structure was built and subsequently evolved. The report shall also include architectural description and bibliographic information.
- The project sponsor, in consultation with the department, shall conduct outreach to determine which repositories may be interested in receiving copies of the documentation. Potential repositories include but are not limited to, the San Francisco Public Library, the Environmental Design Library at the University of California, Berkeley, the Northwest Information Center, San Francisco Architectural Heritage, the California Historical Society, and Archive.org. The final approved documentation shall be provided in electronic form to the department and the interested repositories. The department will make electronic versions of the documentation available to the public for their use at no charge.

The professional(s) shall submit the completed documentation for review and approval by the department's preservation staff. All documentation must be reviewed and approved by the department prior to the issuance of the Pre-Construction Environmental Compliance Letter for a proposed project.

**Mitigation Measure M-CR-1b: Salvage Plan.** Prior to the issuance of Pre-Construction Environmental Compliance Letter, the project sponsor shall consult with the department's preservation staff as to whether any character-defining building materials may be salvaged, in whole or in part, during demolition or alteration. The project sponsor shall make a good faith effort to salvage and protect such character-defining building materials to be used as part of the interpretative program (if required), incorporated into the architecture of the new building that will be constructed on the site, or offered to non-profit or cultural affiliated groups. If this proves infeasible, the sponsor shall attempt to donate significant character-defining features or features of interpretative or historical interest to a historical organization or other educational or artistic group. The project sponsor may prepare a salvage plan for review and approval by the department's preservation staff prior to issuance of the Pre-Construction Environmental Compliance Letter.

**Mitigation Measure M-CR-1c: Public Interpretative Program.** The project sponsor shall facilitate the development of a public interpretive program focused on the history of the 447 Battery Street building and its significant historic context. The interpretive program should be developed and implemented by a qualified design professional with demonstrated experience in displaying information and graphics to the public in a visually interesting manner, as well as a professionally qualified historian or architectural historian, or community group approved by the department. The primary goal of the program is to educate visitors of the building's historical themes, associations, and broader historical, social, and physical landscape contexts.

The interpretive program shall be initially outlined in an interpretive plan subject to review and approval by the department's preservation staff prior to issuance of the Pre-Construction Environmental Compliance Letter for the project. The plan shall include the general parameters of the interpretive program including the substance, media, and other elements of the interpretative

program. The interpretive program shall include within publicly accessible areas of the project site permanent display(s) of interpretive materials concerning the history and design features of the 447 Battery Street building. The display shall be placed in a prominent, public setting within, on the exterior of, or in the vicinity of the newly constructed buildings or other features within the project site. The interpretive material(s) shall be made of durable all-weather materials and may also include digital media in addition to a permanent display. The interpretive material(s) shall be of high quality and installed to allow for high public visibility. Content developed for other mitigation measures, as applicable, including the oral history and documentation programs, may be used to inform and provide content for the interpretive program. The interpretive program may also incorporate video documentation completed under M-CR-1a, Documentation of the 447 Battery Street Building, as applicable to provide a narrated video that describes the materials, construction methods, current condition, historical use, historic context and cultural significance of the historic resource.

The detailed content, media, and other characteristics of such an interpretive program shall be coordinated and approved by the department's preservation staff. The final components of the public interpretation program shall be constructed and an agreed upon schedule for their installation and a plan for their maintenance shall be finalized prior to issuance of a Temporary Certificate of Occupancy.

The interpretive program shall be developed in coordination with other interpretative programs as relevant/applicable, such as interpretation required under Mitigation Measure M-CR-1d, Interpretation and Relocation Plan for the Sculpture *Untitled*, archeological resource mitigation measures, tribal cultural resource mitigation measures, Native American land acknowledgments, or other public interpretation programs.

The department will also ensure that any information gathered through the interpretative program development is integrated with SF Survey and Citywide historic context statement summarized above.

**Significance after Mitigation:** Implementation of Mitigation Measures M-CR-1a, M-CR-1b, and M-CR-1c would document the 447 Battery Street building, consult with the planning department regarding the preparation of a salvage plan, and create an interpretive program. These mitigation measures would partially compensate for impacts associated with the proposed project through comprehensive documentation and memorialization of the historical resource. However, these mitigation measures would not reduce impacts to a less-than-significant level. Therefore, the impact on historic architectural resources would be ***significant and unavoidable with mitigation***.

## 530 Sansome Street and Sculpture *Untitled*

In the 530 Sansome Street HRER Part I, the planning department's preservation staff determined that although the 530 Sansome Street building is not individually eligible for listing in the California Register under any criteria, the sculpture *Untitled*, which is installed on the building's north façade (adjacent to Washington Street), is individually eligible under Criterion 3 as an object that is an important site-specific work by artist of merit Henri Marie-Rose.[61] Furthermore, the preservation staff determined that 530 Sansome

[61] San Francisco Planning Department, *Historic Resource Evaluation Response for 530 Sansome Street, Part I,* December 3, 2020.

Street and the sculpture *Untitled* are contributors to the eligible Embarcadero Center Historic District, which is analyzed under Impact CR-2.

On the north façade of 530 Sansome Street is a wall-mounted sculpture by artist Henri Marie-Rose named *Untitled*. The three-dimensional copper sculpture depicts firefighters with a hose battling a blaze next to the letters "SFFD." The sculpture is not emblematic of a specific artistic movement or broad pattern of history, and it is not individually eligible under Criterion 1. Aside from Marie-Rose, who is best addressed under Criterion 3 below, the sculpture is not associated with individuals who have made lasting contributions to national, state, or local history or cultural heritage, and it is not individually eligible under Criterion 2. *Untitled*, which was commissioned by the San Francisco Arts Commission as a site-specific artwork and has been exhibited in place continuously since its installation in 1976, is believed to be the last surviving public artwork by Marie-Rose, a recognized artist of merit, in San Francisco and was also the public commission from which Marie-Rose received his highest earnings. For these reasons, *Untitled* is individually eligible under Criterion 3. Criterion 4 is not addressed in HRER Part I. The sculpture, as an individual object, is therefore considered a historical resource under CEQA. Its period of significance is 1976, and its character-defining features include its visually prominent position on a building occupying a corner location that is also a fire station, copper construction, verdigris (patina), and overall design that includes abstract figures and typographic elements.

Demolition of the 530 Sansome Street building would completely remove the physical context of the site-specific sculpture *Untitled*, and the sculpture would be relocated and reinstalled in a new location on the project site (the exact location is to be determined). Therefore, the proposed project has the potential to result in a significant impact on a historical resource. To reduce this potentially significant impact to a less-than-significant level, the project sponsor would be required to implement **Mitigation Measure M-CR-1d, Interpretation and Relocation Plan for the Sculpture *Untitled***.

> **Mitigation Measure M-CR-1d: Interpretation and Relocation Plan for the Sculpture *Untitled*.**
>
> *Interpretation for the Sculpture* Untitled*.* The project sponsor shall facilitate the development of an interpretive program focused on the history and design of the sculpture *Untitled*. The primary goal of the program is to educate the public about the sculpture, the work of artist Henri Marie-Rose, and the historical association of the sculpture with the Embarcadero Center and Fire Station 13.
>
> The interpretive program shall be developed, approved, and implemented under the standards described in Mitigation Measure M-CR-1c, Public Interpretative Program.
>
> *Relocation Plan for the Sculpture* Untitled*.* Prior to issuance of the architectural addendum to the site permit, the project sponsor shall provide a relocation plan to be reviewed and approved by planning department preservation staff to ensure that the sculpture will be removed from the building, transported, and stored during construction in a manner that will protect the historical resource. The relocation plan shall identify the storage location for the sculpture and storage and monitoring protocols. The sculpture shall be relocated to the exterior of the new fire station portion of the project, either along its east (Battery Street) or south (Merchant Street) façade; or, if approved by planning department preservation staff, to another prominent publicly accessible location on the project site. The relocation plan shall also include an initial reinstallation plan and maintenance plan for the sculpture and schedule for reviewing and finalizing those plans in consultation with planning department preservation staff prior to issuance of the temporary certificate of occupancy.

**Significance after Mitigation:** Implementation of Mitigation Measure M-CR-1d would create an interpretive program and require the preparation of a relocation plan for the sculpture *Untitled*. The identified mitigation measure would reduce the severity of the proposed project's impact on the historic resource to a ***less-than-significant level with mitigation***.

## Embarcadero Center Historic District

The 530 Sansome Street HRER Part I identifies a discontiguous Embarcadero Center Historic District that is eligible for listing in the California Register under Criterion 3 as a distinguishable complex whose buildings were designed by architect of merit John C. Portman Jr. in the Brutalist style (see Appendix C.1). The district is a historic resource. Contributors to the historic district include Embarcadero Center 1–5, the fire station at 530 Sansome Street, and the sculpture *Untitled* (installed on 530 Sansome Street).[62]

Although the proposed project would demolish 530 Sansome Street (a district contributor) and remove and relocate the sculpture *Untitled* (a district contributor) from its site-specific location, this would not render the Embarcadero Center Historic District ineligible for the California Register. As described previously, the district is architecturally significant, and this significance is linked primarily to Embarcadero 1–5, a concentration of high-style, Brutalist buildings that is not adjacent to the project area. In the 530 Sansome Street HRER Part II, the planning department's preservation staff determined that although both the building and the sculpture contribute to and are part of the Embarcadero Center Historic District, they are not elements of its design as initially conceived, which consisted of four interconnected, mixed-use towers and a hotel (see Appendix C.1). The demolition of 530 Sansome Street and relocation of the site-specific sculpture would remove this example of Portman's work from the district, but demolition of the fire station would not significantly adversely affect Embarcadero 1–5.[63] Because Embarcadero 1–5 would not be affected by the proposed project, the Embarcadero Center Historic District would continue to convey its historical significance. Therefore, the demolition of 530 Sansome Street and relocation of *Untitled* would result in a ***less-than-significant*** impact on the eligible Embarcadero Center Historic District, and no mitigation measures are required.

## Other Construction-Related Impacts

Construction activities at the project site would generate vibration that would have the potential to cause structural damage to adjacent and nearby buildings. Besides 447 Battery Street (which would be demolished under the proposed project), all other historic buildings in the immediate vicinity of the project site (i.e., 630 Sansome Street, 555 Battery Street, 545 Sansome Street, and 617–619 Sansome Street) are more than 60 feet from the proposed construction areas. As described under Impact NO-3 in the Initial Study, groundborne vibration levels would not exceed the California Department of Transportation criterion of 0.25 peak particle velocity for historic structures. Therefore, construction activities would not result in structural damage to historic resources in the immediate vicinity. ***No impact*** on a historic resource would occur.

Impacts CR-2, CR-3, and TCR-1, related to archeological resources, human remains, and tribal cultural resources, are discussed in the initial study (see Appendix B).

[62] San Francisco Planning Department, *Historic Resource Evaluation Response for 530 Sansome Street, Part I,* December 3, 2020.
[63] San Francisco Planning Department, *Historic Resource Evaluation Response Part II: 530 Sansome Street,* December 18, 2020.

## Cumulative Impacts

**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. *(Less than Significant)***

Table 3-1, p. 3-8, and Figure 3-1, p. 3-11, in Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, identifies cumulative development projects located within a 0.25-mile radius of the project site. These include alterations to the historic resources at 900 Sansome Street, 400 California Street, 916 Kearny Street, and 545 Sansome Street.

The building at 900 Sansome Street is located within the Northeast Waterfront (an article 10 landmark district). That project would renovate and change the use of a historic parking garage to an office building while rehabilitating the building envelope. The planning department's preservation staff determined that the project conforms with the Secretary of the Interior's Standards for Rehabilitation and therefore would not result in an adverse impact on historic architectural resources.[64] The project has been approved.

The building at 916 Kearny Street (San Francisco Landmark No. 33) is an article 10 landmark. That project would consist of construction to convert floors 3–6 from office use to hotel rooms. The planning department determined that the interior alterations would result in no adverse impact on historic architectural resources.[65] The building permit has been approved.

The 400 California Street project would convert ground-floor space in the Bank of America Building (San Francisco Landmark No. 3 and a category I significant building under article 11 of the planning code) and the addition at 430 California Street (determined individually eligible for listing on the California register) to office space. The planning department determined that the project conforms with the Secretary of the Interior's Standards for Rehabilitation and therefore would not result in an adverse impact on historic architectural resources.[66] The project has been approved.

The building at 545 Sansome Street is an individually eligible historic resource, and the project would expand the existing nine-story building into a 15-story mixed-use office building. The planning department's preservation staff determined that the project conforms with the Secretary of the Interior's Standards for Rehabilitation and therefore would not result in an adverse impact on historic architectural resources.[67] The project has been approved.

None of the cumulative development projects are located within the boundaries of the discontiguous Embarcadero Center Historic District. Based on the preceding analysis, the planning department has determined that the concentration of cumulative projects would not adversely affect the historic integrity or character such that the Embarcadero Center Historic District would no longer be eligible for listing on the California Register. Also, as discussed previously under Impact CR-2, the proposed project, which would demolish one district contributor and relocate one district contributor, would result in a less-than-significant impact on the Embarcadero Center Historic District. Therefore, the proposed project would not result in a

[64] San Francisco Planning Department, *Administrative Certificate of Appropriateness: 900 Sansome Street (Record No. 2020-009619COA)*, August 25, 2021.
[65] San Francisco Planning Department, *CEQA Categorical Exemption Determination (916 Kearny Street),* June 29, 2020.
[66] San Francisco Planning Department, *Preservation Team Review Form: 430 California Street (Block 0239/Lot 029)*, June 12, 2018.
[67] San Francisco Planning Department, *545 Sansome Street Historic Resource Evaluation Response, Part II (Record No. 2020-001410ENV)*, September 28, 2023.

considerable contribution to a significant cumulative impact on the Embarcadero Center Historic District; cumulative impacts would be less than significant. The projects at 900 Sansome Street and 545 Sansome Street would not result in direct or indirect impacts on the sculpture *Untitled*, which is an individual historical resource that would be relocated within the project site as part of the proposed project. Therefore, cumulative impacts on historic resources would be ***less than significant***, and no mitigation measures are required.

As described under Impact CR-1, construction activities would generate vibration that would have the potential to cause structural damage to adjacent and nearby buildings. None of the cumulative projects would be within 25 feet of the project site such that construction vibration impacts would damage historic structures. Therefore, the proposed project would not combine with cumulative projects to create a significant cumulative impact on historic resources. Cumulative impacts related to effects of construction vibration on historic structures would be ***less than significant***, and no mitigation measures are required.

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# 3.B Air Quality

## 3.B.1 Introduction

This section assesses project impacts on air quality. It describes the existing environmental setting as it relates to air quality conditions, outlines the air quality management regulatory framework, and analyzes the potential for the proposed project construction and operation to affect air quality conditions, both regionally and locally. The analysis determines whether those emissions are significant in relation to applicable CEQA air quality standards and identifies mitigation measures to avoid or reduce potential adverse significant impacts.

## 3.B.2 Environmental Setting

The project site is within the San Francisco Bay Area air basin (air basin), which includes all of San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa counties, and the southern and southwestern portions, respectively, of Sonoma and Solano counties. The air district is the regional agency responsible for air quality planning in the air basin.

### *Climate and Meteorology*

The air basin's moderate climate steers storm tracks away from the region for much of the year, although storms generally affect the region from November through April. San Francisco's proximity to the onshore breezes stimulated by the Pacific Ocean provides for generally good air quality in the Plan area and the city as a whole.

Temperatures in the project vicinity average in the mid-50s annually, generally ranging from the low-40s on winter mornings to mid-70s during summer afternoons. Daily and seasonal oscillations of temperature are small because of the moderating effects of San Francisco Bay. In contrast to the steady temperature regime, rainfall is highly variable and confined almost exclusively to the "rainy" period from November through April. Precipitation may vary widely from year to year as a shift in annual storm tracks of a few hundred miles can mean the difference between a wet year and drought conditions.

Atmospheric conditions—such as wind speed, wind direction, and air temperature gradients—interact with the physical features of the landscape to determine the movement and dispersal of air pollutants regionally. The project area lies within the Peninsula climatological subregion. Marine air traveling through the Golden Gate is a dominant weather factor affecting dispersal of air pollutants within the region. Wind measurements collected on the San Francisco mainland indicate a prevailing wind direction from the west and an average annual wind speed of 10.6 miles per hour.[68] Increased temperatures create the conditions in which ozone formation can increase.

### *Ambient Air Quality – Criteria Air Pollutants*

As required by the federal Clean Air Act of 1970, the U.S. EPA initially identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality

[68] Western Regional Climate Center, https://wrcc.dri.edu/Climate/comp_table_show.php?stype=wind_speed_avg, accessed December 30, 2024.

standards have been established. The U.S. EPA calls these pollutants "criteria air pollutants" because the agency has regulated them by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), and lead are the six criteria air pollutants originally identified by U.S. EPA. Since that time, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less ($PM_{10}$) and particulate matter of 2.5 microns in diameter or less ($PM_{2.5}$). See Section 4.D.3, Regulatory Framework, for further discussion of specific pollutants and their attainment status within the air basin with respect to state and federal air quality standards.

The region's air quality monitoring network provides information on ambient concentrations of criteria air pollutants at various locations in the San Francisco Bay Area. **Table 3.B-1** presents a 5-year summary for the period 2019 to 2023 of the highest annual criteria air pollutant concentrations collected at the air quality monitoring station operated and maintained by the air district at 16th and Arkansas streets in San Francisco's Potrero Hill neighborhood. Table 3.B-1 also compares measured pollutant concentrations with the National Ambient Air Quality Standards (national air quality standards) and California Ambient Air Quality Standards (California air quality standards) for each of the criteria air pollutants. Concentrations shown in bold indicate an exceedance of the standard for the air basin (see **Table 3.B-2**, p. 3.B-4, for the air basin's attainment status for each criteria air pollutant). Table 3.B-1 does not include $SO_2$ because monitors are not required for the bay area as the air basin has never been designated as non-attainment for $SO_2$.

It should be noted that the ambient air quality standards—both federal and state—are expressed as airborne concentrations of various pollutants. Compliance with the standards is on a regional basis. In the bay area, compliance is demonstrated by ongoing measurements of pollutant concentrations at more than 30 air quality monitoring stations operated by the air district in all nine bay area counties. An exceedance of an ambient air quality standard at any one of the stations counts as a regional exceedance.

The national and California air quality standards were set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. As explained by the air board, "An air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without any harmful effects on people or the environment."[69] That is, if a region is in compliance with the ambient air quality standards, its regional air quality can be considered protective of public health. The national air quality standards are statutorily required to be set by the U.S. EPA at levels that are "requisite to protect the public health."[70] Therefore, the closer a region is to attaining a particular national standard, the lower the human health impact is from that pollutant.

A brief description of the health effects of exposure to criteria air pollutants is provided below.

[69] California Air Resources Board, *California Ambient Air Quality Standards,* last updated August 10, 2017, https://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm, accessed December 30, 2024.
[70] See https://www.law.cornell.edu/uscode/text/42/7409.

## Table 3.B-1 Summary of San Francisco Air Quality Monitoring Data (2019–2023)

| Pollutant | Most-Stringent Applicable Standard | Number of Days Standards Were Exceeded and Maximum Concentrations Measured [a] | | | | |
|---|---|---|---|---|---|---|
| | | 2019 | 2020 | 2021 | 2022 | 2023 |
| **Ozone** | | | | | | |
| **Days 1-Hour Standard Exceeded** | | 1 | 0 | 0 | 0 | 0 |
| **Maximum 1-Hour Concentration (ppm)** | >0.090 ppm [b] | **0.091** | 0.065 | 0.074 | 0.070 | 0.057 |
| **Days 8-Hour Standard Exceeded** | | 1 | 0 | 0 | 0 | 0 |
| **Maximum 8-Hour Concentration (ppm)** | >0.070 ppm [c] | **0.073** | 0.056 | 0.054 | 0.060 | 0.046 |
| **Carbon Monoxide (CO)** | | | | | | |
| **Days 1-Hour Standard Exceeded** | | 0 | 0 | 0 | 0 | 0 |
| **Maximum 1-Hour Concentration (ppm)** | >20 ppm [b] | 1.2 | 1.8 | 1.2 | 1.5 | 4.4 |
| **Days 8-Hour Standard Exceeded** | | 0 | 0 | 0 | 0 | 0 |
| **Maximum 8-Hour Concentration (ppm)** | >9 ppm [b] | 1.0 | 1.6 | 0.9 | 1.0 | 1.9 |
| **Suspended Particulates ($PM_{10}$)** | | | | | | |
| **Days 24-Hour Standard Exceeded** | | 0 | 2 | 0 | 0 | 0 |
| **Maximum 24-Hour Concentration (µg/m³)** | >50 µg/m³ [b] | 42 | **105** | 33.0 | **36.0** | 44.9 |
| **Suspended Particulates ($PM_{2.5}$)** | | | | | | |
| **Days 24-Hour Standard Exceeded** | | 0 | 8 | 0 | 0 | 0 |
| **Maximum 24-Hour Concentration (µg/m³)** | >35 µg/m³ [c] | 25.4 | **147.3** | 22.4 | **29.0** | 16.7 |
| **Annual Average (µg/m³)** | >12 µg/m³ [b,c] | 7.7 | 10.5 | 7.1 | 6.7 | N/A |
| **Nitrogen Dioxide ($NO_2$)** | | | | | | |
| **Days 1-Hour Standard Exceeded** | | 0 | 0 | 0 | 0 | 0 |
| **Maximum 1-Hour Concentration (ppm)** | >0.100 ppm [c] | 0.061 | 0.047 | 0.049 | 0.046 | 0.043 |

SOURCES: California Air Resource Board, Top 4 Summary for the San Francisco Arkansas Street monitoring site, 2019–2023, https://www.arb.ca.gov/adam/topfour/topfour1.php;
United States Environmental Protection Agency AirData Air Quality Monitors for Arkansas Street monitoring site, 2024, https://www.epa.gov/outdoor-air-quality-data/monitor-values-report – for CO values

ABBREVIATIONS: N/A = data not available; ppm = parts per million; µg/m³ = micrograms per cubic meter

NOTES: **Bold values** are in excess of applicable standard.

a. Number of days exceeded is for all days in a given year, except for particulate matter. $PM_{10}$ is monitored every 6 days. Therefore, the number of days exceeded is out of approximately 60 annual samples.
b. California/State standard, not to be exceeded.
c. National/Federal standard, not to be exceeded.

## Table 3.B-2 State and Federal Ambient Air Quality Standards and Attainment Status

| Pollutant | Averaging Time | State (California air quality standards [a]) | | Federal (national air quality standards [b]) | |
|---|---|---|---|---|---|
| | | Standard | Attainment Status | Standard | Attainment Status |
| **Ozone** | 1 hour | 0.09 ppm | **N** | NA | — [c] |
| | 8 hours | 0.07 ppm | **N** [d] | 0.070 ppm | **N** |
| **Carbon monoxide (CO)** | 1 hour | 20 ppm | A | 35 ppm | A |
| | 8 hours | 9 ppm | A | 9 ppm | A |
| **Nitrogen dioxide ($NO_2$)** | 1 hour | 0.18 ppm | A | 0.100 ppm | U |
| | Annual | 0.030 ppm | NA | 0.053 ppm | A |
| **Sulfur dioxide ($SO_2$)** | 1 hour | 0.25 ppm | A | 0.075 | A |
| | 24 hours | 0.04 ppm | A | 0.14 | A |
| | Annual | NA | NA | 0.03 ppm | A |
| **Particulate matter ($PM_{10}$)** | 24 hours | 50 µg/m$^3$ | **N** | 150 µg/m$^3$ | U |
| | Annual [e] | 20 µg/m$^3$ | **N** | NA | NA |
| **Fine particulate matter ($PM_{2.5}$)** | 24 hours | NA | NA | 35 µg/m$^3$ | **N** |
| | Annual | 12 µg/m$^3$ | **N** | 12 µg/m$^3$ | U/A [f] |
| **Sulfates** | 24 hours | 25 µg/m$^3$ | A | NA | NA |
| **Lead** | 30 days | 1.5 µg/m$^3$ | A | NA | NA |
| | Cal. quarter | NA | NA | 1.5 µg/m$^3$ | A |
| **Hydrogen sulfide** | 1 hour | 0.03 ppm | U | NA | NA |
| **Visibility-reducing particles** | 8 hours | — [g] | A | NA | NA |

SOURCE: Bay Area Air Quality Management District, *Standards and Attainment Status*, 2021, https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status, accessed December 30, 2024.

ABBREVIATIONS: A = Attainment; **N** = Nonattainment; U = Unclassified; NA = Not Applicable, no applicable standard; ppm = parts per million; µg/m$^3$ = micrograms per cubic meter

NOTES:

a. California air quality standards= State ambient air quality standards (California). California air quality standards for ozone, CO (except Lake Tahoe), $SO_2$ (one-hour and 24-hour), $NO_2$, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All other State standards shown are values not to be equaled or exceeded.
b. National air quality standards = national ambient air quality standards. National air quality standards, other than ozone and particulates, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The eight-hour ozone standard is attained when the three-year average of the fourth highest daily concentration is 0.08 ppm or less. The 24-hour $PM_{10}$ standard is attained when the three-year average of the 99$^{th}$ percentile of monitored concentrations is less than the standard. The 24-hour $PM_{2.5}$ standard is attained when the three-year average of the 98th percentile is less than the standard.
c. U.S. EPA revoked the national one-hour ozone standard on June 15, 2005.
d. This state eight-hour ozone standard was approved in April 2005 and became effective in May 2006.
e. State standard = annual geometric mean; national standard = annual arithmetic mean.
f. In December 2012, the U.S. EPA strengthened the annual $PM_{2.5}$ national air quality standard from 15 to 12 µg/m$^3$. In December 2014, the U.S. EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ national air quality standard. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.
g. Statewide visibility-reducing particle standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

## Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG, also sometimes referred to as volatile organic compounds [VOCs] by some regulating agencies) and nitrogen oxides (NOx). The main sources of ROG and NOx, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the bay area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional criteria air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases, such as asthma, bronchitis, and emphysema.

Table 3.B-1, p. 3.B-3, shows that, according to published data, the most stringent applicable standards (state one-hour standard of 9 parts per million (ppm) was exceeded in 2019, and the federal eight-hour standard of 7 ppm) also was exceeded in San Francisco in 2019.

## Carbon Monoxide

CO is an odorless, colorless gas usually formed as a result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. As shown in Table 3.B-1, p. 3.B-3, the more stringent state CO standards were not exceeded between 2019 and 2023.

## Particulate Matter ($PM_{10}$ and $PM_{2.5}$)

Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from man-made and natural sources. Particulate matter regulated by the state and federal Clean Air Acts is measured in two size ranges: $PM_{10}$ for particles less than 10 microns in diameter, and $PM_{2.5}$ for particles less than 2.5 microns in diameter. In the bay area, motor vehicles generate about one-half of the air basin's particulates, through tailpipe emissions as well as brake pad and tire wear. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the air board, studies in the United States and elsewhere "have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks," and studies of children's health in California have demonstrated that particle pollution "may significantly reduce lung function growth in children." The air board also reports that statewide attainment of particulate matter standards could prevent thousands of premature deaths, lower hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits and avoid hundreds of thousands of episodes of respiratory illness in California. Among the criteria air pollutants that are regulated, particulates appear to represent a serious ongoing health hazard. In 1999, the air district reported in its CEQA Air Quality Guidelines that studies had shown that elevated particulate levels contribute to the death of approximately 200 to 500 people per year in the bay area. High levels of particulate matter can exacerbate chronic respiratory ailments, such as bronchitis and asthma, and have been associated with increased emergency room visits and hospital admissions.

$PM_{2.5}$ is of particular concern because epidemiologic studies have demonstrated that people who live near freeways and high-traffic roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections, and decreased pulmonary function and lung development in children.[71] New studies are also showing that long-term average exposure to $PM_{2.5}$ is associated with an increased risk of death from the novel coronavirus 2019 disease (COVID-19) in the United States. One study found that an increase of 1 microgram per cubic meter ($\mu g/m^3$) in $PM_{2.5}$ is associated with an 8 percent increase in the COVID-19 death rate.[72] Exposure to wildfire smoke (which includes $PM_{2.5}$) experienced by Californians in 2020 also could have contributed to increased cases of COVID-19.[73] Note that these studies all demonstrate a correlational relationship between exposure to $PM_{2.5}$ and increases in the COVID-19 death rate, not a causal relationship.

Table 3.B-1, p. 3.B-3, shows that the state 24-hour $PM_{10}$ standard of 50 micrograms per cubic meter ($\mu g/m^3$) was exceeded two days per year in 2020. The federal 24-hour $PM_{2.5}$ standard was exceeded 8 days per year in 2020. The state annual average standard was not exceeded between 2019 and 2023.

## Nitrogen Dioxide

$NO_2$ is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of $NO_2$. Aside from its contribution to ozone formation, $NO_2$ can increase the risk of acute and chronic respiratory disease and reduce visibility. $NO_2$ may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. In 2010, the U.S. EPA implemented a new one-hour $NO_2$ standard presented in Table 3.B-2, p. 3.B-4, On November 15, 2012, the air board approved a revision to the State Implementation Plan for implementing the 2010 federal $NO_2$ standards. All areas in California are designated as attainment/unclassified for the federal $NO_2$ standards.[74] Table 3.B-1, p. 3.B-3, shows the new federal standard was not exceeded at the San Francisco station between 2019 and 2023.

U.S. EPA also has established requirements for a new monitoring network to measure $NO_2$ concentrations near major roadways in urban areas with a population of 1,000,000 or more. The Bay Area Air District is required to operate three air monitors located in Berkeley, Oakland, and San Jose. The Oakland station commenced operation in February 2014, the San Jose station commenced operation in March 2015, and the Berkeley station commenced operation in July 2016. The new monitoring data has not resulted in a need to change area attainment designations.[75]

[71] San Francisco Department of Public Health, *Assessment and Mitigation of Air Pollutant Health Effect from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review*, May 2008, p. 7, https://default.sfplanning.org/temp/Air%20Quality%20For%20EP%20and%20Consultants/Air%20Quality%20References/DPH%202008.pdf, accessed December 30, 2024.
[72] X. Wu, R. C. Nethery, B. M. Sabath, D. Braun, and F. Dominici, *Exposure to Air Pollution and COVID-19 Mortality in the United States,* April 27, 2020, medRxiv 2020.04.05.20054502, https://doi.org/10.1101/2020.04.05.20054502, accessed December 30, 2024. Note that this article has not yet been peer-reviewed.
[73] Xiaodan Zhou, Kevin Josey, Leila Kamareddine, Miah C. Caine, Tianjia Liu, Loretta J. Mickley, Matthew Cooper, and Francesca Dominici, *Excess of COVID-19 Cases and Deaths due to Fine Particulate Matter Exposure During the 2020 Wildfires in the United States*, August 13, 2021, https://pubmed.ncbi.nlm.nih.gov/34389545/, accessed December 30, 2024.
[74] California Air Resources Board, *2022 State Strategy for the State Implementation Plan*, September 2022, https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf, accessed January 3, 2024.
[75] Bay Area Air Quality Management District, *2022 Air Monitoring Network Plan*, June 2024, https://www.baaqmd.gov/about-air-quality/air-quality-measurement/ambient-air-monitoring-network, accessed December 30, 2024.

## Sulfur Dioxide

$SO_2$ is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. $SO_2$ has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease.[76] $SO_2$ monitoring was terminated at the San Francisco station in 2009 because the state standard for $SO_2$ is being met in the bay area, and pollutant trends suggest that the air basin will continue to meet this standard for the foreseeable future.

In 2010, the U.S. EPA implemented a new one-hour $SO_2$ standard presented in Table 3.B-2, p. 3.B-4. The U.S. EPA has initially designated the air basin as an attainment area for $SO_2$. Similar to the new federal standard for $NO_2$, the U.S. EPA has established requirements for a new monitoring network to measure $SO_2$ concentrations.[77] No additional $SO_2$ monitors are required for the bay area because the air basin has never been designated as non-attainment for $SO_2$ and no State Implementation Plan or maintenance plans have been prepared for $SO_2$.[78]

## Lead

Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses and cars), smelters (metal refineries), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects, which put children at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California. On October 15, 2008, the U.S. EPA strengthened the national ambient air quality standard for lead by lowering it from 1.5 micrograms per cubic meter ($\mu g/m^3$) to 0.15 $\mu g/m^3$. The U.S. EPA revised the monitoring requirements for lead in December 2010. These requirements focus on airports and large urban areas resulting in an increase in 76 monitors nationally.[79] Lead monitoring stations in the bay area are located at Palo Alto Airport, Reid-Hillview Airport (San Jose) and San Carlos Airport. Non-airport locations for lead monitoring are located in Redwood City and San Jose.

## Air Quality Index

The U.S. EPA developed the Air Quality Index scale to make the public health impacts of air pollution concentrations easily understandable. The AQI, much like an air quality "thermometer," translates daily air

[76] Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, October 2022, p. A-62, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-a-thresholds-of-significance-justification_final-pdf.pdf?rev=d35960ec035546629124ae2a25fb1df9&sc_lang=en, accessed December 30, 2024.
[77] United States Environmental Protection Agency (U.S. EPA), *Fact Sheet: Revisions to the Primary National Ambient Air Quality Standard, Monitoring Network, and Data Reporting Requirements for Sulfur Dioxide*, May 2016, https://www.epa.gov/sites/default/files/2016-05/documents/final_primary_naaqs_factsheet.pdf, accessed December 30, 2024.
[78] Bay Area Air Quality Management District, *2022 Air Monitoring Network Plan*, June 2024, p. 23, https://www.baaqmd.gov/~/media/files/technical-services/air-monitoring-network-plans/2024_network_plan-pdf.pdf?rev=03780ced2a2a41909338416d1b2bc527&sc_lang=en, accessed December 30, 2024.
[79] U.S. EPA, *Fact Sheet: Revisions to Lead Ambient Air Quality Monitoring Requirements*, March 2016, https://www.epa.gov/sites/default/files/2016-03/documents/leadmonitoring_finalrule_factsheet.pdf, accessed December 30, 2024.

pollution concentrations into a number on a scale between 0 and 500. The numbers in the scale are divided into six color-coded ranges, with numbers 0–300 as outlined below:

- **Green (0–50)** indicates "good" air quality. No health impacts are expected when air quality is in the green range.
- **Yellow (51–100)** indicates air quality is "moderate." Unusually sensitive people should consider limited prolonged outdoor exertion.
- **Orange (101–150)** indicates air quality is "unhealthy for sensitive groups." Active children and adults, and people with respiratory disease, such as asthma, should limit outdoor exertion.
- **Red (151–200)** indicates air quality is "unhealthy." Active children and adults, and people with respiratory disease, such as asthma should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
- **Purple (201–300)** indicates air quality is "very unhealthy." Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit outdoor exertion.

The Air Quality Index numbers refer to specific amounts of pollution in the air and are based on the federal air quality standards for ozone, CO, $NO_2$, $SO_2$, $PM_{10}$, and $PM_{2.5}$. In most cases, the federal standard for these air pollutants corresponds to the number 100 on the AQI chart. If the concentration of any of these pollutants rises above its respective standard, it can be unhealthy for the public. In determining the air quality forecast, local air districts use the anticipated concentration measurements for each of the major pollutants, converts them into Air Quality Index numbers, and determines the highest Air Quality Index for each zone in a district.

Readings below 100 on the Air Quality Index scale would not typically affect the health of the general public (although readings in the moderate range of 50 to 100 may affect unusually sensitive people). Levels above 300 rarely occur in the United States, and readings above 200 have not occurred in the bay area in decades, with the exception of the October 2017 and November 2018 wildfires north of San Francisco and the August/September 2020 complex wildfires that occurred throughout the bay area.[80] Wildfires appear to be occurring with increasing frequency in California and the bay area as the climate changes (since 2000, 19 of the state's 20 largest wildfires and 18 of the state's 20 most-destructive fires on record have occurred).[81]

As a result, the Air Quality Index in several neighboring counties reached the "very unhealthy" and "hazardous" designations, ranging from values of 201 to above 350. During those periods, the air district issued "Spare the Air" alerts and recommended that individuals stay inside with windows closed and refrain from significant outdoor activity.

Air Quality Index statistics over recent years indicate that air quality in the bay area is predominantly in the "Good" or "Moderate" categories and healthy on most days for most people. Historical air district data in

[80] Bay Area Air Quality Management District, Current Air Quality, n.d., http://www.baaqmd.gov/about-air-quality/current-air-quality, accessed January 7, 2025.
[81] CAL FIRE, Stats & Events, Top 20 Largest California Wildfires, October 2, 2024, https://34c031f8-c9fd-4018-8c5a-4159cdff6b0d-cdn-endpoint.azureedge.net/-/media/calfire-website/our-impact/fire-statistics/top-20-largest-ca-wildfires.pdf?rev=097f901c128347149e2614f2fca4f546&hash=27DDE83DFEF9A69E67C73765892A2B75, accessed December 30, 2024; CAL FIRE, Stats & Events, Top 20 Most Destructive California Wildfires, March 27, 2024, https://34c031f8-c9fd-4018-8c5a-4159cdff6b0d-cdn-endpoint.azureedge.net/-/media/calfire-website/our-impact/fire-statistics/top-20-destructive-ca-wildfires.pdf?rev=9e4974c273274858880c2dd28292a96f&hash=29E21CBFCE8D9885F606246607D21CEB, accessed December 30, 2024.

**Table 3.B-3** show that the air basin experienced air quality in the purple level (very unhealthy) on one day, in the red level (unhealthy) on 18, and the orange level (unhealthy for sensitive groups) on 68 days, between 2019 and 2023. A number of these days are attributable to the increasing frequency of wildfires.

**Table 3.B-3 Air Quality Index Statistics for the San Francisco Bay Area Air Basin**

| Air Quality Index Statistics for air basin | Number of Days by Year | | | | |
|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 2022 | 2023 |
| **Unhealthy for Sensitive Groups (Orange)** | 10 | 34 | 9 | 8 | 7 |
| **Unhealthy (Red)** | 0 | 17 | 1 | 0 | 0 |
| **Very Unhealthy (Purple)** | 0 | 1 | 0 | 0 | 0 |

SOURCE: Air District 2025

## *Toxic Air Contaminants and Local Health Risks and Hazards*

In addition to criteria air pollutants, plans and individual projects may directly or indirectly emit toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., long-duration) and acute (i.e., severe but short-term) adverse effects to human health, including carcinogenic effects. Human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

Unlike criteria air pollutants, TACs do not have ambient air quality standards but instead are regulated by the air district using a risk-based approach to determine which sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances to provide quantitative estimates of health risks.[82]

Exposure assessment guidance published by the air district in January 2016 adopts the assumption that residences would be exposed to air pollution 24 hours per day, 350 days per year, for 30 years.[83] Therefore, assessments of air pollutant exposure to residents typically result in the greatest adverse health outcomes of all population groups.

Exposures to $PM_{2.5}$ are strongly associated with mortality, respiratory diseases, and reductions in lung development in children, and other endpoints such as hospitalization for cardiopulmonary disease.[84] In addition to $PM_{2.5}$, diesel particulate matter (DPM) is also of concern. The air board identified DPM as a TAC in

[82] In general, a health risk assessment is required if the air district concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk. The applicant of the project that would emit TACs is required to conduct a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, estimating the increased risk of cancer as a result of exposure to one or more TACs.
[83] Bay Area Air Quality Management District, *Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*, January 2016, http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en, accessed December 30, 2024.
[84] San Francisco Department of Public Works, *Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review*, May 6, 2008.

1998, primarily based on evidence demonstrating cancer effects in humans.[85] The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other TAC routinely measured in the region.

In addition to monitoring criteria air pollutants, both the air district and the air board operate TAC monitoring networks in the air basin. These stations measure 10 to 15 TACs, depending on the specific station. The TACs selected for monitoring are those that have traditionally been found in the highest concentrations in ambient air and therefore tend to produce the most substantial risk. The nearest air district ambient TAC monitoring station to the Project area is the station at 16th and Arkansas streets in San Francisco. **Table 3.B-4** shows ambient concentrations of carcinogenic TACs measured at the Arkansas Street station for the year 2019, which is the most recent year of available data, as well as the estimated cancer risks from a lifetime exposure (70 years) for these substances. When TAC measurements at this station are compared to ambient concentrations of various TACs for the bay area as a whole, the cancer risks associated with mean TAC concentrations in San Francisco are similar to those for the region.

## Table 3.B-4 Annual Average Ambient Concentrations of Carcinogenic Toxic Air Contaminants Measured at Air District Monitoring Station in 2023, 10 Arkansas Street, San Francisco

| Substance | Concentration | Cancer Risk per Million |
|---|---|---|
| **Gaseous TACs** | **(ppb)** | |
| **Acetaldehyde** | 0.35 | 5 |
| **Benzene** | 0.11 | 29 |
| **1,3-Butadiene** | 0.025 | 27 |
| **Carbon Tetrachloride** | 0.075 | 58 |
| **Formaldehyde** | 1.09 | 23 |
| **Perchloroethylene** | 0.005 | 0.6 |
| **Methylene Chloride** | 0.067 | 0.7 |
| **Chloroform** | 0.017 | 1 |
| **Trichloroethylene** | 0.01 | 0.3 |
| **Particulate TACs** | **($ng/m^3$)** | |
| **Chromium (Hexavalent)** [a] | 0.083 | 35 |
| **TOTAL RISK FOR ALL TACS** | | **179.6** |

SOURCE: California Air Resources Board, Ambient Air Toxics Summary, 2023, http://www.arb.ca.gov/adam/toxics/sitesubstance.html, accessed December 30, 2024

ABBREVIATIONS: TACs = toxic air contaminants; ppb = part per billion; $ng/m^3$ = nanograms per cubic meter

a. Shows 2022 data because 2023 data was not available.

[85] California Air Resources Board, *Fact Sheet: The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-Fueled Engines*, October 1998.

## Roadway-Related Pollutants

Motor vehicles are responsible for a large share of air pollution, especially in California. Vehicle tailpipe emissions contain diverse forms of particles and gases and also contribute to particulates by generating road dust and through tire wear. Epidemiologic studies have demonstrated that people living in proximity to freeways or busy roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in children. Air pollution monitoring conducted in conjunction with epidemiologic studies has confirmed that roadway-related health effects vary with modeled exposure to particulate matter and $NO_2$. In traffic-related studies, the additional non-cancer health risk attributable to roadway proximity was seen within 1,000 feet of the roadway and was strongest within 300 feet.[86]

## Diesel Particulate Matter

The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources, such as trucks and buses, are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways. The air board estimated average bay area cancer risk from exposure to diesel particulate, based on a population-weighted average ambient diesel particulate concentration, at about 520 in one million as of 2012, which is much higher than the risk associated with any other toxic air pollutant routinely measured in the region.[87] The statewide risk from DPM, as determined by the air board, declined from 750 in one million in 1990 to 570 in one million in 1995; by 2019, the air board estimated the average statewide cancer risk from DPM at 720 in 1 million.[88]

In 2000, the air board approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Subsequent air board regulations apply to new trucks and diesel fuel. With new controls and fuel requirements, 60 trucks built in 2007 would have the same particulate exhaust emissions as one truck built in 1988.[89] The regulation was anticipated to result in an 80 percent decrease in statewide diesel health risk in 2020 as compared with the diesel health risk in 2000. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California. Subsequent regulations regarding on-road diesel truck retrofits with particulate matter controls, 2010 or later engine standards, and fleet average emission rate standards to increase turnover have resulted in much lower DPM and $PM_{2.5}$ emissions. It is estimated that these regulations reduced diesel particulate emissions 78 percent from 1990 levels.[90]

Despite notable emission reductions, the air board recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. The air board notes that these recommendations are advisory and should not be interpreted as defined "buffer zones," and that local agencies must balance other considerations, including transportation needs, the benefits of urban infill, community economic

[86] California ARB, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005, https://ww2.arb.ca.gov/sites/default/files/2023-05/Land%20Use%20Handbook_0.pdf, accessed December 30, 2024.
[87] California ARB, *Overview: Diesel Exhaust & Health.* https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health, accessed December 30, 2024.
[88] California Air Resources Board, *Health Rik Assessment*, https://ww2.arb.ca.gov/resources/documents/health-risk-assessment, accessed January 2, 2025.
[89] Pollution Engineering, *New Clean Diesel Fuel Rules Start*, July 2, 2006, https://sj-admin.s3-us-west-2.amazonaws.com/2006_0700-PollutionEngineering_NewCleanDiesel.pdf, accessed December 30, 2024.
[90] Pollution Engineering, *New Clean Diesel Fuel Rules Start* (July 2, 2006), accessed March 14, 2022, https://sj-admin.s3-us-west-2.amazonaws.com/2006_0700-PollutionEngineering_NewCleanDiesel.pdf, accessed December 30, 2024.

development priorities, and other quality of life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary, the air board's position is that infill development, mixed-use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level.[91] Also see San Francisco Health Code article 38 discussed under Section 3.B.3, Regulatory Framework.

## *Sensitive Receptors*

Air quality does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Population subgroups sensitive to the health effects of air pollutants include the elderly and the young, population subgroups with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and populations with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases such as asthma and chronic obstructive pulmonary disease. The factors responsible for variation in exposure are also often similar to factors associated with greater susceptibility to air quality health effects. For example, lower income residents may be more likely to live in substandard housing and be more likely to live near industrial or roadway sources of air pollution.

The air district defines sensitive receptors as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals and residential areas.[92] Land uses such as schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions. Sensitive receptors were expanded to include off-site workers and students in the 2022 update of BAAQMD CEQA Guidelines.[93]

Sensitive receptors near the project site include residences located directly northeast at the Gateway Apartments (430 Davis Court). Worker receptors near the project site are located directly south at the existing Club Quarters Hotel (424 Clay Street) and at the nonresidential building on the northeast corner of the block on which the project site is located (423 Washington Street). School receptors are located the northwest of the project site at the Sterne School (838 Kearny Street) and east of the project site at the daycare center (15 Whaleship Plaza). Other residential, worker, and school receptors are analyzed on a case-by-case basis.

## San Francisco Modeling of Air Pollutant Exposure Zones

In an effort to identify areas of San Francisco most adversely affected by sources of TACs, San Francisco partnered with the air district to inventory and assess air pollution and exposure from mobile, stationary, and area sources within San Francisco. This analysis is known as the 2020 Citywide Health Risk Assessment

[91] California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005, http://www.arb.ca.gov/ch/handbook.pdf, accessed September 29, 2022.
[92] Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines Chapter 3: Thresholds of Significance*, April 2022, p. 3-5, PDF page 5, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3&sc_lang=en, accessed December 30, 2024.
[93] Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines Appendix E: Recommended Methods for Screening and Modeling Local Risks and Hazards.* April 2022. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4&sc_lang=en, accessed December 30, 2024.

(2020 Citywide HRA), and is documented in the *San Francisco Citywide Health Risk Assessment: Technical Support Documentation.*[94] Areas with poor air quality, referred to as the Air Pollutant Exposure Zone (APEZ), were identified based on the following health-protective criteria: (1) excess cancer risk greater than 100 per one million population from the contribution of emissions from all modeled sources; or (2) cumulative annual average $PM_{2.5}$ concentrations greater than 9 $\mu g/m^3$. The APEZ is expanded in certain geographic health vulnerable[95] areas of the city, primarily the Bayview, Tenderloin, and much of the South of Market area, to be more protective, with the areas included in the APEZ based on a standard that is 10 percent more stringent than elsewhere in the city (i.e., areas where the excess cancer risk exceeds 90 in one million). The proposed project lies within the area that meets the APEZ criteria. Majority of the modeling domain (1,000-meter radius from the project site) also meets the APEZ criteria but a small portion of the modeling domain, an area 1,600 feet northwest of the project site and an area to the west of Mason Street, does not meet the APEZ criteria.

The APEZ also includes all parcels within 500 feet of a freeway and parcels within 1,000 feet of freeways or roadways with an excess of 100,000 vehicles per day. The APEZ is based on modeling that was prepared using a 20-meter by 20-meter receptor grid covering the entire city. The following summarizes the evidence supporting the APEZ criteria followed by a discussion of major sources of emissions within and near the project area. **Figure 3.B-1** shows the location of the proposed project and nonresidential sensitive receptors included in the analysis (school, daycare, and health care facility receptors).

## *Excess Cancer Risk*

The greater than 100 per one million persons exposed (100 excess cancer risk) criterion for defining the APEZ is based on the U.S. EPA's guidance for conducting air toxic analyses and making risk management decisions at the facility and community-scale level.[96] As described by the air district, the U.S. EPA considers a cancer risk of 100 per 1 million to be within the "acceptable" range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants rulemaking,[97] the U.S. EPA states that it "… strives to provide maximum feasible protection against risks to health from hazardous air pollutants by limiting risk to a level no higher than the one in ten thousand [100 in one million] estimated risk that a person living near a source would be exposed to at the maximum pollutant concentrations for 70 years." The 100 per one million excess cancer risk is also consistent with the ambient cancer risk in the most pristine portions of the bay area based on the air district's regional modeling.[98]

[94] San Francisco Department of Public Health, and San Francisco Planning Department, *Air Quality and Greenhouse Gas Analysis Guidelines, February 2025*, https://sfplanning.org/air-quality, accessed February 25, 2025.
[95] Health vulnerable areas were identified as those bay area zip codes in the worst quintile of bay area Health Vulnerability Scores. Francisco Planning Department, Air Quality and Greenhouse Gas Analysis Guidelines, July 2024, https://sfplanning.org/air-quality, accessed December 31, 2024.
[96] Bay Area Air Quality Management District, *Air Quality Guidelines Appendix A: Thresholds of Significance Justification, April 2022, p. A-42.* https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-a-thresholds-of-significance-justification_final-pdf.pdf?rev=d35960ec035546629124ae2a25fb1df9. *Accessed December 30, 2024.*
[97] 54 *Federal Register* 38044, September 14, 1989.
[98] Bay Area Air Quality Management District, *Air Quality Guidelines Appendix A: Thresholds of Significance Justification, April 2022, p. A-42.* https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-a-thresholds-of-significance-justification_final-pdf.pdf?rev=d35960ec035546629124ae2a25fb1df9. *Accessed December 30, 2024.*


SOURCE: San Francisco Planning Department, 2025; San Francisco Public Health and Planning Departments, 2025; Google, 2024; ESA, 2025

447 Battery and 530 Sansome Street

**FIGURE 3.B-1**
**PROJECT SITE, AIR POLLUTANT EXPOZURE ZONE, AND NON-RESIDENTIAL SENSITIVE RECEPTORS**

## *Fine Particulate Matter*

In April 2011, the U.S. EPA published *Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards*. In this document, the U.S. EPA concludes that the then current federal annual $PM_{2.5}$ standard of 15 µg/$m^3$ should be revised to a level within the range of 13 to 11 µg/$m^3$, with evidence strongly supporting a standard within the range of 12 to 11 µg/$m^3$. In December 2012, the U.S. EPA strengthened the annual $PM_{2.5}$ standard from 15 to 12 µg/$m^3$ and issued final area designations based on that standard. The APEZ for San Francisco is based on the health protective annual average $PM_{2.5}$ standard of 11 µg/$m^3$, as supported by the U.S. EPA's particulate matter policy assessment, although lowered to 9 µg/$m^3$ to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs.

## *Proximity to Freeways and High-Volume Roadways*

According to the air board, studies have shown an association between the proximity of sensitive land uses to freeways and a variety of respiratory symptoms, asthma exacerbations, and decreases in lung function in children.[99] Siting sensitive uses near freeways increases both exposure to air pollution and the potential for adverse health effects. Because evidence shows that sensitive uses in an area within a 500 foot buffer of a freeway or within 1,000-foot buffer of any freeway or roadway with an excess of 100,000 vehicles per day are at an increased health risk from air pollution, parcels that are within 500 feet of a freeway or within 1,000 feet of freeways or roadways with an excess of 100,000 vehicles per day are included in the APEZ.[100]

## *Air Pollution Sources*

Air pollution sources evaluated in the 2020 Citywide HRA and contributing to emissions within and near the project area include primarily stationary source and vehicle emissions on local roadways. The air district's inventory of permitted stationary sources of emissions indicates that there are 30 permitted generators within 1,000 feet of the proposed project area perimeter.[101] Traffic on surrounding streets, including Washington, Sansome, and Battery, also contribute to tailpipe emissions from gasoline-powered passenger vehicles and some diesel delivery trucks, in addition to entrained road dust ($PM_{2.5}$).

## *Odors*

Sources that typically generate odors include wastewater treatment and pumping facilities; landfills, transfer stations, and composting facilities; petroleum refineries, asphalt batch plants, chemical (including fiberglass) manufacturing, and metal smelters; painting and coating operations; rendering plants; coffee roasters and food processing facilities; and animal feed lots and dairies. None of these types of odor sources are located in the general vicinity of the project site.

[99] Freeways in San Francisco are U.S. Route 101 (south of Market Street and north of Bay Street), Interstate 280, and Interstate 80.
[100] Francisco Planning Department, *Air Quality and Greenhouse Gas Analysis Guidelines*, July 2024, https://sfplanning.org/air-quality, accessed December 31, 2024.
[101] Bay Area Air Quality Management District, Stationary Source Screening Map, Updated August 1, 2024, with 2022 emissions data, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3, accessed January 20, 2025.

## 3.B.3 Regulatory Framework

The following section summarizes federal, state, and local plans and policies that have regulatory control over air quality.

### *Federal Regulations*

The 1970 Clean Air Act (most recently amended in 1990) requires that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants will be controlled in order to achieve all standards by the deadlines specified in the act. These ambient air quality standards are intended to protect the public health and welfare, and they specify the concentration of pollutants (with an adequate margin of safety) to which the public can be exposed without adverse health effects. They are designed to protect those segments of the public most susceptible to respiratory distress, including asthmatics, the very young, the elderly, people weakened from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above ambient air quality standards before adverse health effects are observed.

The current attainment status for the air basin, with respect to federal standards, is summarized in Table 3.B-2, p. 3.B-4. In general, the air basin experiences low concentrations of most pollutants when compared to federal standards, except for $PM_{10}$ and $PM_{2.5}$, and ozone, for which standards are exceeded periodically (see Table 3.B-1, p. 3.B-3).

In June 2004, the air basin was designated as a marginal nonattainment area for the national eight-hour ozone standard.[102] The U.S. EPA lowered the national eight-hour ozone standard from 0.80 to 0.75 parts per million (ppm) effective May 27, 2008. In April 2012, the U.S. EPA designated the bay area as a marginal nonattainment region for the 0.75 ppm ozone standard established in 2008.[103,104] In February 2024, the U.S EPA lowered the federal primary annual standard for $PM_{2.5}$ to 9 $\mu g/m^3$ from the 12.0 $\mu g/m^3$ standards set in 2012.[105] As of 2024, the air basin is in attainment for other criteria air pollutants, with the exception of the 24-hour standards for $PM_{10}$ and $PM_{2.5}$, for which the bay area is designated as "Unclassified" and non-attainment, respectively. "Unclassified" is defined by the Clean Air Act as any area that cannot be classified, on the basis of available information, as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. The air basin is designated as an attainment area with respect to the federal annual average $PM_{2.5}$ standard.

[102] U.S. EPA, Area Designations for 1997 Ground-Level Ozone Standards, Ozone & Health – A Timeline, https://archive.epa.gov/ozonedesignations/web/html/timeline.html, accessed December 31, 2024.
[103] "Marginal nonattainment area" refers to those areas where the fourth highest reading over any 24-hour period in the past 3 years exceeds the 8-hour national ambient air quality standard for ozone at concentrations of between 0.076 and 0.086 ppm.
[104] U.S. EPA, 2008 Ground-level Ozone Standards — Region 9 Final Designations, April 2012, https://archive.epa.gov/ozonedesignations/web/html/region9f.html, accessed December 30, 2024.
[105] CARB, 2025-State and Federal Area Designations, P https://ww2.arb.ca.gov/our-work/programs/state-and-federal-area-designations/federal-area-designations/pm2-5. Accessed February 2025.

## *State Regulations*

### California Clean Air Act

Although the federal Clean Air Act established national ambient air quality standards, individual states retained the option to adopt more stringent standards and to include other pollution sources. California had already established its own air quality standards when federal standards were established, and because of the unique meteorological challenges in California, there are many differences between the state and national ambient air quality standards, as shown in Table 3.B-2, p. 3.B-4. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent.

In 1988, California passed the California Clean Air Act (California Health and Safety Code section 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment, but based on state ambient air quality standards rather than the federal standards. As indicated in Table 3.B-2, p. 3.B-4, the air basin is designated as "nonattainment" for state ozone, $PM_{10}$, and $PM_{2.5}$ standards. The air basin is designated as "attainment" for other pollutants.

### Toxic Air Contaminants

In 2005, the air board approved a regulatory measure to reduce emissions of toxic and criteria air pollutants by limiting the idling of new heavy-duty diesel vehicles. The regulations generally limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area for more than 5 consecutive minutes or periods aggregating more than 5 minutes in any one hour. Buses or vehicles also must turn off their engines upon stopping at a school and must not turn on their engines more than 30 seconds before beginning to depart from a school. Also, Senate Bill 352 was adopted in 2003 and limits locating public schools within 500 feet of a freeway or busy traffic corridor.

### On-Road Diesel Trucks and Off-Road Diesel Equipment

The air board has also adopted rules for new diesel trucks and for off-road diesel equipment. Along with rules adopted by the U.S. EPA, these regulations have resulted in substantially more stringent emissions standards for new diesel trucks and new off-road diesel equipment, such as construction vehicles. Effective January 2011, both the U.S. EPA and the air board adopted so-called Interim Tier 4 standards for new equipment with diesel engines of 175 hp or greater. The interim Tier 4 emissions standards for particulate matter are about 85 percent more restrictive than previous particulate matter emissions standards (Tier 2 or Tier 3, depending on the size of the engine[106]) for these larger off-road engines. As a result, use of engines that meet the interim Tier 4 standards would reduce diesel exhaust emissions of particulate matter by approximately 85 percent, compared to engines produced under the previous standards. Tier 4 Final standards are required for new off-road engines, depending on engine size, for all model years starting in 2014 or 2015. Compared to Tier 4 Interim standards, Tier 4 Final standards are about 80 percent more restrictive for NOx emissions and 30 percent more restrictive for particulate matter emissions. As a result, use of engines that meet the Tier 4 Final standards would reduce exhaust emissions of NOx by approximately

[106] For most construction equipment other than that with extremely powerful engines (greater than 750 hp), Tier 2 and Tier 3 emissions standards are the same with respect to particulate matter. Therefore, cancer risk from DPM—a subset of all particulate matter—is essentially the same for Tier 2 and Tier 3 engines.

80 percent and reduce diesel exhaust emissions of particulate matter by approximately 30 percent compared to new engines produced under Tier 4 Interim standards.[107]

Tier 2 or Tier 3 engines (for larger equipment, those manufactured since 2006) can achieve generally the same reduction in particulate matter emissions through retrofitting by installing a diesel particulate filter (an air board-certified Level 3 Verified Diesel Emissions Control System). Beginning in 2014, air board regulations require off-road equipment fleets to begin gradual replacement of older engines with newer, cleaner engines, the installation of exhaust filters on remaining older engines, or some combination of the two to achieve fleet-wide emissions reductions. Because only a certain percentage of each fleet's engines must be replaced or retrofitted on an annual or periodic basis to achieve the required emissions reductions, and because fleet turnover of heavy-duty off-road equipment takes many years, the full effect of the regulations on emissions reduction is not anticipated to be realized until sometime between 2020 and 2030, depending on the engine size and pollutant.[108]

Regarding equipment already in use, the air board adopted rules for in-use off-road diesel vehicles—including construction equipment—in 2007. Those rules also limit idling to 5 minutes, require a written idling policy for larger vehicle fleets, and require that fleet operators provide information on their engines to the air board and label vehicles with an air board-issued vehicle identification number. The off-road rules require the retrofit or replacement of diesel engines in existing equipment. This "repowering" was originally to be required beginning in 2010 (for the largest fleets). However, in 2010, the air board delayed the start of repowering to 2014 for large fleets, 2017 for medium-size fleets, and 2019 for small fleets.[109] The air board stated that the delayed implementation was justified because the 2007 to 2009 recession had dramatically reduced emissions, and because the board staff found that the data on which the original rule was based had overestimated emissions. According to the air board, under the revised rules, DPM emissions from off-road equipment were expected to decrease by more than 40 percent from 2010 levels by the year 2020, and by 2030, they are expected to decrease by more than 75 percent.[110]

## Transport Refrigeration Units

The air resources board is developing requirements to transition diesel-powered transport refrigeration units (TRUs) to zero-emission technology in two phases. Part 1 consists of amendments to the TRU air toxic control measure, which the Board approved at its February 2022 meeting. The amendments include requirements for the transition of diesel-powered truck TRUs (TRUs mounted on the truck itself) to zero- emission, a particulate matter emission standard for newly- -manufactured non-truck TRUs (TRUs on a trailer, shipping container, or railcar), lower global warming potential refrigerant requirements, facility registration and reporting, expanded TRU reporting and labeling, and fees. Staff are assessing zero -emission options for non-truck TRUs and plan to take a second rulemaking (Part 2) to the Board for consideration in 2025.[111]

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[107] California Air Resources Board, *Non-road Diesel Engine Certification Tier Chart*, https://ww2.arb.ca.gov/resources/documents/non-road-diesel-engine-certification-tier-chart, accessed December 31, 2024.
[108] California Air Resources Board, *2017 Off-Road Diesel Emission Factor Update for NOX and PM*, https://ww3.arb.ca.gov/msei/ordiesel/ordas_ef_fcf_2017.pdf, accessed December 31, 2024.
[109] Fleet size is based on total horsepower: large fleets are those with more than 5,000 hp, medium fleets have 2,501 to 5,000 hp, and small fleets are those with less than 2,500 hp.
[110] California Air Resources Board, "Staff Report: Initial Statement of Reasons for Proposed Rulemaking: Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements," October 2010, p. 44, http://www.arb.ca.gov/regact/2010/offroadlsi10/offroadisor.pdf, accessed December 31, 2024.
[111] California Air Resources Board, New Transport Refrigeration Unit Regulation in Development, https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit/new-transport-refrigeration-unit-regulation, accessed December 31, 2024.

### 2022 Building Energy Efficiency Standards (Title 24, Part 6)

The California 2022 Building Energy Efficiency Standards (Title 24, Part 6) encourages efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more. Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 energy code. The 2022 standards require that all nonresidential, hotel/motel occupancies, single-family residential buildings, and multifamily buildings include mechanical air filtration systems with filters that have a designated efficiency equal to or greater than Minimum Efficiency Reporting Value (MERV) 13.[112,113]

## *Regional and Local Regulations*

### Bay Area Air Quality Planning

Air quality plans developed to meet federal requirements are referred to as State Implementation Plans. The federal and state Clean Air Acts require plans to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the state $PM_{10}$ standard).

The air district's *2017 Clean Air Plan: Spare the Air, Cool the Climate* (2017 Clean Air Plan) was adopted on April 19, 2017 by the air district in cooperation with the Metropolitan Transportation Commission, the San Francisco Bay Conservation and Development Commission, and the Association of Bay Area Governments to provide a regional strategy to improve bay area air quality and meet public health goals.[114] The control strategy described in the 2017 Clean Air Plan includes a wide range of control measures designed to reduce emissions and lower ambient concentrations of harmful pollutants, safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, and reduce greenhouse gas (GHG) emissions to protect the climate.

The 2017 Clean Air Plan addresses four categories of pollutants: ground-level ozone and its key precursors, ROG and NOx; PM, primarily $PM_{2.5}$, and precursors to secondary $PM_{2.5}$; air toxics; and GHG emissions. The control measures are categorized based on the economic sector framework including stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, and water measures.

The air district is the regional agency with jurisdiction over the nine-county region located in the air basin. The Association of Bay Area Governments, the Metropolitan Transportation Commission, county transportation agencies, cities and counties, and various non-governmental organizations also participate in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs. The air district is responsible for attaining and/or maintaining air quality in the region within federal and state air quality standards. Specifically, the air district has the responsibility to monitor ambient air pollutant

[112] Subchapter 3, section 120.1 for nonresidential and hotel/motel occupancies; subchapter 7, section 150.0 for single-family residential buildings; and subchapter 10 section 160.2 for multifamily buildings.
[113] The 2022 Energy Code requires MERV 13 filters when tested in accordance with American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2, or a particle size efficiency rating equal to or greater than 50 percent in the 0.30–1.0 µm range, and equal to or greater than 85 percent in the 1.0–3.0 µm range when tested in accordance with Air-Conditioning, Heating, and Refrigeration Institute (AHRI) Standard 680.
[114] Bay Area Air Quality Management District, *2017 Clean Air Plan: Spare the Air, Cool the Climate*, April 19, 2017, https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed December 31, 2024.

levels throughout the region and to develop and implement strategies to attain the applicable federal and state standards. The air district has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits, and can impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The air district also regulates new or expanding stationary sources of TACs and requires air toxic control measures for many sources emitting TACs.

## Air District Rules

The air district rules that would be most applicable to the proposed project pertain mostly to permits for emergency generators and include Rules 2-1, 2-2, and 2-5. The air district regulates stationary-source emissions of TACs through Rule 2-1 (General Permit Requirements), Rule 2-2 (New Source Review), and Rule 2-5 (New Source Review of Toxic Air Contaminants). Under these rules, all stationary sources that have the potential to emit TACs above a certain level are required to obtain permits from the air district. These rules provide guidance for the review of new and modified stationary sources of TAC emissions, including evaluation of health risks and potential measures to reduce TAC emissions and/or exposure to TAC emissions.

Sources must apply Best Available Control Technology (BACT) to reduce emissions, and the air district recently updated its BACT requirement for emergency generators greater than 1,000 horsepower (hp) to achieve EPA Tier 4 standards.[115]

## San Francisco Construction Dust Control Ordinance

Health code article 22B and San Francisco Building Code section 106.A.3.2.6 collectively constitute the Construction Dust Control Ordinance (adopted in July 2008). The ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures. For projects over one-half acre and within 1,000 feet of sensitive receptor(s) (e.g., residences and group living quarters, schools, child care centers, and hospitals and other health-care facilities), such as the proposed project, and other projects as deemed necessary by the Director of the San Francisco Department of Public Health (health department), the Construction Dust Control Ordinance requires that the project sponsor submit a Dust Control Plan, with a goal of minimizing visible dust, for approval by the health department prior to issuance of a building permit. Such larger projects must also identify a compliance monitor and that person must be available at all times during construction activities.

Dust suppression activities may include watering of all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by the San Francisco Public Works Code article 21, section 1100 et seq.

Pursuant to health code article 22B, section 1247, all departments, boards, commissions, and City agencies that authorize construction or improvements on land under their jurisdiction under circumstances where no building, excavation, grading, foundation or other permits are required to be obtained under the building code shall adopt rules and regulations to ensure that the same dust control requirements that are set forth in this article are followed.

[115] Bay Area Air Quality Management District, BACT for Emergency Backup Engines greater than or equal to 1,000 brake-horsepower, 2021, https://www.baaqmd.gov/permits/apply-for-a-permit/engine-permits, accessed December 30, 2024.

## Health Code Article 38

San Francisco adopted health code article 38 in 2008, and amended it in 2014, to protect new sensitive uses from existing sources of air pollution by requiring enhanced ventilation and filtration systems in certain areas of the city. The 2014 amendments make the health code and building code consistent with the results of the air quality modeling undertaken to identify the City's APEZ. As revised in 2014, article 38 applies to all development that includes "sensitive uses," as defined in the health code, including all residential units; adult, child and infant care centers; schools; and nursing homes. The revised article 38 considers all existing known sources of TACs and $PM_{2.5}$, and requires "enhanced ventilation," including filtration of outdoor air, for all such projects located in the APEZ. The filtration requirement of article 38 specifies MERV 13 or equivalent, based on American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2, and requires the health department to confer with other City departments and report to the San Francisco Board of Supervisors concerning technologies it has identified or evaluated that may comply with the requirements of the health code. Article 38 also requires periodic updating of the APEZ map (about every 5 years) to account for changes in sources of TACs and $PM_{2.5}$ emissions or updated health risk quantification methodologies. The 2020 Citywide HRA was used to prepare the most recent 2020 APEZ map update; article 38 applies within the APEZ.

The entirety of the project site, and surrounding area, meets the APEZ criteria. As discussed above, the 2022 building code standards require that permit applications submitted after January 1, 2023, for all nonresidential, hotel/motel occupancies, single-family residential buildings, and multifamily buildings include mechanical air filtration systems with filters that also have a designated efficiency equal to or greater than MERV 13.

## San Francisco General Plan Air Quality Element

The San Francisco General Plan (general plan) Air Quality Element includes the following objectives:

- **Objective 1:** Adhere to state and federal air quality standards and regional programs.
- **Objective 2:** Reduce mobile sources of air pollution through implementation of the Transportation Element of the General Plan.
- **Objective 3:** Decrease the air quality impacts of development by coordination of land use and transportation decisions.
- **Objective 4:** Improve air quality by increasing public awareness regarding the negative health effects of pollutants generated by stationary and mobile sources.
- **Objective 5:** Minimize particulate matter emissions from road and construction sites.
- **Objective 6:** Link the positive effects of energy conservation and waste management to emission reductions.

## City of San Francisco Green Building Code

San Francisco adopted a green building code in 2008; in 2010, it adopted the California Green Building Standards (CALGreen) code but with modifications. The current code is the 2022 San Francisco Green Building Code, which combines all mandatory elements from the 2022 CALGreen regulations as well as stricter local requirements. Applicants who apply for a building permit after January 1, 2023, must conform to the 2022 green building code.

The 2022 green building code requires building permit submittals to show that they meet the compliance margin required by the applicable rating system and the California Building Energy Efficiency Standards in effect at the time of permit submittal. California Building Energy Efficiency Standards documentation must be prepared using software from the California Energy Commission's list of Approved Computer Programs for the Building Energy Efficiency Standards. Buildings that meet a LEED standard for Building Design and Construction or LEED standard for Core and Shell must prepare and submit all standard documentation required by the California Energy Commission to demonstrate compliance with the California Building Energy Efficiency Standards (title 24, part 6) in effect on the date of permit application.

Effective January 1, 2017, San Francisco became the first U.S. city to mandate solar and living roofs on most new construction through the Better Roofs Ordinance. The ordinance requires that 15 percent of the roof space on most new construction is solar, 30 percent of the roof space is a living roof (i.e., green or vegetated roof), or installing a combination of both solar and living roof. The Better Roofs ordinance applies to all projects proposing new construction that meet all of the following requirements: (1) nonresidential with a gross floor area of 2,000 square feet or more or residential of any size; (2) have 10 or fewer occupied floors; and (3) apply for a site permit or building permit on or after January 1, 2017. Building code section 106A.1.17.1, also known as the All-Electric New Construction Ordinance, requires applications for all permits submitted after June 1, 2021, to construct new buildings to be designed and constructed such that all space conditioning, water heating, cooking, and clothes drying systems are all-electric, and the installation of infrastructure, piping systems, or piping related to the distribution of natural gas or propane to such uses is prohibited. The ordinance allows limited installation of gas piping systems for commercial food preparation, and in isolated cases, if building all-electric is determined to be physically or technically infeasible after all other options are exhausted.

### Regulation of Odors

The air district's regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. The regulation limits the "discharge of any odorous substance which causes the ambient air at or beyond the property line … to be odorous and to remain odorous after dilution with four parts of odor-free air." The air district must receive odor complaints from 10 or more complainants within a 90-day period in order for the limitations of this regulation to go into effect. If this criterion has been met, an odor violation can be issued by the air district if a test panel of people can detect an odor in samples collected periodically from the source.

## 3.B.4 Impacts and Mitigation Measures

This section analyzes potential air quality impacts from the proposed project. It describes the methods used to determine the impacts and the thresholds that were used to conclude whether an impact would be significant. Mitigation measures are identified as necessary to reduce or avoid significant impacts.

### *Significance Criteria*

Implementation of the proposed project would have a significant impact related to air quality if it would:

- Result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations;

- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people; or
- Conflict with or obstruct implementation of the applicable air quality plan.

## *Approach to Analysis*

The study area for regional air quality impacts is the San Francisco Bay Area air basin (air basin). The study area for localized air quality impacts is an area in the vicinity of 447 Battery Street and 530 Sansome Street.

The incremental increase in criteria pollutant and TAC emissions associated with construction and operation of the proposed project is based on the analysis approach described below and is consistent with the planning department's Air Quality and Greenhouse Gas Analysis Guidelines.[116,117]

The purpose of the air quality analysis is to assess potential criteria pollutant emissions and health risks and hazards that would result from the construction and operation of the proposed project consistent with guidelines and methods from air quality agencies, specifically, the planning department, air district, air resources board, OEHHA, and U.S. EPA.

Consistent with the requirements of the planning department, which draw on the guidelines and recommended methods from these agencies, the health risk assessment evaluates the estimated incremental increase in cancer risk from diesel particulate matter (DPM) and the annual average $PM_{2.5}$ concentrations.

The regional criteria air pollutant analysis estimated construction and long-term operational emissions that would be generated by the proposed project. The construction and operational emission sources analyzed in the health risk assessment include diesel-powered construction equipment, on-road haul trucks, proposed project-related traffic including diesel trucks and passenger vehicles, and the emergency backup diesel generators. In addition, existing plus project cancer risk and annual average $PM_{2.5}$ concentrations at off-site sensitive receptor locations are presented, using information from the 2020 Citywide HRA.

The thresholds of significance used as the basis for determining air quality impacts under the California Environmental Quality Act (CEQA) are discussed below and are based on substantial evidence identified in Appendix D of the 2022 air district's CEQA Air Quality Guidelines and its 2009 Justification Report.

### Regional Criteria Air Pollutants

As described under Section 3.B.3, Regulatory Framework, the air basin experiences low concentrations of most pollutants when compared to federal or state standards and is designated as either in attainment or unclassified for most criteria air pollutants, with the exception of ozone, $PM_{2.5}$, and $PM_{10}$, for which the air basin is designated as non-attainment for either the state or federal standards. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NOx. For this reason, the air district has identified criteria air pollutant significance thresholds for ROG, NOx, $PM_{2.5}$, and $PM_{10}$.

[116] San Francisco Department of Public Health, and San Francisco Planning Department, *Air Quality and Greenhouse Gas Analysis Guidelines, February 2025*, https://sfplanning.org/air-quality, accessed February 25, 2025.
[117] See Appendix F for methods used to evaluate emissions for existing conditions.

By definition, regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in nonattainment of air quality standards. Instead, a project's individual emissions are considered to contribute to the existing, cumulative air quality conditions. If a project's contribution to cumulative air quality conditions is considerable, then the project's impact on air quality would be considered significant.[118]

**Table 3.B-5** identifies criteria air pollutant significance thresholds adopted by the air district followed by a discussion of the proposed project's sources of criteria air pollutants and analysis methods. Projects with criteria air pollutant emissions below these significance thresholds would not result in a project-specific or cumulatively considerable net increase in non-attainment criteria air pollutants within the air basin, the first bulleted significance criterion identified in Significance Criteria, p. 3.B-22. This analysis is presented in Impacts AQ-1 and AQ-2.

## Table 3.B-5 Criteria Air Pollutant Significance Thresholds

| Pollutant | Construction Thresholds | Operational Thresholds | |
|---|---|---|---|
| | Average Daily Emissions (lb/day) | Average Daily Emissions (lb/day) | Maximum Annual (tons/year) |
| **ROG** | 54 | 54 | 10 |
| **$NO_X$** | 54 | 54 | 10 |
| **$PM_{10}$** | 82 (exhaust) | 82 | 15 |
| **$PM_{2.5}$** | 54 (exhaust) | 54 | 10 |
| **$PM_{10}$/$PM_{2.5}$ (fugitive dust)** | Construction Dust Ordinance or other best management practices | Not Applicable | |

SOURCE: Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, April 2023, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed January 3, 2025.

ABBREVIATIONS: lb/day = pounds per day; ROG = reactive organic gases; NOx = nitrogen oxides; PM = particulate matter; $PM_{2.5}$ = PM less than 2.5 microns in diameter; $PM_{10}$ = PM less than 10 microns in diameter

As explained by the air district in its 2009 report justifying the above criteria air pollutant significance thresholds, the thresholds for the ozone precursors ROG and NOx are tied to the air district's offset requirements for ozone precursors, based on the fact that the bay area is not in attainment with the federal ozone standard. Therefore, such an approach is appropriate "to prevent further deterioration of ambient air quality and thus has nexus and proportionality to prevention of a regionally cumulative significant impact (e.g., worsened status of nonattainment)."[119] As discussed on page 3.B-1, the ambient air quality standards have been established by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. Therefore, attainment can be considered protective of public health, thereby providing a strong link between a mass emission threshold and avoidance of health effects. For $PM_{10}$ and $PM_{2.5}$, the air district established significance thresholds based on the federal New Source Review program for new stationary sources of pollution, which contains stricter thresholds than the air district's offset

[118] Bay Area Air Quality Management District, *2022 California Environmental Quality Act Air Quality Guidelines*, April 2023, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3&sc_lang=en, accessed January 7, 2025.
[119] Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, pp. D-47.

program for these pollutants. "These thresholds represent the emission levels above which a project's individual emissions would result in a considerable adverse contribution to the [San Francisco Bay Area Air Basin's] existing air quality conditions." As with ROG and NOx, these thresholds likewise provide a connection between a mass emission threshold and avoidance of health effects. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

Fugitive dust emissions from land use development projects are primarily associated with construction activities. Studies have shown that the application of best management practices at construction sites can significantly control fugitive dust,[120] and individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.[121] San Francisco's Construction Dust Control Ordinance requires a number of fugitive dust control measures to ensure that construction projects do not result in visible dust. The project would be subject to the requirements of the Construction Dust Control Ordinance, which is the basis for determining the significance of criteria air pollutant and ozone precursor impacts from fugitive dust emissions associated with construction activities. Impact AQ-1 presents a discussion of construction related fugitive dust emissions. Fugitive dust emissions associated with operational activities are also assessed in Impact AQ-2 and included in the total PM emissions compared against the significance thresholds presented in Table 3.B-5.

### *OTHER CRITERIA AIR POLLUTANTS*

Regional concentrations of CO and $SO_2$ in the air basin have not exceeded the state standards for over two decades. As discussed previously, the air basin is in attainment for both CO and $SO_2$. The air district has demonstrated, based on modeling, that to exceed the California ambient air quality standard of 9.0 ppm (8-hour average) or 20.0 ppm (1-hour average) for CO, project traffic, in addition to existing traffic, would need to exceed 44,000 vehicles per hour at affected intersections (or 24,000 vehicles per hour where vertical and/or horizontal mixing is limited). Projects that do not result in 44,000 vehicles per hour in combination with background traffic (or 24,000 vehicles per hour where applicable), would not have the potential to result in a significant CO impact.

The transportation analysis indicates that the proposed project would generate 185 new vehicle trips during the weekday p.m. peak hour.[122] Existing peak hour traffic volume at the roadway segment with the greatest traffic volumes (at the intersection of Sansome Street and Clay Street) is approximately 1,290 vehicles per hour. If all of the proposed project vehicle trips travelled through the intersection, which is not a likely scenario, the existing plus project traffic volumes at nearby intersections would be well below the screening criterion of 44,000 vehicles per hour and the more restrictive screening criterion of 24,000 vehicles per hour. Given the air basin's attainment status and the limited CO and $SO_2$ emissions that could result from the proposed project, the proposed project would not result in a cumulatively considerable net increase in CO or $SO_2$, and a quantitative analysis is not required.

### *CONSTRUCTION ACTIVITIES AND EMISSIONS*

Construction of the proposed project has the potential to create air quality impacts from the use of heavy-duty off-road construction equipment, construction workers' vehicle trips, and vendor truck trips.

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[120] Western Regional Air Partnership, *WRAP Fugitive Dust Handbook*, September 7, 2006, https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf. Accessed February 2025.
[121] Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, p. 27.
[122] Fehr & Peers, *530 Sansome Trip Generation*, October 28, 2024.

Construction criteria air pollutant and TAC emissions were estimated using methods consistent with CalEEMod version 2022.1 or equivalent methods as described below. Demolition, hauling, and ground-disturbing activities also result in fugitive dust emissions.

A detailed explanation of all assumptions and methods used to calculate construction criteria pollutant and TAC emissions is included in Appendix F.

### OFF-ROAD EQUIPMENT

Construction of the proposed project would emit criteria air pollutant emissions from demolition of the existing structures; construction of new buildings; architectural coating of interior and exterior surfaces; and paving. These activities involve the use of on-site construction equipment, construction workers' vehicle trips, hauling truck trips, and vendor truck trips. Architectural coating activities and paving would also emit mainly ROG (an ozone precursor). The assessment of construction criteria air pollutant impacts considers each of these potential sources. Construction criteria air pollutant emissions were based on project-specific data provided by the project sponsor, including a construction equipment list, a construction schedule, and site map.

For diesel-powered off-road construction equipment, CalEEMod and methods consistent with CalEEMod were used to estimate emissions. Emissions were calculated assuming fleet average equipment, meaning the emission factors used reflect the fleet predicted to be in use in the OFFROAD2017-ORION v1.0.1 model, which is the model used by CalEEMod for offroad equipment emission factors.

### ON-ROAD MOBILE SOURCES

Diesel-fueled construction equipment, delivery trucks bringing construction materials to the project site, dump trucks, and concrete trucks emit NOx, ROG, $PM_{10}$, and $PM_{2.5}$. On-road mobile sources include vehicle trips associated with construction workers, vendors, and concrete trucks. To quantify on-road construction criteria air pollutant and TAC emissions, emission factors for on-road mobile sources were obtained from the air district EMFAC2021 on-road emissions model. EMFAC2021 incorporates the Pavley Clean Car Standards and the Advanced Clean Cars program. EMFAC2021 includes the following vehicle classes that were used in the modeling: light-duty auto (LDA), light-duty truck 1 (LDT1), light-duty truck 2 (LDT2), medium-duty vehicle (MDV), light heavy-duty truck (LHDT), medium heavy-duty truck (MHDT), and heavy heavy-duty truck (HHDT).

Consistent with CalEEMod methods, it was assumed that worker trips are 50 percent light-duty auto (LDA), 25 percent light-duty truck 1 (LDT1), and 25 percent light-duty truck 2 (LDT2) vehicle classes. Vendor trips are assumed to be medium-heavy duty trucks (MHDT) and hauling trips are assumed to be heavy-heavy duty trucks (HHDT).[123]

PM emissions can occur from resuspended road dust that is entrained by vehicular travel on paved roads. These PM emissions were included in the total construction emissions from the proposed project. The calculation of the entrained roadway dust emission factor and the calculation of emissions from entrained roadway dust for the proposed project are shown in Appendix F. The trip lengths used in the calculation of entrained road dust emissions are equivalent to CalEEMod default trip lengths.

[123] California Air Pollution Control Officers Association and ICF, Appendix C: Emission Calculation Details for CalEEMod, April 2022, https://www.caleemod.com/documents/user-guide/04_Appendix%20C.pdf, accessed February 28, 2025.

#### FUGITIVE CONSTRUCTION DUST

PM emissions can also occur from construction activities, including demolition, hauling, and ground-disturbing activities also. These PM emissions were not quantified because the air district's CEQA guidelines recommend implementation of dust minimization practices to reduce fugitive dust impacts to less than significant. This would be achieved through compliance with San Francisco's Construction Dust Control Ordinance, discussed above.

#### ARCHITECTURAL COATINGS AND PAVING

Architectural coating and paving are the predominant source of ROG emissions during construction; these emissions arise from the volatile organic compound (VOC) content of the coatings and off-gassing of VOC during paving. Emissions from architectural coatings were based on CalEEMod default values of architectural coatings per square footage, default VOC content, which is 100 grams per liter of coating for indoors and 150 grams per liter for outdoors, and using the total building square footage provided by the project sponsor. Emissions from architectural coating would be compliant with air district paint VOC regulations. Paving emissions were also based on the CalEEMod default emission rate, which is 2.62 pounds or ROG per acre paved, and using the square footage of roadway that need to be paved, provided by the project sponsor.

### *OPERATIONAL ACTIVITIES AND EMISSIONS*

Sources of operational emissions from the proposed project include two emergency diesel generators, on-road vehicles, and area sources, described further, below. Based on information from the project sponsor, the project is anticipated to become operational in 2030.

#### OPERATIONAL ON-ROAD MOBILE SOURCES

On-road mobile sources include vehicle trips associated with office workers, retail customers, employees, and vendor deliveries.[124] Vehicles on the roadway emit criteria air pollutants through exhaust, resuspended road dust, tire wear, and brake wear. Operational vehicle emissions for the proposed project were estimated based on trip rates (1,941 daily vehicle trips) from the transportation analysis, with trip distances based on CalEEMod defaults.

The EMFAC2021 default fleet mix for San Francisco County was used for operational trips. The latest on-road emissions model (EMFAC2021) was used in this assessment. Emission factors for year 2030 were used for operation of the proposed project at full build out.

#### EMERGENCY GENERATORS

Operational emissions for two emergency generators were included as part of the proposed project: one at the replacement fire station and one at the proposed high-rise building. Emissions were calculated assuming a maximum of 50 hours per year of non-emergency testing operation, consistent with the Airborne Toxic Control Measure for Stationary Compression Ignition Engines (17 CCR section 93115).[125] Criteria pollutant

[124] The proposed replacement fire station would not change fire department operations nor trip generating characteristics from the existing fire station and therefore this land use is excluded from the project's trip generation calculation and consideration as an operational mobile source.
[125] California Air Resources Board, *Final Regulation Order: Amendments to the Airborne Toxic Control Measure for Stationary Compression Ignition Engines*, 2011, https://ww3.arb.ca.gov/diesel/documents/finalreg2011.pdf, accessed January 7, 2025.

emissions were calculated assuming both generator engines comply with air district's BACT[126] limits, which require all generators be Tier 4-compliant. Emissions were based on the anticipated generator size, provided by the project sponsor, which is 268 horsepower for the replacement fire station and 1,073 horsepower for the proposed high-rise building.

The existing fire station has an existing generator with a 200-horsepower engine that is currently operational but would not be after implementation of the proposed project. Emissions from this generator were subtracted from the operational emission for the proposed project.

#### ARCHITECTURAL COATINGS

Operational architectural coatings account for the reapplication of paint and coatings on interior and exterior surfaces, which would result in ROG emissions. Architectural coating emissions were estimated using CalEEMod methods and were based on the total building square footage of the proposed project. Consistent with CalEEMod, existing emissions of re-application of architectural coating were also calculated based on the square footage being removed.

#### CONSUMER PRODUCTS

Consumer product use would be the predominant source of ROG emissions during project operation. Consumer product emissions come from various non-industrial solvents, including cleaning supplies, kitchen aerosols, cosmetics and toiletries, which emit VOCs during their use. Emissions from consumer products were calculated using the total building square footage of the proposed project. The emission factor was updated from the CalEEMod default to reflect a San Francisco-specific ROG emission factor developed by the planning department in coordination with the air district (1.46x10-5 pounds of ROG per square foot per day).[127]

#### ENERGY USE

Criteria pollutant emissions are generated from energy use associated with buildings. Electricity and natural gas use are the most common energy types for mixed use projects. The proposed buildings would be all-electric pursuant to building code section 106A.1.17.1 (All-Electric New Construction Ordinance), and there would be no direct emissions of criteria air pollutants associated with on-site electricity use. Therefore, emissions from proposed project energy use would be zero.

#### LANDSCAPING EQUIPMENT

The proposed project would involve street trees and outdoor terraces but no substantial landscaping that would require maintenance with diesel or gasoline-powered equipment. Therefore, landscaping equipment emissions were not included in the analysis.

## Local Health Risks and Hazards

The proposed project would emit TACs during construction and operations. A health risk assessment was conducted to estimate health risks from exposure to TACs emitted by construction and operation of the

[126] Bay Area Air Quality Management District, Best Available Control Technology for Small to Medium Sized Standby Diesel Engines, https://www.baaqmd.gov/~/media/files/engineering/workshops/diesel-bact-102124/bact-tbact-webinar-presentation-21oct2024-pdf.pdf?rev=8984ea91fb1c48088b3232dd04820e55&sc_lang=en, accessed January 7, 2025.
[127] San Francisco Environmental Planning Division, Air Quality and Greenhouse Gas Analysis Guidelines, July 2024, https://sfplanning.org/air-quality, accessed January 3, 2025.

proposed project (see Appendix F2). Site preparation activities including demolition, excavation, grading, foundation construction, and other ground-disturbing construction activity would affect localized air quality during the construction phases of the proposed project. Short-term emissions from construction equipment during these site preparation activities would include $PM_{2.5}$ and TACs such as DPM. Additionally, the long-term operational emissions from the proposed project would include $PM_{2.5}$ and DPM from emergency backup generators and delivery trucks, and speciated total organic gases (TOG) from gasoline-powered passenger vehicles through fuel evaporation. The generation of these short- and long-term emissions could expose sensitive receptors to substantial pollutant concentrations of TACs, resulting in a localized health risk. Therefore, a health risk assessment was conducted for the proposed project to identify maximum health risks to off-site sensitive receptors from construction and operational emissions of DPM and $PM_{2.5}$, and speciated TOG. TAC emissions from project construction and operation were calculated following the methods and assumptions described above under *Regional Criteria Air Pollutants*.

The thresholds of significance used to evaluate community health risks and hazards from new sources of TACs are based on the potential for the proposed project to substantially affect the geography and severity of the APEZ at sensitive receptor and worker locations.

In evaluating a project's impact, the analysis considers the existing health risks plus the proposed project's health risk impact at receptor locations. For construction impacts, receptors include only existing off-site residential, school, and worker receptors. For operational impacts, receptors include these off-site locations plus new, on-site worker receptors. Worker receptors are employees at businesses or employment locations.

Three outcomes of this analysis are possible:

**Scenario 1.** If existing plus project health risks at receptors do not meet or exceed the APEZ criteria, then a project would not affect the geography or severity of the APEZ. This is considered a less-than-significant health risk impact. This scenario is referred to as receptors located "outside the APEZ."

**Scenario 2.** If existing health risks at receptors do not exceed the APEZ but would meet or exceed the APEZ criteria with the project's construction and operational emissions, then the project would affect the geography of the APEZ (i.e., by increasing the geographic areas that would exceed the criteria). Under this scenario, a cumulative health risk impact is the result of existing plus project health risks. The next step is to determine whether the project's contribution to cumulative health risks is considerable.

a. A substantial health risk contribution is defined as a $PM_{2.5}$ concentration at or above 0.3 $\mu g/m^3$ or an excess cancer risk at or above 10.0 per one million persons exposed at receptor locations. The 0.3 $\mu g/m^3$ annual average $PM_{2.5}$ concentration and the excess cancer risk of 10.0 per million persons exposed are the Air District's adopted project-level health risk thresholds and the levels above which the Air District considers new sources to make a cumulatively considerable health risk impact. This scenario is referred to as receptors "brought into the APEZ."

**Scenario 3.** If existing health risks at receptors meet or exceed the APEZ criteria and a proposed project would add new sources of air pollutants in these areas, then the project would affect the geography or severity of the APEZ (i.e., how much air pollution would occur in the area). Under this scenario, a cumulative health risk impact occurs under existing conditions and the next step is to determine whether the project's contribution to cumulative health risks is considerable.

a. Consistent with the Air District Guidelines chapter on "Best Practices for Centering Environmental Justice, Health and Equity," because health risk impacts are considered significant under existing

conditions, a more health-protective standard (than what is considered a substantial health risk contribution described in Scenario 2) is required to ensure that the proposed project's contribution to existing health risks would not be significant. In these areas, an annual average $PM_{2.5}$ concentration at or above 0.2 µg/m$^3$ or an excess cancer risk at or above 7.0 per one million persons exposed would represent a substantial health risk, and a significant impact would occur. The annual average $PM_{2.5}$ concentration of 0.2 µg/m$^3$ is consistent with the "action level" identified in Article 38 when it was first effective in 2008.[128] As these thresholds are 30 percent more health protective, use of these thresholds in already impacted areas would result in further avoidance of health effects to receptors. This scenario is referred to as receptors located "inside the APEZ."

**Table 3.B-6** presents the cancer risk and annual average $PM_{2.5}$ concentration health risk thresholds that are applied to the proposed project.

## Table 3.B-6 Excess Cancer Risk and $PM_{2.5}$ Concentration Thresholds

| Affected Receptor | Thresholds for Construction and Operation | |
|---|---|---|
| | Annual Average $PM_{2.5}$ concentration (µg/m$^3$) | Excess Cancer Risk (cases per one million population) |
| **Air Pollutant Exposure Zone Criteria** | | |
| **Outside Health Vulnerability zip code** [a] | 9.0 | 100.0 |
| **Inside Health Vulnerability zip code** [a] | 9.0 | 90.0 |
| **Scenario 1:** Project contributions to receptor locations that do **not** meet the *air pollutant exposure zone criteria* even with the project [b] | N/A | N/A |
| **Scenario 2:** Project contributions to receptor locations not within the *air pollutant exposure zone* but would meet the *air pollutant exposure zone criteria* because of the project [c] | 0.3 | 10.0 |
| **Scenario 3:** Project contributions to receptor locations within the *air pollutant exposure zone* [d] | 0.2 | 7.0 |

NOTES:

a. San Francisco Planning Department, *Air Quality and Greenhouse Gas Analysis Guidelines*, February 2025, https://sfplanning.org/air-quality, accessed February 25, 2025.
b. If a project would contribute additional health risks at receptor locations, but the existing plus project health risks would remain below the *air pollutant exposure zone* criteria, then it would not substantially affect the geography and severity of the APEZ.
c. Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, April 20, 2023, p. 5-14. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-5-project-air-quality-impacts_final-pdf.pdf?la=en, accessed June 16, 2023. Annual average $PM_{2.5}$ concentrations at or above 0.3 µg/m$^3$ or an excess cancer risk at or above 10.0 per million persons exposed at receptors are the Bay Area Air Quality Management District's project level thresholds. However, the project level thresholds do not consider existing sources of air pollution. Rather these thresholds are applied without consideration of substantial pollutant concentrations that may currently exist and be experienced by receptors.
d. A 0.2 µg/m$^3$ increase in annual average $PM_{2.5}$ concentration would result in a 0.28 percent increase in non-injury mortality or an increase of about 21 excess deaths per million population per year from non-injury causes in San Francisco. This information is based on Jerrett M. et al., *Spatial Analysis of Air Pollution and Mortality in Los Angeles*, Epidemiology, 16:727-736, 2005. This annual average $PM_{2.5}$ concertation is 30 percent lower than the Air District's project level annual average $PM_{2.5}$ concentration threshold. The excess cancer risk threshold has similarly been proportionally reduced from the Air District's cancer risk threshold to result in a significance criterion of 7 per million persons exposed.

[128] A 0.2 µg/m3 increase in $PM_{2.5}$ would result in a 0.28 percent increase in non-injury mortality or an increase of about 21 excess deaths per million per year from non-injury causes in San Francisco. This information is based on Jerrett, M., et al., Spatial Analysis of Air Pollution and Mortality in Los Angeles, in Epidemiology 16 (2005):727–736. The cancer risk has been proportionally reduced to result in a significance criterion of 7 per one million persons exposed.

The health risk assessment was prepared using technical information and health risk assessment guidance and protocol from the air district,[129] air board,[130] OEHHA,[131] the 2020 Citywide HRA, and the planning department's Air Quality and Greenhouse Gas Analysis Guidelines.[132] The health risk assessment evaluated the estimated incremental increase in lifetime cancer risk from exposure to emissions of DPM and speciated TOG and the annual average $PM_{2.5}$ concentrations associated with fuel combustion and on-road fugitive sources (including tire wear, brake wear, and road dust) that would be emitted by proposed project-related construction activities The health risk assessment focuses on the pollutants of concern ($PM_{2.5}$, DPM, and speciated TOG) because these pollutants pose substantial health impacts at the local level more so than other types of air pollutants.

In accordance with OEHHA health risk guidance, the DPM analysis used $PM_{10}$ emissions as a surrogate for DPM emissions.[133] This is a conservative approach because DPM is a subset of $PM_{10}$, and therefore DPM emissions are expected to be lower. Pollutant concentrations were estimated using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee regulatory air dispersion model (AERMOD version 24142).[134] Consistent with the 2020 Citywide HRA, cancer risk from DPM and annual average $PM_{2.5}$ concentrations were estimated at all sensitive receptors located within 3,280 feet (1,000 meters) of the project site's boundaries.

The health risk assessment includes DPM and $PM_{2.5}$ emissions from vendor and hauling trucks but not from construction worker vehicle trips. This is because the proposed project would not add more than 1,150 construction worker vehicle trips per day to any roadway, which is the planning department's traffic screening criterion for health risks.[135] Construction of the proposed project is anticipated to generate an average of 272 construction worker vehicles per day with a maximum of 500 construction worker vehicles per day during peak construction days.

The health risk assessment includes speciated TOG from operational vehicle trips, based on the trip rate described above and default distances from CalEEMod. The analysis also included $PM_{2.5}$ dust emissions from brake wear, tire wear, and entrained road dust. The health risk assessment also includes operational DPM emissions from emergency backup generators.

### *RECEPTOR EXPOSURE ASSESSMENT*

For assessing impacts to off-site sensitive receptors, including residential, school, and worker receptors from construction and operational TAC emissions, exposure is assumed to begin to a fetus at the beginning of the

[129] Bay Area Air Quality Management District, *Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*, January 2016, http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en, accessed January 7, 2025.
[130] California Air Resources Board, Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values, last updated October 2, 2020, https://ww2.arb.ca.gov/sites/default/files/classic//toxics/healthval/contable.pdf, accessed January 7, 2025.
[131] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments*, February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html, accessed January 7, 2025.
[132] San Francisco Department of Public Health, and San Francisco Planning Department, *Air Quality and Greenhouse Gas Analysis Guidelines, February 2025*, https://sfplanning.org/air-quality, accessed February 25, 2025.
[133] Office of Environmental Health Hazard Assessment, *For the "Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant" Part B: Health Risk Assessment for Diesel Exhaust*, May 1998, https://www.arb.ca.gov/toxics/dieseltac/part_b.pdf, accessed January 7, 2025.
[134] United States Environmental Protection Agency, *AERMOD Implementation Guide*, December 2016, https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod_implementation_guide.pdf, accessed January 7, 2025.
[135] San Francisco Environmental Planning Division, Air Quality and Greenhouse Gas Analysis Guidelines, July 2024, https://sfplanning.org/air-quality, accessed January 3, 2025.

3rd trimester at the start of construction until age 30. Sensitive receptors analyzed include residents, school students, and worker receptors.

Emissions and exposure to sensitive receptors were modeled for two exposure periods:

- Beginning of the approximately three-year construction period (2027 – 2030), followed by approximately 27 years of operations, and
- Beginning of the operational period, in February 2030, and continuing for 30 years until 2060 for residential receptors and 25 years (until 2055) for worker receptors.

These exposure scenarios were developed to capture the maximum impacts at all nearby sensitive receptors to proposed project construction and operational TAC emissions. A detailed explanation of all assumptions and methods used in the health risk assessment is included in Appendix F1.

## Consistency with the Clean Air Plan

The most recently adopted air quality plan for the air basin is the *2017 Clean Air Plan: Spare the Air, Cool the Climate*.[136] The 2017 Clean Air Plan is a road map that demonstrates how the San Francisco Bay Area will achieve compliance with the state ozone standards as expeditiously as practicable and how the region will reduce the transport of ozone and ozone precursors to neighboring air basins. Consistency with the 2017 Clean Air Plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan, the fourth bulleted significance criterion identified above. This analysis is presented in Impact AQ-4.

In determining consistency with the 2017 Clean Air Plan, this analysis considers whether the proposed project would (1) support the primary goals of the 2017 Clean Air Plan, (2) include applicable control measures from the 2017 Clean Air Plan, and (3) avoid disrupting or hindering implementation of control measures identified in the 2017 Clean Air Plan. To meet the primary goals, the 2017 Clean Air Plan recommends specific control measures and actions. These control measures are grouped into various categories and include stationary and area source measures, mobile source measures, transportation control measures, land use measures, and energy and climate measures. The 2017 Clean Air Plan recognizes that to a great extent, community design dictates individual travel mode, and that a key long-term control strategy to reduce emissions of criteria air pollutants, air toxics, and GHG emissions from motor vehicles is to channel future bay area growth into urban communities where goods and services are close at hand, and people have a range of viable transportation options. To this end, the 2017 Clean Air Plan includes 85 control measures aimed at reducing air pollution in the air basin.

## Methods for Analysis of Cumulative Impacts

As noted above, by definition, regional air pollution is largely a cumulative impact in that no single project is sufficient in size, by itself, to cause nonattainment of air quality standards. The contribution of a project's air emissions to regional air quality impacts is, by its nature, a cumulative effect. Emissions from cumulative projects in the vicinity could also contribute to cumulative air quality conditions and potentially adverse

[136] Bay Area Air Quality Management District, *2017 Clean Air Plan: Spare the Air, Cool the Climate*, April 19, 2017, http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed January 7, 2025.

regional air quality impacts.[137] The project-level thresholds for criteria air pollutants identify levels of emissions for new sources that are not anticipated to result in a considerable net increase in nonattainment criteria air pollutants. Therefore, if a project's emissions are below the project-level thresholds, the project would not result in a considerable contribution to cumulative regional air quality impacts. For this reason, no separate cumulative criteria air pollutant analysis is warranted, and none is provided below. Refer to Impacts AQ-1 and AQ-2 for analysis of the project's contribution to regional criteria air pollutant impacts.

Potential cumulative health risks were analyzed at the proposed project's maximally-exposed individual sensitive receptor (MEISR) and maximally-exposed individual worker receptor (MEIW). The analysis considers health risks from the proposed project in combination with health risk and TACs from cumulative projects within 1,000 meters (3,280 feet) of the MEISRs, MEIWs, and school receptors.[138] This distance is conservatively greater than the 1,000-foot radius known as the "zone of influence" recommended by the air district for considering existing background and cumulative sources of health risk.[139] Cumulative health risks are addressed qualitatively because of the lack of available emissions and health risk data for the cumulative projects. Where quantitative health risk information for cumulative projects was available, that information is disclosed.

As discussed above, an annual average $PM_{2.5}$ concentration of 0.3 µg/m$^3$ and lifetime excess cancer risk concentration of 10.0 per one million persons exposed are the levels below which the air district considers new sources not to make a considerable contribution to cumulative health risks. However, for those sensitive receptor locations inside the APEZ, a lower significance threshold is required to ensure that the proposed project's contribution to cumulative health risks would not be significant. In these areas, the proposed project's annual average $PM_{2.5}$ concentration at or above 0.2 µg/m$^3$ or a lifetime excess cancer risk at or greater than 7.0 per one million A contribution from the proposed project above the levels presented in Table 3.B-6, p. 3.B-30, would represent a cumulatively considerable health risk contribution and the project would result in a significant cumulative impact.[140]

A detailed explanation of all assumptions and methods used to calculate cumulative health risks is included in Appendix F2.

[137] Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, April 2022, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-5-project-air-quality-impacts_final-pdf.pdf?rev=de582fe349e545989239cbbc0d62c37a&sc_lang=en, accessed January 7, 2025.
[138] The MEI adequately captures analysis of all sensitive receptors.
[139] Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, April 2022, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4&sc_lang=en, accessed January 7, 2025.
[140] A 0.2 µg/m$^3$ increase in $PM_{2.5}$ would result in a 0.28 percent increase in non-injury mortality or an increase of about twenty-one excess deaths per 1,000,000 population per year from non-injury causes in San Francisco. This information is based on Jerrett M. et al., Spatial Analysis of Air Pollution and Mortality in Los Angeles, *Epidemiology* 16 (2005): 727–736. The excess cancer risk has been proportionally reduced to result in a significance criterion of 7 per 1 million persons exposed.

## *Impact Evaluation*

### Criteria Air Pollutants

**Impact AQ-1: During construction, the proposed project would not result in a cumulatively considerable net increase in a criteria air pollutant for which the project region is in nonattainment status under an applicable federal, state, or regional ambient air quality standard. *(Less Than Significant)***

#### *CONSTRUCTION*

##### FUGITIVE CONSTRUCTION DUST

The Construction Dust Control Ordinance, described under Local Regulations, requires all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or expose or disturb more than 10 cubic yards, or 500 square feet, of soil to comply with specified dust control measures, whether or not the activity requires a permit from the director of public health.

Building permits will not be issued without written notification from the director of public health that states that the applicant has a site-specific dust control plan. A dust control plan is required for projects that would disturb 0.5 acre or more. Since the construction area is larger than this, a dust control plan would be required. The Construction Dust Control Ordinance requires the project sponsor and the contractors who are responsible for construction activities to minimize visible dust on the site. Minimum dust control measures that apply to all projects include watering all construction areas sufficiently to prevent dust from becoming airborne; providing as much water as necessary to control dust (without creating runoff) in any area of land clearing, earth movement, excavation, and other dust generating activity; during excavation and dirt moving activities, wet sweep or vacuum the streets, sidewalks, paths, and intersections where work is in progress at the end of the workday; covering any inactive stockpiles greater than 10 cubic yards or 500 square feet of excavated materials, and using dust enclosures, curtains, and dust collectors as necessary to control dust in the excavation area.

Other dust control measures in the required site-specific dust control plan could include but are not limited to wetting down the area around soil improvements; an analysis of wind direction; placement of dust monitors; recordkeeping for particulate monitoring results; inspections and record keeping for visible dust; and establishing a hotline for surrounding community members to call and report visible dust problems. Reclaimed water must be used for watering down the construction area as required by public works code article 21, section 1100 et seq. Article 21 of the public works code requires the use of non-potable water for soil compaction and dust control undertaken in conjunction with any construction or demolition project occurring within the boundaries of San Francisco, unless permission is obtained from the San Francisco Public Utilities Commission (SFPUC). SFPUC operates a recycled water fill station at the Southeast Water Pollution Control Plant, which provides recycled water at no charge.

In addition to the requirements listed above, the site-specific dust control plan (for construction projects with sensitive receptors within 1,000 feet of the project) would require the project sponsor to submit a map to the director of public health that shows all sensitive receptors within 1,000 feet of the site.[141] The project

[141] San Francisco Health Code, Article 22B: Construction Dust Control Requirements, https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_health/0-0-0-4199, accessed January 15, 2025.

sponsor would be required to designate an individual to monitor project compliance with these dust control requirements. Compliance with the regulations and procedures set forth by the Construction Dust Control Ordinance would ensure that potential dust-related criteria air pollutant impacts during project construction would be less than significant. This conclusion is consistent with the air district's threshold for fugitive dust created by construction activities, which is that best management practices for dust control be implemented.

### EQUIPMENT AND CONSTRUCTION VEHICLE EXHAUST

Unmitigated construction exhaust emissions of criteria air pollutants from heavy-duty construction equipment, construction workers' vehicle trips, and truck hauling trips are summarized in **Table 3.B-7**. This table also includes fugitive ROG emissions resulting from application of architectural coatings and paving. The table shows average daily emissions for each calendar year of construction. As shown in the table, unmitigated construction emissions would not exceed significance thresholds.

**Table 3.B-7 Unmitigated Construction Emissions by Year for the Proposed Project**

| | Average Daily Construction Exhaust Criteria Pollutant Emissions (pounds/day)[a] | | | |
|---|---|---|---|---|
| Year | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| **2027** | 3.0 | 27.4 | 0.5 | 0.4 |
| **2028** | 4.6 | 31.7 | 0.5 | 0.5 |
| **2029** | 26.8 | 19.9 | 0.3 | 0.3 |
| **2030** | 0.2 | 4.3 | <0.1 | <0.1 |
| **MAXIMUM** | **26.8** | **31.7** | **0.5** | **0.5** |
| **Significance Thresholds** | 54 | 54 | 82 | 54 |
| **Exceeds Threshold?** | No | No | No | No |

SOURCE: ESA 2024; see Appendix F2

ABBREVIATIONS: CalEEMod = California Emissions Estimator Model; PM = particulate matter; $PM_{2.5}$ = PM less than 2.5 microns in diameter; $PM_{10}$ = PM less than 10 microns in diameter; ROG = reactive organic gases; NOx = nitrogen oxides

NOTES: **Bold values** = threshold exceedance

a. Emissions estimated using methods consistent with CalEEMod® version 2022.1.

The majority of NOx emissions would occur in 2027 and 2028, at the beginning of the construction period when most of the heavy equipment is used for grading, excavation, and site preparation as well as foundations and building construction. The majority of ROG emissions would occur in 2029 from application of architectural coating for the proposed buildings.

The proposed project would not exceed significance thresholds for construction emissions, as shown in Table 3.B-7. Therefore, this impact would be ***less than significant***, and no mitigation measures are necessary.

While the emissions in Table 3.B-7 do not exceed significance thresholds, and mitigation is not required to address criteria air pollutants, Mitigation Measure AQ-3a (presented below under Impact AQ-3 to reduce proposed project's health risk contribution) would further reduce criteria pollutant emissions during construction. For informational purposes, implementation of mitigation measure AQ-3a would result in the reduced emissions presented in **Table 3.B-8**.

## Table 3.B-8 Mitigated Construction Emissions by Year for the Proposed Project

| Year | Average Daily Construction Exhaust Criteria Pollutant Emissions (pounds/day)[a] | | | |
|---|---|---|---|---|
| | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| **2027** | 2.4 | 11.7 | 0.2 | 0.1 |
| **2028** | 4.1 | 13.2 | 0.2 | 0.1 |
| **2029** | 26.5 | 9.2 | 0.1 | 0.1 |
| **2030** | 0.2 | 2.1 | <0.1 | <0.1 |
| **MAXIMUM** | **26.5** | **13.2** | **0.2** | **0.1** |
| **Significance Thresholds** | 54 | 54 | 82 | 54 |
| **Exceeds Threshold?** | No | No | No | No |

SOURCE: ESA 2024; see Appendix F2

ABBREVIATIONS: CalEEMod = California Emissions Estimator Model; PM = particulate matter; $PM_{2.5}$ = PM less than 2.5 microns in diameter; $PM_{10}$ = PM less than 10 microns in diameter; ROG = reactive organic gases; NOx = nitrogen oxides

NOTES: **Bold values** = threshold exceedance

a. Emissions estimated using methods consistent with CalEEMod® version 2022.1.

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**Impact AQ-2: During operation, the proposed project would not result in a cumulatively considerable net increase of a criteria air pollutant for which the project region is in nonattainment under an applicable federal, state, or regional ambient air quality standard.** ***(Less Than Significant)***

Full buildout of the proposed project would occur in 2030. Mobile source emissions for the lifetime of the proposed project were calculated using emission factors from year 2030. This results in a conservative analysis because mobile source emissions would decrease over time due to retirement of older, dirtier vehicles and new fuel economy regulations that would become effective in future years.

**Table 3.B-9** presents unmitigated operational emissions from the proposed project at full buildout in 2030, when construction would be completed. Emissions include those from mobile sources, consumer product use, architectural coating, and emergency generator use. Emissions from the replacement fire station would not change, as operations would be the same as current conditions. A new emergency generator would be installed at the fire station to replace the existing emergency generator. Although the difference between the replacement fire station emergency engine and the removed existing fire station engine are minimal, the minor increase in emissions is accounted for in Table 3.B-9 . Emissions of $PM_{10}$ and $PM_{2.5}$ in these tables include vehicle exhaust and fugitive sources including re-suspended road dust, brake wear, and tire wear. As shown in Table 3.B-9, unmitigated operational emissions at full buildout would not exceed the daily or annual significance thresholds.

The proposed project would not exceed significance thresholds for operational emissions, as shown in Table 3.B-9. Therefore, this impact would be ***less than significant***, and no mitigation measures are necessary.

**Table 3.B-9 Unmitigated Operational Emissions for the Proposed Project at Buildout**

| Emissions Source | Operational Criteria Pollutant Emissions [a] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Annual Emissions (tons/year) | | | | Average Daily Emissions (pounds/day) [b] | | | |
| | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ | ROG | $NO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| **Full Buildout Proposed Project Emissions (2030) [c]** | | | | | | | | |
| **Mobile [d]** | 1.1 | 0.8 | 2.5 | 0.6 | 6.0 | 4.5 | 13.6 | 3.5 |
| **Consumer Products [e]** | 1.5 | <0.1 | <0.1 | <0.1 | 8.4 | <0.1 | <0.1 | <0.1 |
| **Architectural Coatings [f]** | 0.3 | <0.1 | <0.1 | <0.1 | 1.6 | <0.1 | <0.1 | <0.1 |
| **Generators [g]** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 |
| **TOTAL PROJECT EMISSIONS** | **2.9** | **0.8** | **2.5** | **0.6** | **16.2** | **4.6** | **13.6** | **3.5** |
| **Significance Thresholds** | 10 | 10 | 15 | 10 | 54 | 54 | 82 | 54 |
| **Exceeds Threshold?** | No | No | No | No | No | No | No | No |

SOURCE: ESA 2024; see Appendix F2

ABBREVIATIONS: CalEEMod = California Emissions Estimator Model; $PM_{2.5}$ = PM less than 2.5 microns in diameter; $PM_{10}$ = PM less than 10 microns in diameter; ROG = reactive organic gases; NOx = nitrogen oxides; PM = particulate matter

NOTES: **Bold values** = threshold exceedance

a. Emissions estimated using methods consistent with CalEEMod version 2022.1.
b. Operational emissions shown represent activity and emissions across 365 days per year.
c. Operational emissions from existing conditions were calculated using CalEEMod default data and emission factors based on the existing land use types provided by the project sponsor and CalEEMod defaults.
d. On-road mobile sources include vehicle trips associated with office workers, retail customers, employees, and vendor deliveries.
e. Consumer products are various non-industrial solvents, including cleaning supplies, kitchen aerosols, cosmetics and toiletries.
f. Architectural coatings account for the reapplication of paint and coatings on interior and exterior surfaces.
g. Generators include the two new emergency generator units' non-emergency testing operations.

## Community Risk and Hazard Impacts

**Impact AQ-3: The proposed project would result in emissions of fine particulate matter ($PM_{2.5}$) and toxic air contaminants that could expose sensitive receptors to substantial pollutant concentrations.** ***(Significant and Unavoidable with Mitigation)***

Site preparation activities such as demolition, excavation, grading, foundation construction, and other ground-disturbing construction activity, would affect localized air quality during the construction phases of the proposed project. Short-term emissions from construction equipment during these site preparation activities would include directly emitted $PM_{2.5}$ and TACs such as DPM. Additionally, the long-term operational emissions from the project's stationary sources would include $PM_{2.5}$ and TACs. The generation of these short- and long-term emissions could expose sensitive receptors to substantial pollutant concentrations of TACs, resulting in a localized health risk. Therefore, a health risk assessment was conducted for the proposed project to identify maximum health risks to off-site and on-site sensitive receptors from construction and operational emissions of DPM and $PM_{2.5}$. For operations, only TAC emissions (DPM and $PM_{2.5}$) from emergency generators were included in the health risk assessment. Operations at the replacement fire station, including activity associated with emergency calls, would not change from current operations. Therefore, only the new emergency generator for the replacement fire station was modeled in the HRA.

### *METHODOLOGY*

The health risk assessment evaluated excess lifetime cancer risk and annual average $PM_{2.5}$ concentrations at sensitive receptors and workers within 1,000 meters of the project site that would be exposed to TAC concentrations from construction and operation of the proposed project. Nonresidential sensitive receptors near the project site are shown above in Figure 3.B-1. Once construction is complete, sensitive receptors and worker receptors would only be exposed to operational TAC concentrations (emergency generators and vehicle emissions). Please refer to Appendix F2 for a detailed discussion of model inputs, receptor exposure assumptions, and factors used in the HRA.

### *HEALTH RISK RESULTS FOR EXPOSURE DURING CONSTRUCTION PLUS OPERATIONS*

Unmitigated health risk results are presented below in **Table 3.B-10** for receptors inside the APEZ (i.e., those areas with the highest background risk levels). This table also shows the existing health risks that were modeled as part of the 2020 Citywide HRA.

The MEISR inside the APEZ is a residential receptor located at the northeast corner of Washington Street and Battery Street, approximately 175 feet northeast of the project site. This is the MEISR for both cancer risk and annual average $PM_{2.5}$ concentration (i.e., the maximum impact for cancer risk and annual average $PM_{2.5}$ concentration occurs at the same location). The MEIW inside the APEZ is located at the building on the northeast corner of the project site block, adjacent to the project. This is the MEIW for both cancer risk and annual average $PM_{2.5}$ concentration (i.e., the maximum impact for cancer risk and annual average $PM_{2.5}$ concentration occurs at the same location). The maximum impact for a school receptor inside the APEZ for both cancer risk and annual average $PM_{2.5}$ concentration is located at Gordon J. Lau Elementary School (approximately 900 feet northwest of the project site). The proposed project's cancer risk and annual average $PM_{2.5}$ concentration contribution at these locations is mainly due to DPM and $PM_{2.5}$ emissions associated with off-road construction equipment operating during the grading phase. Because the proposed project's contribution to existing cancer risk and annual average $PM_{2.5}$ concentration at the MEISR and MEIW locations exceeds the significance criteria for receptors inside the APEZ, this impact would be considered significant and mitigation is required.

The MEISR brought into the APEZ is a residential receptor located approximately 3,000 feet to the northwest of the project site, near Stockton and Filbert streets. This receptor is brought into the APEZ with the proposed project's cancer risk contribution of 0.3 per million. There are no residential receptors brought into the APEZ with the proposed project's contribution to annual average $PM_{2.5}$ concentrations. There are no worker or school receptors that are brought into the APEZ with the proposed project's contribution to either cancer risk or annual average $PM_{2.5}$ concentrations.

The MEISR outside the APEZ, for both cancer risk and annual average $PM_{2.5}$ concentration, is located approximately 3,000 feet west of the project site south of Washington Street, between Taylor and Mason streets. The proposed project's health risk contribution to this MEISR does not cause the receptor to be brought into the APEZ. The MEIW outside the APEZ, for both cancer risk and annual average $PM_{2.5}$ concentration, is also located approximately 3,000 feet west of the project site, directly across Washington Street from the MEISR outside the APEZ. The maximum impact for a school receptor outside the APEZ, for both cancer risk and annual average $PM_{2.5}$ concentration, is located approximately 2,700 feet northwest of the project site at Garfield Elementary School. The health risk results for these receptors are not shown in Table 3.B-10 but are included in Appendix F2.

## Table 3.B-10 Unmitigated Lifetime Excess Cancer Risk and Annual Average $PM_{2.5}$ Concentrations from Construction Plus Operations - Receptors Inside the APEZ

| Sensitive Receptor Type and TAC Source | Health Risks | | | |
|---|---|---|---|---|
| | Lifetime Excess Cancer Risk (chances per million) | | Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$) [a] | |
| | Sensitive Receptor Location (UTM X, UTM Y) | Proposed Project Maximum Impact | Sensitive Receptor Location (UTM X, UTM Y) | Proposed Project Maximum Impact |
| **MEISR** | | | | |
| **Project Construction** | (552800, 4183360) | 42.9 | (552800, 4183360) | 0.33 |
| **Project Operations** | | 1.2 | | NA |
| **TOTAL PROJECT** | | **44.0** | | **0.33** |
| **Existing** | | 272.7 | | 9.82 |
| **TOTAL PROJECT + EXISTING** | | **316.7** | | **10.15** |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | **Yes** | | **Yes** |
| **MEIW** | | | | |
| **Project Construction** | (552740, 4183320) | 13.0 | (552740, 4183320) | 0.97 |
| **Project Operations** | | 1.5 | | NA |
| **TOTAL PROJECT** | | **14.5** | | **0.97** |
| **Existing** | | 280.9 | | 9.96 |
| **TOTAL PROJECT + EXISTING** | | **295.4** | | **10.94** |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | **Yes** | | **Yes** |
| **School** | | | | |
| **Project Construction** | (552420, 4183340) | 0.2 | (552420, 4183340) | 0.02 |
| **Project Operations** | | <0.1 | | NA |
| **TOTAL PROJECT** | | **0.2** | | **0.02** |
| **Existing** | | 269.3 | | 10.39 |
| **TOTAL PROJECT + EXISTING** | | **269.5** | | **10.41** |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | No | | No |

SOURCE: ESA, 2025.

ABBREVIATIONS: UTM = Universal Transverse Mercator; UTM – X = eastward-measured distance; UTM – Y = northward-measured distance; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters; NA = not applicable

NOTES: Due to rounding, numbers in columns may not add to totals. **Bold values** = threshold exceedance.

a. Annual Average $PM_{2.5}$ Concentrations are on an annual basis. Therefore, because operations of the proposed project begin after completion of construction, operational $PM_{2.5}$ emissions to do contribute to the impact.

### *HEALTH RISK RESULTS FOR EXPOSURE DURING FULL BUILDOUT OPERATIONS*

Unmitigated health risks were modeled for the 30-year period following completion of construction in 2030, when the proposed project's full buildout operational TAC emissions would start. Unmitigated health risk results are presented below in **Table 3.B-11**. This table also shows the existing health risks that were modeled as part of the 2020 Citywide HRA.

The MEISR inside the APEZ is a residential receptor located at the northeast corner of Washington and Battery streets, approximately 175 feet northeast of the project site. This is the MEISR for both the cancer risk and annual average $PM_{2.5}$ concentration (i.e., the maximum impact for cancer risk and annual average $PM_{2.5}$ concentration occur at the same location). The MEIW inside the APEZ is located in the proposed project's office building, adjacent to the project site loading dock. This is the MEIW for both the cancer risk and annual average $PM_{2.5}$ concentration (i.e., the maximum impact for cancer risk and annual average $PM_{2.5}$ concentration occur at the same location). The maximum impact for a school receptor inside the APEZ for cancer risk is located approximately 900 feet northwest of the project site at Gordon J. Lau Elementary School. The maximum impact for a school receptor for annual average $PM_{2.5}$ concentration is located approximately 2,200 feet west of the project site along Washington Street at St. Mary's School. The proposed project's cancer risk contribution at these locations is mainly due to DPM emissions from the loading dock at the project site. The proposed project's annual average $PM_{2.5}$ concentration contribution at these locations is mainly due to $PM_{2.5}$ emissions from entrained road dust from vehicle trips associated with the proposed project.

Because the proposed project's contribution to existing cancer risk and annual average $PM_{2.5}$ concentration at the MEIW location exceeds the significance criteria for receptors inside the APEZ, this impact would be considered significant and mitigation is required.

There are no receptors brought into the APEZ with the proposed project's health risk contribution from full buildout operations.

The MEISR outside the APEZ, for both the cancer risk and annual average $PM_{2.5}$ concentration, is located approximately 3,000 feet west of the project site south of Washington Street, between Taylor and Mason streets. The proposed project's health risk contribution to this MEISR does not cause the receptor to be brought into the APEZ. The MEIW outside the APEZ, for both the cancer risk and annual average $PM_{2.5}$ concentration, is also located approximately 3,000 feet west of the project site, directly across Washington Street from the MEISR outside the APEZ. The maximum impact for a school receptor outside the APEZ, for both the cancer risk and annual average $PM_{2.5}$ concentration, is located approximately 2,700 feet northwest of the project site at Garfield Elementary School. The health risk results for these receptors are not shown in Table 3.B-11 but are included in Appendix F2.

## Table 3.B-11 Unmitigated Lifetime Excess Cancer Risk and Annual Average $PM_{2.5}$ Concentrations from Full Buildout Operations – Receptors Inside the APEZ

| Sensitive Receptor Type and TAC Source | Health Risks | | | |
|---|---|---|---|---|
| | Lifetime Excess Cancer Risk (chances per million) | | Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$) | |
| | Sensitive Receptor Location (UTM X, UTM Y) | Proposed Project Maximum Impact | Sensitive Receptor Location (UTM X, UTM Y) | Proposed Project Maximum Impact |
| **MEISR** | | | | |
| **Project Operations** | (552800, 4183360) | **2.5** | (552800, 4183360) | **0.09** |
| **Existing** | | 272.7 | | 9.82 |
| **TOTAL PROJECT + EXISTING** | | **275.1** | | **9.91** |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | No | | No |
| **MEIW** | | | | |
| **Project Operations** | (552740, 4183300) | **9.6** | (552740, 4183300) | **0.22** |
| **Existing** | | 288.8 | | 10.04 |
| **TOTAL PROJECT + EXISTING** | | **298.4** | | **10.26** |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | **Yes** | | **Yes** |
| **School** | | | | |
| **Project Operations** | (552420, 4183340) | **0.1** | (552000, 4183200) | **0.05** |
| **Existing** | | 269.3 | | 9.09 |
| **TOTAL PROJECT + EXISTING** | | **269.3** | | **9.14** |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | No | | No |

SOURCE: ESA, 2025.

ABBREVIATIONS: UTM = Universal Transverse Mercator; UTM – X = eastward-measured distance; UTM – Y = northward-measured distance; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters; NA = not applicable

NOTES: Due to rounding, numbers in columns may not add to totals. **Bold values** = threshold exceedance.

## MITIGATION MEASURES FOR REDUCTION OF CONSTRUCTION EMISSIONS

As shown in Table 3.B-10 and 3.B-11, the proposed project would result in a significant health risk impact for receptors inside the APEZ. Mitigation Measure M-AQ-3a is required and would apply during all construction phases.

> **Mitigation Measure M-AQ-3a: Clean Off-Road Construction Equipment.** The project sponsor shall comply with the following:
>
> 1. *Engine Requirements.* All off-road equipment shall meet the following requirements:
>
>    a. All air compressors, cement and mortar mixers, concrete/industrial saws, fixed cranes, pumps, and welders shall be electric. If grid electricity is not available at the site, propane or natural gas for these off-road equipment shall be used until electricity is available. These equipment pieces shall not be gasoline or diesel powered.
>
>    b. Zero-emission off-road equipment shall be used for all off-road equipment used during each construction phase and activity, if commercially available. Available technologies currently include battery-electric and hydrogen fuel cell technologies. Portable equipment shall be powered by grid electricity if available. If grid electricity is not available, a portable electric charging station shall be used to power electric equipment. Forklifts shall be powered by propane if electric versions are not commercially available.
>
>    c. All engines that cannot be electrically powered must meet or exceed either U.S. Environmental Protection Agency or California Air Resources Board (air board) Tier 4 Final off-road emission standards. This adherence shall be verified through submittal of an equipment inventory and Certification Statement to the ERO. The Certification Statement must state that each contractor agrees to compliance and acknowledges that a significant violation of this requirement shall constitute a material breach of the contractor's agreement and/or the general contract with the project applicant.
>
>    d. For purposes of this mitigation measure, zero-emission off-road equipment shall ordinarily be considered "commercially available" if the vehicle is capable of serving the intended purpose and is included in the California Air Resources Board's Advanced Clean Equipment (ACE) List, https://ww2.arb.ca.gov/our-work/programs/msei/off-road-advance-clean-equipment, included in California Air Resources Board's Clean Off-Road Equipment Voucher Incentive Project (CORE) catalog, https://californiacore.org/equipmentcatalog/, or listed as available in the US on the Global Commercial Vehicle Drive to Zero Off-Road Zero-Emission Technology Inventory (ZETI) inventory, https://globaldrivetozero.org/tools/zeti-offroad/.
>
> 2. *Waivers.*
>
>    a. The ERO may waive the electric engine requirement of item 1.b if electric power is limited or infeasible at the project site or if equipment is not commercially available, as defined above. The ERO shall be responsible for the final determination of commercial availability, based on all the facts and circumstances at the time the determination is made. For the ERO to make a determination that such vehicles are commercially unavailable, the operator must submit documentation from a minimum of three (3) zero-emission off-road equipment dealers identified on the ACE or CORE websites demonstrating the inability to obtain the required zero-emission off-road equipment needed within 6 months. If the ERO grants the waiver, the

contractor must submit documentation that the equipment used for on-site power generation meets the requirements of item 1.c.

b. The ERO may waive the equipment requirements of item 1.c if (1) the contractor does not have the required type of equipment within its current available inventory or has ordered such equipment at least 60 days in advance and has made a good faith effort to lease or rent such equipment but it is not available; (2) a particular piece of Tier 4 final off-road equipment is technically or financially infeasible; (3) the equipment would not produce desired emissions reduction due to expected operating modes; or (4) there is a compelling emergency need to use off-road equipment that is not Tier 4 Final compliant. If the ERO grants the waiver, the contractor must use the next cleanest piece of off-road equipment that is commercially available, or another alternative that results in comparable reductions of DPM emissions.

3. *Construction Emissions Minimization Plan.* Before starting on-site construction activities, the project sponsor shall submit a Construction Emissions Minimization Plan (Plan) to the ERO for review and approval. The Plan shall state, in reasonable detail, how the contractor will meet the requirements of item 1.

   a. The Plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include but is not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, expected fuel type (e.g., diesel, gasoline, electric, propane, natural gas), and hours of operation.

   b. The project sponsor shall make the Plan available to the public for review on-site during working hours. The contractor shall post a notice summarizing the Plan. The notice shall also state that the public may ask to inspect the Plan for the project at any time during working hours and shall explain how to request to inspect the Plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.

4. *Reporting.* After start of construction activities, the project sponsor shall submit annual reports to the ERO documenting compliance with the Plan. Within six months of the completion of construction activities, the project sponsor shall submit to the ERO a final report summarizing construction activities, including the start and end dates and duration of each construction phase, and the specific information required in the Plan.

5. *Certification Statement and On-site Requirements.* Prior to commencing construction activities, the project sponsor shall certify that all applicable requirements of the Plan have been incorporated into contract specifications. The effectiveness of Mitigation Measure M-AQ-3a was evaluated in the health risk assessment. Mitigation Measure M-AQ-3a would reduce TAC emissions associated with off-road construction equipment by requiring electric and U.S. EPA Tier 4 Final engines. Tier 4 Final off-road engines emit approximately 71 percent less DPM and exhaust $PM_{2.5}$ than default fleet construction equipment.

### MITIGATION MEASURES FOR REDUCTION OF OPERATIONAL EMISSIONS

As shown in Table 3.B-10 and 3.B-11, the proposed project would result in a significant health risk impact for receptors inside the APEZ. Mitigation Measure M-AQ-3b is required and would apply during operations.

> **Mitigation Measure M-AQ-3b: Operational Truck Emissions Reduction.** The project sponsor shall incorporate the following measures into the project design and construction contracts (as applicable) to reduce emissions associated with operational trucks, along with the potential health risk caused by exposure to TACs. These features shall be submitted to the planning department ERO for review and approval prior to the issuance of building permits and shall be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City. Emissions from project-related diesel trucks shall be reduced by implementing the following measures:
>
> 1. Prohibit trucks from idling for more than two minutes, and post "no idling" signs at the site entry point, at all loading locations, and throughout the project site.
> 2. Equip all truck delivery bays with electrical hook-ups for diesel trucks at loading docks to accommodate plug-in electric truck transport refrigeration units (TRUs) or auxiliary power units during project operations.
> 3. Encourage the use of trucks equipped with diesel TRUs to meet U.S. Environmental Protection Agency Tier 4 emission standards.
> 4. Prohibit TRUs from operating at loading docks for more than thirty minutes, and post signs at each loading dock presenting this TRU limit.

### SIGNIFICANCE AFTER MITIGATION FOR EXPOSURE DURING CONSTRUCTION PLUS OPERATIONS

Mitigation Measure M-AQ-3a would reduce DPM and $PM_{2.5}$ emissions associated with off-road construction equipment exhaust during by requiring electric equipment and Tier 4 Final emission standards. Electric equipment and Tier 4 Final emission standards were quantified.

Mitigated health risk results with incorporation of Mitigation Measure M-AQ-3a and Mitigation Measure M-AQ-3b from for exposure during construction plus operations for receptors inside the APEZ are presented in **Table 3.B-12**. As shown in this table, implementation of Mitigation Measure M-AQ-3a would reduce the project's cancer risk contribution from approximately 87 to 93 percent and the project's annual average $PM_{2.5}$ concentration contribution approximately 38 to 63 percent during construction. With the addition of Mitigation Measure M-AQ-3b, the project's total cancer risk contribution would be reduced by approximately 78 to 86 percent. However, the project's mitigated health risk contribution would still exceed the threshold of significance for annual average $PM_{2.5}$ concentrations. The main contributor to this exceedance is exhaust from the off-road equipment that occurs during the grading/excavation phase and the drainage/utilities/sub-grade construction phase. For mitigated conditions, the MEISR, MEIW, and maximum impact for school receptors inside the APEZ are the same locations as for unmitigated conditions.

Mitigation Measure M-AQ-3a would also reduce health risks from the proposed project at receptors outside the APEZ. As discussed above, the proposed project's unmitigated contribution to the total cancer risk and annual average $PM_{2.5}$ concentration during construction plus operations at these receptor locations would be less than significant. Therefore, Mitigation Measure M-AQ-3a would further reduce the health risk impact at

receptor locations outside the APEZ. The health risk results for these receptors are not shown in Table 3.B-12 but are included in Appendix F2.

With implementation of Mitigation Measure M-AQ-3a, the project's health risk contribution for the MEISR and MEIW inside the APEZ would be reduced, but not below the significance threshold for annual average $PM_{2.5}$ concentration, resulting in a ***significant and unavoidable impact with mitigation***.

### SIGNIFICANCE AFTER MITIGATION FOR EXPOSURE DURING FULL BUILDOUT OPERATIONS

Mitigation Measure M-AQ-3b would reduce DPM and $PM_{2.5}$ emissions associated with truck exhaust during operational activities by requiring advanced exhaust technology, Tier 4 emission standards for TRUs, the use of electrical hookups to replace TRU operations, and idling limitations. Although all aspects of Mitigation Measure M-AQ-3b would reduce health risk from operations, only the two minute idling limit was quantified included in the quantitative analysis as a conservative approach. Other requirements of the mitigation measure, such as installing electric TRU charging infrastructure, does not guarantee full electrification of existing or future delivery truck TRUs.

Mitigated health risk results from operations with incorporation of Mitigation Measure M-AQ-3b for receptors in inside the APEZ are presented in **Table 3.B-13**. Mitigation Measure M-AQ-3b would reduce the project's operational health risk contribution below the threshold of significance for annual average $PM_{2.5}$ concentrations. Implementation of Mitigation Measure M-AQ-3b would reduce the project's cancer risk contribution from approximately 38 to 60 percent and the project's annual average $PM_{2.5}$ concentration contribution by up to 41 percent during operations. For mitigated conditions, the MEISR, MEIW, and maximum impact for school receptors are in the same locations as for unmitigated conditions.

Mitigation Measure M-AQ-3b would also reduce health risks from the proposed project at receptors outside the APEZ. As discussed above, the proposed project's unmitigated contribution to the total cancer risk and annual average $PM_{2.5}$ concentration during full buildout operations at these receptor locations would be less than significant. Therefore, Mitigation Measure M-AQ-3b would further reduce the health risk impact at receptor locations outside the APEZ. The health risk results for these receptors are not shown in Table 3.B-13 but are included in Appendix F2.

With implementation of Mitigation Measure M-AQ-3b, the project's health risk contribution for the MEISR and MEIW inside the APEZ would be reduced below the significance threshold for both cancer risk and annual average $PM_{2.5}$ concentration, resulting in a ***less than significant impact with mitigation***.

## Table 3.B-12 Mitigated Lifetime Excess Cancer Risk and Annual Average $PM_{2.5}$ Concentrations from Construction Plus Operations – Receptors Inside the APEZ

| Sensitive Receptor Type and TAC Source | Health Risks [a] | | | |
|---|---|---|---|---|
| | Lifetime Excess Cancer Risk (chances per million) | | Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$) [b] | |
| | Sensitive Receptor Location (UTM X, UTM Y) | Proposed Project Maximum Impact | Sensitive Receptor Location (UTM X, UTM Y) | Proposed Project Maximum Impact |
| **MEISR** | | | | |
| **Project Construction** | (552800, 4183360) | 5.6 | (552800, 4183360) | **0.20** |
| **Project Operations** | | 0.6 | | NA |
| **TOTAL PROJECT** | | 6.2 | | **0.20** |
| **Existing** | | 272.7 | | 9.82 |
| **TOTAL PROJECT + EXISTING** | | 278.9 | | 10.02 |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | No | | **Yes** |
| **MEIW** | | | | |
| **Project Construction** | (552740, 4183280) | 0.9 | (552780, 4183280) | **0.36** |
| **Project Operations** | | 2.0 | | NA |
| **TOTAL PROJECT** | | 2.9 | | **0.36** |
| **Existing** | | 296.3 | | 10.11 |
| **TOTAL PROJECT + EXISTING** | | 299.2 | | 10.47 |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | No | | **Yes** |
| **School** | | | | |
| **Project Construction** | (552420, 4183340) | <0.1 | (552420, 4183340) | 0.01 |
| **Project Operations** | | <0.1 | | NA |
| **TOTAL PROJECT** | | <0.1 | | 0.01 |
| **Existing** | | 269.3 | | 10.39 |
| **TOTAL PROJECT + EXISTING** | | 269.3 | | 10.4 |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | No | | No |

SOURCE: ESA, 2025.

ABBREVIATIONS: UTM = Universal Transverse Mercator; UTM – X = eastward-measured distance; UTM – Y = northward-measured distance; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters; NA = not applicable

NOTES: Due to rounding, numbers in columns may not add to totals. **Bold values** = threshold exceedance.

a. Mitigation included in the analysis: the use of Tier 4 Final off-road construction equipment with engines 25 horsepower or greater and electrification of air compressors, cement and mortar mixers, concrete/industrial saws, tower cranes, pumps, and welders. For operations, 2-minute idling for delivery vehicles on-site was included in modeling.

b. Annual Average $PM_{2.5}$ Concentrations are on an annual basis. Therefore, because operations of the proposed project begin after completion of construction, operational $PM_{2.5}$ emissions do not contribute to the impact.

## Table 3.B-13 Mitigated Lifetime Excess Cancer Risk and Annual Average $PM_{2.5}$ Concentrations from Operations – Receptors Inside the APEZ

| Sensitive Receptor Type and TAC Source | Health Risks [a] | | | |
|---|---|---|---|---|
| | Lifetime Excess Cancer Risk (chances per million) | | Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$) | |
| | Sensitive Receptor Location (UTM X, UTM Y) | Sensitive Receptor Location (UTM X, UTM Y) | Sensitive Receptor Location (UTM X, UTM Y) | Sensitive Receptor Location (UTM X, UTM Y) |
| **MEISR** | | | | |
| **Project Operations** | (552800, 4183360) | **1.2** | (552800, 4183360) | **0.09** |
| **Existing** | | 272.7 | | 9.82 |
| **TOTAL PROJECT + EXISTING** | | 273.9 | | 9.91 |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | No | | No |
| **MEIW** | | | | |
| **Project Operations** | (552740, 4183300) | **3.9** | (552740, 4183300) | **0.13** |
| **Existing** | | 288.8 | | 10.04 |
| **TOTAL PROJECT + EXISTING** | | 292.7 | | 10.17 |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | No | | No |
| **School** | | | | |
| **Project Operations** | (552420, 4183340) | **<0.1** | (552000, 4183200) | **0.05** |
| **Existing** | | 269.3 | | 9.09 |
| **TOTAL PROJECT + EXISTING** | | 269.3 | | 9.14 |
| **Threshold for Project Contribution** | | 7 | | 0.2 |
| **Exceeds Threshold?** | | No | | No |

SOURCE: ESA, 2025.

ABBREVIATIONS: UTM = Universal Transverse Mercator; UTM – X = eastward-measured distance; UTM – Y = northward-measured distance; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters; NA = not applicable

NOTES: Due to rounding, numbers in columns may not add to totals.

a. Mitigation included in the analysis: 2-minute idling for delivery vehicles on-site.

*SUMMARY*

For exposure during construction plus operations, the proposed project's unmitigated health risk contribution for the MEISR and MEIW inside the APEZ exceeds the significance thresholds for both cancer risk and annual average $PM_{2.5}$ concentrations. Therefore, mitigation is required. Construction health risk impacts were mitigated to the greatest extent feasible by requiring electric off-road equipment for specified pieces of equipment. As more electric equipment becomes commercially available in the future, emissions could be further reduced, though these potential reductions were not quantified. After implementation of Mitigation Measure M-AQ-3a and M-AQ-3b, cancer risks are reduced below the significance threshold, but annual average $PM_{2.5}$ concentrations from the proposed project exceed the significance threshold.

Similarly, for exposure during full buildout operations, the proposed project's unmitigated health risk impacts at the MEIW inside the APEZ exceed the significance threshold for both cancer risk and annual average $PM_{2.5}$ concentrations. Therefore, mitigation is required. After implementation of Mitigation Measure M-AQ-3b, both cancer risk and annual average $PM_{2.5}$ concentrations are below the significance thresholds.

The health risk impacts for exposure during construction plus operations exceed the significance thresholds for receptors in the APEZ, resulting in a ***significant and unavoidable impact with mitigation***.

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## Other Emissions and Odors

**Impact AQ-4: The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.** ***(Less than Significant)***

Existing uses on the project site are not sources of odorous emissions, except some minor odorous emissions associated with the diesel emergency generator and diesel fuel tank at the fire station. These types of odors are generally minor and not considered offensive. During construction, the various diesel-powered vehicles and equipment would create localized odors while in use. These odors would be temporary and intermittent and are not likely to be noticeable for extended periods of time beyond the boundaries of the project site. Therefore, the potential for diesel odor impacts would be less than significant.

Although there may be some potential for small-scale, localized odor issues to emerge around project sources such as solid waste collection, diesel exhaust from testing the two emergency generators at the replacement fire station and office/hotel building, etc., substantial odor sources and consequent effects on on-site and off-site sensitive receptors would be unlikely. Other minor odorous emissions associated with the fire station (e.g., diesel fuel tank, fire engine operations) are unchanged from the existing operations. Air district regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds and applies to restaurants that employ more than five persons. The proposed project would be required to implement odor controls as required by applicable regulations. Odor impacts would be ***less than significant***, and no mitigation measures are required.

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## Consistency with the Clean Air Plan

**Impact AQ-5: The proposed project would conflict with or obstruct implementation of the 2017 Clean Air Plan. *(Less than Significant)***

The most recently adopted air quality plan for the air basin is the *2017 Clean Air Plan (2017 Clean Air Plan): Spare the Air, Cool the Climate*.[142] The 2017 Clean Air Plan is a road map that demonstrates how the bay area will, in accordance with the requirements of the California Clean Air Act, implement all feasible measures to reduce ozone precursors (ROG and NOx) and reduce the transport of ozone and its precursors to neighboring air basins. It also provides a climate and air pollution control strategy to reduce ozone, PM, TACs, and GHG emissions that builds upon existing regional, state, and national programs.

In determining consistency with the 2017 Clean Air Plan, this analysis considers whether the proposed project would (1) support the primary goals of the 2017 Clean Air Plan, (2) include applicable control measures from the 2017 Clean Air Plan, and (3) avoid disrupting or hindering implementation of control measures identified in the 2017 Clean Air Plan. The primary goals of the 2017 Clean Air Plan are: to protect air quality and public health at the regional and local scale and protect the climate by reducing regional criteria air pollutant emissions; reducing local air-quality-related health risks (by meeting state and national ambient air quality standards); and reducing GHG emissions (by reducing GHG emissions to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050).[143]

To meet the primary goals, the plan recommends 85 specific control measures and actions. These control measures are grouped into various categories and include stationary and area source measures, mobile source measures, transportation control measures, land use measures, and energy and climate measures. Other measures in the plan not within the air district's regulatory authority may be advisory or are otherwise not specifically applicable to land use projects. These control strategies are grouped into the following categories:

- Stationary source measures
- Transportation control measures
- Energy control measures
- Building control measures
- Agricultural control measures
- Natural and working lands control measures
- Waste management control measures
- Water control measures
- Super GHG control measures

The 2017 Clean Air Plan recognizes that to a great extent, community design dictates individual travel mode, and that a key long-term control strategy to reduce emissions of criteria pollutants, air toxics, and greenhouse gases from motor vehicles is to channel future bay area growth into urban communities where goods and services are close at hand, and people have a range of viable transportation options. Many of these control measures address stationary sources and will be implemented by the air district using its permit authority and therefore are not suited for implementation through local planning efforts or project approval actions. The control measures most applicable to the proposed project are transportation control measures and energy and climate control measures. The proposed project's impact with respect to GHGs is

[142] Bay Area Air Quality Management District, *2017 Clean Air Plan: Spare the Air, Cool the Climate*, April 19, 2017, http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed January 7, 2025.
[143] The air district's 2030 GHG target is consistent with the California's GHG 2030 reduction target, per Senate Bill 32. The air district's 2050 target is consistent with the state's 2050 GHG reduction target per Executive Order S-3-05.

discussed in initial study Section E.8, Greenhouse Gas Emissions, in Appendix B which demonstrates that the proposed project would not result in a significant GHG impact.

The potentially applicable 11 Clean Air Plan control measures are identified in **Table 3.B-14**, Project Consistency with Applicable Control Measures of the 2017 Clean Air Plan. This table identifies each control strategy and correlates it to specific elements of the proposed project and explains why the element is consistent with the 2017 Clean Air Plan strategy. Many of the 2017 Clean Air Plan control measures' goals are also embodied in the planning department's GHG Checklist, and the proposed project would comply with the applicable provisions of the city's GHG reduction strategy.

Examples of a project that could cause the disruption or delay of the 2017 Clean Air Plan control measures are projects that would preclude the extension of a transit line or bike path, or projects that propose excessive parking beyond parking requirements. The proposed project is an infill project that would redevelop parcels in the Financial District, which is in a walkable, urban area near a concentration of regional and local transit service. It would not add parking beyond the maximum allowed or preclude the extension of a transit line or a bike path or any other transit improvement, and thus would not disrupt or hinder implementation of the 2017 Clean Air Plan's control measures (see Section E.5, Transportation and Circulation, in Appendix B).

In addition to the measures listed in Table 3.B-14, transportation control measures that are identified in the 2017 Clean Air Plan are also implemented by the general plan and the planning code, which the proposed project must implement (e.g., through the City's Transit First Policy, the bicycle parking requirements, and transit impact development fees). The infill nature of the proposed project and high availability of viable transportation options ensure that employees of the commercial and office uses could bicycle, walk, and ride transit to and from the project site instead of taking trips via private automobile. These features ensure that the proposed project would avoid substantial growth in automobile trips and vehicle miles traveled. The proposed project's 1,974 daily vehicle trips would result in a negligible increase in air pollutant emissions. Transportation control measures that are identified in the clean air plan are implemented by the *San Francisco General Plan* and the planning code, for example, through the city's Transit First Policy, bicycle parking requirements, and transit impact development fees. Compliance with these requirements would ensure the project includes relevant transportation control measures specified in the clean air plan.

The proposed project includes many of the control measures from the 2017 Clean Air Plan, as shown in Table 3.B-14. In addition, the proposed project in an infill development that is close to transit and commercial uses. The proposed project would not preclude the extension of a transit line or bike path, nor would it add parking beyond the maximum allowed. Because of these proposed project features, it would not obstruct implementation of and would be consistent with the 2017 Clean Air Plan. This impact would be ***less than significant***, and no mitigation measures are necessary.

## Table 3.B-14 Project Consistency with Applicable Control Measures of the 2017 Clean Air Plan

| Control Measure | Measure Description | Existing or Proposed Implementation Mechanism | Is the Proposed Project Consistent with the Measure? |
|---|---|---|---|
| **SS25 – Coatings, Solvents, Lubricants, Sealants and Adhesives** | SS25 will reduce emissions of ROG from architectural coatings and other materials by proposing more stringent ROG limits as appropriate. | The proposed project would comply with the air district regulatory limits for architectural coatings. | Yes |
| **SS32 – Emergency Backup Generators** | S32 will reduce emissions of DPM, TACs, and criteria pollutants from emergency backup generators by enforcing Rule 11-18, resulting in reduced health risks to impacted individuals. This measure will also have climate protection benefits through reduced GHG emissions. | The proposed project would comply with air district BACT requirements, which state that all new diesel backup generators shall meet Tier 4 Final standards. | Yes |
| **TR5 – Transit Efficiency and Use** | TR5 will improve transit efficiency and make transit more convenient for riders through continued operation of 511 Transit, full implementation of Clipper® fare payment system and the Transit Hub Signage Program. | As part of the proposed Transportation Demand Management (TDM) Plan for the proposed project, the project would provide multimodal wayfinding signage, real-time transportation information displays in building lobbies at each major entrance/exit showing transit lines, walk time to transit stops, and availability of on-site car-share vehicles. | Yes |
| **TR9 – Bicycle and Pedestrian Access and Facilities** | The bicycle component of TR9 strives to expand bicycle facilities serving employment sites, educational and cultural facilities, residential areas, shopping districts, and other activity centers. Typical improvements include bike lanes, routes, paths, and bicycle parking facilities. The bicycle component also includes a bike share pilot project that was developed to assess the feasibility of bicycle sharing as a first- and last-mile transit option.<br>The pedestrian component of this measure is intended to improve pedestrian facilities and encourage walking by funding projects that improve pedestrian access to transit, employment sites, and major activity centers. | The proposed project would provide 77 class 1 bicycle parking spaces and 29 class 2 bicycle parking spaces.<br>The proposed project would increase the effective width of sidewalks for people walking along Sansome and Washington streets to a minimum 7.5-foot-wide pathway by relocating existing obstructions and widening sidewalks. The proposed project would increase the width of the portion of the Sansome Street sidewalk along the project frontage from 10.5 to 13 feet and increase the width of the portion of the Washington Street sidewalk along the project frontage up to 20 feet. The proposed project would not change the existing 10-foot-wide southern sidewalk along the | Yes |

| Control Measure | Measure Description | Existing or Proposed Implementation Mechanism | Is the Proposed Project Consistent with the Measure? |
|---|---|---|---|
| | Improvements may include sidewalks/paths, benches, reduced street width and intersection turning radii, crosswalks with activated signals, curb extensions/ bulbs, buffers between sidewalks and traffic lanes, and street trees. | eastern portion of Washington Street, which does not part of the frontage of the proposed project. The proposed project would also maintain the existing 12-foot-wide sidewalk on the western side of Battery Street, adjacent to the replacement fire station. These improvements as part of the proposed project would comply with the Better Streets Plan, which requires a minimum 12 feet and recommended 15 feet width for sidewalks on typical commercial streets. | |
| **TR10 – Land Use Strategies** | This measure supports land use patterns that reduce VMT and associated emissions and exposure to TACs, especially within infill locations and impacted communities. | The proposed project would build a mixed-use development consistent with the regional goals and targets expressed in the *Plan Bay Area 2050 Sustainable Communities Strategy*.<br>As discussed under Impact AQ-3, land use changes proposed by the project would not result in significant TAC exposure for either existing off-site or new on-site sensitive receptors with implementation of mitigation measures. In addition, as shown in initial study Section E.5, Transportation and Circulation, the project would not have a significant impact on vehicle miles traveled (VMT). | Yes |
| **TR13 – Parking Policies** | This control measure outlines how MTC and the Air District, in cooperation with regional agency partners, will (1) take actions at the regional level to implement parking policies that will benefit air quality, and (2) encourage and support local agency parking policies to reduce motor vehicle travel and promote focused growth. | The proposed project would comply with the Parking Cash-out program. | Yes |

| Control Measure | Measure Description | Existing or Proposed Implementation Mechanism | Is the Proposed Project Consistent with the Measure? |
|---|---|---|---|
| **TR14 – Cars and Light Trucks** | This control measures summarizes actions by the Air District, MTC, local businesses, city and county governments, and state and federal agencies to expand the use of Zero Emission Vehicles and Plug-in Electric passenger vehicles and light-duty trucks within the Bay Area. | San Francisco Green Building Requirements require new large nonresidential construction projects to provide designated parking for low-emitting, fuel efficient, and carpool/van pool vehicles and mark 8 percent of parking stalls for such vehicles. The project would comply with the 2022 California Green Building Standards (CALGreen Code) Tier 2 voluntary EV charging requirements or the mandatory requirements of the most recently adopted version of the City building code, whichever is more stringent. | Yes |
| **TR22 – Construction, Freight and Farming Equipment** | TR22 directs the air district to work to reduce emissions from off-road equipment used in the construction, freight handling and farming industries by pursuing the following strategies: (1) offering financial incentives between 2017 and 2030 to retrofit engines with diesel particulate filters or upgrade to equipment with electric or Tier 4 off-road engines; (2) work with the air board, the California Energy Commission and others to develop more fuel-efficient off-road engines and drive trains; and (3) work with local communities to encourage use of renewable electricity and fuels. | Most Bay Area construction equipment currently meets Tier 4 Final standards for all construction equipment greater than 25 hp. [a] | Yes |
| **BL1 – Green Buildings** | BL1 seeks to increase energy efficiency and the use of on-site renewable energy—as well as decarbonize existing end uses—for all types of existing and future buildings. The measure includes policy assistance, incentives, diffusion of public information, and targeted engagement and facilitation of partnerships in order to increase energy efficiency and on-site renewable energy in the buildings sector. | The proposed project would with the San Francisco Green Building Requirements (San Francisco Green Building Code, sections 4.103, 4.104, 4.105, 5.103, 5.104, and 5.105) | Yes |

| Control Measure | Measure Description | Existing or Proposed Implementation Mechanism | Is the Proposed Project Consistent with the Measure? |
|---|---|---|---|
| **WA3 – Green Waste Diversion; and WA4 – Recycling and Waste Reduction** | WA3 seeks to reduce the total amount of green waste being disposed in landfills by supporting the diversion of green waste to other uses, while WA4 seeks to reduce greenhouse gas emissions by diverting recyclables and other materials from landfill. | The proposed project would comply with San Francisco's Green Building Requirements by providing for recycling, compost, and solid waste collection and loading that is convenient for all users. | Yes |
| **WR2 – Support Water Conservation** | WR2 seeks to promote water conservation, including reduced water consumption and increased on-site water recycling, in residential, commercial, and industrial buildings for the purpose of reducing greenhouse gas emissions. | The proposed project would comply with the San Francisco Green Building Requirements for Water Use Reduction. New large nonresidential buildings must achieve minimum 30 percent indoor potable water use reduction as calculated to meet LEED credit Indoor Water Use Reduction (WEc2).<br>Projects must meet maximum flush/flow limits. See CALGreen section 5.303.3 (nonresidential projects) for details. | Yes |

SOURCE: BAAQMD, *Clean Air Plan: Spare the Air, Cool the Climate*, 2017

NOTE: The TDM measures are subject to refinement.

a. Construction industry experts in the Bay Area indicate that 75 to 90 percent of construction equipment used in the region consist of Tier 4 engines, and large construction companies like those to be contracted for the Specific Plan have construction fleets with 90 to 95 percent Tier 4 engines (Guadalupe Quarry Redevelopment Project Draft Environmental Impact Report, AQ and GHG technical report, August 2024, https://ceqanet.opr.ca.gov/2022060358/2, accessed January 9, 2025.

## *Cumulative Impacts*

The air basin is a nonattainment area for both the federal and state ozone standards; therefore, an air quality impact already exists. Additional emissions of ozone precursors $NO_X$ or ROG over threshold amounts would further degrade air quality related to ozone. Impacts AQ-1 and AQ-2 evaluate whether the proposed project's contribution to this significant impact would be considerable. The air district's project-level criteria air pollutant thresholds are based on levels below which new sources would not result in a cumulatively considerable net increase in criteria air pollutants for which the region is in nonattainment. The potential for the proposed project to result in significant criteria air pollutant emissions, and therefore a cumulatively considerable contribution to non-attainment criteria pollutants, is addressed under Impacts AQ-1 and AQ-2. Therefore, no separate cumulative criteria air pollutant analysis is required.

**Impact C-AQ-1: The proposed project, in combination with cumulative projects, would result in exposure of sensitive receptors to substantial levels of fine particulate matter ($PM_{2.5}$) and toxic air contaminants.** ***(Significant and Unavoidable with Mitigation)***

As discussed under Impact AQ-3, the project site is in the APEZ, and all nearby sensitive receptors are inside the APEZ, meaning they already experience poor air quality. This means significant air quality health risk impacts exist even without the proposed project. The proposed project would emit DPM, TOG, and $PM_{2.5}$ emissions that would lead to a significant health risk impact, as discussed under Impact AQ-3. This impact, combined with the health risk impact from DPM and $PM_{2.5}$ emissions from the construction and operation of the cumulative projects discussed below, would result in a significant cumulative health risk impact.

The air district identified a distance of 1,000 feet as an appropriate zone of influence for assessing health risk impacts and specifies that cumulative sources represent the combined total risk values of each individual source within the 1,000-foot evaluation zone.[144] Health risk impacts are localized, and TAC concentrations typically decrease substantially or can even be indistinguishable from upwind background concentrations beyond approximately 1,000 feet from the emissions source.[145] Therefore, the geographic context for cumulative health risk effects is evaluated considering cumulative projects within 1,000 feet of the MEISR, MEIW, and/or School receptors inside the APEZ.

**Table 3.B-15** lists the cumulative projects within 1,000 feet of either the MEISR, MEIW, and/or School receptors inside the APEZ. Table 3.B-15 provides the potential sources of health risk associated with each cumulative project and their distances from the proposed project's MEISR, MEIW, and School receptors inside the APEZ for exposure during construction plus operations and during full buildout operations. Most of these cumulative projects are located at distances greater than 1,000 feet from the MEISR, MEIW, and School receptors inside the APEZ, except for the following: 545 Sansome Street, 875 Sansome Street, 400 California Street, 425 Broadway, 100 Columbus Avenue, 749 Grant Avenue, 652–660 Kearny Street, and 916 Kearny Street. The distances of these projects from the MEISR, MEIW, and school receptors inside the APEZ are shown in Table 3.B-15, with those shown in bold that are within 1,000 feet.

The timing and specifics of construction activities associated with each of these cumulative projects is unknown at this time. Therefore, except for the 545 Sansome Street project, all cumulative projects were analyzed qualitatively. For the 545 Sansome Street project, results from its health risk assessment were added

[144] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017, p. 5-2.
[145] Bay Area Air Quality Management District, Recommended Methods for Screening and Modeling Local Risks and Hazards, 2012, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en&rev=3ed5e81662784057941d97b851900d19, accessed January 7, 2025.

to existing plus proposed project conditions to provide quantitative information and are presented in **Table 3.B-16**.

As discussed under Impact AQ-3, for receptors outside the APEZ and receptors brought into the APEZ, the health risk contribution from the proposed project would be minimal. The largest health risk impact at the MEISR outside the APEZ is a cancer risk contribution of 0.2 per million and an annual average $PM_{2.5}$ concentration contribution of 0.04 µg/$m^3$. With the implementation of Mitigation Measure M-AQ-3a and M-AQ-3b, these health risk contributions would be reduced. Similarly, the health risk impact at the MEISR brought into the APEZ has a cancer risk contribution of 0.1 per million. There are no MEISR, MEIW, or school receptors brought into the APEZ with the project's contribution of annual average $PM_{2.5}$ concentrations.

If any of the cumulative projects in Table 3.B-15 were located near any of the MEISR, MEIW, or school receptors outside the APEZ, there is potential for those receptors to be brought into the APEZ. However, because of the minimal health risk contributions from the proposed project for the receptors outside of the APEZ, these receptors would be below the health risk thresholds for receptors located within the APEZ. Therefore, for the MEISR, MEIW, or school receptors outside the APEZ and the MEISR, MEIW, or school receptors brought into the APEZ, the proposed project's health risk contribution combined with the cumulative projects health risk contributions would not result in a cumulative impact.

For MEISR, MEIW, and school receptors inside the APEZ, a significant cumulative health risk impact already exists. As shown in Table 3.B-12, p. 3.B-46, with implementation of Mitigation Measure M-AQ-3a and Mitigation Measure M-AQ-3b, mitigated excess lifetime cancer risks from the proposed project would be below the threshold of significance and the proposed project's the contribution to the cumulative cancer risk would not be considerable. However, even after implementation of Mitigation Measure M-AQ-3a and Mitigation Measure M-AQ-3b, the proposed project's contribution to the annual average $PM_{2.5}$ concentration due to exposure during construction plus operations would exceed the significance threshold, resulting in a considerable contribution to the cumulative impact. Therefore, cumulative health risk impacts for receptors in the APEZ would be ***significant and unavoidable with mitigation***.

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**Impact C-AQ-2: The proposed project, in combination with cumulative projects, would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people.** ***(Less than Significant)***

Impact AQ-4 describes the potential of odorous emissions from the proposed project. The cumulative projects listed above would not construct the type of facility associated with odors, which generally includes solid waste collection, wastewater or stormwater collection/conveyance, or food preparation. The odors associated with these cumulative projects would be those from diesel-powered vehicles and equipment during construction and would cease once construction is complete. Upon completion of construction activities cumulative projects combined with the proposed project would not generate substantial odors. Therefore, cumulative odor impacts would be ***less than significant***, and no mitigation measures are necessary.

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## Table 3.B-15 Cumulative Projects within 1,000 Feet of MEISR, MEIW, or School Receptors – Receptors Inside the APEZ

| Project Name | Potential Source of Health Risk | Construction plus Operations | | | Operations | | | |
|---|---|---|---|---|---|---|---|---|
| | | Distance from the MEISR Inside the APEZ (feet) | Distance from the MEIW Inside the APEZ (feet) | Distance from the School Receptor Inside the APEZ (feet) | Distance from the MEISR Inside the APEZ (feet) | Distance from the MEIW Inside the APEZ (feet) | Distance from the School Cancer Risk Receptor Inside the APEZ (feet) | Distance from the School $PM_{2.5}$ Receptor Inside the APEZ (feet) |
| **545 Sansome Street (2020-001410ENV)** | Construction DPM and $PM_{2.5}$; operational emergency generator and delivery truck DPM and $PM_{2.5}$; operational employee vehicle trip gasoline TOG and $PM_{2.5}$ | **475** | **255** | **735** | **475** | **235** | **735** | 2,120 |
| **425 Broadway (2024-005966PRJ/ENV)** | Construction DPM and $PM_{2.5}$; operational emergency generator and delivery truck DPM and $PM_{2.5}$; operational employee vehicle trip gasoline TOG and $PM_{2.5}$ | 1,310 | 1,250 | **705** | 1,310 | 1,270 | **705** | 1,870 |
| **100 Columbus Ave (2022-004374PRJ)** | Construction DPM and $PM_{2.5}$ | 1,195 | 1,060 | **200** | 1,195 | 1,060 | **200** | 1,565 |
| **749 Grant Avenue (2019-003978ENV/PRJ)** | Construction DPM and $PM_{2.5}$ | 1,930 | 1,645 | **865** | 1,930 | 1,680 | **865** | **865** |
| **400 California Street (2020-010710PRJ)** | Construction DPM and $PM_{2.5}$ | 1,010 | **690** | 1,290 | 1,010 | **765** | 1,290 | 2,325 |
| **652-660 Kearny Street (2024-000138PRJ/ENV)** | Construction DPM and $PM_{2.5}$ | 1,410 | 1,085 | **585** | 1,410 | 1,155 | **585** | 1,360 |
| **916 Kearny Street (2022-006253PRL, 2019-019722PRJ/ENV)** | Construction DPM and $PM_{2.5}$; operational emergency generator and delivery truck DPM and $PM_{2.5}$; operational employee/resident vehicle trip gasoline TOG and $PM_{2.5}$ | 1,220 | 1,225 | **170** | 1,220 | 1,125 | **170** | 1,390 |
| **875 Sansome (2024-006874PRJ/ENV)** | Construction DPM and $PM_{2.5}$; operational emergency generator DPM and $PM_{2.5}$; | **950** | 1,095 | 1,005 | **950** | 1,030 | 1,005 | 2,340 |

SOURCE: San Francisco Planning Department, 2024.

ABBREVIATIONS: DPM = diesel particulate matter; MEISR = maximum exposed individual sensitive receptor; MEIW = maximum exposed individual worker; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; TOG = total organic gases

NOTES:

**Bold** indicates cumulative projects within 1,000 feet of MEISR, MEIW, or school receptor.

Cumulative project descriptions and statuses are presented in Table 3-1.

## Table 3.B-16 Cumulative Lifetime Excess Cancer Risk and Annual Average PM2.5 Concentrations for Projects within 1,000 Feet of MEISR, MEIW, or School Receptors – Receptors Inside the APEZ

| | Construction plus Operations | | | | | | Full Buildout Operations | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lifetime Excess Cancer Risk (chances per million) | | | Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$) | | | Lifetime Excess Cancer Risk (chances per million) | | | Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$) | | |
| | MEISR Inside the APEZ | MEIW Inside the APEZ | School Receptor Inside the APEZ | MEISR Inside the APEZ | MEIW Inside the APEZ | School Receptor Inside the APEZ | MEISR Inside the APEZ | MEIW Inside the APEZ | School Receptor Inside the APEZ | MEISR Inside the APEZ | MEIW Inside the APEZ | School Receptor Inside the APEZ |
| **Project Total** | 6.2 | 2.9 | <0.1 | 0.20 | 0.36 | 0.01 | 1.2 | 3.9 | <0.1 | 0.09 | 0.13 | 0.05 |
| **Existing** | 272.7 | 296.3 | 269.3 | 9.82 | 10.11 | 10.39 | 272.7 | 288.8 | 269.3 | 9.82 | 10.04 | 9.09 |
| **EXISTING PLUS PROJECT** | **278.8** | **299.2** | **269.3** | **10.02** | **10.47** | **10.40** | **273.9** | **292.7** | **269.3** | **9.91** | **10.17** | **9.14** |
| **Cumulative Projects for Which Quantitative Information is Available** | | | | | | | | | | | | |
| **545 Sansome Street** | 2.2 | 0.6 | 0.1 | 0.01 | <0.01 | <0.01 | 2.2 | 0.6 | 0.1 | 0.01 | <0.01 | NA[a] |
| **CUMULATIVE TOTAL** | **281.1** | **299.8** | **269.4** | **10.03** | **10.47** | **10.41** | **276.1** | **293.3** | **269.4** | **9.92** | **10.17** | **NA[a]** |

SOURCE: ESA, 2025; FirstCarbon Solutions, 2023, 545 Sansome Street Modeling Methods and Assumptions Memorandum, https://citypln-m-extnl.sfgov.org/External/link.ashx?Action=Download&ObjectVersion=-1&vault=%7bA4A7DACD-B0DC-4322-BD29-F6F07103C6E0%7d&objectGUID=%7bD4027544-F5DF-4FC8-895D-7B125481FA12%7d&fileGUID=%7b4E06EFEF-3197-44D5-AB18-03D4DE5E5AD4%7d.

ABBREVIATIONS: MEISR = maximum exposed individual sensitive receptor; MEIW = maximum exposed individual worker; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter

NOTES: Cumulative project descriptions and statuses are presented in Table 3-1.

a. No annual average $PM_{2.5}$ concentration data for school receptors is available since its location was not in the model as part of the 545 Sansome Street project.

# CHAPTER 4
# OTHER CEQA ISSUES

This chapter discusses the following topics in relation to the proposed project: growth inducement potential, significant environmental effects that cannot be avoided if the project is implemented, significant irreversible environmental changes that would result if the proposed project is implemented, and areas of known controversy and issues to be resolved.

## 4.A Growth-Inducing Impacts

The California Environmental Quality Act (CEQA) Guidelines require that an environmental impact report (EIR) evaluate the growth-inducing impacts of a proposed action (section 15126.2(e)). A growth-inducing impact is defined in CEQA Guidelines section 15126.2(e) as:

> *[T]he ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth … It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

A project can have direct and/or indirect growth-inducement potential. Direct growth inducement would result if a project involved construction of new housing that would result in new residents moving to the area. A project can have indirect growth-inducement potential if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial, governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, under CEQA, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service (e.g., a wastewater treatment facility). Increases in population could strain existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The CEQA Guidelines also require analysis of the characteristics of projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

As discussed in Section E.2, Population and Housing, in the initial study (see Appendix B), the proposed project would result in a net increase of between 1,450 and 1,524 jobs (90 to 180 employees for the hotel, 1,249 to 1,413 employees for the office space, and 21 employees for the retail/restaurant use).[146] The jobs created by the proposed project would represent approximately 0.5 to 0.7 percent of the 236,000 new jobs expected for the city by 2050. It is anticipated that most of the employees would live in San Francisco (or nearby communities) and that the proposed project would not generate demand for new housing to

[146] City and County of San Francisco, *Transportation Impact Analysis Guidelines for Environmental Review*, October 2002, Table C-1, p. C-3. The employment projections are based on employee density factors for typical land uses. An employment density of 0.9 employees per room is used for hotel use. An employment density of 276 gsf per employee is used for office use. An employment density of 350 gsf per employee is used for retail/restaurant use. The range in employees reflects the potential programming (100 hotel rooms and more office or 200 hotel rooms and less office) of five of the middle floors of the building as either office or hotel.

accommodate new employees. However, even if all of the approximately 1,450 to 1,524 employees associated with the proposed project were assumed to be new to San Francisco, project-related employment growth would represent less than 1 percent (0.7 percent) of the city's estimated job growth between 2015 and 2050. This estimated increase in employment would be negligible in the context of total jobs in San Francisco. Therefore, the proposed project would not induce substantial employment growth but rather accommodate projected job growth within the city.

The proposed project also would not indirectly induce substantial unplanned population growth in the project area due to infrastructure improvements because the project site is an infill site located in an urbanized area and does not propose any extensions to area roads or other infrastructure that could enable additional development in currently undeveloped areas.

## 4.B Significant and Unavoidable Effects of the Proposed Project

In accordance with CEQA section 21067 and CEQA Guidelines sections 15126(b) and 15126.2(c), an environmental impact report (EIR) must identify significant and unavoidable environmental impacts that cannot be reduced to less than significant levels through regulatory compliance, design strategies, and/or mitigation incorporation. Development of the proposed project would result in the significant and unavoidable impacts discussed below and further discussed in Sections 3.A, Historic Architectural Resources; and 3.B, Air Quality. With the exception of the impacts listed below, all other project impacts would be either less than significant or reduced to less-than-significant levels by implementation of the identified mitigation measures. The findings of significant impacts are subject to final determination by the San Francisco Planning Commission as part of the certification process for this EIR.

### 4.B.1 Historic Architectural Resources

As identified in Section 3.A, Historic Architectural Resources, under Impact CR-1, p. 3.A-22, the proposed project would demolish the structures at the project site including the building at 447 Battery, a historical resource as defined by CEQA. The demolition of 447 Battery Street under the proposed project would result in a significant impact under CEQA. Implementation of mitigation measures M-CR-1a, Documentation of the 447 Battery Street Building; M-CR-1b, Salvage Plan; and M-CR-1c, Public Interpretive Program; would partially compensate for impacts associated with the proposed project through comprehensive documentation and memorialization of the historical resource. However, these mitigation measures would not reduce impacts to a less-than-significant level. As such, the impact on historic architectural resources would remain significant and unavoidable with mitigation. (Impact CR-1)

### 4.B.2 Air Quality

The proposed project would result in emissions of fine particulate matter ($PM_{2.5}$) and toxic air contaminants that could expose sensitive receptors to substantial pollutant concentrations. The health risk assessment conducted for the proposed project determined that impacts associated with excess cancer risk and annual average particulate matter of $PM_{2.5}$ for the proposed project's maximally-exposed individual sensitive receptor (MEISR) and maximally-exposed individual worker receptor (MEIW) inside the Air Pollutant Exposure Zone (APEZ) would exceed significance thresholds without mitigation. Mitigation Measure M-AQ-3a, Clean Off-Road Construction Equipment and M-AQ-3b, Operational Truck Emissions Reduction, would reduce the project's health risk contribution, but not below the threshold of significance for annual average $PM_{2.5}$

concentrations. Therefore, the proposed project's health risk impacts for exposure during construction plus operations would be considered significant and unavoidable with mitigation. (Impact AQ-3)

The proposed project, in combination with cumulative projects, would contribute to cumulative health risk impacts on sensitive receptors during construction. Mitigation Measures M-AQ-3a and M-AQ-3b would reduce cumulative health risk impacts on sensitive receptors. However, the project's health risk contribution to the total risk would still be above the significance threshold for annual average $PM_{2.5}$ concentration, resulting in a significant and unavoidable impact with mitigation. (Impact C-AQ-1)

## 4.C Significant Irreversible Environmental Changes

In accordance with CEQA section 21100(b)(2)(B) and CEQA Guidelines section 15126.2(d), an EIR must identify any significant irreversible environmental changes that could result from implementation of the proposed project. This may include current or future uses of nonrenewable resources, and secondary or growth-inducing impacts that commit future uses of nonrenewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. According to the CEQA Guidelines, irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. In general, such irreversible commitments include resources such as energy consumed and construction materials used in construction of a proposed project, as well as the energy and natural resources (notably water) that would be required to sustain a project and its inhabitants or occupants over the usable life of the project.

The initial study (Appendix B) found that the proposed project would have less-than-significant or no impacts on land use and planning. Significant irreversible changes pertaining to long-term land use changes are not anticipated with project implementation and therefore are not discussed further in this analysis. Other irreversible changes that would occur as a result of project implementation are discussed below.

### 4.C.1 Irreversible Changes to an Environmental Resource

No significant environmental damage (e.g., accidental spills or the explosion of a hazardous material) is anticipated with implementation of the proposed project. Compliance with federal, state, and local regulations would ensure that construction and operation activities at the project site would not result in the release of hazardous materials into the environment and that associated impacts would be less than significant (refer to Section E.17, Hazards and Hazardous Materials, of the initial study in Appendix B).

No irreversible changes, such as those that may occur from construction of a large-scale mining project, a hydroelectric dam project, or other industrial project, would result from development of the proposed project.

### 4.C.2 Irreversible Consumption of Nonrenewable Resources

Consumption of nonrenewable resources includes increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. No agricultural lands would be converted and no access to mining reserves would be lost with construction of the proposed project (refer to Section E.18, Mineral Resources, and Section E.20, Agriculture and Forestry Resources, of the initial study in Appendix B).

Construction of the proposed project would require the use of energy, including energy produced from nonrenewable resources, and energy would be consumed during the operational period of the proposed project. Construction would also require the commitment of construction materials, such as steel, aluminum, and other metals, concrete, masonry, lumber, sand and gravel, and other such materials, as well as water. The proposed project would commit future generations to an irreversible commitment of energy, primarily in the form of fossil fuels for heating and cooling of buildings, for automobile and truck fuel, and for energy production. The proposed project would require an ongoing commitment of potable water for building occupants and landscaping.

New buildings in California are required to conform to energy conservation standards specified in California Code of Regulations title 24, which are among the most stringent in the United States. The standards establish energy budgets for different types of residential and nonresidential buildings with which all new buildings must comply. In addition, to ensure that all buildings are healthy, sustainable places to live, work, and learn, the San Francisco Green Building Code requirements are designed to reduce energy and water use, divert waste from landfills, encourage alternate modes of transportation, and support the health and comfort of building occupants in San Francisco. New construction in San Francisco must meet all applicable California and local building codes, provide on-site facilities for recycling and composting, and meet the City's green building requirements tied to the Leadership in Energy and Environmental Design and GreenPoint Rated green building rating systems, all of which would ensure that natural resources are conserved or recycled to the maximum extent feasible and that greenhouse gas emissions resulting from the proposed project would be minimized.

Even with implementation of conservation measures, the consumption of natural resources, including those associated with the generation of electricity, would generally increase with implementation of the proposed project. However, the proposed project would not involve the wasteful, inefficient, or unnecessary consumption of energy resources, as discussed in the initial study (refer to Section E.20, Energy, of the initial study in Appendix B). Overall, the proposed project would be expected to use less energy and water over the lifetime of the proposed buildings than comparable structures not built to these same standards.

As further described in Section E.12, Utilities and Services Systems, of the initial study (see Appendix B), while the proposed project would incrementally increase the demand for water in San Francisco, the proposed project would not make a considerable contribution to a cumulative impact on water supply, and the impact would be less than significant. During construction activities, water may be used for soil compaction and dust control activities. While potable water use would increase during operation, the proposed project would be designed to incorporate water-conserving measures, such as water efficient fixtures, as required by California Code of Regulations title 24 and the San Francisco Green Building Ordinance. The project site is also within a designated recycled water use area. Because the high-rise building would involve new construction totaling 40,000 square feet or more, the high-rise building would be required to comply with the Recycled Water Program by installing recycled water systems for all applicable uses, including toilets and irrigation. The high-rise building would include a blackwater treatment facility, which would treat blackwater from the tower's cooling tower and plumbing systems. The treated water would be used for the tower's plumbing fixtures and potentially landscape irrigation. Therefore, although water consumption would increase as a result of project construction and operation, the proposed project would not involve the wasteful, inefficient, or unnecessary use of water resources, as discussed in the initial study.

The proposed project would also incorporate transportation demand management measures into its design, such as bicycle parking and would be located in proximity to several public transportation options. These features would minimize the amount of transportation fuel consumed. As discussed in Section E.5, Transportation and Circulation, in the initial study (Appendix B), the project site is in an area with a comparably low level of VMT per capita, relative to the regional average, within one-half mile of an existing major transit stop, and the proposed project would include similar features to other developments in the area in terms of density and mix of uses. Employees and visitors would most likely engage in vehicle use patterns similar to those of the existing population in the neighborhood and general vicinity. Given the project's features and location, it would not result in wasteful use of fuel from vehicle trips.

As discussed in Section E.8, Greenhouse Gas Emissions, of the initial study (Appendix B), the proposed project would not result in any significant impacts associated with an increase in greenhouse gas emissions or conflict with measures adopted for the purpose of reducing such emissions because the proposed project would comply with the regulations listed in the city's Greenhouse Gas Reduction Strategy. In addition, the proposed project would not require the construction of major new utility lines to deliver energy or natural gas because these services are already provided in the area. Therefore, the proposed project would not result in a significant impact associated with the consumption of nonrenewable resources.

## 4.D Areas of Known Controversy and Issues to Be Resolved

Publication of the notice of preparation of an EIR initiated a 30-day public review and comment period that began on November 6, 2024, and ended on December 9, 2024. During the review and comment period, a total of two agencies (California Department of Toxic Substances Control and San Francisco Department of Public Works) and two individuals submitted comments to the planning department.

To the extent the comments received on the NOP relate to environmental issues, they are addressed in the draft EIR and initial study. Any comments related to the proposed project's merits that cannot be addressed through the CEQA process will be provided to decision-makers as part of the entitlement process. Potential areas of controversy and unresolved issues for the proposed project, as expressed by agencies and community members, include the following:

- Construction-related air quality, health risk, and noise impacts
- Pedestrian circulation and access to adjacent building during construction
- Handling of hazardous waste during construction

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# CHAPTER 5
# ALTERNATIVES

## 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. Because the proposed project would adversely affect a historic architectural resource and result in significant health risk impacts related to air quality, alternatives have been developed to consider strategies that would lessen such impacts. This section identifies a reasonable range of historic preservation alternatives that fulfill CEQA criteria and evaluates the alternatives for their comparative merits with respect to minimizing adverse environmental effects, including those on historic architectural resources that would occur with the proposed project as designed.

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.

### 5.A.1 CEQA Requirements for Alternatives Analysis

CEQA Guidelines section 15126.6(a) states that an environmental impact report (EIR) must describe and evaluate a reasonable range of alternatives to the proposed project that would feasibly attain most of the project's basic objectives, but that would avoid or substantially lessen any identified significant adverse environmental effects of the project. An EIR is not required to consider every conceivable alternative to a proposed project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

CEQA, the CEQA Guidelines, and the case law on the subject have found that feasibility can be based on a range of factors and influences. CEQA Guidelines section 15364 defines "feasibility" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." CEQA Guidelines section 15126.6(f)(1) states that the factors that may be taken into account when addressing the feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (if the site is not already owned by the proponent).

The EIR must evaluate the comparative merits of the alternatives and include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. Specifically, the CEQA Guidelines set forth the following criteria for selecting and evaluating alternatives:

- "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible." (CEQA Guidelines section 15126.6(a))
- "[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." (CEQA Guidelines section 15126.6(b))
- "The range of potential alternatives shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." (CEQA Guidelines section 15126.6(c))
- "The specific alternative of 'no project' shall also be evaluated along with its impact." (CEQA Guidelines section 15126.6(e)(1))
- "The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making." (CEQA Guidelines section 15126.6(f))

## 5.A.2 Alternatives Selection

This section describes the basis for determining the range of CEQA alternatives and identifies the specific alternatives that are analyzed in this EIR.

### *Project Objectives*

1. Leverage new commercial development to provide City with a new state-of-the-art fire station and financial contributions to support new affordable housing production.
2. Build a new commercial development to generate both daytime and nighttime activity in the City's Financial District and provide employment opportunities and demand for area businesses in a transit-rich and walking-friendly area of the City.
3. Build the City a new fire station in a separate structure that meets the City's Fire Department programmatic and design requirements for a state-of-the-art facility, while accommodating the contemplated commercial development on a distinct portion of the project site.
4. Improve Merchant Street between Sansome and Battery streets to complete a pedestrian-oriented connection between Maritime Plaza and Transamerica Redwood Park.

5. Build adequate parking and vehicular and loading access to serve the needs of project workers and visitors.
6. Create a new luxury hotel catering to tourists and businesses.
7. Create new office space meeting the programmatic and locational needs of financial service firms.
8. Allow flexibility in the allowable amount of office and hotel uses to be developed to meet the future and evolving needs in San Francisco's downtown area.

## *Summary of Significant Impacts*

As stated in the CEQA Guidelines section 15126.6(a), alternatives to a project selected for analysis in an EIR must substantially lessen or avoid any of the significant environmental impacts associated with the project. The following summarizes the conclusions for significant impacts identified in Chapter 3 of this EIR.

### Significant and Unavoidable Impacts

The following impacts would be significant and unavoidable after implementation of mitigation measures.

#### *HISTORIC ARCHITECTURAL RESOURCES*

- The proposed project would cause a substantial adverse change in the significance of onsite historical resources, as defined in section 15064.5, including resources listed in articles 10 or 11 of the San Francisco Planning Code. (Impact CR-1)

#### *AIR QUALITY*

- The proposed project would result in emissions of fine particulate matter ($PM_{2.5}$) and toxic air contaminants that could expose sensitive receptors to substantial pollutant concentrations during construction and through operations. (Impact AQ-3)
- The proposed project, in combination with cumulative projects, would result in exposure of sensitive receptors to substantial levels of fine particulate matter ($PM_{2.5}$) and toxic air contaminants. (Impact C-AQ-1)

## *Alternatives Screening and Selection*

In accordance with CEQA Guidelines section 15126.6(a), this EIR examines a reasonable range of alternatives to the proposed project or to the location of the project. An alternative selected for analysis must meet three criteria: (1) the alternative would attain most of the project's basic objectives, (2) the alternative would avoid or substantially lessen the significant environmental impacts of the proposed project, and (3) the alternative would be potentially feasible. An EIR need not consider an alternative whose impact cannot be reasonably ascertained and whose implementation is remote and speculative. Furthermore, an EIR need not consider every conceivable alternative but must consider a reasonable range of alternatives to foster informed decision-making and public participation.

The planning department based the alternatives selection process on identifying alternative concepts that would avoid or lessen the significant and unavoidable impacts identified above. Strategies to avoid or lessen significant environmental impacts primarily involved reducing the extent of development that could occur with implementation of the proposed project, thereby reducing significant impacts. The planning department then screened the potential alternatives for their feasibility and ability to meet most of the project objectives. This process resulted in the selection of three alternatives to be carried forward for

detailed evaluation, not including the No Project Alternative. The planning department determined that these alternatives, along with the No Project Alternative, represent a reasonable range of alternatives described and analyzed in this draft EIR.

## Strategies to Avoid or Lessen Significant Impacts

The significant and unavoidable impacts identified for the proposed project that the alternatives were tailored to avoid include the following topics:

- Historic architectural resources
- Air quality (toxic air contaminants)

The following strategies were then used to formulate alternatives for analysis in this chapter.

### *Alternative Development to Address Impacts to Historic Architectural Resources*

As described in Section 3.A, Historic Architectural Resources, the proposed project would entail the demolition of the 447 Battery Street building. Demolition of the 447 Battery Street building would therefore materially impair the significance of a historic architectural resource. Mitigation Measures M-CR-1a through M-CR-1c included in Section 3.A, Historic Architectural Resources, of this draft EIR would partially compensate for impacts associated with the proposed project through comprehensive documentation, salvage, and memorialization of the historic architectural resource. However, only avoidance of substantial adverse changes would reduce impacts to a less-than-significant level. Consequently, the impact of the proposed project on the historic architectural resource would remain significant and unavoidable with mitigation.

Impacts on the historic architectural resource would be avoided or substantially lessened by retaining all or some of the 447 Battery Street building proposed for demolition and rehabilitating it consistent with the Secretary of the Interior's Standards for Rehabilitation (Secretary's Standards). Two full preservation alternatives that would retain the 447 Battery Street building, adaptively reuse the building, and conduct all modifications necessary to accommodate new tenants in the building in conformance with the Secretary's Standards were identified. A partial preservation alternative that would retain and modify the east and south facades of the building was also developed. The three preservation alternatives plus the no project alternative were included in a preservation alternatives analysis report[147] prepared with guidance and direction from the planning department pursuant to San Francisco Historic Preservation Commission (HPC) resolution no. 0746[148] and presented to the HPC on January 15, 2025. The preservation alternatives memorandum is included in Appendix C8 of this EIR. Based on information in that report, this chapter analyzes one partial preservation alternative and two full preservation alternatives, which are described and analyzed in detail below.

## Historic Preservation Commission

Consistent with HPC resolution 0746 regarding evaluation of preservation alternatives during the EIR process, the HPC had the opportunity to provide early feedback on the draft preservation alternatives. On January 15, 2025, the HPC reviewed the three preservation alternatives. The commission found that the

[147] Environmental Science Associates, *Preservation Alternatives Analysis: 447 and 530 Sansome Street Project,* December 2024 (revised February 27, 2025).
[148] Resolution No. 0746 (approved March 15, 2015) clarifies expectations for the evaluation of significant impacts to historic resources and the preparation of preservation alternatives in a draft EIR.

three alternatives represented a reasonable range of alternatives for the EIR analysis and would avoid or reduce the significant adverse effects of the proposed project on historic architectural resources.[149] The HPC's comments requested consideration of additional alternatives, which included the possibility of retaining the 447 Battery Street building and/or the 530 Sansome Street fire station with new construction above these existing buildings. In response to the HPC's comments, the alternatives considered but rejected was updated to clarify why these are not feasible and described in Section 5.E, *Alternatives Considered but Rejected*.

### *Alternative Development to Address Air Quality Effects*

Section 3.B, Air Quality, identifies a mitigation measure for construction toxic air contaminants (TACs) that would be significant and unavoidable. Mitigation includes requiring the use of clean off-road construction equipment, which represents feasible strategies to reduce the project's health risk contribution to the annual average $PM_{2.5}$ concentration, but not to a less-than-significant level.

The significant-and-unavoidable construction air quality impact relates to the size and location of the proposed development. The construction of the proposed project would generate TACs at levels that would expose offsite sensitive receptors, including residential and worker receptors, to substantial pollutant concentrations—specifically for $PM_{2.5}$—that would be above the significance threshold for annual average $PM_{2.5}$ concentration. The proposed project is in an area where sensitive receptors already experience poor air quality.

The construction health risk impacts are associated with the scale and duration of the development and the proximity to sensitive receptors to the project site. One strategy to reduce construction health risk impacts is to reduce the size of development that would reduce the square footage of development. This would also result in a reduction of the site and duration of construction and operational activities. However, this strategy would not meet some of the proposed project's objectives. Alternative C, 19-Story Building Full Preservation Alternative, represents a reduced development alternative compared to the proposed project.[150] This alternative would avoid the proposed project's significant and unavoidable air quality impacts due to the large reduction in the scale of the development, shorter construction duration, and less excavation.

## 5.B Summary of Alternatives

Based on the alternatives screening process described above, the following four alternatives were selected for detailed analysis in this EIR:

- Alternative A: No Project Alternative – Under Alternative A, there would be no modifications to the existing historical resource. The project site would remain as is and none of the buildings would be demolished. No ground disturbance, excavation, or new construction would occur under this alternative.
- Alternative B: 41-Story Building Full Preservation Alternative – Alternative B would retain the historic 447 Battery Street building. The existing buildings at 530 Sansome Street, 425 Washington Street, and 439–

[149] Historic Preservation Commission, Memo from the Historic Preservation Commission re: Meeting Notes from Review and Comment at the January 15, 2025, HPC Hearing for Preservation Alternatives for the 530 Sansome/447 Battery Street Project Draft EIR, March 4, 2025.
[150] Alternative C is the 19-story mixed-use project that was previously approved by the City with a Mitigated Negative Declaration (Case No. 2019-07481ENV).

445 Washington Street would be demolished and a 4-story replacement fire station and 41-story, mixed-use building would be constructed on these parcels. This alternative would include ground disturbance, excavation, and new construction for the 41-story building, but not for the 447 Battery Street parcel. Alternative B would have a similar construction duration and amount of excavation as the proposed project.

- Alternative C: 19-Story Building Full Preservation Alternative – Alternative C would retain the historic 447 Battery Street building. The existing buildings at 530 Sansome Street, 425 Washington Street, and 439–445 Washington Street would be demolished and a 4-story replacement fire station and 19-story, mixed-use building would be constructed on these parcels.[151]This alternative would include ground disturbance, excavation, and new construction for the 19-story building, but not for the 447 Battery Street parcel. Alternative C would have a shorter construction duration and less excavation than the proposed project.
- Alternative D: Partial Preservation Alternative – Alternative D would modify the building at 447 Battery Street to house the relocated fire station. All other buildings on the project site would be demolished and replaced by a 41-story high-rise building as under the proposed project. This alternative would include ground disturbance, excavation, and new construction for the replacement fire station and 41-story building. Alternative D would have a similar construction duration and amount of excavation as the proposed project.

These four alternatives were determined to adequately represent the range of potentially feasible alternatives required under CEQA for this project. These alternatives would lessen and, in some cases, avoid the significant and unavoidable adverse impacts related to historic architectural resources and air quality that were identified for the proposed project. A "No Project Alternative" is included as Alternative A, as required by CEQA, even though it would not meet the basic project objectives. Alternatives B, C, and D are potentially feasible options that would meet most of the basic project objectives to varying degrees; these three alternatives are the 41-Story Building Full Preservation Alternative, 19-Story Building Full Preservation Alternative, and Partial Preservation Alternative. The descriptions and assumptions are based on the alternatives presented in the preservation alternatives memorandum provided during the HPC hearing on the preservation alternatives as well as comments provided by the HPC during that hearing.[152]

**Table 5-1** provides a comparison of the alternative features. **Table 5-2** provides a comparison of the character-defining features retained under the proposed project and alternatives. Detailed descriptions of each alternative are presented below, including the land use plan and historic resource features.

[151] Alternative C is the 19-story mixed-use project that was previously approved by the City with a Mitigated Negative Declaration (Case No. 2019-07481ENV).
[152] Environmental Science Associates, *Preservation Alternatives Analysis: 447 and 530 Sansome Street Project,* December 2024 (revised February 27, 2025).

## Table 5-1 Comparison of Proposed Project and Alternatives

| Parcels/ Addresses | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **Project Characteristics** | | | | | |
| 447 Battery Street Building |  |  |  |  |  |
| Number of Buildings | 2 | 4 | 2 | 2 | 2 |
| Building Height and Number of Stories | 447 Battery Street: 60 feet, 4 stories above grade, 1 below grade<br>530 Sansome Street: 574 feet, 41 stories above grade, 3 below grade | 447 Battery Street: 45 feet, 3 stories above grade<br>530 Sansome Street: 40 feet, 3 stories above grade, 1 below grade<br>425 Washington Street: 45 feet, 3 stories above grade<br>439–445 Washington Street: 35 feet, 2 stories above grade | 447 Battery Street: 45 feet, 3 stories above grade<br>530 Sansome Street: 574 feet, 41 stories above grade, 3 below grade | 447 Battery Street: 45 feet, 3 stories above grade<br>530 Sansome Street: 218 feet, 19 stories above grade, 3 below grade | 447 Battery Street: 55 feet, 4 stories above grade, 1 below grade<br>530 Sansome Street: 574 feet, 41 stories above grade, 3 below grade |
| Public Facility (Fire Station) (sf) | 24,440 sf | 18,625 sf | 20,154 sf | 20,240 sf | 18,908 sf |
| Hotel (sf) | 127,710–188,820 sf (100–200 rooms) | 0 | 127,710–188,820 sf (100–200 rooms) | 146,065 sf (200 rooms) | 127,710–188,820 sf (100–200 rooms) |
| Hotel Ballroom/ Pre-Function/ Meeting (sf) | 10,135 sf | 0 | 6,135 sf | 0 | 10,135 sf |

| Parcels/ Addresses | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| Administrative (sf) | 16,170 sf | 0 | 10,170 sf | 8,225 sf[a] | 16,170 sf |
| Office & Office Amenities (sf) | 372,035–417,230 sf | 39,345 sf[b] | 372,035–417,230 sf | 40,490 sf | 372,035–417,230 sf |
| Retail/Restaurant (sf) | 7,405 sf | 0 sf | 4,699 sf | 6,470 sf | 7,405 sf |
| Fitness Center (sf) | 0 | 0 | 0 | 35,230 sf | 0 |
| Below Grade (sf) | 59,170 sf | 8,850 sf | 59,170 sf | 52,650 sf | 59,170 sf |
| Vehicle Parking Spaces | 92 | 21 | 65 | 48 | 92 |
| Bicycle Parking Spaces | 110 | 0 | 107 | 48 | 110 |
| **TOTAL SF** | **680,710 sf** | **66,820 sf** | **649,684** | **323,249 sf** | **680,710** |

SOURCES: Environmental Science Associates (ESA), *530 Sansome Street Initial Study*, April 2021, 2019-017481ENV, p.15; Page & Turnbull, *447 Battery Street, Preservation Alternatives Memorandum*, August 25, 2020, 2014.1036ENV, 6–7; Skidmore, Owings & Merrill LLP, *447 Battery Preservation Studies*, November 26, 2024.

NOTES:

a. The administrative use is located in Level B2 for Full Preservation Alternative A and accounted for in the "Below Grade (sf)" row. The square footage from the "Administrative (sf)" row for Full Preservation Alternative A is therefore not counted in the total sf.
b. Represents existing square footage figures listed in recent CEQA documents for subject properties, including Draft Environmental Impact Report for 447 Battery, which listed approximately 7,178 square feet of existing office and retail space in 447 Battery Street.

## Table 5-2 Character Defining Features Retained by the Proposed Project and Alternatives

| Character Defining Features | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **447 Battery Street** | | | | | |
| Three-story height and roughly rectangular footprint | Not Retained | Retained | Retained | Retained | Partially retained |
| Exterior walls constructed of brick masonry | Not Retained | Retained | Retained | Retained | Partially retained |
| Openings for storefronts and a building entry on Battery Street | Not Retained | Retained | Retained | Retained | Not retained |
| Regular, evenly spaced rhythm of window openings on the first (Merchant Street only), second and third stories; the westernmost two bays on Merchant Street are slightly closer together | Not Retained | Retained | Retained | Retained | Partially Retained |
| Slightly projecting brick sill and a segmental arch head at window openings | Not Retained | Retained | Retained | Retained | Retained |
| Brick cornice consisting, from bottom to top, of a projecting bandcourse, a flat frieze, several courses of corbeling, and projecting coping | Not Retained | Retained | Retained | Retained | Retained |
| ***Untitled*** | | | | | |
| Visually prominent position on a building occupying a corner location | Retained | Retained | Partially Retained | Partially Retained | Partially Retained |
| Visually prominent position on the exterior of Fire Station 13, with which the sculpture is historically associated | Retained | Retained | Retained | Retained | Retained |
| Copper construction | Retained | Retained | Retained | Retained | Retained |
| Verdigris (patina) | Retained | Retained | Retained | Retained | Retained |
| Overall design that includes abstract figures and typographic elements | Retained | Retained | Retained | Retained | Retained |

SOURCE: ESA, 2025

# 5.C Alternatives Analysis

## 5.C.1 Alternative A: No Project Alternative

As required by CEQA Guidelines section 15126.6(e), a no project alternative is evaluated in this draft EIR to allow decision-makers to compare the environmental effects of approving the proposed project or variant with the effects of not approving the project or variant. CEQA Guidelines section 15126.6(e)(2) requires that the no project alternative analysis "discuss the existing conditions … as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and policies and consistent with the available infrastructure and community services." The no project alternative would not preclude development of the site by another project in the future. Currently, there are no other development proposals pending at the project site. Therefore, pursuant to CEQA Guidelines section 15126.6(e)(3)(B), the no project alternative for purposes of this analysis is considered "no build" wherein the existing environmental setting is maintained and is "the circumstance in which the project does not proceed."

Under Alternative A (No Project Alternative), the project site would not be developed as described in Chapter 2, Project Description. The four existing buildings at 447 Battery Street, 530 Sansome Street, 425 Washington Street, and 439–445 Washington Street would not be demolished. Under Alternative A, the existing Fire Station 13 would remain at 530 Sansome Street and the project site would not be developed with a replacement fire station and 41-story high-rise mixed use building. There would be no modifications to the existing historic building at 447 Battery Street or the sculpture *Untitled* at 530 Sansome Street.

### *No Project Alternative Impact Analysis*

#### Historic Architectural Resources

Under Alternative A the project site would remain as is and there would be no demolition or modifications to any of the character-defining features of 447 Battery Street or to the sculpture *Untitled*. Therefore, this alternative would not cause material impairment to a historical resource. Alternative A would avoid the significant and unavoidable impact that would result from the demolition of the character-defining features of 447 Battery Street. Mitigation Measures M-CR-1a through M-CR-1d would not apply to Alternative A. Alternative A would not result in any project-level impacts or cumulative impacts related to historic architectural resources.

#### Air Quality

Under Alternative A, the existing uses on the project site would not change. The significant project-level (Impact AQ-3) and cumulative (Impact C-AQ-1) health risk impact attributable to the proposed project would not occur. As such, mitigation measures developed for the proposed project would not be required as no construction would occur and there would be no change in operational activities. Compared to the proposed project, Alternative A would not have any project-level or cumulative impacts related to air quality.

#### Other Topics

Under Alternative A, the project site would remain in its existing condition with no new construction. Because no construction would occur under Alternative A, it would not have any impacts on any of the topics

analyzed in the initial study (see Appendix B). Therefore, impacts under Alternative A related to land use and land use planning, population and housing, archeological resources, human remains, tribal cultural resources, transportation and circulation, noise, air quality, greenhouse gases, wind, shadow, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, and energy would be less than those anticipated with implementation of the proposed project because no construction, ground-disturbing activities, or changes to operations would occur. Because all of these impacts would be avoided, none of the mitigation measures identified for the proposed project would be required under Alternative A.

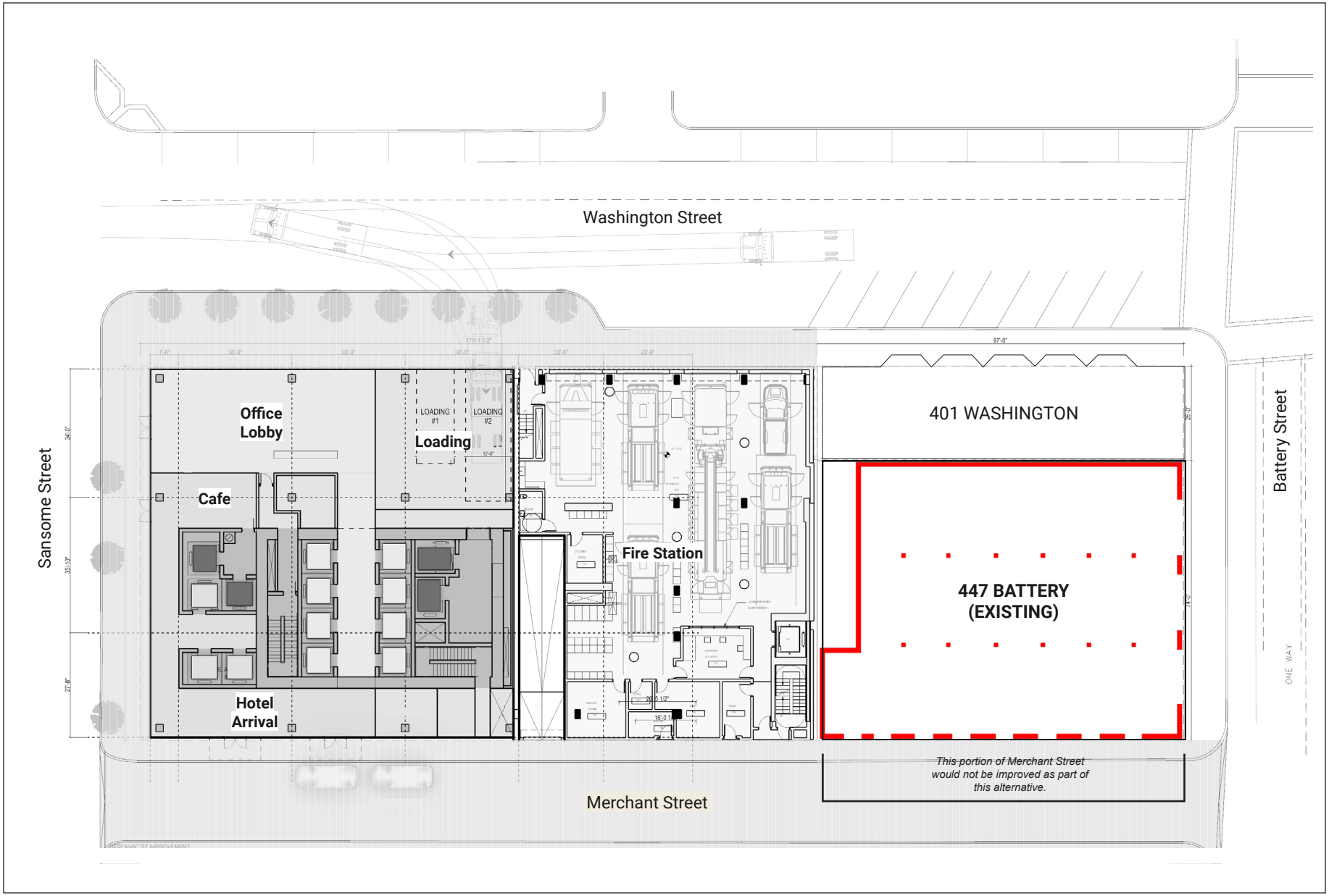
## 5.C.2 Alternative B: 41-Story Building Full Preservation Alternative

Alternative B (41-Story Building Full Preservation Alternative), shown in **Figure 5-1**, would retain the historic 447 Battery Street building. The existing buildings at 530 Sansome Street, 425 Washington Street, and 439–445 Washington Street would be demolished and a 4-story replacement fire station and 41-story, mixed-use building would be constructed on these parcels. The 44-foot-tall, 4-story fire station would be integrated into the 41-story building and provide 20,154 square feet on floors 1 through 4. Floor 1 would contain gear and equipment rooms, firetruck parking bays, and office space. A mezzanine on the second floor would contain a kitchen and dining area, as well as a day room and small terrace. The third floor would contain additional office space, locker and laundry rooms, and a dorm room. The fourth floor would contain a fitness room and library. The 41-story, approximately 544-foot-tall building (574 feet total, including rooftop mechanical equipment) would provide approximately 4,700 square feet of retail/restaurant space; approximately 372,035 to 417,230 square feet of office space; and between approximately 127,710 to 188,820 square feet of hotel space that would accommodate 100 to 200 guest rooms. Similar to the proposed project, two loading spaces would be located on the first floor with ingress and egress from Washington Street. Under Alternative B, three below-grade levels would provide 65 accessory vehicle parking spaces (46 for the high-rise building uses and 19 spaces for fire department personnel and department vehicles), bicycle parking spaces, and utility rooms for the fire station, hotel, office, and retail/restaurant uses in approximately 59,170 square feet. The below-grade parking would be accessed from Merchant Street.

The 447 Battery Street building would be adaptively reused for purposes unrelated to the hotel or uses in in the replacement fire station or 41-story building. Under Alternative B, the 447 Battery Street frontage would not be under the control of the project sponsor. Therefore, only the 4,810-square-foot portion of Merchant Street west of the 447 Battery Street building along the high-rise building would be improved as a privately maintained public open space.

Overall, Alternative B would have an approximately 31,026-square-foot reduction in development compared to the proposed project (about 5 percent less than the proposed project's total building area). Under Alternative B, the building height would be 574 feet, the same as the proposed project.

Alternative B would have an approximately 39-month construction duration similar to the proposed project with overlapping phases. Construction of Alternative B would be similar to the proposed project both in magnitude and duration. Construction of the basement levels and foundation installation would require excavation extending to approximately 15 feet below ground surface (bgs) for the replacement fire station and approximately 51 feet bgs for the high-rise building. Overall, excavation of the basement levels would remove approximately 42,000 cubic yards of soil.




SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 5-1**

**ALTERNATIVE B: 41-STORY BUILDING FULL PRESERVATION SITE PLAN**

## *41-Story Building Full Preservation Alternative Impact Analysis*

### Historic Architectural Resources

Under Alternative B, the majority of the character-defining features would be retained. The building at 447 Battery Street would be retained and rehabilitated. Because no new uses and no modifications to the 447 Battery Street building would take place under Alternative B, and because all modifications necessary to accommodate new tenants in the building would be done in conformance with the Secretary's Standards, this alternative would not result in material impairment to a historic resource. Alternative B would result in ***less-than-significant*** impacts to an article 10 landmark. Mitigation Measures M-CR-1a through M-CR-1c would not be applicable for the 447 Battery Street building under this alternative.

Similar to the proposed project, the demolition of the 530 Sansome Street building would completely remove the physical context of the site-specific sculpture *Untitled*. Therefore, the proposed project has the potential to result in a significant impact on a historical resource. Implementation of Mitigation Measure M-CR-1d would create an interpretive program and require the preparation of a relocation plan for the sculpture *Untitled*. This impact would be ***less than significant with mitigation***, similar to the proposed project.

Because Alternative B retains all the character-defining features of 447 Battery Street and most of the character-defining features of *Untitled*, the overall character of the historic resources on the project site would remain. Therefore, Alternative B would not have a significant impact under CEQA, as compared to the significant and unavoidable impacts of the proposed project. As such, the historical resource would retain its ability to convey its historic and architectural significance.

### Air Quality

Alternative B would develop the site with a slightly less intensive land use development program with an approximately 31,026-square-foot reduction in development compared to the proposed project (about 5 percent less than the proposed project's total building area). Alternative B would have an approximately 39-month construction duration similar to the proposed project with overlapping phases. Construction of Alternative B would be similar to the proposed project both in magnitude and duration; therefore, construction and operational emissions would be similar to the proposed project.

#### *CONSTRUCTION IMPACTS: FUGITIVE DUST AND CONSTRUCTION CRITERIA AIR POLLUTANT EXHAUST EMISSIONS*

As with the proposed project, construction activities under Alternative B would be required to comply with the City's Construction Dust Control Ordinance and to implement specified dust control measures. Compliance with the regulations and procedures set forth by the Construction Dust Control Ordinance would ensure that potential dust-related criteria air pollutant impacts for Alternative B would be ***less than significant***, similar to the proposed project.

As discussed under Impact AQ-1 and shown in Table 3.B-7, p. 3.B-35 construction exhaust emissions of criteria air pollutants from heavy-duty construction equipment, construction workers' vehicle trips, and truck hauling trips would not exceed significance thresholds. Therefore, similar to the proposed project, construction criteria air pollutant exhaust emissions impacts for Alternative B would be ***less than significant***.

### *OPERATIONAL IMPACTS: CRITERIA AIR POLLUTANT EMISSIONS*

Alternative B would marginally reduce operational emissions because the overall development program for Alternative B is 5 percent less than the proposed project. However, this reduction is minor and would not substantially change operational emissions. As discussed under Impact AQ-2 and shown in Table 3.B-9, p. 3.B-37, operational emissions for the proposed project would not exceed the daily or annual significance thresholds. Therefore, like the proposed project, operational emissions of Alternative B would not exceed the daily or annual significance thresholds. Operational emissions of criteria air pollutants from Alternative B would be ***less than significant***, similar to the proposed project.

### *TOXIC AIR CONTAMINANTS, CONSTRUCTION AND OPERATION*

Given the relative magnitude of development under Alternative B, which is similar to the proposed project, Alternative B would result in emissions of fine particulate matter ($PM_{2.5}$) and TACs that could expose sensitive receptors to substantial pollutant concentrations and the impact would be significant without mitigation. As discussed under Impact AQ-3, and shown in Table 3.B-11, p. 3.B-46, with implementation of Mitigation Measures M-AQ-3a and M-AQ-3b, the project's health risk contribution would be reduced but would exceed the significance threshold for annual average $PM_{2.5}$ concentration at the maximally-exposed individual sensitive receptor (MEISR) and maximally-exposed individual worker receptor (MEIW) inside the Air Pollutant Exposure Zone (APEZ). Therefore, the health risk impacts for exposure during construction plus operations of Alternative B would result in a ***significant and unavoidable impact with mitigation***, similar to the proposed project.

Similarly, for exposure during full buildout operations, Alternative B's unmitigated health risk impacts at the MEIW inside the APEZ would exceed the significance thresholds for both cancer risk and annual average $PM_{2.5}$ concentrations. Therefore, to address health risk impacts from delivery truck idling emissions during operations, Mitigation Measure M-AQ-3b would also apply to Alternative B. After implementation of Mitigation Measure M-AQ-3b, both cancer risk and annual average $PM_{2.5}$ concentrations for Alternative B at the MEIW inside the APEZ would be reduced below the significance thresholds and this impact would be ***less than significant with mitigation***, similar to the proposed project.

As discussed under Impact C-AQ-1, the project site is in the APEZ and all nearby sensitive receptors are inside the APEZ, meaning they already experience poor air quality. This means significant cumulative air quality health risk impacts exist even without Alternative B. Even after implementation of Mitigation Measures M-AQ-3a and M-AQ-3b, Alternative B's contribution to the annual average $PM_{2.5}$ concentration would exceed the significance threshold, resulting in a considerable contribution to the cumulative impact. Therefore, cumulative health risk impacts for receptors in the APEZ under Alternative B would be ***significant and unavoidable with mitigation***, similar to the proposed project.

### *CONSISTENCY WITH THE CLEAN AIR PLAN*

Similar to the proposed project, Alternative B includes control measures from the 2017 Clean Air Plan, as shown in Table 3.B-14, p. 3.B-51, and involves infill development that is close to transit and commercial uses. Alternative B would also not add parking beyond the maximum allowed or preclude the extension of a transit line or a bike path or any other transit improvement. Alternative B would include applicable control measures from the 2017 Clean Air Plan, thereby supporting the primary goals of the 2017 Clean Air Plan. Similar to the proposed project, Alternative B would not interfere with, disrupt, or hinder implementation of the 2017 Clean Air Plan. The impact of Alternative B would be ***less than significant***, similar to the proposed project.

### *ODORS*

Similar to the proposed project, Alternative B would not create objectionable odors that would affect a substantial number of people. Therefore, similar to the proposed project, project and cumulative odor impacts for Alternative B would be ***less than significant***.

## Topics Analyzed in the Initial Study

Alternative B would develop the site with a slightly less intensive land use development program and construction would be similar to the proposed project both in magnitude and duration. As a result, the construction and operational impacts of Alternative B under each of the initial study environmental topics would be similar to those of the proposed project. Specifically, impacts related to land use and planning, population and housing, greenhouse gas emissions, recreation, public services, and energy (discussed in the initial study [see Appendix B]) would be similar to those of the proposed project, given the similar development intensity. These impacts would be less than significant, similar to the proposed project.

The impacts of Alternative B related to site-specific conditions, such as those related to transportation and circulation, noise, utilities and service systems, geology and soils, hydrology and water quality, and hazards and hazardous materials, would be similar to those of the proposed project because development under Alternative B would involve a similar land use development program. Construction of Alternative B would result in similar construction-related impacts to the proposed project. These impacts would be less than significant, as with the proposed project. To address construction and operational noise impacts, Mitigation Measures M-NO-1, M-NO-2, and M-NO-3 would still apply to Alternative B; as such, this impact would be less than significant with mitigation.

Because Alternative B would involve a 41-story building, the same height as the proposed project, Alternative B would result in similar wind and shadow impacts as the proposed project. Wind impacts would be less than significant with mitigation, as with the project, while shadow impacts would be less than significant, with no mitigation required, as with the proposed project. Additionally, the 41-story building under Alternative B would involve similar building materials to the proposed project resulting in similar biological resources impacts related to bird strikes. Impacts would be less than significant, the same as with the proposed project.

Alternative B would involve less excavation and ground-disturbing impacts due to the retention of the 447 Battery Street building. However, the potential to encounter undiscovered archaeological resources, human remains, tribal cultural resources, and paleontological resources would remain, as the excavation depth associated with the 41-story building would be similar to the proposed project. Similar to the proposed project, Mitigation Measures M-CR-2a, M-CR-2b, M-TCR-1, M-WI-1, M-GE-6a, M-GE-6b, and M-GE-6c would be required under Alternative B and these impacts would be less than significant with mitigation.

As with the proposed project, Alternative B would have no impact on mineral resources because none are present within the project site.

## 5.C.3 Alternative C: 19-Story Building Full Preservation Alternative

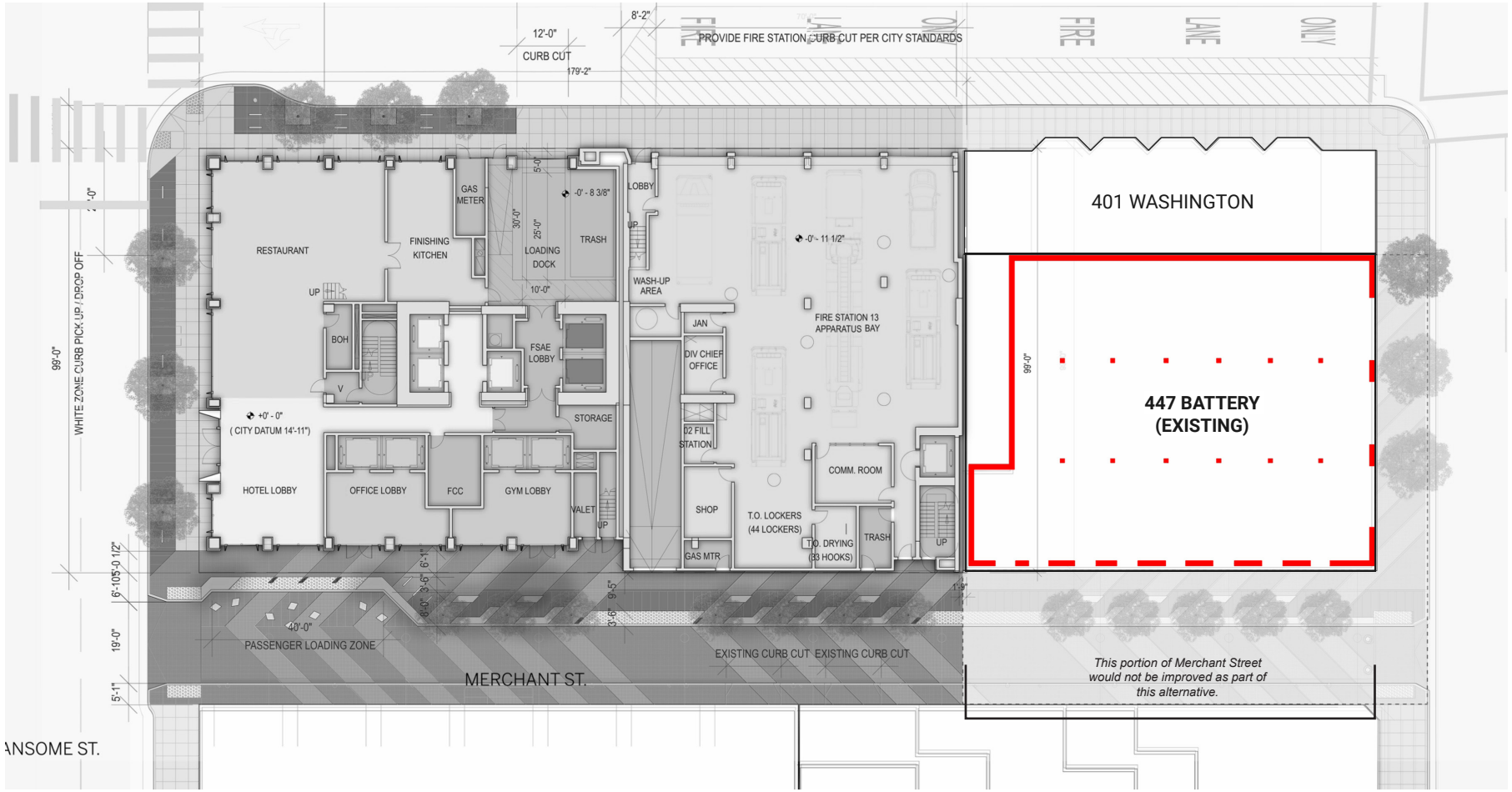
Alternative C (19-Story Building Full Preservation Alternative), shown in **Figure 5-2**, would retain the historic 447 Battery Street building. The existing buildings at 530 Sansome Street, 425 Washington Street, and 439–445 Washington Street would be demolished and a 4-story replacement fire station and 19-story, mixed-use building would be constructed on these parcels. The 44-foot-tall, 4-story fire station would be integrated into the 19-story building and provide 20,240 square feet on floors 1 through 4. Floor 1 would contain gear and equipment rooms, firetruck parking bays, and office space. A mezzanine on the second floor would contain a kitchen and dining area, as well as a day room and small terrace. The third floor would contain additional office space, locker and laundry rooms, and a dorm room. The fourth floor would contain a fitness room and library. The 19-story, approximately 218-foot-tall building (236 feet total, including rooftop mechanical equipment) would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors; approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate about 200 guest rooms. Under Alternative C, three below-grade levels would provide 48 accessory vehicle parking spaces (30 for commercial uses and 18 for fire department personnel and department vehicles), one loading space, two vehicle service spaces, bicycle parking spaces, and utility rooms for the replacement fire station, hotel, and retail/restaurant uses in approximately 52,650 square feet. The below-grade parking would be accessed from Merchant Street.

The 447 Battery Street building would be adaptively reused for purposes unrelated to the hotel or uses in in the replacement fire station or 19-story building. Under Alternative C, the 447 Battery Street frontage would not be under the control of the project sponsor. Therefore, only the 4,810 square foot portion of Merchant Street west of the 447 Battery Street building along the high-rise building would be improved as a privately maintained public open space.

Overall, Alternative C would have an approximately 357,461-square-foot reduction in development compared to the proposed project (about 53 percent less than the proposed project's total building area). Under Alternative C, building heights would be substantially reduced in height from a maximum height of 574 feet under the proposed project to a height of 218 feet.

Alternative C would require excavation associated with site preparation but to a lesser degree than the proposed project because the 447 Battery Street parcel would not have a below-grade parking level. Construction of Alternative C would last 29 months with overlapping phases. Construction of the basement levels and foundation installation would require excavation extending to approximately 40 feet bgs. Overall, excavation of the basement levels would remove approximately 28,000 cubic yards of soil.

Alternative C is the 19-story mixed-use project that was previously approved by the City with a Mitigated Negative Declaration (Case No. 2019-07481ENV). The discussion below is based on the analysis conducted for the previously approved project.




SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 5-2**

**ALTERNATIVE C: 19-STORY BUILDING FULL PRESERVATION ALTERNATIVE SITE PLAN**

## *19-Story Building Full Preservation Alternative Impact Analysis*

### Historic Architectural Resources

Under Alternative C, the majority of the character-defining features would be retained. The building at 447 Battery Street would be retained and rehabilitated and the replacement fire station would be located on Washington Street.

Because no new uses and no modifications to the 447 Battery Street building would take place under Alternative C, and because all modifications necessary to accommodate new tenants in the building would be done in conformance with the Secretary's Standards, this alternative would not result in material impairment to a historic resource. Alternative C would result in ***less-than-significant*** impacts to an article 10 landmark. Mitigation Measures M-CR-1a through M-CR-1c would not be applicable for the 447 Battery Street building under this alternative.

Similar to the proposed project, the demolition of the 530 Sansome Street building would completely remove the physical context of the site-specific sculpture *Untitled*. Therefore, the proposed project has the potential to result in a significant impact on a historical resource. Implementation of Mitigation Measure M-CR-1d would create an interpretive program and require the preparation of a relocation plan for the sculpture *Untitled*. This impact would be ***less than significant with mitigation***, similar to the proposed project.

Because Alternative C retains all the character-defining features of 447 Battery Street and most of the character-defining features of *Untitled*, the overall character of the historic resources on the project site would remain. Therefore, Alternative C would not have a significant impact under CEQA, as compared to the significant and unavoidable impacts of the proposed project. As such, the historical resource would retain its ability to convey its historic and architectural significance.

### Air Quality

Alternative C would develop the site with a much less intensive land use development program with an approximately 357,461-square-foot reduction in development compared to the proposed project (about 53 percent less than the proposed project's total building area). Alternative C would have an approximately 29-month construction duration with overlapping phases. Alternative C would involve less overall construction activity and reduce the duration and magnitude of construction. Therefore, construction and operational emissions would be reduced compared to the proposed project.

#### *CONSTRUCTION IMPACTS: FUGITIVE DUST AND CONSTRUCTION CRITERIA AIR POLLUTANT EXHAUST EMISSIONS*

As with the proposed project, construction activities under Alternative C would be required to comply with the City's Construction Dust Control Ordinance and to implement specified dust control measures. Compliance with the regulations and procedures set forth by the Construction Dust Control Ordinance would ensure that potential dust-related criteria air pollutant impacts for Alternative B would be ***less than significant***, similar to the proposed project.

Construction of Alternative B would require less excavation and the total building square footage would be approximately 53 percent less than the proposed project. As discussed under Impact AQ-1 and shown in Table 3.B-7, p. 3.B-35, construction exhaust emissions of criteria air pollutants from heavy-duty construction

equipment, construction workers' vehicle trips, and truck hauling trips would not exceed significance thresholds. Given the reduced scale of development and shorter construction duration, Alternative C would result in less construction criteria air pollutant exhaust emissions than the proposed project. Therefore, construction exhaust emissions impacts for Alternative B would be ***less than significant***.

### *OPERATIONAL IMPACTS: CRITERIA AIR POLLUTANT EMISSIONS*

Alternative C would substantially reduce operational emissions because the overall development program for Alternative C is 53 percent less than the proposed project. As discussed under Impact AQ-2 and shown in Table 3.B-9, p. 3.B-37, operational emissions for the proposed project would not exceed the daily or annual significance thresholds. Given the reduced scale of development, Alternative C would result in fewer operational emissions compared to the proposed project and would not exceed the daily or annual significance thresholds. Therefore, Alternative C operational emissions of criteria air pollutants would be ***less than significant***.

### *TOXIC AIR CONTAMINANTS, CONSTRUCTION AND OPERATION*

Although the construction activity and relative magnitude of development would be reduced under Alternative C compared to the proposed project, due to the length of the construction period and proximity of sensitive receptors to the project site, it is likely that increased health risks associated with construction and operations of Alternative C would be significant in the absence of mitigation, similar to the proposed project. Therefore, Mitigation Measures M-AQ-3a and M-AQ-3b would be required to reduce the Alternative C's construction and operational health risk contribution. Based on the findings from the previously approved project, Mitigation Measure M-AQ-4a (Off-Road Construction Equipment Emissions Minimization) would require that all off-road construction equipment greater than 25 horsepower and operating more than 20 total hours over the entire duration of construction activities meet Tier 4 Interim or Tier 4 Final off-road emission standards.[153] With implementation of Mitigation Measure M-AQ-4a, the health risk impact from the previously approved project would be less than significant with mitigation. Mitigation Measure M-AQ-3a requires electric off-road construction equipment which would further reduce construction-related toxic air contaminant emissions from Alternative C, further reducing the health risk impact on sensitive receptors. Therefore, the health risk impacts for exposure during construction plus operations of Alternative C would result in a ***less than impact with mitigation***.[154] As such, Alternative C would avoid the significant and unavoidable health risk impact produced by the proposed project for exposure during construction plus operations.

To address health risk impacts from delivery truck idling emissions during operations, Mitigation Measure M-AQ-3b would still apply to Alternative C to address health risk impacts from delivery truck idling emissions during operations. After implementation of Mitigation Measure M-AQ-3b, both cancer risk and annual average $PM_{2.5}$ concentrations for Alternative C would be reduced below the significance thresholds and this impact would be ***less than significant with mitigation***, similar to the proposed project.

As discussed under Impact C-AQ-1, the project site is in the APEZ, and all nearby sensitive receptors are inside the APEZ, meaning they already experience poor air quality. This means significant cumulative air quality health risk impacts exist even without Alternative C. However, because implementation of Mitigation Measure M-AQ-3a and M-AQ-3b would reduce Alternative C's contribution to health risk impacts to a ***less-***

[153] San Francico Planning Department, *530 Sansome Street Project Final Mitigated Negative Declaration*, July 29, 2021.
[154] Ibid.

***than-significant level with mitigation***, Alternative C would not result in a considerable contribution to the cumulative impact, unlike the proposed project. Therefore, Alternative C would avoid the significant and unavoidable cumulative health risk impacts produced by the proposed project.

#### *CONSISTENCY WITH THE CLEAN AIR PLAN*

Similar to the proposed project, Alternative C includes control measures from the 2017 Clean Air Plan, as shown in Table 3.B-14, p. 3.B-51, and involves infill development that is close to transit and commercial uses. Alternative C would also not add parking beyond the maximum allowed or preclude the extension of a transit line or a bike path or any other transit improvement. Alternative C would include applicable control measures from the 2017 Clean Air Plan, thereby supporting the primary goals of the 2017 Clean Air Plan. Similar to the proposed project, Alternative C would not interfere with, disrupt, or hinder implementation of the 2017 Clean Air Plan. The impact of Alternative C would be ***less than significant***, similar to the proposed project.

#### *ODORS*

Similar to the proposed project, Alternative C would not create objectionable odors that would affect a substantial number of people. Therefore, similar to the proposed project, project and cumulative odor impacts for Alternative C would be ***less than significant***.

### Topics Analyzed in the Initial Study

Alternative C would develop the site with a 19-story building, as opposed to a 41-story building under the proposed project, and thus would have a less intensive land use development program. Alternative C would involve less overall construction activity and reduce the duration and magnitude of construction. As a result, the construction and operational impacts of Alternative C under each of the initial study environmental topics would be reduced compared to the proposed project. Specifically, impacts related to land use and planning, population and housing, greenhouse gas emissions, recreation, public services, and energy (discussed in the initial study [see Appendix B]) would be less than those of the proposed project, given the reduced development intensity. As such, these impacts would be less than significant, as with the proposed project.

The impacts of Alternative C related to site-specific conditions, such as those related to transportation and circulation, utilities and service systems, biological resources, geology and soils, hydrology and water quality, and hazards and hazardous materials, would be reduced because overall land use development program under Alternative C would be reduced. This would result in less overall construction, shorter construction time periods, less excavation, fewer vehicle trips, less water demand, and less development intensity. As such, these impacts would be less than significant and reduced compared to the proposed project.

Alternative C would reduce the duration and magnitude of construction and have a less intensive land use development program. As a result, noise and vibration impacts under Alternative C would be reduced compared to the proposed project. Under Alternative C, daytime and nighttime construction-related noise would not exceed the applicable daytime and nighttime construction standards.[155] Therefore, Mitigation Measure M-NO-1 would not be required to reduce construction noise impacts at the noise sensitive receptors. Due to the reduction in the size of the building (19 stories as opposed to 41 stories under the proposed project), less rooftop mechanical equipment would be required and operational noise would not exceed the applicable standards for stationary mechanical equipment; therefore, Mitigation Measure M-NO-2

[155] San Francico Planning Department, *530 Sansome Street Project Final Mitigated Negative Declaration*, July 29, 2021.

would not be required.[156] These impacts would be less than significant under Alternative C. To address construction-related vibration impacts, Mitigation Measure M-NO-3 would still apply to Alternative C; as such, this impact would be less than significant with mitigation, similar to the proposed project.

Under Alternative C, building heights would be substantially reduced from a maximum height of 574 feet under the proposed project to a height of 218 feet. A 218-foot-tall building at the site would not result in a net increase in the number of wind hazards in publicly accessible areas of substantial pedestrian use when compared to existing conditions, and therefore the impact would be less than significant and, unlike the project, no mitigation would be required.[157]

Alternative C would also cast new shadows on Maritime Plaza, Sue Bierman Park, and Transamerica Redwood Park. Unlike the proposed project, shadow from the 19-story building under Alternative C would not cast new shadow on Washington Square, Willie "Woo Woo" Wong Playground, or Sydney G. Walton Square.[158] Alternative C would cast a smaller shadow than the proposed project. As such, this impact would be less than significant and reduced compared to the proposed project.

Alternative C would involve less excavation and ground-disturbing impacts due to the retention of the 447 Battery Street building. However, the potential to encounter undiscovered archaeological resources, human remains, tribal cultural resources and paleontological resources would remain, as the excavation depth for the 19-story building would extend to 40 feet bgs. Mitigation Measures M-CR-2a, M-CR-2b, M-TCR-1, M-GE-6a, M-GE-6b, and M-GE-6c would be required under Alternative C and these impacts would be less than significant with mitigation.

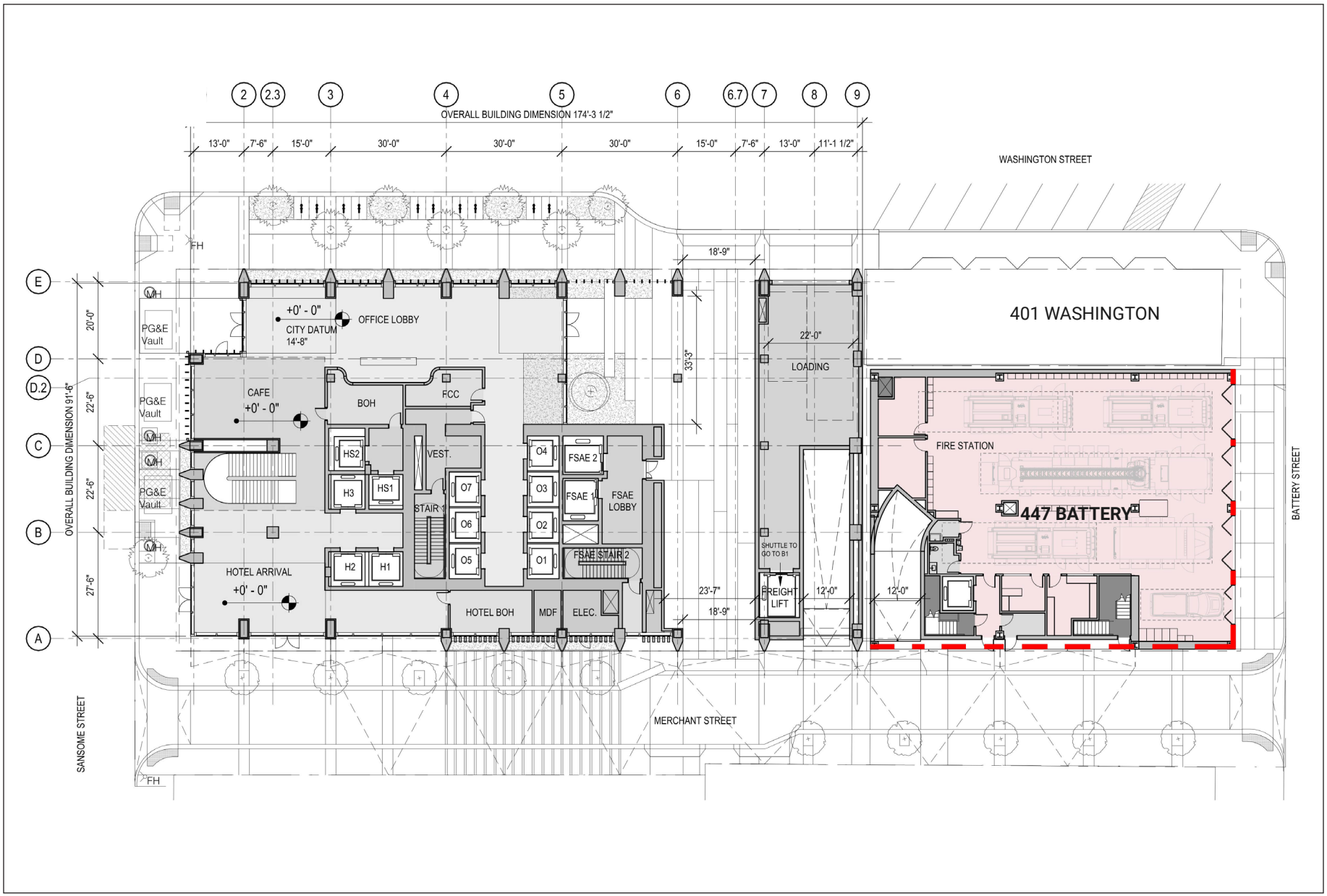
As with the proposed project, Alternative C would have no impact on mineral resources because none are present within the project site.

## 5.C.4 Alternative D: Partial Preservation Alternative

Alternative D (Partial Preservation Alternative), shown in **Figure 5-3**, would modify the building at 447 Battery Street to house the relocated fire station. All other buildings on the project site would be demolished and replaced by a 41-story high-rise building as under the proposed project. To accommodate the new fire station, the east and south exterior walls of 447 Battery Street would be retained, and the ground floor of the Battery Street façade would be modified to accommodate fire trucks. On Battery Street, the three existing recessed storefronts would be modified to four openings and would be taller and wider, with headers reaching to just below the sills of the second-floor windows (**Figure 5-4**). On Merchant Street, three new pedestrian entrances would be added and a new vehicular opening would be cut into the southwest corner to provide access to the replacement fire station below-grade parking (see Figure 5-3).

Because the column spacing of the building's current structural system is too narrow and the first-floor height is too short to accommodate fire trucks, a new structural system would be required. Alternative D would not retain the north and west façades and the south and east facades would no longer be load-bearing. The interior structure would not be retained and all interior floors and walls would be removed and replaced under Alternative D. To provide enough floor-to-ceiling height and to meet building code

[156] Ibid.
[157] RWDI, 530 Sansome Street, *Pedestrian Wind Study*, February 1, 2021.
[158] San Francico Planning Department, *530 Sansome Street Project Final Mitigated Negative Declaration*, July 29, 2021.

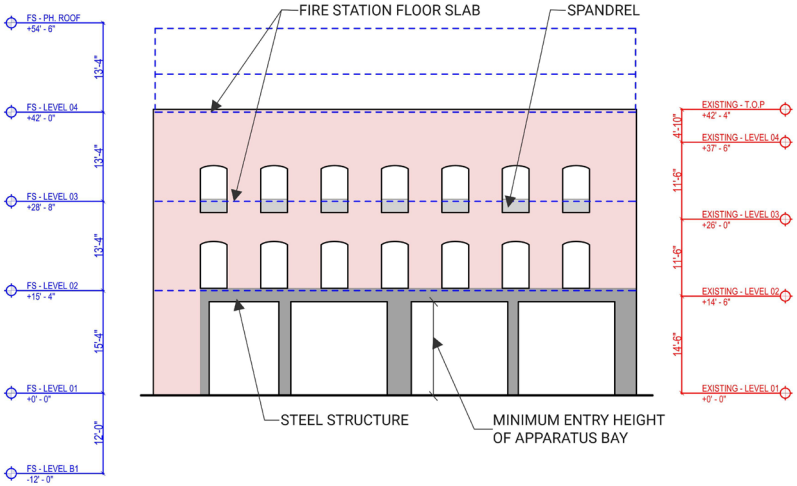



SOURCE: Skidmore, Owings & Merrill, LLP, 2024

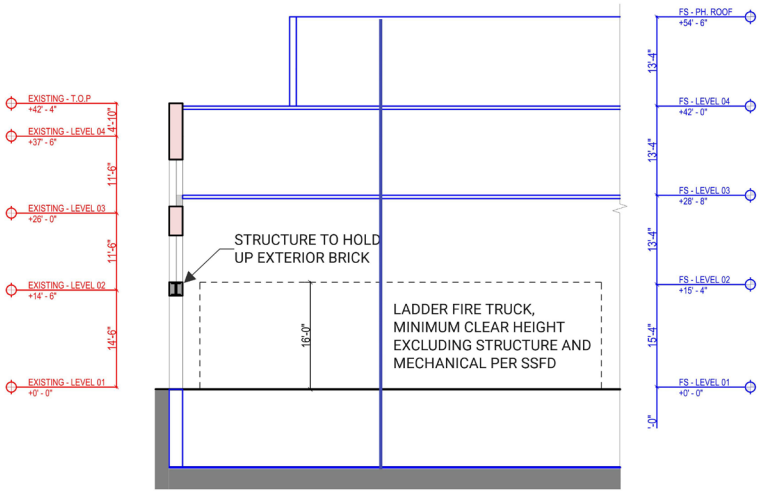
447 Battery and 530 Sansome Street

**FIGURE 5-3**

**ALTERNATIVE D: PARTIAL PRESERVATION ALTERNATIVE SITE PLAN**


**EAST ELEVATION**




**SECTION THROUGH APPARATUS BAY**

SOURCE: Skidmore, Owings & Merrill, LLP, 2024

447 Battery and 530 Sansome Street

**FIGURE 5-4**

**ALTERNATIVE D: PARTIAL PRESERVATION EAST ELEVATION AND NORTH SECTION OF 447 BATTERY STREET**

requirements, the new third floor would be higher than the existing third floor. As shown in Figure 5-4, the modifications to the third-floor window openings would make the windows partially blind where new structural elements pass the openings.

The replacement fire station under the Alternative D would be 4 stories and 55 feet tall, including the mechanical penthouse level, totaling 18,908 square feet.

Alternative D would have an approximately 39-month construction duration with overlapping phases, similar to the proposed project. Construction of Alternative D would be similar to the proposed project both in magnitude and duration. Construction of the basement levels and foundation installation would require excavation extending to approximately 15 feet bgs for the replacement fire station and approximately 51 feet bgs for the high-rise building. Overall, excavation of the basement levels would remove approximately 42,000 cubic yards of soil.

## *Partial Preservation Alternative Impact Analysis*

### Historic Architectural Resources

Under Alternative D, 447 Battery Street would undergo significant alterations. This alternative would modify the first-floor openings on the primary (east) façade, modify several pedestrian entries on the secondary (south) façade, remove all interior finishes and structural supports, and require modification to the opacity of the third-floor windows to accommodate the new, higher interior floor heights. Some of the character-defining features would be retained, some partially retained, and others removed completely (see Table 5-2, p. 5-9). Alternative D would partially comply with the Secretary's Standards. The overall form and massing of the 447 Battery Street building would remain intact as would the majority of the exterior character-defining features. However, the function of the building would be significantly altered, and the historic resource would be reduced to an exterior shell. Although Alternative D would retain more character-defining features than the proposed project, Alternative D would still cause material impairment to the historical resource, resulting in an impact that would be ***significant and unavoidable with mitigation***, similar to the proposed project. Mitigation Measures M-CR-1a through M-CR-1c would be applicable under this alternative.

Similar to the proposed project, the demolition of the 530 Sansome Street building would completely remove the physical context of the site-specific sculpture *Untitled*. Therefore, the proposed project has the potential to result in a significant impact on a historical resource. Implementation of Mitigation Measure M-CR-1d would create an interpretive program and require the preparation of a relocation plan for the sculpture *Untitled*. This impact would be ***less than significant with mitigation***, similar to the proposed project.

### Air Quality

Alternative D would develop the site with a similar land use development program and building area as the proposed project. Alternative D would have an approximately 39-month construction duration similar to the proposed project with overlapping phases. Construction of Alternative D would be similar to the proposed project both in magnitude and duration.

### *CONSTRUCTION IMPACTS: FUGITIVE DUST AND CONSTRUCTION CRITERIA AIR POLLUTANT EXHAUST EMISSIONS*

As with the proposed project, construction activities under Alternative D would be required to comply with the City's Construction Dust Control Ordinance and to implement specified dust control measures. Compliance with the regulations and procedures set forth by the Construction Dust Control Ordinance would ensure that potential dust-related criteria air pollutant impacts for Alternative D would be ***less than significant***, similar to the proposed project.

As discussed under Impact AQ-1 and shown in Table 3.B-7, p. 3.B-35, construction exhaust emissions of criteria air pollutants from heavy-duty construction equipment, construction workers' vehicle trips, and truck hauling trips would not exceed significance thresholds. Therefore, similar to the proposed project, construction criteria air pollutant exhaust emissions impacts for Alternative D would be ***less than significant***.

### *OPERATIONAL IMPACTS: CRITERIA AIR POLLUTANT EMISSIONS*

Alternative D would have a similar development program as the proposed project. Therefore, operational emissions would be similar. Therefore, like the proposed project, operational emissions of Alternative B would not exceed the daily or annual significance thresholds. As discussed under Impact AQ-2 and shown in Table 3.B-9, p. 3.B-37, operational emissions for the proposed project would not exceed the daily or annual significance thresholds. Similar to the proposed project, operational emissions of criteria air pollutants would be ***less than significant***.

### *TOXIC AIR CONTAMINANTS, CONSTRUCTION AND OPERATION*

Given that the relative magnitude of development under Alternative D is similar to the proposed project, Alternative D would result in emissions of $PM_{2.5}$ and TACs that could expose sensitive receptors to substantial pollutant concentrations and the impact would be significant without mitigation. As discussed under Impact AQ-3, and shown in Table 3.B-11, p. 3.B-46, with implementation of Mitigation Measures M-AQ-3a and M-AQ-3b, the project's health risk contribution would be reduced but would exceed the significance threshold for annual average $PM_{2.5}$ concentration at the MEISR and MEIW inside the APEZ. Therefore, the health risk impacts for exposure during construction plus operations of Alternative D would result in a ***significant and unavoidable impact with mitigation***, similar to the proposed project.

Similarly, for exposure during full buildout operations, Alternative D's unmitigated health risk impacts at the MEIW inside the APEZ would exceed the significance thresholds for both cancer risk and annual average $PM_{2.5}$ concentrations. Therefore, to address health risk impacts from delivery truck idling emissions during operations, Mitigation Measure M-AQ-3b would also apply to Alternative D. After implementation of Mitigation Measure M-AQ-3b, both cancer risk and annual average $PM_{2.5}$ concentrations for Alternative D at the MEIW inside the APEZ would be reduced below the significance thresholds and this impact would be ***less than significant with mitigation***, similar to the proposed project.

As discussed under Impact C-AQ-1, the project site is in the APEZ, and all nearby sensitive receptors are inside the APEZ, meaning they already experience poor air quality. This means significant cumulative air quality health risk impacts exist even without Alternative D. Even after implementation of Mitigation Measures M-AQ-3a and M-AQ-3b, Alternative D's contribution to the annual average $PM_{2.5}$ concentration would exceed the significance threshold, resulting in a considerable contribution to the cumulative impact.

Therefore, cumulative health risk impacts for receptors in the APEZ under Alternative D would be ***significant and unavoidable with mitigation***, similar to the proposed project.

### *CONSISTENCY WITH THE CLEAN AIR PLAN*

Similar to the proposed project, Alternative D includes control measures from the 2017 Clean Air Plan, as shown in Table 3.B-14, p. 3.B-51, and involves infill development that is close to transit and commercial uses. Alternative D would also not add parking beyond the maximum allowed or preclude the extension of a transit line or a bike path or any other transit improvement. Alternative D would include applicable control measures from the 2017 Clean Air Plan, thereby supporting the primary goals of the 2017 Clean Air Plan. Similar to the proposed project, Alternative D would not interfere with, disrupt, or hinder implementation of the 2017 Clean Air Plan. The impact of Alternative D would be ***less than significant***, similar to the proposed project.

### *ODORS*

Similar to the proposed project, Alternative D would not create objectionable odors that would affect a substantial number of people. Therefore, similar to the proposed project, project and cumulative odor impacts for Alternative D would be ***less than significant***.

## Topics Analyzed in the Initial Study

Alternative D would develop the site with a similar land use development program and similar building envelope compared with the proposed project. As a result, the construction and operational impacts of Alternative D under each of the initial study environmental topics would be similar to those of the proposed project. Specifically, impacts related to land use and planning, population and housing, greenhouse gas emissions, recreation, public services, and energy (discussed in the initial study [see Appendix B]) would be similar to those of the proposed project, given the similar development intensity. These impacts would be less than significant, similar to the proposed project.

The impacts of Alternative D related to site-specific conditions, such as those related to transportation and circulation, utilities and service systems, noise, geology and soils, hydrology and water quality, and hazards and hazardous materials, would be similar to those of the proposed project due to the similar land use development program and building envelope. As such, this would result in similar construction schedule, excavation, vehicle trips, and water use. These impacts would be less than significant, as with the proposed project. To address construction and operational noise impacts, Mitigation Measures M-NO-1, M-NO-2, and M-NO-3 would still apply to Alternative D; as such, these impacts would be less than significant with mitigation.

Because Alternative D would include a 41-story building, the same height as the proposed project, Alternative D would result in similar wind and shadow impacts as the proposed project. Wind impacts would be less than significant with mitigation, while shadow impacts would be less than significant, with no mitigation required, as with the proposed project. Additionally, the 41-story building under Alternative D would include similar building materials to the proposed project resulting in similar biological resources impacts related to bird strikes. As such, impacts would be less than significant, the same as with the proposed project.

Alternative D would involve similar excavation and ground-disturbing impacts. Therefore, the potential to encounter undiscovered archaeological resources, human remains, tribal cultural resources and paleontological resources would be similar to the proposed project. As with the proposed project, Mitigation Measures M-CR-2a, M-CR-2b, M-TCR-1, M-WI-1, M-GE-6a, M-GE-6b, and M-GE-6c would be required under Alternative D and these impacts would be less than significant with mitigation.

As with the proposed project, Alternative D would have no impact on mineral resources because none are present within the project site.

## 5.D Comparison of Alternatives and Environmentally Superior Alternative

**Table 5-3** identifies the level of impact for the proposed project and each alternative (e.g., no impact, less-than-significant impact, less-than-significant impact with mitigation, significant and unavoidable impact, or significant and unavoidable impact with mitigation) and whether the impact of the alternative would be the same as, less than, or greater than the proposed project impacts. In some cases, the proposed project and alternative would result in the same significance determination, but the degree of that impact with the alternative might be less than or greater than the proposed project.

A comparison of each alternative and its ability to meet the project objectives compared to the proposed project is summarized below in **Table 5-4**, p. 5-34, and evaluated in more detail in the subsequent discussion.

## Table 5-3 Comparison of Environmental Impacts of the Proposed Project Impacts of the Alternatives

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **SUMMARY OF IMPACTS FOR TOPICS IN THIS DRAFT EIR** | | | | | |
| **Section 3.A, Historic Architectural Resources** | | | | | |
| **Impact CR-1:** The proposed project would cause a substantial adverse change in the significance of an individually eligible historical resource as defined in CEQA Guidelines section 15064.5, including those resources listed in article 10 or article 11 of the planning code. | Significant and unavoidable with mitigation (SUM) | Less than the proposed project (NI) | Less than the proposed project (LTS) | Less than the proposed project (LTS) | Less than the proposed project (SUM) |
| **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. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section 3.B, Air Quality** | | | | | |
| **Impact AQ-1:** During construction, the proposed project would not result in a cumulatively considerable net increase in a criteria air pollutant for which the project region is in nonattainment status under an applicable federal, state, or regional ambient air quality standard. | Less than significant (LTS) | Less than the proposed project (NI) | Less than the proposed project (LTS) | Less than the proposed project (LTS) | Less than the proposed project (LTS) |
| **Impact AQ-2:** During operation, the proposed project would not result in a cumulatively considerable net increase of a criteria air pollutant for which the project region is in nonattainment under an applicable federal, state, or regional ambient air quality standard. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Impact AQ-3:** The proposed project would result in emissions of fine particulate matter ($PM_{2.5}$) and toxic air contaminants that could expose sensitive receptors to substantial pollutant concentrations. | Significant and unavoidable with mitigation (SUM) | Less than the proposed project (NI) | Similar to the proposed project (SUM) | Less than the proposed project (LTSM) | Similar to the proposed project (SUM) |

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **Impact AQ-4:** The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Impact AQ-5:** The proposed project would conflict with or obstruct implementation of the 2017 Clean Air Plan. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Impact C-AQ-1:** The proposed project, in combination with cumulative projects, would result in exposure of sensitive receptors to substantial levels of fine particulate matter ($PM_{2.5}$) and toxic air contaminants. | Significant and unavoidable with mitigation (SUM) | Less than the proposed project (NI) | Similar to the proposed project (SUM) | Less than the proposed project (LTSM) | Similar to the proposed project (SUM) |
| **Impact C-AQ-2:** The proposed project, in combination with cumulative projects, would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |
| **SUMMARY OF IMPACTS FOR TOPICS IN THE INITIAL STUDY** | | | | | |
| **Section E.1, Land Use and Planning** | | | | | |
| All impacts | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.2, Population and Housing** | | | | | |
| All impacts | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **Section E.3, Cultural Resources** | | | | | |
| **Impact CR-2:** The proposed project could cause a substantial adverse change in the significance of an archeological resource. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) |
| **Impact CR-3:** The proposed project could disturb human remains, including those interred outside of formal cemeteries. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) |
| **Impact C-CR-2:** The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on archeological resources and human remains. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) |
| **Section E.4, Tribal Cultural Resources** | | | | | |
| **Impact TCR-1:** The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code section 21074. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) |
| **Impact C-TCR-1:** The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts to TCRs. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) | Similar to the proposed project (LTSM) |
| **Section E.5, Transportation and Circulation** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **Section E.6, Noise** | | | | | |
| **Impact NO-1:** Construction of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |
| **Impact NO-2:** Operation of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |
| **Impact NO-3:** Construction of the proposed project could generate excessive groundborne vibration or groundborne noise levels. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |
| **Impact C-NO-1:** The proposed project, in combination with cumulative projects, would not result in significant cumulative noise and vibration impacts. | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |
| **Section E.8, Greenhouse Gas Emissions** | | | | | |
| **Impact C-GG-1:** The proposed project would generate greenhouse gas emissions, but not at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. | Less than significant (LTS) | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.9, Wind** | | | | | |
| All impacts | Less than significant with mitigation (LTSM) | Less than the proposed project (NI) | Similar to the proposed project (LTSM) | Less than the proposed project (LTS) | Similar to the proposed project (LTSM) |

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| **Section E.10, Shadow** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.11, Recreation** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.12, Utilities and Service Systems** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.13, Public Services** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.14, Biological Resources** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.15, Geology and Soils** | | | | | |
| **Impact GE-6:** The proposed project could directly or indirectly destroy a unique paleontological geologic feature. | LTSM | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |

| Impacts [a] | Proposed Project | Alternative A: No Project Alternative | Alternative B: 41-Story Building Full Preservation Alternative | Alternative C: 19-Story Building Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|---|
| All other geology and soils impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.16, Hydrology and Water Quality** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.17, Hazards and Hazardous Materials** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.18, Mineral Resources** | | | | | |
| No impacts | NI | Similar to the proposed project (NI) | Similar to the proposed project (NI) | Similar to the proposed project (NI) | Similar to the proposed project (NI) |
| **Section E.19, Energy** | | | | | |
| All impacts | LTS | Less than the proposed project (NI) | Similar to the proposed project (LTS) | Less than the proposed project (LTS) | Similar to the proposed project (LTS) |
| **Section E.20, Agriculture and Forestry Resources** | | | | | |
| None applicable | — | — | — | — | — |
| **Section E.21, Wildfire** | | | | | |
| None applicable | — | — | — | — | — |

IMPACT CODES:
NA = Not Applicable
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

## Table 5-4 Summary of Ability of Alternatives to Address Project Objectives

| Project Objectives | Alternative A: No Project Alternative | Alternative B: 41-Story Full Preservation Alternative | Alternative C: 19-Story Full Preservation Alternative | Alternative D: Partial Preservation Alternative |
|---|---|---|---|---|
| | Does the alternative address the objective? | | | |
| 1. Leverage new commercial development to provide City with a new state-of-the-art fire station and financial contributions to support new affordable housing production. | No | No | No | Partially |
| 2. Build a new commercial development to generate both daytime and nighttime activity in the City's Financial District and provide employment opportunities and demand for area businesses in a transit-rich and walking-friendly area of the City. | No | Yes | Yes | Yes |
| 3. Build the City a new fire station in a separate structure that meets the City's Fire Department programmatic and design requirements for a state-of-the-art facility, while accommodating the contemplated commercial development on a distinct portion of the project site. | No | No | No | Partially |
| 4. Improve Merchant Street between Sansome and Battery streets to complete a pedestrian-oriented connection between Maritime Plaza and Transamerica Redwood Park. | No | Partially | Partially | Yes |
| 5. Build adequate parking and vehicular and loading access to serve the needs of project workers and visitors. | No | Partially | Partially | Partially |
| 6. Create a new luxury hotel catering to tourists and businesses. | No | Yes | Yes | Yes |
| 7. Create new office space meeting the programmatic and locational needs of financial service firms. | No | Partially | Partially | Yes |
| 8. Allow flexibility in the allowable amount of office and hotel uses to be developed to meet the future and evolving needs in San Francisco's downtown area. | No | Yes | No | Yes |

## 5.D.1 Alternatives Summary Comparison of Impacts and Ability to Meet Project Objectives

### Alternative A: No Project Alternative

Under Alternative A, none of the impacts associated with the proposed project as described in Chapter 3 and the initial study (Appendix B) of this draft EIR would occur. The existing project site would be retained in its current condition and no construction or demolition would occur. Under Alternative A, the existing Fire Station 13 would remain at 530 Sansome Street and the project site would not be developed with a replacement fire station and 41-story high-rise mixed use building. Alternative A would have no significant impacts related to historic architectural resources and air quality. Therefore, the No Project Alternative would avoid the significant and unavoidable impacts of the proposed project.

Because the project would not be implemented, Alternative A would not achieve any of the project sponsor's objectives for the proposed project, as shown in Table S-5, p. S-71. Objectives to leverage new commercial development to provide a new state-of-the-art fire station and financial contributions to support new affordable housing production; generate daytime and nighttime activity in the city's Financial District and provide employment opportunities and demand for area businesses through commercial development; build a state-of-the-art new fire station in a separate structure while accommodating commercial development on a distinct portion of the site; improve Merchant Street to complete a pedestrian-oriented connection between Maritime Plaza and Transamerica Redwood Park; build adequate parking and vehicular and loading access; create a new luxury hotel catering to tourists and businesses; create new office space meeting the needs of financial service firms; and allow flexibility in the allowable amount of office and hotel uses to be developed to meet the future and evolving needs would not be achieved.

### Alternative B: 41-Story Building Full Preservation Alternative

Alternative B would avoid one significant and unavoidable impact identified for the proposed project. This alternative would substantially lessen the severity of the following impact, reducing it from significant and unavoidable with mitigation to less than significant.

- Significant and unavoidable impact on a historic resource would be avoided by retaining and adaptively reusing the 447 Battery Street building.

Significant and unavoidable impacts identified for the proposed project that would not be substantially reduced under Alternative B and would still occur include the following:

- Significant and unavoidable project-level and cumulative health risk impacts would be similar to those of the proposed project because the construction program and proximity to sensitive receptors would be similar. Alternative B contribution to construction-related health risk would exceed thresholds, and the impacts would remain significant and unavoidable even with mitigation.

Significant impacts that could be mitigated to less than significant that were identified for the proposed project and would still apply to Alternative B include impacts related to: archeological resources and human remains; tribal cultural resources; project and cumulative construction-related increases in ambient noise levels to sensitive receptors; operational noise levels of stationary equipment; project and cumulative construction-related vibration impacts; wind; and paleontological resources.

Alternative B would meet most of the project objectives, as shown in Table S-5, p. S-71. In particular, objectives to generate daytime and nighttime activity in the city's Financial District and provide employment opportunities and demand for area businesses through commercial development; create a new luxury hotel catering to tourists and businesses; and allow flexibility in the allowable amount of office and hotel uses to be developed to meet future and evolving needs would be met.

Under Alternative B, the 447 Battery Street frontage would not be under the control of the project sponsor. Therefore, only the 4,810 square foot portion of Merchant Street west of the 447 Battery Street building along the high-rise building would be improved as a privately maintained public open space and this alternative would partially meet the objective to complete a pedestrian-oriented connection between Maritime Plaza and Transamerica Redwood Park. Alternative B would provide less ballroom/pre-function/meeting space, less retail/restaurant space, and fewer vehicular and bicycle parking spaces as compared to the proposed project. Since the 447 Battery Street building would not be adaptively reused for a fire station, the replacement fire station would be integrated into the 41-story building. Therefore, the alternative would not meet the requirement that the new fire station would be built in a separate structure and accommodate the contemplated commercial development on a distinct portion of the project site. Integrating the fire station into the 41-story building would reduce the size of the replacement fire station by approximately 18 percent compared to the proposed project and reduce the overall development to under 650,0000 square feet as compared to the proposed project. This would result in less rentable floor area and, given the required size of the building core to meet building code requirements, the alternative's floor plates would be smaller and less efficient than the project and other major office buildings. Therefore, Alternative B would partially meet the objective to create new office space meeting the needs of financial service firms.

Alternative B would not fully meet the objectives related to leveraging new commercial development to provide a new state-of-the-art fire station and financial contributions to support new affordable housing production.

## Alternative C: 19-Story Building Full Preservation Alternative

Alternative C would avoid all of the significant and unavoidable impacts identified for the proposed project. This alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant.

- Significant and unavoidable impact on a historic resource would be avoided by retaining and adaptively reusing the 447 Battery Street building.
- Significant and unavoidable project-level and cumulative health risk impacts would be reduced to less than significant with mitigation.

Significant impacts that could be mitigated to less than significant that were identified for the proposed project and would still apply to Alternative C include impacts related to: archeological resources and human remains; tribal cultural resources; project and cumulative construction-related vibration impacts; and paleontological resources. However, unlike the proposed project, impacts related to construction-related increases in ambient noise levels at sensitive receptors and operational noise levels of stationary equipment would be less than significant and would not require Mitigation Measures M-NO-1 and M-NO-2. Similarly, unlike the proposed project, impacts related to wind would be less than significant and not require Mitigation Measure M-WI-1.

Alternative C would meet some of the project objectives, as shown in Table S-5, p. S-71. In particular, objectives to generate daytime and nighttime activity in the city's Financial District and provide employment opportunities and demand for area businesses through commercial development; and create a new luxury hotel catering to tourists and businesses would be met.

Under Alternative C, the 447 Battery Street frontage would not be under the control of the project sponsor. Therefore, only the 4,810 square foot portion of Merchant Street west of the 447 Battery Street building along the high-rise building would be improved as a privately maintained public open space and this alternative would partially meet the objective to complete a pedestrian-oriented connection between Maritime Plaza and Transamerica Redwood Park. Alternative C would provide 40,490 square feet of office space (approximately 90 percent fewer square feet) and fewer vehicular and bicycle parking spaces compared to the proposed project. Therefore, this alternative would partially meet the objectives to build adequate parking and vehicular and loading access. Since the 447 Battery Street building would not be adaptively reused for a fire station, the replacement fire station would be integrated into the 41-story building. Therefore, the alternative would not meet the requirement that the new fire station would be built in a separate structure and accommodate the contemplated commercial development on a distinct portion of the project site. Integrating the fire station into the 19-story building would reduce the size of the replacement fire station by approximately 17 percent compared to the proposed project. Alternative C would also reduce the overall development to under 325,0000 square feet (or approximately 53 percent less than the proposed project's total building area). This would result in less rentable floor area. Additionally, Alternative C would generate less than half of the commercial development contemplated under the proposed project.

Alternative C would not fully meet the objectives related to leveraging new commercial development to provide a new state-of-the-art fire station and financial contributions to support new affordable housing production; building a state-of-the-art new fire station in a separate structure while accommodating commercial development on a distinct portion of the site; and allowing flexibility in the allowable amount of office and hotel uses to be developed to meet future and evolving needs.

## Alternative D: Partial Preservation Alternative

Significant and unavoidable impacts identified for the proposed project that would not be substantially reduced under Alternative D and would still occur include the following:

- Although Alternative D would retain more character-defining features than the proposed project, Alternative D would still cause material impairment to the historical resource, resulting in an impact that would be significant and unavoidable with mitigation, same the proposed project.
- Significant and unavoidable project-level and cumulative health risk impacts would be similar to those of the proposed project because the construction program and proximity to sensitive receptors would be similar. Alternative D contribution to construction-related health risk would exceed thresholds, and the impacts would remain significant and unavoidable even with mitigation.

Significant impacts that could be mitigated to less than significant that were identified for the proposed project and would still apply to Alternative D include impacts related to: archeological resources and human remains; tribal cultural resources; project and cumulative construction-related increases in ambient noise levels to sensitive receptors; operational noise levels of stationary equipment; project and cumulative construction-related vibration impacts; wind; and paleontological resources.

Alternative D would meet most of the project objectives, as shown in Table S-5, p. S-71. In particular, objectives to generate daytime and nighttime activity in the city's Financial District and provide employment opportunities and demand for area businesses through commercial development; improve Merchant Street to complete a pedestrian-oriented connection between Maritime Plaza and Transamerica Redwood Park; build adequate parking and vehicular and loading access; create a new luxury hotel catering to tourists and businesses; create new office space meeting the needs of financial service firms; and allow flexibility in the allowable amount of office and hotel uses to be developed to meet the future and evolving needs would be met. Alternative D would reduce the size and height of the replacement fire station by approximately 17 percent and 5 feet, respectively, compared to the proposed project. Therefore, this alternative would partially meet the objectives to leveraging new commercial development to provide a new state-of-the-art fire station and financial contributions to support new affordable housing production; build a state-of-the-art new fire station in a separate structure while accommodating commercial development on a distinct portion of the site; and build adequate parking and vehicular and loading access.

### 5.D.2 Environmentally Superior Alternative

CEQA Guidelines section 15126.6(e)(2) requires an EIR to identify the alternative to the proposed project that would have the least adverse environmental impacts (i.e., the "environmentally superior alternative"). Alternative A (No Project Alternative) is considered the environmentally superior alternative because none of the significant or less-than-significant impacts that would occur with proposed project implementation would occur with implementation of Alternative A. However, Alternative A does not meet any of the project sponsors' objectives.

When the environmentally superior alternative is the No Project Alternative, CEQA requires another alternative to be identified as the environmentally superior alternative. Alternative C would not result in material impairment to a historic resource and would have a less-than-significant impact on an article 10 landmark. Alternative C would also result in a less-than-significant project and cumulative health risk contribution with mitigation. Because Alternative C would reduce the significant and unavoidable historic architectural resource impacts and air quality impacts to less-than-significant levels with mitigation, Alternative C is considered the environmentally superior alternative.

Table 5-1, p. 5-7, provides a comparison of impacts for the proposed project and each alternative.

## 5.E Alternatives Considered but Rejected

CEQA Guidelines section 15126.6(c) requires an EIR to identify alternatives that were considered by the lead agency during the scoping process but rejected due to infeasibility. Section 15126.6(c) provides that among the factors that may be used to eliminate alternatives from detailed consideration are: (1) failure to meet most of the basic project objectives, (2) infeasibility, or (3) inability to avoid significant environmental impacts. In preparing the alternatives, two partial preservation alternatives, an offsite alternative, and two other design alternatives were considered, but rejected, as described below.

## 5.E.1 Partial Preservation Alternatives

Two partial preservation alternatives were considered, which would modify the building at 447 Battery Street to house the relocated fire station. All other buildings on the project site would be demolished and replaced by a 41-story building as under the proposed project.

- **Partial Preservation Alternative 1:** To accommodate the new fire station, the east and south exterior walls of the 447 Battery Street building would be retained, and the ground floor of the Battery Street façade would be modified to accommodate fire trucks. Interior floors and walls would be removed and replaced under this alternative. The structural columns would be retained or replaced in the same location as the existing building. To provide enough floor-to-ceiling height and to meet building code requirements, the new third floor would be higher than the existing third floor. On Battery Street, the three existing recessed storefronts would be modified to be taller and wider, with headers reaching to just below the sills of the second-floor windows. On Merchant Street, three new pedestrian entrances would be added, and a new vehicular opening would be cut into the southwest corner to provide access to the replacement fire station.
- **Partial Preservation Alternative 2:** This alternative would consist of the same work as described above for Partial Preservation Alternative 1, with the exception of the east façade. Under this alternative, the east façade would be raised such that the new structural elements would not be visible from the third-floor window openings and more masonry would be preserved between the top of the existing openings and the bottom of the second-floor windows. In lieu of the metal cladding introduced to conceal the brick support structure at the top of the bays for Alternative D considered in this draft EIR, a new concrete base approximately 3 feet high would be added below the existing brick.

These alternatives were rejected because of the limitations of keeping the existing interior building columns in the current location. There is not enough space between the columns to accommodate two fire trucks. These alternatives would only allow for three entrance bays to the replacement fire station and would not allow for the four required apparatus bays. The space limitations on the ground floor would result in available equipment being reduced by one fire engine and one $CO_2$ unit compared to existing conditions. Because retention of the fire station that meets the fire department's programmatic and design requirements is a primary objective, these concepts were rejected in favor of Alternative D, which would involve more extensive demolition but allow for the required four apparatus bays to house all the necessary equipment.

## 5.E.2 Offsite Alternative

CEQA Guidelines section 15126.6(f)(2) states that alternative locations should be considered if they would avoid or substantially lessen any of the significant effects. While an alternative location might lessen or avoid the impacts associated with demolition of a historic resource and air quality, it was rejected from further consideration because the project objectives are specific to the project site and fire station's service area. Furthermore, an alternate location was rejected because the project sponsor does not have control of a comparable site of sufficient size to develop a project that would achieve the project objectives.[159]

[159] Jonathan Shum, EQX JACKSON SQ HOLDCO LLC c/o Related California, letter to Sherie George, Environmental Coordinator, San Francisco Planning Department, February 27, 2025.

## 5.E.3 Cantilever Over 447 Battery Street

This alternative considered the possibility of retaining the 447 Battery Street building and cantilevering the proposed building over it to increase the usable footprint of the hotel and office floors of the high-rise building. The additional space would begin 15 feet to the south of the existing adjacent building and run along the southern lot line of the 447 Battery Street parcel, and with a cantilever of approximately 20 feet would add approximately 1,200 square feet per floor. Since the elevators, stairs, and mechanical infrastructure of the tower would still need to connect to the ground level, this additional space would have limitations on the ground floor, western, and southern sides of the proposed building and would not meet functional requirements. The added floor areas above would increase the amount of square footage of the new structure that would be directly above the replacement fire station, thereby exacerbating the engineering and construction challenges.

## 5.E.4 Use 447 Battery Street for Building Core

This alternative considered the possibility of retaining the existing 530 Sansome Street fire station and 447 Battery Street building facades, constructing the high-rise building on the remaining two parcels and providing the entry to the high-rise building through the 447 Battery Street building. The building core for proposed project's high-rise building measures approximately 85 by 40 feet and could be reconfigured to physically fit within the footprint of the 447 Battery Street building. All interior structural elements, floors, and the roof of the 447 Battery Street building would need to be removed to accommodate the approximately 550-foot-tall structure housing the elevators. This alternative would not preserve the character-defining features of the 447 Battery Street building with the exception of the east and south façades. These facades would be diminished by the presence of the 550-foot-tall vertical walls, which would be largely opaque, and set back a few feet behind the retained building walls. The existing fenestration would not relate to the space behind it, which would be primarily unoccupied stairs and elevator shafts.

This alternative would result in structural and circulation complications that would make this alternative difficult to implement and was rejected for the following reasons:

- This alternative would place the building entrances on Battery Street, which would be more than 150 feet from the actual space occupied above, creating inefficient building circulation. This configuration would require additional stairs at the western end of the building to meet building code requirements. The occupied space of the tower would sit atop the replacement fire station, which would place occupied spaces above an essential service facility.
- Challenges would be structurally exacerbated by the building core not being located near the proposed high-rise building's center of mass, where lateral resisting structural elements are required. To avoid constructing an identical concrete core within the high-rise building, the lateral structure for the building would require perimeter bracing, which would be significantly more costly to construct.
- The space freed up in the proposed high-rise building by placing the elevator structure in the 447 Battery Street footprint would be at the center of the site, far from windows and views. The building code exit requirements would likely require a corridor through the center of this space for multi-tenant use, which would further limit the flexibility of such floors. This alternative would free up ground floor space on the 530 Sansome Street parcel; however, this space could not be used for the building lobbies or services because they would not meet building circulation requirements.

# CHAPTER 6
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