APPENDIX A

Initial Study

San Francisco Planning
49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

INITIAL STUDY

1101–1123 SUTTER STREET PROJECT

Planning Department Case No. 2019-022850ENV

Record No.:	2019-022850ENV, 1101–1123 Sutter Street
Zoning:	Polk Street Neighborhood Commercial (NCD) District
	1101 Sutter Street – 130-E Height and Bulk District
	1123 Sutter Street – 65-A Height and Bulk District
Block/Lot:	0692/Lots 001 and 019
Lot Size:	29,700 square feet
Project Sponsor:	Julie Heinzler, 1101 Sutter Affordable, LP, (415) 442-4800
Staff Contact:	David Young, david.l.young@sfgov.org, (628) 652-7494

A. Project Description

The project site is located in the Downtown/Civic Center neighborhood of the City and County of San Francisco (City) and is zoned NCD (Polk Street Neighborhood Commercial District). The project site is composed of the eastern half of the block bounded by Larkin and Polk streets on the east and west, respectively, and Sutter and Hemlock streets on the north and south, respectively. The project site is 0.68 acres (29,700 square feet) and includes two parcels, 1101 Sutter Street (Assessor's Parcel Number 0692-001) and 1123 Sutter Street (Assessor's Parcel Number 0692-019).

The proposed 1101–1123 Sutter Street Project (project) would rehabilitate the existing three-story building at 1101 Sutter Street and would demolish the existing building and surface parking lot at 1123 Sutter Street and construct a new 14-story, 150-foot-tall building (up to 161 feet to top of rooftop mechanical equipment).

Together, the rehabilitated building at 1101 Sutter Street and the new building at 1123 Sutter street would provide 237,808 gross square feet of uses—221 residential units (44 of which would be very-low-income housing units); 8,330 square feet of commercialand childcare uses; 11,637 square feet of open space; 59 vehicular parking spaces; and 164 bicycle spaces.

A detailed project description is provided in chapter 2, Project Description, of the draft environmental impact report (DEIR) to which this initial study is attached. Attachment A to this initial study provides travel demand information for the proposed project, Attachment B provides air quality and greenhouse gas model output data, and Attachment C includes the Noise Report prepared for the project.

B. Project Setting

Site Vicinity

The setting and existing site land use characteristics for the proposed project are provided in section 2.C, Project Vicinity and Surrounding Land Uses, and section 2.D, Existing Conditions, of the DEIR.

C. Compatibility with Existing Zoning and Plans

	Applicable	Not Applicable
Discuss any variances, special authorizations, or changes proposed to the Planning Code or Zoning Map, if applicable.	☒	☐
Discuss any conflicts with any adopted plans and goals of the City or Region, if applicable.	☒	☐
Discuss any approvals and/or permits from City departments other than the Planning Department or the Department of Building Inspection, or from Regional, State, or Federal Agencies.	☒	☐

In accordance with California Environmental Quality Act (CEQA) Guidelines section 15125(d), this section discusses potential inconsistencies of the proposed project with applicable local plans and policies, as well as conflicts with regional policies (if applicable). Inconsistencies with existing plans and policies do not, in and of themselves, indicate a significant physical environmental effect within the meaning of CEQA. To the extent that adverse physical environmental impacts may result from such inconsistencies, these impacts are analyzed below under the specific environmental topic sections in section E, Evaluation of Environmental Effects, p. 18, and in DEIR chapter 3, Environmental Setting, Impacts, and Mitigation Measures. Authorizations, approvals, and permits are described in DEIR section 2.G.1, Required Approvals.

San Francisco General Plan

The San Francisco General Plan, which provides general policies and objectives to guide land use decisions, contains 10 elements (Commerce and Industry, Recreation and Open Space, Housing, Community Facilities, Urban Design, Environmental Protection, Transportation, Air Quality, Community Safety, and Arts) that set forth goals, policies, and objectives for the physical development of the City.

The 2014 housing element seeks to ensure adequate housing for current and future San Franciscans through objectives and policies that address the City's growing housing demand, focusing on strategies that can be accomplished with the City's limited land supply. In general, the housing element supports projects that increase the City's housing supply (both market-rate and affordable housing), especially in areas that are close to the City's job centers and are well-served by transit. The proposed project would construct a mixed-use residential building with 221 residential units and would not conflict with any objectives or policies in the housing element.

The urban design element is also applicable to planning considerations associated with the proposed project. Objectives of the general plan's urban design element that are applicable to the proposed project include emphasis on the characteristic pattern, which gives to the City and its neighborhood an image, sense of purpose, and a means of orientation; conservation of resources that provide a sense of nature, continuity with the past, and freedom from overcrowding; and moderating major new development to complement the City pattern, the resources to be conserved, and the neighborhood environment.

Policy 2.4 of the urban design element calls for the preservation of notable landmarks and areas of historic, architectural, or aesthetic value. The proposed project would include rehabilitation of the existing building at 1101 Sutter Street in accordance with Secretary of the Interior's Standards for the Treatment of Historic Properties. The rehabilitation would retain and repair the existing façade. The building was determined eligible for the National Register of Historic Places and California Register of Historical Resources and is considered a historic resource under CEQA.[1] Therefore, this element of the proposed project would be consistent with policy 2.4. However, the proposed project would demolish the existing mortuary building at 1123 Sutter Street, which was determined eligible for the California Register of Historical Resources and is considered a historic resource under CEQA.[2] Therefore, this project element may be inconsistent with policy 2.4. The physical environmental impacts that could result from this conflict are evaluated in section 3.B, Historic Architectural Resources, of the DEIR, which evaluates impacts on historic architectural resources.

As previously stated, a conflict between the proposed project and a general plan policy does not, in itself, indicate a significant effect on the environment within the context of CEQA. To the extent that adverse physical environmental impacts may result from such conflicts, these impacts are analyzed below under the specific environmental topic sections in section E, Evaluation of Environmental Effects, p. 18, and in DEIR chapter 3, Environmental Setting, Impacts, and Mitigation Measures. In general, potential conflicts with the general plan are considered by the appropriate decision makers, normally the San Francisco Planning Commission, independent of the environmental review process. Thus, in addition to considering inconsistencies that affect environmental issues, the planning commission considers other potential inconsistencies with the general plan, independent of the environmental review process, as part of the decision to approve or disapprove a proposed project. Any potential conflict not identified in this environmental document would be considered in that context and would not alter the physical environmental effects of the proposed project that are analyzed in this initial study.

Priority Policies

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added section 101.1 to the planning code to establish eight priority policies. These policies, and the subsections of section E, Evaluation of Environmental Effects, p. 18, of this initial study addressing the environmental issues associated with the policies, are as follows:

[1] National Park Service, Historic Preservation Certification Application, State Historic Preservation Office Review & Recommendation Sheet, Significance – Part 1, Heald's Engineering and Automobile School, 1101 Sutter Street, San Francisco, CA 94109. Date Application Received by SHPO: July 12, 2019. Date of Transmittal to National Park Service: August 23, 2019. This document (and all other documents cited in this report, unless otherwise noted), is available for review at the San Francisco Planning Department, 49 South Van Ness Avenue, Suite 1400 as part of Case File No. 2019-022850ENV.

[2] Architectural Resources Group, *1123 Sutter Street Historic Resource Evaluation*, Draft, November 4, 2019.

1. Preservation and enhancement of neighborhood-serving retail uses
2. Protection of neighborhood character
3. Preservation and enhancement of affordable housing (section E.2, Population and Housing, question 2[b], p. 22, with regard to housing supply and displacement issues)
4. Discouragement of commuter automobiles (section E.1, Land Use and Land Use Planning, question 1[b], p. 19; section E.5, Transportation and Circulation, questions 5[a] and 5[b], p. 38)
5. Protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership
6. Maximization of earthquake preparedness (section E.15, Geology and Soils, questions 15[a] through 15[e], p. 109)
7. Landmark and historic building preservation (section E.3, Cultural Resources, questions 3[a] and 3[b], p. 23)
8. Protection of open space (section E.10, Shadow, question 10[a], p. 88; section E.11, Recreation, questions 11[a] and 11[b], p. 89; and section E.13, Public Services, p. 98)

Prior to issuing a permit for any project that requires an initial study under CEQA; prior to issuing a permit for any demolition, conversion, or change of use; and prior to taking any action that requires a finding of consistency with the general plan, the City is required to find that the proposed project or legislation is consistent with the priority policies. As noted above, the consistency of the proposed project with the environmental topics associated with the priority policies is discussed in section E, Evaluation of Environmental Effects, p. 18, providing information for use in the case report for the proposed project. The case report and approval motions for the project will contain the planning commission's comprehensive analysis and findings regarding consistency of the proposed project with the priority policies.

As discussed above, both the garage building at 1101 Sutter Street and mortuary building at 1123 Sutter Street have been determined to be individually eligible for listing on the California register of Historical Resources. The proposed project would rehabilitate the garage building on 1101 Sutter Street in accordance with the Secretary of the Interior's Standards but would demolish the mortuary building at 1123 Sutter Street and would thereby result in a significant adverse impact to the historic resource.

For purposes of this initial study, impacts on historic architectural resources are identified as potentially significant. Project effects on historic resources and consistency with priority policy no. 7, landmark and historic building preservation, are analyzed in the DEIR, which discusses the significance of the proposed project's impacts on historic resources. Mitigation measures and alternatives to reduce impacts that are found to be significant are also discussed in the DEIR.

San Francisco Planning Code

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

Land Use Controls

The project site is located in the NCD (Polk Street Neighborhood Commercial District) zoning district. As stated in planning code section 723, the NCD zoning district's dense mixed-use character consists of buildings with residential units above ground-floor commercial use. The district is well served by transit and includes the historic California Cable Car.

Section 723 of the planning code outlines the goals, allowable uses, and additional land use controls in the special use district. Section 723 encourages development that is compatible with the surrounding neighborhood by allowing most types of commercial uses at the ground-floor level and encouraging housing development above the ground-floor level. Section 723 requires that new housing development include 40 percent or more two-bedroom or larger units to encourage families to live in the district. Parking is limited given the district's transit access. Conditional use authorization is required to replace a legacy business. There are no registered legacy businesses on the project site.[3] The proposed project is consistent with the land use requirements encouraged by the NCD zoning district since it would provide residential land uses located above ground-floor commercial uses and 40 percent of units as two-bedroom units.

Affordable Housing

The proposed project would be subject to planning code sections 415.1 through 415.11 (Inclusionary Affordable Housing Program). The proposed project would comply with planning code section 415 by providing 44 units—approximately 20 percent of the total units—as very-low-income housing units. Under the State Density Bonus Law, a project including this level of affordability is entitled to (a) a 50 percent density bonus above the maximum allowable residential density under the City's general plan and planning code standards for the nearest residential district, (b) one concession/incentive, and (c) waivers of development standards that would preclude development of the project with the bonus density. The density bonus waivers and concessions anticipated for the proposed project are as follows:

- Dwelling unit exposure waiver (planning code section 140) to allow for one studio unit per level, on levels 2 through 4 at 1123 Sutter Street, that would not meet the requirements for exposure to qualifying open space.
- Height waiver (planning code section 260) to allow a maximum building height of 150 feet above the midpoint of Sutter Street rather than the allowable maximum building height of 130 feet.
- Bulk control waiver (planning code section 270) to allow the floors above 65 feet in height to be developed with a plan length of 131 feet and plan diagonal of 164 feet, rather than the allowable maximum plan length of 110 feet and maximum plan diagonal of 140 feet.
- Rear yard waiver (planning code section 134) to allow the 3,000 square feet of required open area to be provided throughout the site rather than in a standard rear yard.
- Setback waiver (planning code section 261.1) to allow 2,200 square feet of setback to be provided along Hemlock Street, which meets the minimum 1,875 square feet required setback, but is not within the standard 10-foot setback area from the street, but rather at variable distances from the street (at some points greater than 10 feet from the street, at some points less than 10 feet from the street).
- Active ground-floor use concession (planning code sections 145.4 and 145.1) to allow a 26-foot garage loading/entrance width at the proposed 1123 Sutter Street garage, in addition to the existing 12-foot garage entrance width at the existing 1101 Sutter Street garage, for a total of 38 feet, which exceeds maximum allowable 20-foot parking/loading entrance width.

Street Trees

Planning code section 138.1 requires one street tree to be planted for every 20 feet of frontage. The project site has a total of approximately 247.5 feet of frontage along Sutter and Hemlock streets and approximately 120 feet of frontage along Larkin Street. Therefore, 30 street trees are required for the proposed project.

[3] City and County of San Francisco, Legacy Business Registry, *https://sfosb.org/legacy-business/registry*, accessed January 12, 2021.

The proposed project would remove the existing tree in the surface parking lot at 1123 Sutter Street. The three existing street trees located along Larkin Street would remain. In addition, 15 new street trees would be planted along Sutter, Larkin, and Hemlock streets. Street level landscaped areas totaling about 582 square feet would also be developed, providing an equivalent of eight street trees.[4] Therefore, development of the proposed project would provide a total of 25 equivalent street trees. Details of the streetscape plan, including the number and location of tree plantings, would be finalized during the building permit review process. The proposed project would apply for a waiver of requirement for 30 equivalent street trees.

Open Space

Planning code section 135 requires a minimum of 36 square feet of private usable open space or 48 square feet of common usable open space for each dwelling unit. The proposed project would provide a total of 11,637 square feet of open space. Approximately 3,007 square feet of private open space would be provided for 46 private residential balconies at 1123 Sutter Street. Approximately 8,630 square feet of common open space would be located at 1123 Sutter Street and accessible to residents of both 1101 Sutter Street and 1123 Sutter Street (221 residential units).Therefore, the proposed project would provide 65 square feet of private open space per unit and 49 square feet of common open space per unit (based on the remaining 175 dwelling units not served by private open space). Therefore, the amount of open space exceeds the amount of open space required by the planning code.

Parking and Loading

Planning code section 151.1 permits one off-street parking space for every two dwelling units and for every 500 square feet of retail use. The proposed project would include 59 off-street parking spaces.

Planning code section 723 indicates that projects with 100,001 to 200,000 square feet of non-commercial uses must provide one off-street freight loading space and projects with 0 to 10,000 square feet of commercial uses are not required to provide off-street loading space. The proposed project would provide 177,306 gross square feet of residential uses, with approximately 4,575 of commercial uses. Consistent with these requirements, a freight loading area for use by residents moving in and out, delivery trucks, and other service vehicles would be provided at the Hemlock Street ground-floor level of the 1123 Sutter Street building adjacent to the garage entrance ramp. In addition, the proposed project would also provide two white-curb passenger loading zones along Sutter Street. One loading zone would be at the front of 1101 Sutter Street and the other loading zone would be at the front of the proposed childcare facility at 1123 Sutter Street. The loading areas provided by the proposed project would exceed planning code requirements and would be sufficient to accommodate the proposed uses of the site.

Planning code section 155.2 requires new buildings containing more than 100 dwelling units to provide one secure (class 1) bicycle parking space for each unit for the first 100 units and one secure space for each four units above that, along with one class 2 space for each 20 units.[5] Therefore, the proposed project, with 221 residential units, would require at least 130 class 1 spaces and 11 class 2 spaces. The approximately 4,575 gross square feet of commercial space, if used as retail space, would require 2 class 2 bicycle spaces; class 1 spaces are not required.

In total, the proposed project would create 164 new bicycle parking spaces (140 class 1 spaces and 24 class 2 spaces along Hemlock and Sutter streets) in accordance with planning code section 155.2.

[4] Where it is not feasible to place a street tree, public works considers 75 square feet of landscaping equivalent to one street tree.

[5] Planning code section 155.1(a) defines class 1 spaces as “spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, nonresidential occupants, and employees;” class 2 spaces are “spaces located in a publicly-accessible, highly visible location intended for transient or short-term use by visitors, guests, and patrons to the building or use.”

Other Local Plans and Policies

In addition to the general plan, planning code and zoning maps, and the accountable planning initiative, other local plans and policies that are relevant to the proposed project are discussed below.

- The *San Francisco Sustainability Plan* is a blueprint for achieving long-term environmental sustainability by addressing specific environmental issues including but not limited to air quality, climate change, energy, ozone depletion, and transportation. The goal of the San Francisco Sustainability Plan is to enable the people of San Francisco to meet their present needs without sacrificing the ability of future generations to meet their own needs.
- The *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Emissions* is a local action plan that examines the causes of global climate change and the human activities that contribute to global warming, provides projections of climate change impacts on California and San Francisco based on recent scientific reports, presents estimates of San Francisco's baseline greenhouse gas (GHG) emissions inventory and reduction targets, and describes recommended actions for reducing the City's GHG emissions. The 2013 Climate Action Strategy is an update to this plan.
- The *Transit First Policy* (City Charter, section 8A.115) is a set of principles that underscore the City's commitment to prioritizing travel by transit, by bicycle, and on foot over travel by private automobile. These principles are embodied in the objectives and policies of the transportation element of the general plan. All City boards, commissions, and departments are required by law to implement Transit First principles in conducting the City's affairs.
- The *Transportation Demand Management Program* (planning code, section 169) enacted in 2017 aims to reduce vehicle miles traveled (VMT) generated by new development projects. The program is designed to work with developers to provide more on-site amenities that will encourage smarter travel by facilitating greater access to pedestrian, bicycle, and public transit. The City's ultimate goal is to achieve at least 50 percent sustainable travel by the year 2040.
- The *San Francisco Bicycle Plan* is a citywide bicycle transportation plan that identifies short-term, long-term, and other minor improvements to San Francisco's bicycle route network. The overall goal of the bicycle plan is to make bicycling an integral part of daily life in San Francisco.
- The *San Francisco Better Streets Plan* consists of illustrative typologies, standards, and guidelines for the design of San Francisco's pedestrian environment with the central focus of enhancing the livability of the City's streets.
- *Transportation Sustainability Fee Ordinance* (article 4, section 411) requires that development projects that filed environmental review applications on or after July 22, 2015, but have not yet received approval, pay 100 percent of the applicable Transportation Sustainability Fee. Transportation Sustainability Fee funds may be used to improve transit services and pedestrian and bicycle facilities.
- Properties subject to *San Francisco Public Health Code Article 22A*, also known as the Maher Ordinance, includes properties throughout the City where there is potential to encounter hazardous materials, primarily industrial zoning districts, sites with industrial uses or underground storage tanks, sites with historic bay fill, and sites in close proximity to freeways. The overarching goal of the Maher Ordinance is to protect public health and safety by requiring appropriate handling, treatment, disposal and, when necessary, remediation of contaminated soils that are encountered in the building construction process. Projects that would disturb 50 cubic yards or more of soil located on sites with known or suspected soil or groundwater contamination are subject to this ordinance.

The proposed project has been reviewed in the context of these local plans and policies and would not obviously or substantially conflict with them. Staff reports and approval motions prepared for the decision makers would include a comprehensive project analysis and findings regarding the consistency of the proposed project with applicable local plans and policies.

Regional Plans and Policies

There are several regional planning agencies whose environmental, land use, and transportation plans and policies consider the growth and development of the nine-county San Francisco Bay Area. Some of these plans and policies are advisory and some include specific goals and provisions that must be considered when evaluating a project under CEQA. The regional plans and policies that are relevant to the proposed project are discussed below.

- The principal regional planning documents and the agencies that guide planning in the nine-county Bay Area include *Plan Bay Area*, the region's first sustainable communities strategy, developed in accordance with Senate Bill 375 and adopted jointly by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) on July 18, 2013, and updated July 2017.[6] Plan Bay Area is a long-range land use and transportation plan that covers the period from 2010 to 2040. The plan calls for concentrating housing and job growth around transit corridors, particularly within areas identified by local jurisdictions as Priority Development Areas. In addition, the plan specifies strategies and investments for maintaining, managing, and improving the region's multimodal transportation network and proposes transportation projects and programs to be implemented with reasonably anticipated revenue. Plan Bay Area is currently being updated; the next long-range plan will cover the period ending 2050.
- Plan Bay Area includes the population and employment forecasts from ABAG's *Projections 2040*, an advisory policy document used to assist in the development of local and regional plans and policy documents, and MTC's 2040 *Regional Transportation Plan*, which is a policy document that outlines transportation projects for highway, transit, rail, and related uses through 2040 for the nine Bay Area counties.
- The *Regional Housing Need Plan for the San Francisco Bay Area: 2015–2023* reflects projected future population growth in the Bay Area as determined by ABAG and addresses housing needs across income levels for each jurisdiction in the Bay Area. All of the Bay Area's 101 cities and nine counties are given a share of the Bay Area's total regional housing need. The Bay Area's regional housing need is allocated to each jurisdiction by the California Department of Housing and Community Development and finalized through negotiations with ABAG.
- The Bay Area Air Quality Management District's *2017 Clean Air Plan* updates the *2010 Clean Air Plan*, in accordance with the requirements of the California Clean Air Act, to implement feasible measures to reduce ozone and provide a control strategy to reduce ozone (O_3), particulate matter (PM), air toxics, and GHG emissions throughout the region.
- The San Francisco Regional Water Quality Control Board's *Water Quality Control Plan for the San Francisco Bay Basin* is a master water quality control planning document. The basin plan designates beneficial uses and water quality objectives for waters of the state, including surface waters and groundwater, and includes implementation programs to achieve water quality objectives.
- The State Water Resources Control Board's *San Francisco Bay/Sacramento-San Joaquin Delta Estuary* establishes water quality objectives to maintain the health of rivers and waterbodies in the Bay-Delta ecosystem.

[6] Association of Bay Area Governments and Metropolitan Transportation Commission, *Plan Bay Area 2040*, *http://files.mtc.ca.gov/library/pub/29736.pdf*, March 2017, accessed January 14, 2020.

- Properties subject to *San Francisco Public Health Code Article 38*, entitled Enhanced Ventilation Required for Urban Infill Sensitive Use Developments, include new construction developments in areas of poor air quality. These areas are identified on an Air Pollutant Exposure Zone Map. These new construction projects must install enhanced ventilation systems to protect residents from health effects associated with air pollution.

The proposed project has been reviewed against these regional plans and policies. Due to the relatively small size and infill nature of the proposed project, there would be no anticipated conflicts with regional plans. Therefore, the proposed project would not obviously or substantially conflict with regional plans or policies.

D. Summary of Environmental Effects

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

☐ Land Use and Land Use Planning	☐ Greenhouse Gas Emissions	☐ Geology and Soils
☐ Population and Housing	☐ Wind	☐ Hydrology and Water Quality
☒ Cultural Resources	☐ Shadow	☐ Hazards and Hazardous Materials
☒ Tribal Cultural Resources	☐ Recreation	☐ Mineral Resources
☐ Transportation and Circulation	☐ Utilities and Service Systems	☐ Energy Resources
☒ Noise	☐ Public Services	☐ Agriculture and Forestry Resources
☒ Air Quality	☒ Biological Resources	☐ Wildfire

☒ Mandatory Findings of Significance

Topics Evaluated in the Draft Environmental Impact Report

Based on the findings of this initial study, the resource topic for which there is a potential for project-specific effects to be significant or for which the analysis requires additional detail, the following resource topics are analyzed in the DEIR:

- Cultural Resources (historical architectural resources only)

Effects Found Not to Be Significant or Not Significant with Identified Mitigation Measures

The initial study determined that the potential individual and cumulative environmental effects on the following resource topics are either less than significant or would be reduced to a less-than-significant level through recommended mitigation measures identified in this initial study:

- Land use and land use planning (all topics)
- Population and housing (all topics)
- Cultural resources (archeological resources, human remains)
- Tribal cultural resources (all topics)
- Transportation and circulation (all topics)
- Noise (all topics)
- Air quality (all topics)
- Greenhouse gas emissions (all topics)

- Wind (all topics)
- Shadow (all topics)
- Recreation (all topics)
- Utilities and service systems (all topics)
- Public services (all topics)
- Biological resources (all topics)
- Geology and soils (all topics)
- Hydrology and water quality (all topics)
- Hazards and hazardous materials (all topics)
- Energy resources (all topics)

Impacts associated with these topics are discussed with mitigation measures, where appropriate, in section E, Evaluation of Environmental Effects, p. 18, of this initial study, and require no further environmental analysis in the DEIR. All mitigation measures identified in this initial study are listed in section F, Mitigation and Improvement Measures, p. 136, and have been agreed to be implemented by the project sponsor as part of implementation of the proposed project, if approved. For each checklist item, the evaluation considers both project-specific and cumulative impacts of the proposed project.

Approach to Analysis

This initial study examines the proposed project's impacts on the environment. For each item in the checklist, the evaluation considered the impacts of the proposed project both individually and cumulatively.

All items in the checklist are checked as one of the following:

- Potentially Significant Impact
- Less than Significant with Mitigation Incorporated
- Less than Significant Impact
- No Impact
- Not Applicable

All items on the initial study checklist below that have been checked "Less than Significant with Mitigation Incorporated," "Less Than Significant Impact," "No Impact," or "Not Applicable" indicate that, upon evaluation, staff has determined that the proposed project could not have a significant adverse environmental effect relating to that topic. A discussion is included for these items.

For significance criteria checked "Potentially Significant Impact," the impact analysis determined that the proposed project would have the potential to result in a significant and unavoidable environmental effect. This initial study is attached to a DEIR that evaluates only those topics for which the impacts were determined to be potentially significant, as listed above.

Impacts are numbered throughout this initial study using an environmental topic identifier (e.g., "BI" for biological resources) followed by sequentially numbered impacts. Mitigation measures are numbered to correspond to the associated impacts; for example, Mitigation Measure M-BI-1 addresses Impact BI-1. Cumulative impacts are discussed at the end of the impact analysis for each environmental topic and are identified by the letter C; for example, Impact C-BI-1 addresses cumulative impacts on biological resources.

A discussion of items that are checked "No Impact" or "Not Applicable" are described below.

No Impact or Not Applicable Environmental Topics

The proposed project would have no impact on the following environmental topics and as a result these topics are not discussed in detail in this initial study: aesthetics and parking, mineral resources, agriculture and forestry resources, and wildfire. This section briefly describes why these topics would have no impact or are not applicable to the proposed project. These topics are not discussed further in the remainder of the initial study.

Aesthetics and Parking

CEQA section 21099(d) states: "Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment."[7] Accordingly, aesthetics and parking are not to be considered in determining if a project has the potential to result in significant environmental effects for projects that meet all of the following three criteria:

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

The proposed project meets each of the above three criteria; thus, this checklist does not consider aesthetics or parking in determining the significance of project impacts under CEQA.

Agriculture and Forestry Resources

The project site is within an urbanized area in the City that does not contain any prime farmland, unique farmland, or farmland of statewide importance; forest land; or land under Williamson Act contract. The area is not zoned for any agricultural uses. Therefore, the project would have no impact, either individually or cumulatively, on agricultural or forest resources.

Mineral Resources

The project site is not located in an area with known mineral resources and would not extract mineral resources. Therefore, the proposed project would have no impact on mineral resources and would not have the potential to contribute to any cumulative mineral resource impact.

Wildfire

The project site is not located in or near state responsibility lands for fire management or lands classified as very high fire hazard severity zones. Therefore, this topic is not applicable to the project.

Approach to Cumulative Impact Analysis

CEQA Guidelines require that the environmental document disclose the cumulative impacts of a project. Furthermore, CEQA Guidelines section 15355 defines "cumulative impacts" as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

7 See CEQA section 21099(d)(1).

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

In this initial study, cumulative impacts are analyzed for each environmental topic and the proposed project's contribution to a cumulative impact, if any, is discussed. Cumulative impact analysis in San Francisco generally may employ a list-based approach or a projections-based approach, depending on which approach best suits the individual resource topic being analyzed.

A list-based approach refers to "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside of the control of the agency" (CEQA Guidelines, section 15130[b][1][A]). For topics such as construction impacts on cultural resources; localized transit, bicycle, pedestrian and vehicle circulation; shadow; and wind, the analysis typically considers large, individual projects that are anticipated in the project area and the extent of the affected setting where possible similar impacts may arise and combine with those of the proposed project.

The cumulative analyses for each environmental topic section may consider a somewhat different list of nearby projects that is appropriately tailored to the particular environmental topic based on the potential for combined localized environmental impacts; however, typically, list-based cumulative context considers cumulative projects within a 0.25-mile radius of the project site. Table 1 lists relevant projects considered in this initial study. The locations of these cumulative projects are shown on Figure 1, p. 17.

The analysis of cumulative impacts involves the following steps: determining the cumulative context or geographic scope and location of the cumulative projects relative to the affected resource's setting; assessing the potential for project impacts to combine with those of other projects, including the consideration of the nature of the impacts and the timing and duration of implementation of the proposed and cumulative projects; a determination of the significance of the cumulative impact; and, in cases where a significant cumulative impact is identified, an assessment as to whether the project's contribution to a significant cumulative effect is considerable. CEQA does not prescribe the use of one specific approach to analyzing cumulative impacts. The rationale used to determine an appropriate list of projects or projection in an individual project's cumulative analysis is explained in the discussion of cumulative impacts for each environmental topic in this initial study.

Table 1: Cumulative Projects within 0.25 miles of Project Site

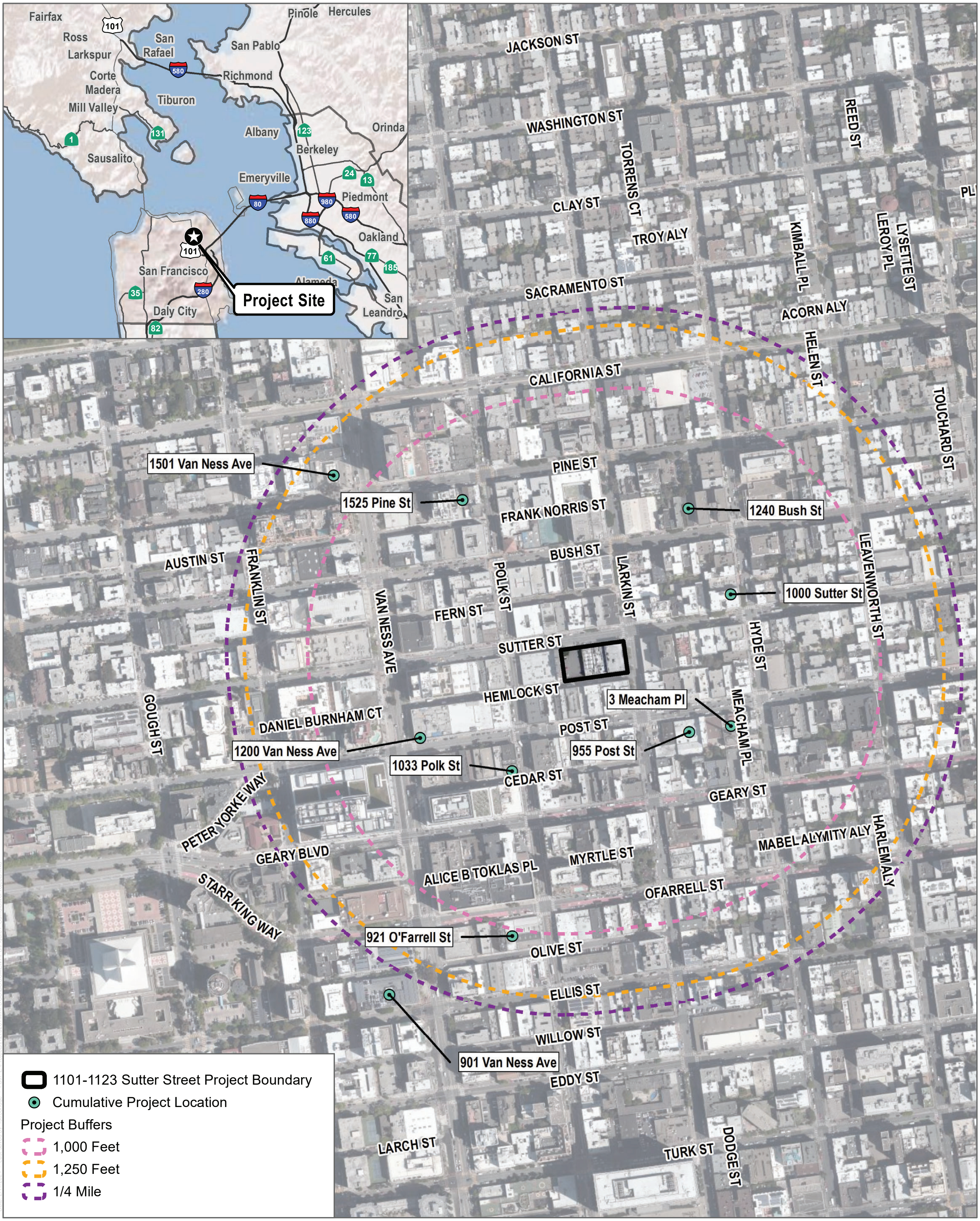
Address	Record ID	Approximate Distance from Project Site (feet)	Project Description
955 Post Street	2015-015950PRJ	340	The project would demolish the existing two-story automobile repair garage building and construct an eight-story, 80-foot-tall mixed-use residential and commercial building over a basement with 69 residential units and approximately 1,538 square feet of ground-floor retail space. The residential portion of the project would include nine three-bedroom units, 36 two-bedroom units, and 24 one-bedroom units. In addition, the project would provide approximately 4,945 total square feet of common outdoor space at the basement level. Five dwelling units on the sixth story would also include private outdoor patios.
1033 Polk Street	2014.0914PRJ	410	The project would demolish the existing building and construct an eight-story, 85-foot-tall mixed-use residential building with ground-floor retail space and residential uses above. The ground floor would contain approximately 605 gross square feet of retail space, the residential lobby, and required mechanical space. The proposed project would include a total of 19 residential units, including 18 one-bedroom units and one two-bedroom unit, above the ground-floor retail space.
3 Meacham Place	2020-007597PRJ	460	The project would change the use of the existing buildings from single-family dwelling and office to group housing (congregate residence).
1000 Sutter Street	2020-008130PRJ	460	The City and Episcopal Community Services, as co-applicants, propose to purchase the Granada Hotel and enter into an agreement with Episcopal Community Services to operate the project as permanent supportive housing for formerly homeless individuals. The Granada Hotel is located at 1000 Sutter Street, a 232-unit single-room occupancy hotel. Eighty units are currently occupied by low-income individuals, primarily reliant on short-term rental subsidy vouchers; 152 units are vacant. Episcopal Community Services and the City agree to restrict the property for at least 55 years to provide affordable housing and to serve households who are homeless, at risk of homelessness, or impacted by COVID-19. Episcopal Community Services plans to provide on-site support services that include intensive case management; individual health and wellness plans, which may include substance use disorder treatment and/or behavioral health services; financial assistance, including help with benefit programs and entitlements; and job-readiness, vocational, occupational, and educational training.

Table 1: Cumulative Projects within 0.25 miles of Project Site

Address	Record ID	Approximate Distance from Project Site (feet)	Project Description
1240 Bush Street	2020-004634PRJ	580	The project would add five new accessory dwelling units to an existing 16-unit building. Exposure is non-compliant for three of the proposed dwelling units.
1200 Van Ness Avenue	2015-012577PRJ	610	The project would construct a 13-story, 130-foot-tall building with 259,621 gross square feet of mixed use (retail/commercial/residential) space and a parking garage for 368 cars in five below-grade levels. The project retail uses could include a grocery store, medical offices and clinics on Level 2 through Level 5, and an eight-story residential tower with 95 dwelling units (71 one bedrooms and 24 two bedrooms).
1525 Pine Street	2015-009955PRJ	700	The project would demolish the existing one-story commercial restaurant and construct a new eight-story mixed-use commercial and residential building. The project relies on State Density Bonus provisions for an additional six units over the base density of 15 units, for a total of 21 residential units.
921 O'Farrell Street	2018-014727PRJ	1,030	The project would demolish the existing two-story commercial building and construct a 14-story, 130-foot-tall residential tower with ground-floor commercial and common space.
1501 Van Ness Avenue	2020-000549PRJ	1,140	The project would demolish a sales kiosk at an existing Chevron station and construct a new, larger sales kiosk; modify the existing fueling canopy structural columns; remove four existing underground fuel storage tanks and associated piping; and install three new underground fuel storage tanks and piping.
901 Van Ness Avenue	2018-001547PRJ	1,420	The project would remodel an existing automobile sales facility. Work would include demolition of existing non-original interior partitions and existing glazing for new entrance at Olive Street; construction of new offices at Historic Showroom and new mezzanine, stairs, landing, opening and entry at Olive Street; new vestibule and opening, partitions, finishes, and architectural features associated with these areas; and exterior restoration of original conditions.

Note: The anticipated construction periods of the cumulative projects are not known; therefore, the cumulative analyses assume that construction of the cumulative projects could overlap with construction of the proposed project.

Source: San Francisco Planning Department, October 2020.



SOURCE: Esri Clarity Basemap 2020, San Francisco County 2020

FIGURE 1
Cumulative Projects
1101-1123 Sutter Street Project

E. Evaluation of Environmental Effects

E.1 Land Use and Land Use Planning

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Physically divide an established community?	☐	☐	☒	☐	☐
b) Cause a significant physical environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐	☐

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

The physical division of an established community would typically involve the construction of a physical barrier to neighborhood access, such as a new freeway, or the removal of a means of access, such as a bridge or a roadway. The proposed project would not construct any of these types of barriers or remove any means of access. Furthermore, the proposed project would be constructed within the boundaries of two parcels (Assessor's Parcel Numbers 0692-001 and 0692-019) that are already developed and would not create an impediment to the passage of persons or vehicles through the community.

The proposed project would not alter the established street grid nor permanently close any streets or sidewalks. However, during construction, temporary street and sidewalk closures would occur adjacent to the project site. A portion of Hemlock Street adjacent to the project site and its northern sidewalk would be closed for staging for the 30-month construction schedule. Construction activities would also require the closure of a portion of the southern parking lane on Sutter Street adjacent to the project site; this area would also be used for construction staging. The sidewalk on Sutter Street and along Larkin Street would generally remain open, though temporary closures would be required to complete proposed streetscape improvements. The partial closures of Hemlock Street and the southern parking lane of Sutter Street during construction would be temporary and would not substantially impair access through the area.

For these reasons, the potential for the proposed project to physically divide an established community would be less than significant.

Impact LU-2: The proposed project would not cause a significant physical environmental impact due to a conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)

Land use impacts could be considered significant if the proposed project would conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact. The determination as to whether a conflict with a land use plan, policy, or regulation is significant under CEQA is based on whether that conflict would result in a significant physical environmental impact.

The project site and the properties adjacent to and across the street from the project site are zoned NCD (Polk Street Neighborhood Commercial District). The proposed project would intensify the uses on the project site, similar to adjacent parcels that include buildings with commercial uses on the ground floor and residential uses above. This is consistent with section 723 of the planning code, which encourages the development of residential units above the first story in new buildings within the NCD, especially in the less-intensely developed portions of the district along Larkin Street and on large lots.

As described in in chapter 2, Project Description, of the DEIR, the project would provide 44 residential units—approximately 20 percent of the total units—as very-low-income housing units. Consistent with the State Density Bonus Law, the proposed project is requesting a 50 percent increase in density and waivers from height, bulk, and other physical constraints of the planning code. Although potential significant environmental impacts are identified for some other environmental resource topics in this initial study and the DEIR, they are not the result of conflicts with the land use plans, policies, or regulations. See section C, Compatibility with Existing Zoning and Plans, p. 2, for further discussion of applicable land use plans, policies, and regulations. For these reasons, the proposed project would not cause a significant physical environmental impact due to a conflict with land use plans and regulations adopted for the purpose of avoiding or mitigating an environmental effect, and this impact would be less than significant.

Cumulative Analysis

Impact C-LU-1: The proposed project, in combination with other reasonably foreseeable projects, would not result in a cumulative land use impact. (Less than Significant)

The geographic scope for cumulative land use effects is typically localized, within the immediate vicinity of the project site or at the neighborhood level. Cumulative development in the project vicinity (within a 0.25-mile radius of the project site) includes the projects identified in Table 1, p. 14, and on Figure 1, p. 17. The cumulative development projects in Table 1, p. 14, consist of residential, commercial, retail, and mixed-use development projects. Long-term cumulative land use impacts would occur if the proposed project, when considered together with the cumulative projects, would result in a change in land use that would divide an existing community or cause a conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect.

The proposed project, in combination with the cumulative projects, would not result in the physical division of an established community, either by constructing a physical barrier to neighborhood access, removing a means of access, altering the established street grid, or permanently closing any streets or sidewalks. Furthermore, the proposed project and cumulative projects are required to conform with applicable land use plans, policies, and regulations, including the planning code, general plan, and any applicable area plans. Therefore, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to a conflict with a land use plan, policy, or regulation adopted for the purpose of mitigating an environmental impact.

E.2 Population and Housing

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐	☐
b) Displace substantial numbers of existing people or housing units necessitating the construction of replacement housing?	☐	☐	☐	☒	☐

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

The proposed project would be considered growth inducing if its implementation would result in a substantial unplanned increase in population. The planning department's principal resources for planning population growth in San Francisco include Plan Bay Area, an advisory document prepared by ABAG and the Metropolitan Transportation Commission. It is used to assist in the development of local and regional plans and includes population and employment forecasts for the Bay Area's nine counties. The current plan is Plan Bay Area 2040 although a plan—Plan Bay Area 2050—is under development that will provide population, housing, and employment projections for San Francisco and the greater Bay Area through 2050.

The growth projections in Plan Bay Area 2040 for the City anticipate 483,700 households in 2040 (an increase of 128,000 households between 2015 and 2040)[8] and the population of San Francisco is projected to increase by approximately 312,100 persons for a total of 1,169,500 persons during the same timeframe.[9] Approximately 872,200 jobs are anticipated in San Francisco by 2040 (an increase of 123,700 jobs between 2015 and 2040).[10]

Plan Bay Area 2040 also calls for an increasing percentage of Bay Area growth to occur as infill development in areas with highly accessible transit and where services necessary to daily living are provided in proximity to housing and jobs. With its abundant transit service and mixed-use neighborhoods, the City is expected to accommodate an increasing share of future regional growth. As part of the planning process for Plan Bay Area,

[8] Association of Bay Area Governments and Metropolitan Transportation Commission, *Plan Bay Area 2040 Supplemental Report: Land Use and Modeling Report*, *http://files.mtc.ca.gov/library/pub/29736.pdf*, March 2017, accessed January 14, 2020.

[9] Association of Bay Area Governments and Metropolitan Transportation Commission, Plan Bay Area Projections 2040, *https://mtc.ca.gov/sites/default/files/Projections_2040-ABAG-MTC-web.pdf*, approved November 2018, accessed January 29, 2021.

[10] Association of Bay Area Governments and Metropolitan Transportation Commission, *Plan Bay Area 2040 Supplemental Report: Land Use and Modeling Report*, *http://files.mtc.ca.gov/library/pub/29736.pdf*, March 2017, accessed January 14, 2020.

San Francisco identified Priority Development Areas, which are existing neighborhoods near transit that are appropriate places to concentrate future growth. The project site is in the Downtown/Van Ness/Northeast Neighborhoods Priority Development Area.[11]

According to the U.S. Census Bureau's most recent American Community Survey, the City had an estimated population of about 881,549 residents and 406,413 housing units in 2019. Census Tract 155, which includes the project site and immediate vicinity, has a population of 3,551 persons and a total of 2,535 housing units.

The supply of housing has not met the demand for housing within the City. As described in ABAG's regional housing need plan for 2015–2023, projected housing need within the City during the plan timeframe is 28,869 dwelling units, consisting of 6,234 dwelling units at very-low-income level (0–50 percent area median income [AMI]), 4,639 at the low-income level (51–80 percent AMI), 5,460 at the moderate-income level (81–120 percent AMI), and 12,536 at the above-moderate-income level (over 120 percent AMI).[12]

As discussed in chapter 2, Project Description, of the DEIR, the proposed project would rehabilitate the existing three-story building at 1101 Sutter Street and demolish the existing building and surface parking lot at 1123 Sutter Street and construct a new 14-story, 150-foot tall building. Together, the two buildings would provide 237,808 gross square feet of uses—221 residential units (44 of which would be provided as very-low-income housing units); 8,330 square feet of commercial and childcare uses; 11,637 square feet of open space; 59 vehicular parking spaces; and 164 bicycle spaces.[13] It is anticipated that approximately 504 residents and approximately 31 employees would live and work, respectively, at the proposed project.[14,15]

Approximately 504 new residents would not result in a substantial increase to the population of the City. The residential population introduced as a result of the proposed project would constitute approximately 0.05 percent of the current population in the City and would be accommodated within the planned growth for San Francisco. The proposed project is also consistent with the goal of concentrating growth within the Downtown/Van Ness/Northeast Neighborhoods Priority Development Area, discussed above. Overall, the introduction of 221 new residential units to the project site would not directly induce substantial unplanned population growth. Furthermore, it is likely that the provision of this housing could provide housing for existing residents within the area given the housing shortage in the City.

The approximately 31 employees would be anticipated to be existing Bay Area residents given the types of uses and size of the commercial spaces proposed. This minor increase in employment would not indirectly induce substantial unplanned demand for additional housing in the context of citywide employment growth nor would it exceed employment projections considered as part of citywide planning efforts.

11 Association of Bay Area Governments and Metropolitan Transportation Commission, Priority Development Areas (for Plan Bay Area 2050), https://opendata.mtc.ca.gov/maps/edit?content=MTC%3A%3Apriority-development-areas-plan-bay-area-2050, adopted July 16, 2020, accessed January 12, 2021.

12 Association of Bay Area Governments, Regional Housing Need Plan for the San Francisco Bay Area: 2015–2023, https://abag.ca.gov/sites/default/files/2015-23_rhna_plan.pdf, accessed December 2020.

13 The project as proposed includes a 50 percent increase in density as it meets the requirements of the State Density Bonus Law based on the number of affordable units and level of affordability and would seek concessions and waivers, consistent with the law.

14 The average household size in the City is 2.28 people, per the general plan.

City of San Francisco, General Plan: 2014 Housing Element, https://default.sfplanning.org/plans-and-programs/planning-for-the-city/housing-element/2014HousingElement-AllParts_ADOPTED_web.pdf, adopted April 27, 2015, accessed January 14, 2021.

15 The estimated number of employees is based on the planning department's Transportation Impact Analysis Guidelines for Environmental Review (October 2002) and assumes an average of one employee per 276 square feet of commercial/office/childcare space, yielding approximately 31 employees.

Furthermore, the proposed project would not indirectly induce substantial population growth in the project area because it would be located on an infill site in an urbanized area and would not involve any extensions to area roads or other infrastructure that could enable additional development in currently undeveloped areas.

For the above reasons, the residents and employees associated with the proposed project would have a less-than-significant impact related to unplanned population growth, both directly and indirectly.

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

1101 Sutter Street currently operates as an automobile repair and parking garage and 1123 Sutter Street operates as a mortuary and a surface parking lot. Neither building contains residential uses. The proposed project would displace approximately six employees currently working in the existing businesses, but would employ a total of up to 31 employees with the establishment of potential commercial and childcare uses, as described above. As no residential units are currently located on the project site, the proposed project would not displace existing housing units or residents, and there would be no impact related to this topic.

Cumulative Analysis

Impact C-PH-1: The proposed project, in combination with other reasonably foreseeable projects, would not displace people or housing units and would not induce substantial unplanned population growth. (Less than Significant)

As discussed under Impact PH-2, the proposed project would result in no impact with respect to the displacement of people or housing units. Therefore, the proposed project would not contribute to any related cumulative impacts and further analysis is not required.

The projected residential and employment growth associated with the cumulative projects within 0.25 miles of the project site, as listed in Table 1, p. 14, and shown on Figure 1, p. 17, are anticipated to be consistent with the growth projections for the City and region, accounted for in ABAG's and the City's projections described under Impact PH-1. Therefore, the proposed project, in combination with reasonably foreseeable future projects, would not directly or indirectly induce substantial unplanned population and employment growth. For these reasons, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to unplanned population growth.

E.3 Cultural Resources

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5, including those resources listed in article 10 or article 11 of the San Francisco *Planning Code*?	☒	☐	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐	☐

Pursuant to CEQA Guidelines sections 15064.5(a)(1) and 15064.5(a)(2), historical resources are buildings or structures that are listed or are eligible for listing in the California Register of Historical Resources or are identified in a local register of historical resources, such as articles 10 and 11 of the San Francisco Planning Code. The existing building at 1101 Sutter Street, with automobile repair uses and parking garage, was constructed in 1920. The building was determined eligible for the National Register of Historic Places and the California register, and it is considered a historic resource under CEQA. In addition, the existing building at 1123 Sutter Street, a mortuary, was constructed in 1926. The building was also determined eligible for the California register and is considered a historic resource under CEQA.

Impact CR-1: The proposed project could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines section 15064.5 or resources listed in article 10 or article 11 of the San Francisco Planning Code. (Potentially Significant)

Implementation of the proposed project would have the potential to result in significant impacts on the significance of historical resources. Accordingly, this topic is further analyzed and included in the EIR.

As described above, both 1101 and 1123 Sutter Street are historical resources under CEQA. The proposed project would rehabilitate the 1101 Sutter Street building in accordance with the Secretary of the Interior's Standards for the treatment of historic properties. Planning Department staff have reviewed the Part 2 Historic Preservation Certification Application and confirmed the proposed scope of work to 1101 Sutter Street is in conformance with the Secretary of the Interior's Standards for Rehabilitation. The exterior stucco and cast plaster ornament would be retained and cleaned and repaired where necessary. On the ground floor a number of bays will be infilled with aluminum storefronts to match the historic conditions of the building. Upper floor historic wood divided light windows will be retained, repaired, and reglazed where they are in good condition (on Sutter and Larkin streets), and replaced in kind with new wood windows where the windows have deteriorated beyond repair (on Hemlock Alley). The sheet metal cornice would be retained and repaired.

In addition, the proposed project would demolish the 1123 Sutter Street building and associated surface parking lot and construct a new 14-story, 150-foot-tall building. The DEIR, in section 3.B, Historic Architectural Resources, evaluates the proposed project impacts on both significant historic architectural resources on the project site. As described therein, the rehabilitation of the 1101 Sutter Street building would not cause a substantial adverse change to an individually significant historic architectural resource. However, the demolition of the existing 1123 Sutter Street building would have a significant adverse effect on this individually significant historic resource. In addition, the proposed project would not have a substantial adverse effect on off-site individual historic architectural resources or historic districts. See section 3.B, Historic Architectural Resources, of the DEIR for additional information.

Impact CR-2: The proposed project could cause a substantial adverse change in the significance of a historical archaeological resource or potentially disturb human remains, if present. (Less than Significant with Mitigation)

A preliminary archeological review determined that there are no known or suspected resources on or near the project site.[16] The project site has been assessed as having low sensitivity for the presence of buried prehistoric and historic archeological resources.

As described in the preliminary archeological review, there was a structure on the project site by 1857, although the surrounding street grid had not been laid out. The street grid was fully laid out by 1869 and there was a structure on the 1123 Sutter Street parcel by that date; 1101 Sutter Street was vacant. There were numerous stores, residences, and outbuildings on both parcels in 1886. The 1906 earthquake and fire destroyed all development on the site. The 1123 Sutter Street parcel was redeveloped by 1913, with the original version of the existing buildings, while the 1101 Sutter Street parcel remained vacant and was not developed until 1920, when the existing garage was constructed. The highest potential for historic archeological resources to survive on the project site is anticipated to be along the portion of the project site fronting Hemlock Street, where prior grading and excavations have been shallowest, and under the surface parking lot of 1123 Sutter Street, at the northern portion of the site. Surviving archeological materials potentially could include historic features from as early as the 1850s and features associated with the development that occurred in the late 1800s. However, given the extent of prior excavation and the fact that the best-preserved area would have been under the portion of the lot that was occupied by structures historically, the potential for historic features, including human remains, to have been preserved is low. Nevertheless, the excavation associated with the construction of the proposed project would disturb previously undisturbed Dune sands that underlie the project site, where there is a potential for both historic and prehistoric resources to be present[17] If an unanticipated archeological deposit is encountered during excavation, the development of the proposed project could have potentially significant impacts on archeological resources, including human remains.

To reduce the potential for significant impacts to archeological resources that might be discovered during construction to less-than-significant levels, the project sponsor would be required to incorporate Mitigation Measure M-CR-2, Accidental Discovery in the project.

16 San Francisco Planning Department, Environmental Planning Preliminary Archaeological Review, 1101 Sutter Street, Case No.: 2019-022850ENV, February 3, 2020.

17 Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

Mitigation Measure M-CR-2: Accidental Discovery

The following mitigation measure is required to avoid any potential adverse effect from the proposed project on accidentally discovered buried or submerged historical resources as defined in CEQA Guidelines section 15064.5(a) and (c), on tribal cultural resources as defined in CEQA Statute section 21074, and on human remains and associated or unassociated funerary objects.

The project sponsor shall distribute the planning department archeological resource “ALERT” sheet to the project prime contractor, and 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. Prior to any soils-disturbing activities being undertaken, each contractor is responsible for ensuring that the “ALERT” sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, supervisory personnel, etc. The project sponsor shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor[s], and utilities firm) to the ERO confirming that all field personnel have received copies of the Alert Sheet.

A preconstruction training shall be provided to all construction personnel performing or managing soil disturbing activities prior to the start of soils disturbing activities on the project. The training may be provided in person by a qualified archeologist or using a video and include a handout prepared by a qualified archeologist. The video and materials shall be provided by or reviewed and approved by the ERO. The purpose of the training is to enable personnel to identify archeological resources that may be encountered and to instruct them on what to do if a potential discovery occurs. Images of expected archeological resource types and archeological testing and data recovery methods should be included in the training.

The project sponsor shall provide the ERO with a signed affidavit from the responsible parties (prime contractor, subcontractor[s], and utilities firm) to the ERO confirming that all field personnel have taken the preconstruction training.

Should any indication of an archeological resource be encountered during any soils-disturbing activity of the project, the project Head Foreman and/or project sponsor shall immediately notify the ERO and shall immediately suspend any soils-disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken.

If the ERO determines that an archeological resource may be present within the project site, the project sponsor shall retain the services of an archeological consultant from the Qualified Archaeological Consultants List maintained by the planning department archeologist. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource retains sufficient integrity and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological resource. The archeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the project sponsor. The ERO may also determine that the archeological resource is a tribal cultural resource and will consult with affiliated Native Americans tribal representatives, if warranted.

Measures might include preservation in situ of the archeological resource, an archeological monitoring program, an archeological testing program, or an archeological interpretation program. If an archeological interpretive, monitoring, and/or testing program is required, it shall be consistent with the Environmental Planning Division guidelines for such programs. The ERO may also require that the project sponsor immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.

If human remains and associated or unassociated funerary objects are discovered during any soils disturbing activity, all applicable state and federal laws shall be followed, including immediate notification of the San Francisco Office of the Chief Medical Examiner, and in the event of the Medical Examiner's determination that the human remains are Native American remains, notification to the California State Native American Heritage Commission is required, who shall appoint a Most Likely Descendant (MLD) (California Public Resources Code, section 5097.98).

The ERO shall also be immediately notified upon discovery of human remains. The archeological consultant, project sponsor, ERO, and MLD shall have up to but not beyond six days after the discovery to make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, curation, possession, and final disposition of the human remains and associated or unassociated funerary objects. Nothing in existing state regulations or in this mitigation measure compels the project sponsor and the ERO to accept recommendations of an MLD. The archeological consultant shall retain possession of any Native American human remains and associated or unassociated burial objects until completion of any scientific analyses of the human remains or objects as specified in the treatment agreement if such an agreement has been made or, otherwise, as determined by the archeological consultant and the ERO. If no agreement is reached state regulations shall be followed including the reinternment of the human remains and associated burial objects with appropriate dignity on the property in a location not subject to further subsurface disturbance (California Public Resources Code, section 5097.98).

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.

The archeological consultant shall submit an Archeological Resources Report (ARR) to the ERO. The ARR shall evaluate the historical significance of any discovered archeological resource and describing the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken. It shall include a curation and deaccession plan for all recovered cultural materials. Formal site recordation forms (CA DPR 523 series) shall be attached to the ARR as an appendix.

The project archeological consultant shall also submit an Archeological Public Interpretation Plan if a significant archeological resource is discovered during a project. The Archeological Public Interpretation Plan 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.

Once approved by the ERO, copies of the ARR shall be distributed as follows: California Archeological Site Survey Northwest Information Center shall receive one copy, and the ERO shall receive a copy of the transmittal of the ARR to the Northwest Information Center. The Environmental Planning Division of the planning department shall receive one bound copy and one unlocked searchable PDF copy on of the ARR along with geographic information system shapefiles of the site and feature locations and copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. Digital files should be submitted via USB or other stable storage device. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.

Implementation of Mitigation Measure M-CR-2 would ensure that any archeological resources encountered during project excavations would be identified promptly and would require that, if a resource were discovered, appropriate archeological treatment would be implemented to preserve the important information represented by the resources. Those steps would ensure that project excavations would not cause a substantial adverse change in the significance of archeological resources that could be encountered during construction and that the project's potential impact would be less than significant.

Cumulative Analysis

Impact C-CR-1: The proposed project, in combination with other reasonably foreseeable projects, could result in a significant cumulative impact on historic architectural resources. (Less than Significant)

This topic is further analyzed and included in the EIR. See section 3.B, Historic Architectural Resources, of the DEIR, which evaluates potential cumulative impacts on historic architectural resources.

Impact C-CR-2: The proposed project, in combination with past, present, and reasonably foreseeable future projects, could result in a cumulatively considerable contribution to cumulative impacts on archaeological resources and human remains. (Less than Significant with Mitigation)

Project-related impacts on archeological resources and human remains are generally site specific and limited to a project's construction area and staging areas. As described under Impact CR-2, the preliminary archeological review determined that there are no known or suspected resources on or near the project site.[18] None of the reasonably foreseeable future projects shown on Figure 1, p. 17, and described in Table 1, p. 14, are located adjacent to the project site. For these reasons, the proposed project, in combination with other reasonably foreseeable future projects, would not result in a significant cumulative impact to archeological resources or human remains.

[18] San Francisco Planning Department, Environmental Planning Preliminary Archaeological Review, Project Name/Address: 1101 Sutter Street, Case No.: 2019-022850ENV, February 3, 2020.

E.4 Tribal Cultural Resources

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: (i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or (ii) A resource determined by the lead agency in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in this subdivision, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐	☐

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

Tribal cultural resources are those resources that meet the definitions in California Public Resources Code, section 21074. Tribal cultural resources are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are also either (a) included or determined to be eligible for inclusion in the California register, (b) included in a local register of historical resources, as defined in California Public Resources Code, section 5020.1(k), or (c) determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of California Public Resources Code, section 5024.1. Based on discussion with Native American tribal representatives, prehistoric archeological resources in San Francisco are presumed to be potential tribal cultural resources. A tribal cultural resource would be adversely affected if a project has the potential to impact its significance.

Pursuant to Assembly Bill 52, which became effective on July 1, 2015, within 14 days of a public agency's decision to undertake a project (or a determination that the project application is complete), the lead agency is required to contact the Native American tribes that are culturally or traditionally affiliated with the geographic area in which the project is located who have requested to be informed by the lead agency following California Public Resources Code, section 21018.3.1(b). Notified tribes have 30 days to request consultation with the lead agency to discuss potential impacts on tribal cultural resources and measures for addressing those impacts.

During the 30-day public review and comment period for the Notice of Preparation that began on December 17, 2020, and ended on January 22, 2021, the Native American Heritage Commission commented on Assembly Bill 52 tribal cultural resources notification and consultation requirements but did not have project-specific concerns. On January 13, 2021, the planning department contacted Native American individuals and organizations for the San Francisco area, providing a description of the project and requesting comments on the identification, presence, and significance of tribal cultural resources in the project vicinity.[19] During the 30-day comment period for notified tribes that began on January 13, 2021, no Native American tribal representatives contacted the planning department to request consultation.

Based on prior Native American consultation, the planning department considers all prehistoric archeological resources to be potential tribal cultural resources. As discussed under Impact CR-2, the preliminary archeological review determined that there are no known or suspected resources on or near the project site.[20] However, the construction of the proposed project would disturb previously undisturbed Dune sands. Therefore, although unlikely, there is a possibility that archeological resources could be encountered during construction. Such resources could be identified as tribal cultural resources at the time of discovery or at a later date. Therefore, the potential adverse effects of the proposed project on previously unidentified archeological resources, as discussed under Impact CR-2, also represent a potentially significant impact on tribal cultural resources. Mitigation Measure M-TCR-1, Tribal Cultural Resources Interpretive Program, would require either preservation in place of the tribal cultural resources, if determined effective and feasible, or implementation of an interpretive program for the tribal cultural resources, to be developed in consultation with affiliated Native American tribal representative.

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

In the event of the discovery of an archeological resource of Native American origin, the Environmental Review Officer (ERO), the project sponsor, and the tribal representative shall consult to determine whether preservation in place would be feasible and effective. If it is determined that preservation in place of the tribal cultural resource would be both feasible and effective, then the archeological consultant shall prepare an Archeological Resource Preservation Plan, which shall be implemented by the project sponsor during construction. The consultant shall submit a draft Archeological Resource Preservation Plan to the planning department for review and approval.

If the ERO, in consultation with the affiliated Native American tribal representatives and the project sponsor, determines that preservation in place of the tribal cultural resources is not a sufficient or feasible option, the project sponsor shall implement an interpretive program for the tribal cultural resource in consultation with affiliated tribal representatives. A Tribal Cultural Resources Interpretation Plan produced in consultation with the ERO and affiliated tribal representatives, at a minimum, and approved by the ERO would be required to guide the interpretive program. The plan shall identify, as appropriate, proposed

[19] San Francisco Planning Department, Tribal Notification Regarding Tribal Cultural Resources and CEQA – 1101-1123 Sutter Street, 2019-022850ENV, January 13, 2021.

[20] San Francisco Planning Department, Environmental Planning Preliminary Archaeological Review, Project Name/Address: 1101 Sutter Street, Case No.: 2019-022850ENV, February 3, 2020.

locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists, oral histories with local Native Americans, artifacts displays and interpretation, and educational panels or other informational displays.

Combined with Mitigation Measure M-CR-2, Accidental Discovery, the implementation of Mitigation Measure M-TCR-1 would ensure that project excavations would not cause a substantial adverse change in the significance of tribal cultural resources that could be encountered during construction. Therefore, the proposed project would have less-than-significant impacts with implementation of these mitigation measures.

Cumulative Analysis

Impact C-TCR-1: The proposed project, in combination with other reasonably foreseeable projects, would not result in significant cumulative impacts to tribal cultural resources. (Less than Significant)

Project-related impacts on tribal cultural resources are site-specific and generally limited to a project's construction area and staging areas. None of the reasonably foreseeable future projects shown on Figure 1, p. 17, and described in Table 1, p. 14, are located adjacent to the project site. Furthermore, as noted above, Native American tribal representatives for the San Francisco area were contacted and asked to comment on the identification, presence, and significance of tribal cultural resources in the project vicinity. The Native American Heritage Commission commented on Assembly Bill 52 tribal cultural resources notification and consultation requirements but did not have project-specific concerns. No Native American tribal representatives for the San Francisco area contacted the planning department to request consultation. Therefore, the proposed project, in combination with other reasonably foreseeable future projects, would not result in significant cumulative impacts on tribal cultural resources.

E.5 Transportation and Circulation

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Involve construction that would require a substantially extended duration or intensive activity, the effects of which would 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?	☐	☐	☒	☐	☐
b) Create potentially hazardous conditions for people walking, bicycling, or driving or public transit operations?	☐	☐	☒	☐	☐
c) Interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access?	☐	☐	☒	☐	☐
d) Substantially delay public transit?	☐	☐	☒	☐	☐
e) Cause substantial additional vehicle miles travelled or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network?	☐	☐	☒	☐	☐
f) Result in a loading deficit, the secondary effects of which would create potentially hazardous conditions for people walking, bicycling, or driving; or substantially delay public transit?	☐	☐	☒	☐	☐

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
g) Result in a substantial vehicular parking deficit, the secondary effects of which would create potentially hazardous conditions for people walking, bicycling, or driving; or interfere with accessibility for people walking or bicycling or inadequate access for emergency vehicles; or substantially delay public transit?	☐	☐	☒	☐	☐

Setting

Roadway Network

The roadway network surrounding the project site is generally an east–west and north–south grid, and several streets in proximity to the project site are one way, including the three streets surrounding the site, described below.

Sutter Street is a one-way westbound street designated as a Transit Conflict street in the general plan's transportation element.[21] The transportation element defines Transit Conflict streets as "streets with a primary transit function which are not classified as major arterials but experience significant conflicts with automobile traffic."[22] The street has two travel lanes, with a bus/taxi-only lane in the northernmost lane. Street parking is provided along both sides of the street.

Larkin Street is a one-way northbound street designated as a Secondary Arterial in the transportation element. The transportation element defines Secondary Arterials as "primarily intra-district routes of varying capacity serving as collectors for the major thoroughfares; in some cases, supplemental to the major arterial system." The street generally has three travel lanes within the vicinity of the project site and street parking is provided along both sides of the street. Larkin Street becomes a two-way street north of California Street.

Hemlock Street is a one-way eastbound street and is not a designated street in the transportation element. The street has one travel lane, extending from Van Ness Avenue to the west to Larkin Street to the east. Street parking is provided along the southern side of the street.

Transit Network

The project site is primarily served by San Francisco Municipal Railway (Muni), which is the San Francisco Municipal Transportation Authority network of Muni buses, light rail Metro trains, streetcars, and cable cars. The following Muni transit lines operate within a 0.25-mile radius of the project site: 2-Clement, 3-Jackson, 10-Townsend, 19-Polk, 27-Bryant, 38-Geary and 38R-Geary Rapid, 47-Van Ness, 49-Van Ness/Mission, 54-Felton, and

21 San Francisco Planning Department, *General Plan Transportation Element*, *https://generalplan.sfplanning.org/I4_Transportation.htm*, last updated December 7, 2010, accessed December 29, 2020.

22 San Francisco Planning Department, *General Plan Transportation Element*, *https://generalplan.sfplanning.org/I4_Transportation.htm*, last updated December 7, 2010, accessed December 29, 2020.

90-San Bruno Owl.[23] The nearest transit stop at Larkin and Sutter streets serves the 2-Clement and 3-Jackson lines (westbound on Sutter Street).

The California Cable Car is also within 0.25 miles of the project site, with stops along California Street at Polk Street, Larkin Street, and Hyde Street. The nearest San Francisco Bay Area Rapid Transit District (BART) and Muni Metro subway service is available at the Civic Center or Powell Street stations, approximately 0.75 miles and 1 mile from the project site, respectively.

Bicycle Network

The *San Francisco Bike Network Map* identifies bicycle facilities throughout the City. The following classifications are designated in the bike network map:[24]

- Protected Bikeways are striped, marked, or signed bicycle lanes separated from vehicle traffic.
- Bicycle Lanes are striped, marked, or signed lanes for bicycle travel.
- Bicycle Routes are shared travel lanes marked or signed for share use.

Sutter Street is a one-way westbound bicycle route, and the nearest one-way eastbound bicycle route is along Post Street to the south. Polk Street to the west serves as the nearest north–south bicycle facility to the project site. Larkin Street and Hemlock Street do not have designated bicycle facilities.

Pedestrian Network

The transportation element identifies the following four types of pedestrian streets:

- Exclusive Pedestrian Street: Streets on which vehicles are not permitted (except for transit vehicles and bicycles)
- Living Street: A street or alley designed to enhance its role in the City's open space network and to provide a visual focus for neighborhood activity and use
- Pedestrian-Oriented Vehicular Street: Street with vehicular traffic that has significant pedestrian importance; design treatments and measures to ensure that pedestrian movement remains a primary function should be employed.
- Vehicular Street: A major arterial or freeway as identified in the Master Plan; while pedestrian traffic must be accommodated on every street except a freeway, a balance between vehicle and pedestrian movement must be maintained.[25]

Additionally, the transportation element identifies streets within the citywide pedestrian network and neighborhood network streets. A citywide pedestrian network street is defined as "an inter-neighborhood connection with citywide significance; includes both exclusive pedestrian and pedestrian-oriented vehicular streets" and a neighborhood network street is defined as "a neighborhood commercial, residential, or transit street that serves pedestrians from the general vicinity . . . generally oriented towards neighborhood serving uses;

[23] Due to the COVID-19 pandemic, several Muni routes are not in operation. Of the Muni transit lines listed, 2-Clement, 3-Jackson, 10-Townsend, 27-Bryant 47-Van Ness, and the California Cable Car are temporarily suspended.

[24] San Francisco Municipal Transportation Authority, San Francisco Bike Map, https://www.sfmta.com/sites/default/files/pdf_map/2020/04/sf_bike_map2019_5.31.19.pdf, 2019, accessed December 28, 2020.

[25] Master Plan is used in the transportation element to refer to the City's general plan.

includes exclusive pedestrian and pedestrian-oriented vehicular streets, and living streets."[26] The following four types of neighborhood network streets are defined below:

- Neighborhood Commercial Street: A street in a Neighborhood Commercial District as identified in the Master Plan. Predominantly commercial use with parking and loading conflicts
- Neighborhood Transit Street: A Primary Transit Preferential Street as identified in the Master Plan
- Residential Street: A street within a Residential zoned district
- Neighborhood Network Connection Street: An intra-neighborhood connection street that connections neighborhood destinations

The nearest citywide pedestrian network street is Van Ness Avenue, and Sutter and Post streets are designated as neighborhood commercial streets.

Pedestrian facilities, including sidewalks, curbs, and gutters, are provided along both sides of Sutter Street, Larkin Street, and Hemlock Street surrounding the project site. As shown on Figure 2-2 of chapter 2, Project Description, of the DEIR, there are eight driveway curb cuts along the project site, with two curb cuts along Sutter Street, two along Larkin Street, and four along Hemlock Street.

Vehicle Miles Traveled in the San Francisco Bay Area

Many factors affect travel behavior, including density, diversity of land uses, design of the transportation network, access to regional destinations, distance to high-quality transit, development scale, demographics, and transportation demand management. Typically, low-density development at a great distance from other land uses, located in areas with poor access to non-private vehicular modes of travel, generates more automobile travel compared to development located in urban areas, where a higher density, mix of land uses, and travel options other than private vehicles are available.

Given these travel behavior factors, San Francisco has a lower VMT ratio than the nine-county San Francisco Bay Area region. In addition, some areas of the City have lower VMT ratios than other areas of the City. These areas of the City can be expressed geographically through transportation analysis zones (TAZs). TAZs are used in transportation planning models for transportation analysis and other planning purposes. The zones vary in size from single city blocks in the downtown core, multiple blocks in outer neighborhoods, to even larger zones in historically industrial areas like the Hunters Point Shipyard.[27] The proposed project is located in TAZ 319.

The transportation authority uses the San Francisco Chained Activity Model Process (SF-CHAMP) to estimate VMT by private automobiles and taxis for different land use types.[28] Travel behavior in SF-CHAMP is calibrated based on observed behavior from the California Household Travel Survey 2010–2012, census data regarding automobile ownership rates and county-to-county worker flows, and observed vehicle counts and transit boarding. SF-CHAMP uses a synthetic population, which is a set of individual actors that represents the Bay Area's actual population, who make simulated travel decisions for a complete day. The transportation authority uses tour-based analysis for residential uses, which examines the entire chain of trips over the course of a day, not just trips to and from a project. For retail uses, the transportation authority uses trip-based analysis, which counts VMT from individual trips to and from the project (as opposed to entire chain of trips). A trip-based approach, as

[26] San Francisco Planning Department, *General Plan Transportation Element*, *https://generalplan.sfplanning.org/I4_Transportation.htm*, last updated December 7, 2010, accessed December 29, 2020.

[27] San Francisco Planning Department, Executive Summary: Resolution Modifying Transportation Impact Analysis, Appendix F, Attachment A, https://commissions.sfplanning.org/cpcpackets/Align-CPC%20exec%20summary_20160303_Final.pdf, March 3, 2016, accessed December 28, 2020.

[28] San Francisco Planning Department, Executive Summary: Resolution Modifying Transportation Impact Analysis, Appendix F, Attachment A, https://commissions.sfplanning.org/cpcpackets/Align-CPC%20exec%20summary_20160303_Final.pdf, March 3, 2016, accessed December 28, 2020.

opposed to a tour-based approach, is necessary for retail projects because a tour is likely to consist of trips stopping in multiple locations, and summarizing tour VMT to each location would overestimate VMT. For residential uses, existing regional average daily VMT per capita is 17.2. For retail uses, existing regional average daily VMT per capita is 14.8.[29]

San Francisco 2040 cumulative conditions were projected using a SF-CHAMP model run, applying the same methodology as outlined above for existing conditions, but also incorporating residential and job growth estimates and reasonably foreseeable transportation infrastructure improvements through 2040. For residential development, the projected 2040 regional average daily work-related VMT per capita is 16.1.[30] For retail development, the projected 2040 regional average daily work-related VMT per employee is 14.6.[31]

Vehicle Miles Traveled Analysis

The San Francisco Planning Department released a memorandum dated February 14, 2019, including guidance related to VMT in CEQA. This memorandum is included as Appendix L, *Vehicle Miles Traveled/Induced Automobile Travel,* to the *Transportation Impact Analysis (TIA) Guidelines*.[32] The following discussion identifies thresholds of significance and screening criteria used to determine if the proposed project would result in significant impacts under the VMT metric.

Thresholds of Significance

Appendix L of the City's TIA guidelines indicate that a project would have a significant impact if it:[33]

1. Causes substantial additional vehicle miles traveled; or
2. Substantially induces additional automobile travel by increasing physical roadway capacity in congested area (i.e. by adding new mixed flow travel lanes) or by adding new roadway to the network.

The City's TIA guidelines define a substantial addition of VMT if a project would exceed the regional VMT per capita or per employee minus 15 percent, as follows:[34]

- A residential-type project would exceed the existing city household VMT per capita minus 15 percent and the existing regional household VMT per capita minus 15 percent
- An office-type project would exceed the existing regional VMT per employee minus 15 percent
- A retail-type project would exceed the regional VMT per retail employee minus 15 percent

These criteria are consistent with the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impact in CEQA*, which states that "achieving 15 percent lower per capita (residential)

[29] San Francisco Planning Department, Executive Summary: Resolution Modifying Transportation Impact Analysis, Appendix F, Attachment A, https://commissions.sfplanning.org/cpcpackets/Align-CPC%20exec%20summary_20160303_Final.pdf, March 3, 2016, accessed December 28, 2020.

[30] San Francisco Planning Department, Executive Summary: Resolution Modifying Transportation Impact Analysis, Appendix F, Attachment A, https://commissions.sfplanning.org/cpcpackets/Align-CPC%20exec%20summary_20160303_Final.pdf, March 3, 2016, accessed December 28, 2020.

[31] San Francisco Planning Department, Executive Summary: Resolution Modifying Transportation Impact Analysis, Appendix F, Attachment A, https://commissions.sfplanning.org/cpcpackets/Align-CPC%20exec%20summary_20160303_Final.pdf, March 3, 2016, accessed December 28, 2020.

[32] San Francisco Planning Department, Transportation Impact Analysis Guidelines, https://default.sfplanning.org/-publications_reports/TIA_Guidelines.pdf, February 2019, accessed December 28, 2020.

[33] San Francisco Planning Department, Transportation Impact Analysis Guidelines, https://default.sfplanning.org/-publications_reports/TIA_Guidelines.pdf, February 2019, accessed December 28, 2020.

[34] San Francisco Planning Department, Transportation Impact Analysis Guidelines, https://default.sfplanning.org/-publications_reports/TIA_Guidelines.pdf, February 2019, accessed December 28, 2020.

or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the state's emission goals.[35, 35]

Screening Criteria

The planning department created a screening checklist, available in Appendix L of the TIA guidelines, to determine whether a detailed VMT analysis would be required. These screening criteria are generally consistent with the OPR technical advisory and CEQA section 21099, Modernization of Transportation Analysis for Transit Oriented Projects and Planning Commission Resolution 19579. A summary of the screening checklist is provided below. Per the TIA guidelines, "if a project would generate VMT, but meets the screening criteria in [sections] 1 and 2, or falls within the types of transportation projects listed in [section 3], then a detailed VMT analysis is not required for a project."[36]

SECTION 1: VEHICLE MILES TRAVELED – SCREENING CRITERIA

- Criterion 1. Is the proposed project site located within the "map-based screening" area?

The planning department has developed maps depicting existing VMT levels in San Francisco for residential, office, and retail land uses based on the SF-CHAMP 2012 base-year model run. These maps are utilized to identify regional and TAZ VMT per efficiency metrics and to determine whether the proposed project is located within a TAZ that exhibits low levels of VMT.[37] If a project includes a substantial amount of parking, the project may not meet this screening criterion.

SECTION 2: VEHICLE MILES TRAVELED – ADDITIONAL SCREENING CRITERIA

- Criterion 1. Does the proposed project quality as a "small project"?

Per OPR, projects that generate or attract fewer than 110 trips per day and are consistent with a sustainable communities strategy or general plan would be considered to cause a less-than-significant transportation impact. The planning department uses a screening criterion of 100 trips per day, which is used in this analysis.

- Criterion 2. Proximity to transit stations (must meet all four sub-criteria)
  - Is the proposed project site located within 0.5 miles of an existing major transit stop?[38]
  - Would the proposed project have a floor area ratio of greater than or equal to 0.75?
  - Would the project result in an amount of parking that is less than or equal to that required or allowed by the planning code without a conditional use authorization?
  - Is the proposed project consistent with the sustainable communities strategy?

SECTION 3: INDUCED AUTOMOBILE TRAVEL ANALYSIS

As detailed in OPR's technical advisory, induced travel is typically associated with a transportation project that would lead to additional vehicle travel on the roadway network. An assessment of the amount of vehicle travel the project would induce would be required if the project would likely lead to a substantial increase in vehicle

35 California Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, December 2018, accessed December 17, 2020.

36 San Francisco Planning Department, Transportation Impact Analysis Guidelines, https://default.sfplanning.org/-publications_reports/TIA_Guidelines.pdf, February 2019, accessed December 28, 2020.

37 All VMT data is from the San Francisco Planning Department, *San Francisco Transportation Information Map, https://sfplanninggis.org/TIM/,* accessed December 17, 2020.

38 California Public Resources Code, section 21064.3: "'Major transit stop' means a site containing an existing 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."

travel. The planning department defines a substantial increase as 2,075,220 VMT per year, based on the state's long-term GHG emissions reduction goal of 40 percent below 1990 levels by 2030.

- Project Type 1. Does the proposed project qualify as an "active transportation, rightsizing (aka Road Diet) and Transit Project"?

The TIA guidelines provide a list of active transportation, rightsizing, and transit projects.

As the proposed project is a land use development, it would not qualify under these categories.

- Project Type 2. Does the proposed project qualify as an "other minor transportation project"? The TIA guidelines provide a list of minor transportation projects including removal of off- or on-street vehicular parking space(s).

As the proposed project would result in the net removal of five on-street parking spaces and 83 off-street parking spaces through change of use of a public parking garage and construction of a mixed-use development, the proposed project would qualify as a minor transportation project.

Travel Demand

Localized trip generation of the proposed project was calculated using a trip-based analysis and information included in the 2019 TIA guidelines developed by the planning department.[39] As shown in Table 2, the proposed project would generate approximately 2,138 person trips (inbound and outbound) on a weekday daily basis, consisting of 434 person trips by automobile (283 vehicle trips accounting for vehicle occupancy), 119 person trips by transportation network company (TNC) or taxi (79 vehicle trips accounting for vehicle occupancy), 582 transit trips, 7 trips by private shuttle, 928 walk trips, and 68 bicycle trips. During the p.m. peak hour, the proposed project would generate approximately 191 daily person trips, consisting of 39 person trips by automobile (25 vehicle trips accounting for vehicle occupancy data), 11 person trips by TNC or taxi (7 vehicle trips accounting for vehicle occupancy), 52 transit trips, 1 person trip by private shuttle, 83 walk trips, and 6 bicycle trips. Overall, the proposed project would generate 363 total vehicle trips, with 32 p.m. peak hour vehicle trips. Travel demand data is provided in Attachment A.

[39] All trip generation data is calculated using San Francisco Planning Department, Travel Demand Tool, website version 0.3.2, data version 0.3, *https://sftravel-demand.sfcta.org/*, accessed July 1, 2021.

Table 2: Proposed Project Trip Generation

Mode	Total Daily Person Trips	p.m. Peak Hour Person Trips	Total Vehicle Trips[1]	PM Peak Hour Vehicle Trips
Automobile	434	39	283	25
TNC/Taxi[2]	119	11	79	7
Transit	582	52	—	—
Private Shuttle	7	1	—	—
Walk	928	83	—	—
Bicycle	68	6	—	—
TOTALS	2,138	191	363	32

Notes: Totals may not add up due to rounding

— = not applicable

[1] Total vehicle trips account for occupancy per vehicle, including private vehicles and TNC/taxi vehicles. The City of San Francisco accounts for carpooled or shared rides in the City's Travel Demand Tool by applying an average vehicle occupancy factor, or average number of occupants in a motor vehicle, depending on a project's land use and location.

[2] TNC refers to transportation network company trips (e.g., Uber).

Source: San Francisco Planning Department Travel Demand Tool, version 0.3.2, data version 0.3, July 2021.

Project Analysis

Impact TR-1: The proposed project would not involve construction that would: (1) require a substantially extended duration or intensive activity, the effects of which would create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations; (2) interfere with accessibility for people walking or bicycling to and from the project site and adjoining areas; (3) result in inadequate emergency access; or (4) substantially delay public transit. (Less than Significant)

Construction of the proposed project would begin in May 2022 and occur over a period of approximately 30 months. During construction, the portion of Hemlock Street adjacent to the project site and its northern sidewalk would be closed and be used as a construction staging area. Additionally, construction activities would require the closure of a portion of the southern parking lane on Sutter Street adjacent to the project site; this area would also be used for construction staging. The sidewalk on Sutter Street and along Larkin Street would generally remain open, although temporary closures would be required to complete proposed streetscape improvements. Temporary traffic lane closures would be coordinated with the applicable City agencies to minimize the impacts on local traffic. In general, lane and sidewalk closures are subject to review and approval by San Francisco Public Works and the City's Transportation Advisory Staff Committee, which consists of representatives from the City's fire, police, public works, and public health departments, as well as the transportation authority and Port of San Francisco.

Additionally, during the construction period, there would be a flow of construction-related trucks to and from the project site, which could result in a temporary reduction in the capacities of local streets. Construction activities would generate approximately 10 to 80 construction worker trips to and from the project site and temporary demand for parking and public transit, depending on the construction phase. The construction duration of approximately 30 months is typical of infill development projects in the City. Because project construction would not require a substantially extended duration or intense activity, it would not create a temporary demand for public transit that would exceed the capacity of local or regional transit service, substantially reduce capacities on local streets from truck and worker traffic, or create demand for parking that could not be met by the existing parking infrastructure of the City.

During construction, circulation around the project site would be maintained and would not disrupt or substantially delay pedestrians, vehicles, or cyclists on Sutter or Larkin streets. As noted above, the portion of Hemlock Street adjacent to the project site would be closed for construction. However, as Hemlock Street does not serve as a vital corridor, pedestrians, cyclists, and vehicles could use alternative routes to travel from Polk Street to Larkin Street. Similarly, since public transit does not operate along this street, closure of this section of the street would not result in potentially hazardous conditions, interfere with accessibility, result in inadequate emergency access, or substantially delay public transit. Additionally, construction activities would be required to meet City rules and guidance so that work can be done safely and with the least possible interference for people walking, bicycling, or taking transit and/or transit operations, as well as for other vehicles. Thus, proposed project construction would not result in potentially hazardous conditions, and the proposed project's construction-related transportation impacts would be less than significant.

Impact TR-2: The proposed project would not create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations, nor would it interfere with accessibility for people walking or bicycling to and from the project site and adjoining areas or result in inadequate emergency access. (Less than Significant)

The proposed project would remove approximately 150 linear feet of driveway curb cuts, including all driveway accesses along Sutter Street and along Larkin Street. Access to off-street parking garages would only be provided by two driveways along Hemlock Street (one approximately 34-foot-wide driveway and one approximately 18-foot-wide driveway for 1123 and 1101 Sutter Street, respectively). All curb cuts along Sutter Street would be removed and primary access to the ground-floor commercial and childcare uses would occur from Sutter Street. The removal of curb cuts would reduce the potential for vehicle collisions with cyclists or pedestrians, reducing hazardous conditions at the project site.

As shown on Figure 2-9 of chapter 2, Project Description, of the DEIR, the proposed project would reconfigure on-street parking and loading along Sutter, Larkin, and Hemlock streets, resulting in a net removal of five parking spaces and construction of two new white-curb passenger loading zones. Along the southern portion of Sutter Street, six existing parking spaces would be replaced with two white-curb passenger loading zones and eight parking spaces. One loading zone would be at the front of 1101 Sutter Street and the other loading zone would be at the front of the proposed childcare facility at 1123 Sutter Street. As there is a demarcated transit-only lane along the northern side of Sutter Street, with an additional two travel lanes between the transit-only lane/bus stop location and the loading zones adjacent to the project site on Sutter Street, the loading zones developed as a result of the proposed project would not obstruct the sightline or substantially reduce the speed of public transit and would not create potentially hazardous conditions. Furthermore, the net addition of the two new loading zones would not interfere with people walking, bicycling, or driving or create a potentially hazardous or unsafe condition.

As shown in Table 2 on p. 38, the proposed project would add 363 daily vehicle trips and 32 vehicle trips during the p.m. peak hour to the transportation network, including both private vehicle trips and taxi/TNC vehicle trips. Project trips would be dispersed on various streets within the project vicinity. Additionally, although the traffic volumes along Hemlock Street may increase with the addition of parking garage entrances, these trips are not expected to result in substantial queueing at adjacent intersections east or west of the project site since Hemlock Street is not a major vehicular thoroughfare or through street. Therefore, the proposed project would not create hazardous conditions for people walking, bicycling, or driving, or for public transit operations, and impacts would be less than significant.

Pedestrian Facilities

As shown in Table 2 on p. 38, the proposed project would generate up to 928 daily and 83 p.m. peak hour pedestrian (walking) trips to and from the proposed residential and ground-floor retail uses. The proposed project would include sidewalk improvements along the project frontages along Sutter, Larkin, and Hemlock streets. The sidewalk on Hemlock Street would generally be widened from 7 feet to 14 feet to create a street tree planter strip and accommodate bicycle parking, and the existing 12-foot-wide sidewalks along Sutter and Larkin streets would be maintained. Pedestrian curb ramps, crosswalks, and signals are provided at the nearest intersection of Larkin Street and Sutter Street to facilitate pedestrian crossing, with the exception of the southwest corner of the intersection, where there is no curb ramp for pedestrians traveling east–west across Larkin Street. The proposed project would add a curb ramp at this location. As such, the existing sidewalks along Sutter and Larkin streets and within the vicinity of the project site, along with the proposed expansion of the sidewalk along Hemlock Street and curb ramp addition at the Larkin Street and Sutter Street intersection, would be able to accommodate the additional project-generated pedestrian trips without interfering with accessibility to the project site or adjoining areas.

In addition, as discussed in Impact TR-2, the proposed project would remove approximately 150 linear feet of existing curb cuts, including two existing curb cuts along Sutter Street, two along Larkin Street, and two along Hemlock Street. Additionally, project-generated vehicle trips would be dispersed onto streets throughout the project vicinity and therefore, would not be expected to result in substantial conflicts with pedestrians on Sutter, Larkin, or Hemlock streets, or other streets in the project vicinity. As a result, proposed project-related impacts on pedestrian facilities would be less than significant.

Bicycle Facilities

The proposed project would generate up to 68 daily person trips by bicycle and up to six bicycle trips during the p.m. peak period. As previously discussed, Sutter Street is a one-way westbound bicycle route, with the nearest one-way eastbound bicycle route along Post Street to the south. Polk Street to the west serves as the nearest north–south bicycle facility to the project site, and Larkin Street and Hemlock Street do not have designated bicycle facilities. Implementation of the proposed project would not alter the adjacent street network and would not affect existing or planned bicycle routes or lanes.

The proposed project would include 24 class 1 bicycle parking spaces in the garage at the 1101 Sutter Street property. The 1123 Sutter Street property would provide an additional 96 class 1 bicycle parking spaces in the garage, along with 44 class 1 bicycle spaces inside 1123 Sutter Street accessible at the Sutter Street ground-floor level and 24 class 2 parking spaces outside along Hemlock and Sutter streets. Existing bicycle parking is not currently available at this site; therefore, the proposed project would increase accessibility to cyclists and would provide sufficient bicycle parking for estimated bicycle demand.

In addition, as discussed in Impact TR-2, although the proposed project would add approximately 363 vehicle trips (32 vehicle trips during the p.m. peak hour) to the transportation network, project trips would be dispersed to various streets within the project vicinity and would not result in conflicts with cyclists or operation of existing bicycle facilities. As a result, proposed project-related impacts on bicycle facilities would be less than significant.

Emergency Access

Emergency vehicle access to the project site is currently provided along Sutter, Larkin, and Hemlock streets. Although the sidewalk along Hemlock Street would be expanded from 7 to 14 feet wide, parking along the south side of Hemlock Street would be removed to continue to provide emergency vehicle access to the site. Therefore, emergency access would remain similar to existing conditions. In addition, the proposed project would not close off any existing streets or entrances to public uses. Therefore, the proposed project would have a less-than-significant impact on emergency access.

Impact TR-3: The proposed project would not result in substantial public transit delays. (Less than Significant)

As shown previously in Table 2 on p. 38, the proposed project would generate approximately 582 daily person transit trips, of which 52 trips occur during the p.m. peak hour. Additionally, the proposed project would generate approximately 363 total vehicle trips (including both personal automobiles and TNC/taxi trips), of which 32 would occur during the p.m. peak hour. Based on the public transit analysis methodology concerning transit delay as described within Appendix I of the City's TIA guidelines, the proposed project meets the screening criterion and does not require a quantitative transit delay analysis since it would generate fewer than 300 project vehicle trips during the peak hour.[40]

The proposed project would maintain street parking along Sutter Street and along Larkin Street, while off-street access to the garage of each building would be provided by two driveways along Hemlock Street. Since Hemlock Street is a one-way eastbound roadway, vehicles may access Hemlock Street directly from Polk Street, which is a two-way, north–south roadway. Although traffic volumes would increase along Hemlock Street, these trips are not expected to result in a substantial delay for the 19-Polk route or bus stop locations because the nearest bus stops for the 19-Polk are at the intersections of Polk Street/Post Street (northbound direction) and Polk Street/Sutter Street (southbound direction). Therefore, transit delays would be less than significant.

The 2-Clement and 3-Jackson routes travel westbound along Sutter Street and contain a demarcated transit-only lane and bus stop location across from the proposed project at the intersection of Larkin Street and Sutter Street. The location of the bus stop is on the northern portion of Sutter Street and the proposed project would provide loading zones on the southern portion of Sutter Street, and therefore the proposed loading zones would not interfere with the use of these bus stops. Furthermore, both bus routes have the ability to utilize the demarcated transit-only lane on Sutter Street and the vehicles traveling to and from the project site would not utilize this lane. Therefore, the traffic volumes that would increase as a result of the proposed project along Sutter Street would not result in a substantial transit delays for both routes, and this impact would be less than significant.

For these reasons, the proposed project would not result in unacceptable levels of transit service or cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service could result. Thus, impacts on transit service would be less than significant.

Impact TR-4: The proposed project would not cause substantial additional vehicle miles traveled or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas or adding new roadways to the network. (Less than Significant)

Vehicle Miles Traveled Analysis

The existing average daily VMT per capita for residential uses is 2.6 for San Francisco TAZ 319[41] (the TAZ where the proposed project is located), which is about 82 percent below the applicable screening criterion (existing regional average VMT per capita minus 15 percent) of 14.6. In addition, the existing average daily VMT per retail employee, at 7.4 for TAZ 319, is about 41 percent below the applicable screening criterion (existing regional average VMT per

40 San Francisco Planning Department, *Appendix I: Public Transit Memorandum*, February 14, 2019.

41 San Francisco Planning Department, San Francisco Transportation Information Map, https://sfplanninggis.org/TIM/, accessed December 17, 2020.

retail employee minus 15 percent) of 12.6. Therefore, the proposed project would meet the map-based screening criteria for residential and retail uses (section 1, criterion 1). Table 3 includes a summary of VMT per capita and per employee for TAZ 319. Additional VMT data is provided in Attachment A.

Table 3: Daily Vehicle Miles Traveled

Land Use	Existing			Cumulative 2040		
	Bay Area Regional Average	Bay Area Regional Average Minus 15%	TAZ 319	Bay Area Regional Average	Bay Area Regional Average Minus 15%	TAZ 319
Households (Residential)	17.2	14.6	2.6	16.1	13.7	2.4
Employment (Retail)	14.8	12.6	7.4	14.6	12.4	7.4

Source: San Francisco Planning Department Transportation Information Map, Version 9.1, 2020.

The project site also meets the proximity to transit stations screening criteria because it is within 0.25 miles of Muni stops with peak service intervals of less than 15 minutes (38 Geary and 38-R Geary Rapid), would have a floor area ratio greater than 0.75, would not reduce off-street parking from existing conditions, and would be consistent with the sustainable communities strategy (section 2, criterion 2). Because the proposed project would meet one or more of the screening criteria, it would not result in a substantial increase in VMT. As a result, its impacts related to VMT would be less than significant.

Induced Automobile Travel Analysis

Per OPR, an assessment of the amount of the vehicle travel the project would induce would be required if the project would likely lead to a substantial increase in vehicle travel. As discussed under the induced automobile screening criteria (section 3, Project Type 1), the proposed project would qualify as a minor transportation project per the City's TIA guidelines due to the net removal of five on-street parking spaces and 83 off-street parking spaces through demolition of a public parking garage and construction of the proposed mixed-use development. Therefore, the project would not substantially induce additional automobile travel, and impacts would be less than significant.

Impact TR-5: The proposed project would not result in a loading deficit the secondary effects of which would create potentially hazardous conditions for people walking, bicycling, or driving, or substantially delay public transit. (Less than Significant)

Planning code section 723 indicates that projects with 100,001 to 200,000 square feet of non-commercial uses must provide one off-street freight loading space and projects with 0 to 10,000 square feet of commercial uses are not required to provide off-street loading space. As described in chapter 2, Project Description, of the DEIR, the proposed project would provide 237,808 gross square feet of residential uses, with approximately 8,330 gross square feet of commercial and childcare uses. Consistent with these requirements, a freight loading area for use by residents moving in and out, delivery trucks, and other service vehicles would be provided at the Hemlock Street ground-floor level of the 1123 Sutter Street building adjacent to the garage entrance ramp, as shown on Figure 2-6 of chapter 2, Project Description, of the DEIR.

As shown on Figure 2-9 of chapter 2, Project Description, of the DEIR, the proposed project would also provide two white-curb passenger loading zones along Sutter Street. One loading zone would be at the front of 1101 Sutter Street and the other loading zone would be at the front of the proposed childcare facility at 1123 Sutter

Street. These two loading zones are on the southern side of Sutter Street and would not interfere with the public transit lane on the northern side of Sutter Street.

The loading areas provided by the proposed project would exceed planning code requirements and would be sufficient to accommodate the proposed uses of the site. Therefore, the development of the proposed project would not result in a loading deficit that could create potentially hazardous conditions. This impact would be less than significant.

Impact TR-6: The proposed project would not result in secondary effects associated with a substantial vehicle parking deficit. (Less than Significant)

The proposed project would remove the existing 109-space public parking garage at 1101 Sutter Street, along with 12 spaces within the existing garage and 23 spaces on the surface parking lot at 1123 Sutter Street. Parking would be reconfigured and replaced with 31 parking spaces in a garage at 1123 Sutter Street and 28 parking spaces in a garage at 1101 Sutter Street, available to residential and commercial uses of both buildings. This would result in net removal of 85 on-site parking spaces. Additionally, on-street parking and loading areas would be reconfigured and the proposed project would result in the net removal of six on-street parking spaces.

Although the proposed project would reduce both on-street and on-site/off-street parking at the site, this reduction would not constitute a substantial vehicle parking deficit. Per the City's TIA guidelines, a substantial parking deficit would occur if a project is not located within a map-based screening area for VMT or if the project would have a parking demand deficit greater than 600 spaces. The project site is located within a map-based screening area for VMT as discussed in Impact TR-4. Although the proposed project would provide 59 vehicular parking spaces, it would result in a net removal of 85 parking spaces on the site compared to existing conditions. In addition, it would result in the net removal of six on-street parking spaces adjacent to the site. This reduction in parking would not represent a substantial parking deficit and a parking analysis is not required. Furthermore, the project site is located in a transit-rich area with many alternatives to private vehicle travel. Lastly, the proposed project would create 164 new bicycle parking spaces, in accordance with planning code section 155.2. The development of new bicycle parking would facilitate the use of bicycles and reduce the need for the use of automobiles. Therefore, secondary effects associated with development of the proposed project (i.e., motorists searching for available parking; increases in pedestrian, bicycle, and transit use; inadequate emergency access) would not create potentially hazardous conditions, interfere with accessibility for pedestrians or cyclists, create inadequate access for emergency vehicles, or substantially delay public transit. The project impacts would be less than significant.

Cumulative Analysis

Impact C-TR-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable contribution to cumulative transportation or circulation impacts. (Less than Significant)

Hazardous Conditions

As shown in Figure 1, p. 17, there are currently 10 development projects within 0.25 miles of the project site (see Table 1, p. 13). Construction of these cumulative projects would vary in duration and may overlap with construction of the proposed project during its anticipated 30-month construction period. However, the cumulative infill development and redevelopment projects would not require an extended construction duration or substantially intensive construction activity. Construction-related truck traffic generated by the cumulative projects would travel within the vicinity of the project site and would therefore result in a temporary reduction in capacities of local streets. Additionally, construction activities of the proposed project in combination with cumulative projects would result in temporary increases in parking and transit demand. However, these increases would be temporary and would not be expected to exceed the capacity of local or regional transit service. As with the proposed project, all cumulative projects in the vicinity would also be required to coordinate with the applicable City agencies to minimize impacts to the local transportation network.

Additionally, lane and sidewalk closures are subject to review and approval by public works and the City's Transportation Advisory Staff Committee, which consists of representatives from the City's fire, police, public works, and public health departments, as well as the transportation authority and Port of San Francisco. Therefore, construction of the proposed project and cumulative projects in the area would not substantially interfere with pedestrian circulation or substantially disrupt or delay vehicles and cyclists traveling on local streets. All construction activities would be required to comply with City regulations designed to ensure the safety of people walking, bicycling, driving, or taking public transit. Thus, construction of the proposed project, in combination with cumulative construction activities, would not result in potentially hazardous conditions for people walking, bicycling, or driving, or for public transit operations, nor would it interfere with emergency access or accessibility for people walking or bicycling, or substantially delay public transit. The potential cumulative impact would be less than significant.

Travel Demand

As with the proposed project, localized trip generation of cumulative development projects provided in Table 1, p. 14, was calculated using trip-based analysis and information included in the TIA guidelines developed by the planning department.[42] As shown in Table 4, cumulative development projects would generate approximately 4,285 person trips (inbound and outbound) on a weekday daily basis, consisting of 976 person trips by automobile (646 vehicle trips accounting for vehicle occupancy), 379 person trips by TNC or taxi (253 vehicle trips accounting for vehicle occupancy), 727 transit trips, 43 trips by private shuttle, 2,073 walk trips, and 87 bicycle trips. During the p.m. peak hour, the cumulative development projects would generate approximately 360 daily person trips, consisting of 83 person trips by automobile (55 vehicle trips accounting for vehicle occupancy data), 30 person trips by TNC or taxi (20 vehicle trips accounting for vehicle occupancy), 64 transit trips, 3 private shuttle trips, 8 bicycle trips, and 173 walk trips. Travel demand data is provided in Attachment A.

[42] All trip generation data is calculated using San Francisco Planning Department, Travel Demand Tool, website version 0.3.2, data version 0.3, *https://sftravel-demand.sfcta.org/*, accessed July 1, 2021.

Table 4: Cumulative Project Trip Generation

Mode	Total Daily Person Trips	p.m. Peak Hour Person Trips	Total Vehicle Trips[1]	p.m. Peak Hour Vehicle Trips
Automobile	976	83	646	55
TNC/Taxi[2]	379	30	253	20
Transit	727	64	—	—
Private Shuttle	43	3	—	—
Walk	2,073	173	—	—
Bicycle	87	8	—	—
TOTALS	4,285	360	899	75

Notes: Totals may not add up due to rounding.

— = not applicable

1 Total vehicle trips account for occupancy per vehicle, including private vehicles and TNC/taxi vehicles.

2 TNC refers to transportation network company trips (e.g., Uber).

Source: San Francisco Planning Department Travel Demand Tool, version 0.3.2, data version 0.3, July 2021.

As shown in Table 4, and when compared with the existing traffic volumes as shown in the section E.6, Noise, these trips would represent a small fraction of existing traffic volume in the area and would be dispersed throughout streets in the project vicinity. As such, substantial increase in queuing at nearby intersections or conflicts with pedestrians and cyclists is not anticipated. Therefore, the proposed project, in combination with cumulative development, would not create hazardous conditions for people walking, bicycling, or driving, or for public transit operations and the potential cumulative impact would be less than significant.

Bicycle and Pedestrian Conditions

As shown in Table 4, there would be a general increase in vehicle, bicycle, and pedestrian traffic in the project vicinity with implementation of the proposed project and nearby cumulative development projects. However, the existing sidewalks and bicycle routes in the area would be able to accommodate this future growth and the proposed project would not conflict with existing or proposed bicycle facilities. Additionally, the proposed project would include bicycle parking within the facility, along with 24 class 2 parking spaces outside along Hemlock and Sutter streets and an increase in sidewalk width along Hemlock Street, thereby ensuring that pedestrian and bicycle accessibility to the project site and adjoining areas would be maintained. The proposed project and cumulative development in the area involve infill development and redevelopment of lots located within an urban area and therefore would also not cause substantial changes to existing emergency access conditions on nearby sites or streets. Increased vehicle trips induced by the proposed project and cumulative development in the area would not be substantial compared to existing traffic volumes. Therefore, the proposed project, in combination with reasonably foreseeable developments in the project vicinity, would have less-than-significant cumulative impacts on bicycle or pedestrian accessibility or on emergency access conditions.

Public Transit

As discussed under Impact TR-4 and shown in Table 2, p. 38, the proposed project would generate approximately 582 daily transit trips, with 52 trips occurring during the p.m. peak hour. Additionally, the proposed project would generate approximately 363 total vehicle trips (including both personal automobiles and TNC/taxi trips), of which 32 would occur during the p.m. peak hour. Cumulative development would generate additional daily and p.m. peak hour transit trips; however, trips would be distributed among the multiple transit lines serving the project vicinity. No quantitative transit delay analysis is required if less than 300 project vehicle trips are projected during the p.m. peak hour. As shown in Tables 2 and 4, p. 38 and p. 45, the proposed project and cumulative development projects would generate fewer than 300 project vehicle trips during the p.m. peak hour; therefore, a quantitative transit delay analysis would not be required. As such, the proposed project, in combination with reasonably foreseeable future projects, would not result in unacceptable levels of transit service or cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service could result. Thus, cumulative impacts on transit service would be less than significant.

VMT

VMT by its nature is a cumulative impact. The amount of driving induced by reasonably foreseeable future projects contributes to cumulative environmental impacts associated with VMT. While no single project would be sufficient in size to prevent the regionor state from meeting its VMT reduction goals, a project's individual VMT would contribute to cumulative VMT impacts. Project-level VMT and induced automobile travel screening thresholds are based on levels at which new projects are not anticipated to conflict with state and regional long-term GHG emission reduction targets and statewide VMT per capita reduction targets set for 2040. Per the OPR technical advisory, "a project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa."[43]

As discussed under Impact TR-5, the proposed project would not exceed the project-level thresholds for VMT and induced automobile travel. In addition, the proposed project would not exceed the project-level projected 2040 thresholds for VMT shown in Table 3, p. 42. For TAZ 319, projected 2040 average daily residential VMT per capita is 2.4 and projected average daily VMT per retail employee is 7.4. These values are approximately 83 and 40 percent below the projected 2040 screening thresholds (regional average daily VMT per capita less 15 percent or per employee less 15 percent) of 13.7 and 12.4 for residential and retail uses, respectively. Therefore, the proposed project, in combination with reasonably foreseeable future projects, would not result in a significant impact on cumulative regional VMT.

In addition, the proposed project would not include features that would increase physical roadway capacity. Therefore, the proposed project would not make a substantial contribution to any reasonably foreseeable cumulative induced traffic impacts, including physical roadway capacity, and would have less-than-significant cumulative traffic impacts.

Loading

As discussed under Impact TR-6, the proposed project would provide an off-street loading space in accordance with planning code section 723. In addition, the proposed project would provide two new on-street loading zones along Sutter Street. Loading activities connected with cumulative development projects in the vicinity would also be expected to be accommodated at existing curb zones or by applicable project-specific planning code requirements for off-street loading facilities. Therefore, the proposed project, in combination with cumulative development, would not result in a substantial loading deficit such that hazardous conditions would be created for people walking, bicycling, or driving, or that public transit would be substantially delayed. Therefore, cumulative loading impacts would be less than significant.

[43] California Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, December 2018, accessed December 17, 2020.

Vehicle Parking

As discussed in TR-7, the proposed project would remove the existing 109-space public parking garage at 1101 Sutter Street, along with 12 spaces within the existing garage and 23 spaces on the surface parking lot at 1123 Sutter Street. Parking would be reconfigured and replaced with 59 garage parking spaces for residential and commercial users at the project site, resulting in a net removal of 85 off-street parking spaces. However, it is anticipated that none of the cumulative projects within 0.25 miles of the project site would result in the demolition of a parking garage or other substantial reduction in parking supply, and at least one cumulative project (1200 Van Ness) would increase available on-site parking; therefore, the cumulative projects are unlikely to decrease total available on-site parking.

Additionally, on-street parking and loading areas would be reconfigured and the proposed project would result in the net removal of five on-street parking spaces. Depending on the nature of the redevelopment, the cumulative projects within 0.25 miles of the project site could also reduce on-street parking. Although on-street parking could decrease as a result of the proposed project and reasonably foreseeable future projects, the project and nearby cumulative development projects are located within a transit-rich area, with access to multiple Muni lines and other alternatives to private vehicle travel. Furthermore, the proposed project would create 164 new bicycle parking spaces, and the cumulative projects would also be required to develop bicycle parking in accordance with planning code section 155.2. The development of new bicycle parking would facilitate the use of bicycles and reduce the need for the use of automobiles. Therefore, secondary effects of a parking deficit that could result from cumulative development (i.e., motorists searching for available parking; increases in pedestrian, bicycle, and transit use; inadequate emergency access) would not create potentially hazardous conditions, interfere with accessibility for pedestrians or cyclists, create inadequate access for emergency vehicles, or substantially delay public transit. As such, cumulative impacts associated with secondary effects of parking deficits would be less than significant.

E.6 Noise

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Generate substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐	☐
b) Generate excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☒	☐

Setting

The project area has a number of existing noise sources that influence the ambient noise environment. The dominant noise source affecting the overall area is transportation noise, primarily generated from vehicular traffic on the local roadway network. In addition, there is general community noise associated with residents and visitors of the area participating in fitness/recreation activities, dining at restaurants, and having conversations.

The existing ambient noise environment in the project area was quantified through surveys of the existing ambient noise environment and through the application of accepted noise prediction methodologies, based on industry-standard references. Separate discussions of identified major noise sources and their respective effects are provided in the following sections.

Existing Sensitive Land Uses

Sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as uses where quiet is an essential element of the intended purpose. Land uses that are used for relaxation, rest, meditation, learning, and rehabilitative care are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. The City identifies noise-sensitive receptors as residential units, transient lodging, houses of worship, schools, libraries, hospitals, and childcare facilities.

Sensitive land uses in the vicinity of the proposed project are primarily multifamily residences and hotel and single room occupancy dwellings located north, east, south, and west of the project site. As shown in Table 5, 13 of the 15 structures that are adjacent or located across the street from the project site are classified as *A—Historic Resource Present*, based on San Francisco Planning Information (San Francisco Planning Department 2021).

Table 5: Existing Noise- and Vibration-Sensitive Receptors in the Project Vicinity

Pollutant		Type of Sensitive Receptor	Distance from Project Site Boundary (Feet)	Historical Classification	Representative Ambient Monitoring Location
No.	Address/APN				
1	1158 Sutter Street, 0669/018-032	Condos	78	C	ST-1
2	1150 Sutter Street, 0669/009	Office	65	A	ST-1
3	1151 Sutter Street, 0692/020	Condos	0	C	ST-1/LT-1
4	1136-1144 Sutter Street, 0669/008	Apartments	65	A	ST-1
5	1122 Sutter Street, 0668/007	Apartments	65	A	ST-1
6	1114 Sutter Street, 0669/006	Apartments	65	A	ST-1
7	1100-1104 Sutter Street, 0669/005	Hotel	65	A	ST-1
8	1112 Larkin Street, 0279/011A	Apartments	110	A	ST-1/ ST-2
9	1038-1098 Larkin Street, 0301/016	SRO	65	A	ST-1/ ST-2
10	1030 Larkin Street, 0301/015	Apartments	65	A	ST-2
11	1010 Post Street, 0692/003	Hotel	35	A	LT-1/ST-2
12	1020 Post Street, 0692/005	Apartments	35	A	LT-1
13	1030 Post Street, 0692/007	Apartments	35	A	LT-1
14	1050 Post Street, 0692/009	Apartments	35	A	LT-1
15	1080 Post Street, 0692/011	Apartments	40	A	LT-1

Notes:

APN = Assessor's Parcel Number; ST = short-term; LT = long-term; SRO = single resident occupancy.

Historical Classification A indicates the building is a historic resource. Historical Classification C indicates the building is not a historic resource. Surrounding A classified buildings are within the Lower Nob Hill Apartment Hotel Historic District.

Source: San Francisco Planning Department 2021 (for Historical Classification)

Existing Ambient Noise Survey

An ambient noise survey was performed by Dudek in December 2020, to document the existing noise environment in the project area (included as Attachment C). Noise measurements were performed in accordance with American National Standards Institute (ANSI) and American Standards for Testing and Measurement guidelines at three locations at or adjacent to the project site. Long-term (24-hour) noise monitoring was performed at one location and short-term noise monitoring was conducted at two locations to provide insight into the existing ambient noise environment in the proposed project vicinity. The measured ambient noise levels are also representative of the noise level exposure at nearby noise-sensitive receptors with similar distances to the main noise sources (i.e., traffic/roadways). Ambient noise level data cataloged at the monitoring locations is summarized in Table 6. The primary noise source affecting the noise monitoring locations was vehicular traffic on the local roadway network. Additional noise sources experienced during the noise-monitoring included emergency sirens, pedestrian activity, and commercial delivery activity.

Table 6: Summary of Ambient Noise Measurements

Site	Location	Date/ Time	Average Noise Levels (dBA)								
				Daytime				Nighttime			
			Ldn	Leq	Lmax	L50	L90	Leq	Lmax	L50	L90
Long-Term Monitoring[1]											
LT-1	Southern property plane adjacent to Hemlock Alley	12/21/20–12/22/20	67.7	63.3	83.0	55.3	51.5	60.8	82.5	49.1	45.5
Short-Term Monitoring[2]											
ST-1	Northern property plane, adjacent to Sutter St.	12/21/20 3:40 p.m.	70.6	69.9	94.7	58.9	52.7	—	—	—	—
ST-2	Larkin Street/Hemlock Alley, at setback of eastern property plane	12/21/20 4:10 p.m.	71.9	64.9	83.5	59.9	55.3	—	—	—	—

Notes: dBA = A-weighted decibels; L_{dn} = Day Night noise level; L_{eq} = average equivalent noise level; L_{max} = maximum noise level; L_{50} = sound level exceeded 50 percent of the period; L_{90} = sound level exceeded 90 percent of the period.

Locations of noise monitoring sites are shown on **Figure 1**.

1 Long-term monitoring is presented for 24 hours, December 21 through December 22, 2020.

2 L_{dn} at short-term monitoring locations interpolated from short-term and long-term data.

Source: Dudek analysis completed for this report.

Existing Traffic Noise

Observations regarding noise level data collected during the ambient noise survey indicate that the noise level exposure at receptors in the area surrounding the project site is primarily attributable to vehicular traffic. Both Sutter and Larkin Streets are heavily trafficked one-way streets with three travel lanes and on-street parking lanes on both sides of the roadway. The magnitude of the noise level exposure at each receptor location would be dependent on the relative distance from nearby roadways to noise measurement locations, the volume of vehicles on the roadway, and shielding provided by nearby structures.

With the implementation of 2020–2021 shelter-in-place orders (SFDPH 2021), regional stay-at-home orders, and other precautions necessary to aid in controlling the novel coronavirus disease (COVID-19) pandemic, current traffic volumes have been reduced relative to pre-COVID-19 volumes (prior to March 2020). In order to establish traffic volumes that are more consistent with pre-COVID-19 volumes on adjacent roadways (referred to herein as adjusted 2020 volumes), traffic count data was commissioned by Dudek in December 2020 and compared to pre-COVID-19 counts.

Pre-COVID-19 counts in the project vicinity were available along Post Street (eastbound one-way street) between Gough Street and Franklin Street from January 2020 (identified as No. 4 in Table 7) and along Larkin Street (northbound one-way street) between Sutter Street and Bush Street from October 2016 (identified as No. 5 in Table 7). Traffic volumes along Larkin Street were adjusted to the year 2020 using an annual growth rate of 1.6 percent based on the annual household and employment growth over 30 years in the “Big 3 Cities” per Plan Bay Area 2040. Counts collected in December 2020 at the same locations were compared to these 2020 pre-COVID volumes. This comparison shows that the December 2020 traffic volumes have been reduced to approximately 65 percent of pre-COVID-19 volumes. In addition, traffic volume counts were taken in December 2020 for Sutter Street, Larkin Street, and Hemlock Street adjacent to the project site (December 2020 counts). All December 2020 counts were performed during the regional stay-at-home order. The December 2020 counts were adjusted to account for the observed difference between historical traffic volumes and the December 2020 counts as described above, to provide an estimate of traffic volumes not affected by COVID-19 shelter-in-place orders (adjusted 2020 volumes).

To determine existing traffic noise levels, the average daily traffic volumes for the roadway segments immediately adjacent to the project site were used as inputs in the Federal Highway Administration (FHWA) Traffic Noise Model (version 2.5) prediction methodologies (FHWA 1998) within the SoundPLAN modeling environment.

Modeled existing traffic noise levels are summarized in Table 7. The traffic noise levels were modeled at receivers representing the building facades of noise-sensitive receptors adjacent to the respective roadway segments. As shown in Table 7, existing traffic noise levels at the building facades of noise-sensitive land uses adjacent to area roadway segments were modeled to range from approximately 64 to 76 A-weighted decibels (dBA) day-night sound level (L_{dn}) under the December 2020 conditions and approximately 66 to 78 dBA L_{dn} for traffic volumes adjusted to represent adjusted 2020 conditions.

Table 7: Summary of Modeled Existing Traffic Noise Levels in the Project Vicinity

Receiver		ADT Volumes			Modeled Traffic Noise Level, dBA Ldn	
No.	Description	December 2020	Adjusted 2020	Distance to Centerline	December 2020	Adjusted 2020
Adjacent Roadways to Project Site						
1	Sutter Street, Larkin Street to Polk Street	6,466	10,614	27.5	75.7	77.8
2	Larkin Street, Sutter Street to Hemlock Street	5,276	8,709	33.5	73.9	76.1
3	Hemlock Street, Larkin Street to Polk Street	284	467	17	64.2	66.4
Other Roadways						
4	Post Street, Gough Street to Franklin Street	3,760	6,172	33.5	72.5	74.6
5	Larkin Street, Sutter Street to Bush Street	5,999	9,903	33.5	74.5	76.7

Notes: ADT = average daily traffic; dBA = A-weighted decibels; L_{dn} = average day-night noise level.

ADT volumes based on data provided by the project traffic consultant. The modeling did not account for shielding provided by natural or man-made intervening objects.

Source: Attachment C.

Regulatory Criteria

Various public agencies have established noise guidelines and standards to protect citizens from potential hearing damage and other adverse physiological and sociological effects associated with noise. Applicable standards and guidelines are described below.

FEDERAL TRANSPORTATION ADMINISTRATION

The Federal Transit Administration (FTA) has developed general assessment criteria for analyzing construction noise. This assessment analyzes a reasonable worst-case scenario based on simultaneous operation of the two noisiest pieces of equipment operating in close proximity to each other. The general assessment criteria for construction noise limits are summarized in Table 8.

Table 8: Federal Transit Administration General Assessment Criteria for Construction Noise

Land Use	One-Hour L_{eq} dBA	
	Day	Night
Residential	90	80
Commercial	100	100
Industrial	100	100

Note: L_{eq} = equivalent sound level; dBA = A-weighted decibels.

Source: FTA 2018.

In addition, the FTA construction noise criteria include an assessment of whether or not an increase in the ambient noise level greater than 10 dBA would occur with operation of the combined noise from the two noisiest pieces of equipment. A 10 dBA increase in the ambient noise level would represent a doubling of loudness.

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Caltrans provides a review of studies pertaining to the effects of groundborne noise and vibration levels associated with construction and operation of transportation infrastructure. Based on the literature review, Caltrans provides *Guideline Vibration Threshold Criteria* with respect to potential structural damage; these criteria are shown in Table 9.

Table 9: Guideline Vibration Damage Potential Threshold Criteria

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

Notes: PPV = peak particle velocity; in/sec = inches per second.

Transient sources create a single, isolated vibration event (e.g., blasting or drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2020b.

CITY AND COUNTY OF SAN FRANCISCO GENERAL PLAN

The San Francisco General Plan Environmental Protection Element contains objectives and policies for avoiding or reducing noise in the City. Objective 11 focuses on promoting land uses that are compatible with noise levels within the City. The following policy presented below is applicable to the proposed project:

> **OBJECTIVE 11 – PROMOTE LAND USES THAT ARE COMPATIBLE WITH VARIOUS TRANSPORTATION NOISE LEVELS.**

Because transportation noise is going to remain a problem for many years to come, attention must be given to the activities close to the noise. In general, the most noise-sensitive activities or land uses should ideally be the farthest removed from the noisy transportation facilities. Conversely, those activities that are not seriously affected by high outside noise levels can be located near these facilities.

> ***POLICY 11.1 – DISCOURAGE NEW USES IN AREAS IN WHICH THE NOISE LEVEL EXCEEDS THE NOISE COMPATIBILITY GUIDELINES FOR THAT USE.***
>
> New development should be examined to determine whether background and/or thoroughfare noise level of the site is consistent with the guidelines for the proposed use. If the noise levels for the development site, as shown on maps 1 and 2 (which should be revised periodically to keep them current), exceed the sound level guidelines established for that use, as shown in the accompanying land use compatibility chart, then either needed noise insulation features should be incorporated in the design or else the construction or development should not be undertaken. Since the sound levels shown on the maps are estimates based on both traffic data and on a sample of sound level readings, actual sound levels for the site, determined by accepted measurement techniques, may be substituted for them.

CITY AND COUNTY OF SAN FRANCISCO POLICE CODE

The San Francisco Noise Control Ordinance is found in article 29, Regulation of Noise, of the San Francisco Police Code. The noise ordinance recognizes that adverse community effects can arise as a result of elevated noise levels attributable to noise sources that may include transportation, construction, mechanical equipment or devices, and entertainment venues. The noise ordinance is used to implement and enforce the City's policy to "maintain noise levels in areas with existing healthful and acceptable levels of noise and to reduce noise levels, through all practicable means" in areas where noise levels have exceeded what has been deemed acceptable.

Project Analysis

Impact NOI-1: The proposed project would not generate substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Less than Significant with Mitigation)

Construction

Development of the proposed project would generate noise levels associated with the operation of heavy construction equipment and construction-related activities in the project area. Construction noise levels in the project area would fluctuate depending on the particular type, number, and duration of usage for the various pieces of equipment, as well as the relative exposure and distance between the source and receptors. The demolition, site preparation, and grading stages of a project are typically found to generate the highest noise levels because of the construction activities and heavy equipment used. Erection of large structural elements and mechanical system installation during the building construction stage could require the use of a crane for placement and assembly tasks, which may also generate substantial noise. Table 10 lists maximum reference noise levels typically generated by construction equipment that the project sponsor anticipates would be used for the construction of the project.

Table 10: Noise Emission Levels from Construction Equipment

Equipment Type	Acoustical Usage Factors (%)	Maximum Noise Levels, L_{max} (dBA) at 50 feet
Air Compressor	40	80
Backhoe	40	80
Compactor	20	80
Concrete Pump Truck	20	82
Concrete Saw	20	90
Crane, Mobile	16	85
Dozer	40	85
Excavator	40	81
Forklift	40	85
Front-End Loader	40	80
Generator	50	82
Grader	40	85
Hoe Ram	20	90
Grader	40	85
Jackhammer	20	89
Paver	50	85
Roller	40	85
Scraper	40	85
Tractor	40	84
Trucks	40	84
Welder	40	84

Notes: L_{max} = maximum noise level; dBA = A-weighted decibels.

All equipment fitted with a properly maintained and operational noise control device, per manufacturer specifications.

Noise levels in **bold** exceed the noise ordinance section 2907(a) limit of 86 dBA at 50 feet, but some of the exceedances are from impact equipment exempt from this limit provided that the impact tools are fitted with intake and exhaust mufflers and pavement breakers and jackhammers are fitted with recommended acoustically attenuating shields or shrouds.

Sources: DOT 2006; FHWA 2008.

As shown in Table 10, reference noise levels measured at 50 feet from three individual pieces of construction equipment would exceed the 86 dBA at 50 feet (equivalent to 80 dBA at 100 feet) threshold established within police code article 29, section 2907(a). The construction activities that would exceed the police code threshold are the use of a concrete saw, hoe ram (mounted impact hammer), and jackhammer. Impact tools and equipment, such as the hoe ram or jackhammer, are exempt from the provisions of section 2907, providing that the tools and equipment have intake and exhaust mufflers and be equipment with acoustical shields or shrouds determined to provide accomplish maximum noise attenuation for the application.

Should concrete saws be necessary, they would typically be considered intermittent or temporary as they are used for short durations at targeted locations typically shielded by on-site intervening elements (e.g., building envelope, façade elements, large on-site equipment). However, based on a standard attenuation rate of 6 dB per doubling of distance, operations involving the use of a concrete saw with direct exposure and within 125 feet of nearby noise-sensitive receptors would result in noise level exposures exceeding the thresholds in police code section 2907(a).

The noise-sensitive receptor located nearest to the acoustical center of the construction activities is along the western property plane, adjoining 1151 Sutter Street (residential condominium). The lowest daytime ambient noise level measured at the LT-1 monitoring location, which is representative of noise levels at the southwest property plane, was approximately 53 dBA. The combined construction noise level and the increase over ambient noise levels are presented by construction stage in Table 11.

Table 11: Construction Noise Model Results Summary

Construction Stage	Two Loudest Pieces of Equipment	Noise Level at Nearest Receptor[1] (western property plan) dBA		
		Estimated Construction Combined Noise Levels (L_{eq})	Existing Ambient Noise Levels	Increase over Ambient
Demolition	Concrete Saw	77.5	53.2	24.3
	Excavator			
Site Preparation	Grader	76.4	53.2	23.2
	Dozer			
Grading	Concrete Saw	77.5	53.2	24.3
	Excavator			
Building Construction	Crane	74.2	53.2	21.0
	Tractor			
Architectural Coating	Compressor	73.2	53.2	20.0
	Generator			
Paving	Paver	75.8	53.2	22.6
	Roller			

Notes: dBA = A-weighted decibels; L_{eq} = equivalent sound level.

Bold indicates that the modeled combined construction noise levels exceed the respective criteria; an absolute threshold of 90 dBA Leq or an increase in the ambient noise environment exceeding 10 dB.

1 Nearest receptor is 1151 Sutter Street, a residential condominium, at the western edge of the project site.

Source: Attachment C.

Based on the lowest measured daytime ambient noise levels at the location representative of the nearest noise-sensitive receptor and the modeled combined construction noise levels, the proposed project construction operations would exceed the existing ambient noise levels by approximately 20 to 25 dB. This would exceed the 10 dB increase above ambient noise levels by 10 to 15 dB. Thus, impacts would be potentially significant and it is recommended that the noise control measures presented in Mitigation Measure M-NOI-1 be incorporated in the project.

Mitigation Measure M-NOI-1: Construction Noise Control

Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific 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 a performance target of construction activities not resulting in a noise level greater than 90 dBA at noise-sensitive receptors and 10 dBA above the ambient noise level at noise-sensitive receptors. The property owner shall ensure that requirements of the construction noise control plan are included in contract specifications. 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. The construction noise control plan shall include the following measures to the degree feasible, or other effective measures, to reduce construction noise levels:

- Use construction equipment that is in good working order and inspect mufflers for proper functionality.
- Select quiet construction methods and equipment (e.g., improved mufflers, use of intake silencers, engine enclosures).
- Use construction equipment with lower noise emission ratings whenever possible, particularly for air compressors.
- Prohibit the idling of inactive construction equipment for more than five minutes.
- Locate stationary noise sources (such as compressors) as far from nearby noise-sensitive receptors as possible, muffle such noise sources, and construct barriers around such sources and/or the construction site.
- 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.
- 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.
- 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 is dense enough to attenuate noise.
- 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:
- Designation of an on-site construction noise manager for the project.
- 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., pier drilling, pile driving, and other activities that may generate noise levels greater than 90 dBA at noise sensitive receptors) about the estimated duration of the activity.
- A sign posted on site describing noise complaint procedures and a complaint hotline number that shall always be answered during construction.

- A procedure for notifying the planning department of any noise complaints within one week of receiving a complaint.
- 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 (residences, hospitals, convalescent homes, schools, places of worship, hotels and motels, and sensitive wildlife habitat).
- 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.

The implementation of Mitigation Measure M-NOI-1 would reduce project-generated construction noise at the nearest noise-sensitive receptor that adjoins the project site to the west (1151 Sutter Street). Therefore, the proposed project would have a less-than-significant impact with implementation of this mitigation measure.

Operation

HVAC equipment which would serve both of the proposed project buildings would be located within the rooftop parapet and behind rooftop mechanical equipment screens at the proposed 1123 Sutter Street building. 1101 Sutter Street would be served by one 6-ton packaged roof top unit for the residential units and one 2-ton roof top unit for the corridors. 1123 Sutter Street would be served by two 17.5-ton roof top units for the residential units and one 6-ton roof top unit for the corridors. Since specific manufacturers and models have not yet been determined, sound level data for Trane packaged roof top units were used as reference sound level inputs for the noise prediction model.

A backup 800-kilowatt emergency diesel generator would serve both 1101 and 1123 Sutter Street and would be contained in an acoustic enclosure on the level 7 deck at a height of approximately 66 feet above the Sutter Street grade. Because the generator would be contained in an acoustic enclosure designed to limit noise exposure both at the level 7 deck and surrounding area and because the operation of the generator would be limited to periodic testing and for emergencies resulting from a power outage, it would not be a substantial source of noise to the surrounding community. Modeled noise levels associated with the proposed project's stationary mechanical equipment are presented in Table 12.

Table 12: Modeled Mechanical Noise Levels

Receiver Description	Noise Level, L_{eq} dBA	
	Daytime	Nighttime
1151 Sutter Property Plane	46.5	46.5
Property Plane North of Sutter Street	41.5	41.5
Property Plane East of Larkin Street	33.1	33.1
Property Plane south of Hemlock Street	35.2	35.2

Notes: Leq = average equivalent noise level; dBA = A-weighted decibels.

As shown in Table 12, stationary mechanical noise levels associated with the proposed project are calculated to range from approximately 33 to 47 dBA L_{eq} at the property plane of the nearby noise-sensitive receptors. Existing ambient noise levels measured at the LT-1 monitoring location, which is representative of noise levels at the southwestern property plane, reached approximately 51 dBA Leq during the quietest hourly period. Operation noise levels due to roof-top mechanical equipment would not exceed ambient noise conditions by 5 dBA nor produce noise levels that would exceed 45 dBA inside the nearest residences between the hours of 10 p.m. to 7 a.m. or 55 dBA between the hours of 7 a.m. to 10 p.m. with windows open. Thus, impacts from operation would be less than significant.

Traffic Noise

A permanent increase in noise levels due to project-generated traffic volumes would be considered significant if the project would result in an increase in the ambient noise environment of more than 5 dBA for ambient levels below 60 dBA L_{dn} or more than 3 dBA for ambient noise levels above 60 dBA L_{dn}. Residences near the project site are exposed to existing noise levels greater than 60 dBA L_{dn}; therefore, a significant noise increase would occur if project-generated traffic would permanently increase noise levels by 3 dBA L_{dn}. A 3 dBA L_{dn} noise increase would be expected if the project would double existing traffic volumes along a roadway. Traffic volumes for the December 2020 conditions, adjusted 2020 conditions, and project-generated trips are presented in Table 13, along with the relative increase in noise levels that would result from the project trips.

Table 13: Project Generated Traffic Noise Increase

Roadway		ADT Volumes			Increase in dB	
No.	Segment	December 2020	Adjusted 2020	Project Trips[1]	December 2020	Adjusted 2020
Adjacent Roadways to Project Site						
1	Sutter Street, Larkin Street to Polk Street	6,466	10,614	132	0.1	0.1
2	Larkin Street, Sutter Street to Hemlock Street	5,276	8,709	145	0.1	0.1
3	Hemlock Street, Larkin Street to Polk Street	284	467	218	2.5	1.7

Note: ADT = Average Daily Traffic volumes; dB = decibels.

[1] The vehicle trips associated with the proposed project included here and in Attachment C are based on a prior version of the project. While the project trips on adjacent roadways are based on prior information, the total daily vehicle trips were recalculated to determine transportation impacts using the San Francisco Planning Department Travel Demand Tool (see Table 2, Proposed Project Trip Generation). Total vehicle trips were determined to increase by 2 trips per day compared to the prior project. The increase in 2 vehicle trips per day would represent a miniscule increase in traffic noise; therefore, the information included in this Table does not differ significantly from the revised project.

Source: Attachment C.

As shown in Table 13, the vehicle trips associated with the proposed project would not result in a doubling of traffic volumes on roadways in the project vicinity under the December 2020 condition or under the adjusted 2020 conditions. Under the more conservative December 2020 conditions with lower traffic volumes, the greatest increase associated with project-generated trips would result in an increase of 2.5 dB on Hemlock Street. Therefore, implementation and development of the project is not projected to result in an increase in traffic noise levels of 3 dB L_{dn} or more at noise-sensitive receptors along local area roadways or contribute significantly to further degradation of the ambient noise environment. Traffic noise impacts would be less than significant.

Impact NOI-2: The proposed would not expose people residing or working in the area to excessive groundborne vibration or groundborne noise levels. (Less than Significant)

Vibration impacts to structures are usually significant if construction vibration could potentially result in structural or cosmetic damage or, in the case of a historic resource, materially alter the resource pursuant to CEQA Guidelines section 15064.5. Representative groundborne vibration levels for various types of construction equipment that may be associated with the proposed project, based on construction assumptions provided by the project sponsor, are summarized below in Table 14 at a reference distance of 25 feet (FTA 2018).

Table 14: Representative Vibration Levels for Construction Equipment

Equipment	PPV (in/sec) 25 feet (Reference Level)	5 feet[1,2]	35 feet[1,3]	65 feet[1,4]
Hydraulic Breaker/Hoe Ram	0.089	0.995	0.054	0.021
Large Bulldozer	0.089	0.995	0.054	0.021
Heavy-duty Trucks (Loaded)	0.076	0.850	0.046	0.018
Jackhammer	0.035	0.391	0.021	0.008
Small Bulldozer	0.003	0.034	0.002	0.001

Notes: PPV = peak particle velocity; in/sec = inches per second.

Bold indicates that the estimated vibration exceeds the 0.25 in/sec PPV criteria for "historic and some old buildings" or the 0.5 in/sec PPV criteria for "new residential construction." The applicable threshold is further explained in the notes below.

[1] Vibration levels can be approximated at other locations and distances using the above reference levels and the following equation: PPVequip = PPVref $(25/D)^{1.5}$ (in/sec); where "PPV ref" is the given reference value in the above table (25-feet), "D" is the distance for the equipment to the new receiver in feet.

[2] Representative of the exposure of the western property plane and 1151 Sutter Street. Subject to the 0.5 in/sec PPV threshold.

[3] Representative of sensitive receptors located south across Hemlock Street. Subject to the 0.25 in/sec PPV threshold.

[4] Representative of sensitive receptors located north across Sutter Street and east across Larkin Street. Subject to the 0.25 in/sec PPV threshold.

Source: FTA 2018.

Project construction activities, such as the use of mounted hydraulic breakers (hoe-rams), large bulldozers and similar equipment (e.g., tracked vehicles, compactors), caisson drilling, loaded trucks, and jackhammers may generate substantial vibration at receptors immediately adjacent to the project site at the nearest receptor (1151 Sutter Street). Some activities would potentially occur as close as approximately 5 feet, and at this distance vibration levels due to construction are calculated to reach up to approximately 1 in/sec PPV, which would exceed the applicable 0.5 in/sec PPV threshold for the potential to damage new residential structures at the western property plane.

Project-generated groundborne noise and vibration levels at nearby sensitive receptors that are historic structures are not predicted to exceed the Caltrans recommended damage criteria of 0.25 in/sec PPV for the potential to damage "historic and some older buildings" (Caltrans 2020b). At these locations, and in other surrounding areas where vibration would not be expected to cause cosmetic damage, vibration levels may still be perceptible. However, as with any type of construction, perceptible vibration would be anticipated. Given the intermittent and short duration of the construction stages with the highest potential of producing vibration (use of jackhammers and other high-power tools), the use of administrative controls, such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration during hours with the least potential to affect nearby sensitive receptors, would minimize annoyance due to perceptible vibration. In addition, people are generally more sensitive to vibration during nighttime hours than during daytime hours, and no nighttime construction is planned.

With consideration of the above, impacts would be potentially significant and it is recommended that the noise control measures presented in Mitigation Measure M-NOI-2 be incorporated in the project.

Mitigation Measure M-NOI-2: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction

Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific pre-construction survey and vibration management plan to the environmental review officer (ERO) or the ERO's designee for approval. The plan shall identify all feasible means to avoid damage to the potentially affected building at 1151 Sutter Street. The project sponsor shall ensure that the following requirements of the pre-construction survey and vibration management plan are included in contract specifications, as necessary.

Pre-Construction Survey. Prior to the start of any ground-disturbing activity, the project sponsor shall engage a consultant to undertake a pre-construction survey of the potentially affected building at 1151 Sutter Street. If potentially affected buildings and/or structures are not potentially historic, a structural engineer or other professional with similar qualifications shall document and photograph the existing conditions of the potentially affected buildings and/or structures. The project sponsor shall submit the survey to the ERO or the ERO's designee for review and approval prior to the start of vibration-generating construction activity.

Vibration Management and Monitoring Plan. The project sponsor shall undertake a vibration management and monitoring plan to avoid or reduce project-related construction vibration damage to adjacent buildings and/or structures and to ensure that any such damage is documented and repaired. The vibration management and monitoring plan shall apply to all potentially affected buildings and/or structures at 1151 Sutter Street. Prior to issuance of any demolition or building permit, the project sponsor shall submit the vibration management and monitoring plan that lays out the monitoring program to the ERO for approval.

The vibration management and monitoring plan shall include, at a minimum, the following components, as applicable:

- Maximum Vibration Level. Based on the anticipated construction and condition of the affected buildings and/or structures on adjacent properties, a qualified acoustical/vibration consultant in coordination with a structural engineer (or professional with similar qualifications) shall establish a maximum vibration level that shall not be exceeded at each building/structure on adjacent properties, based on existing conditions, character-defining features, soil conditions, and anticipated construction practices (a PPV of 0.5 in/sec for new residential structures and modern industrial/commercial buildings).
- Vibration-Generating Equipment. The plan shall identify all vibration-generating equipment to be used during construction (including, but not limited to site preparation, clearing, demolition, excavation, shoring, foundation installation, and building construction).
- Alternative Construction Equipment and Techniques. The plan shall identify potential alternative equipment and techniques that could be implemented if construction vibration levels are observed in excess of the established standard (e.g., 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).
- 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,

- Vibration Monitoring. The plan shall identify the method and equipment for vibration monitoring. To ensure that construction vibration levels do not exceed the established standard, the acoustical/vibration consultant shall monitor vibration levels at each affected building and/or structure on adjacent properties (as allowed by property owners) and prohibit vibratory construction activities that generate vibration levels in excess of the standard. Vibration monitoring shall occur at the beginning of major construction phases and during high-intensity construction activities to determine effectiveness of vibration attenuation measures and, if necessary, implement additional noise control measures.
- Should construction vibration levels be observed in excess of the standards established in the plan, the contractor(s) shall halt construction and put alternative construction techniques identified in the plan into practice, to the extent feasible.
- The structural engineer shall inspect each affected building and/or structure (as allowed by property owners) in the event the construction activities exceed the established standards.
- If vibration has damaged nearby buildings and/or structures that are not historic, the structural engineer shall immediately notify the ERO and prepare a damage report documenting the features of the building and/or structure that have been damaged.
- If no damage has occurred to nearby buildings and/or structures, then the structural engineer shall submit a report to the ERO (and preservation staff, if needed) for review. This report shall identify and summarize the vibration level exceedances and describe the actions taken to reduce vibration.
- Following incorporation of the alternative construction techniques and/or planning department review of the damage report, vibration monitoring shall recommence to ensure that vibration levels at each affected building and/or structure on adjacent properties are not exceeded.
- Periodic Inspections. The plan shall identify the intervals and parties responsible for periodic inspections. The structural engineer (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 and reporting shall occur.

Repair Damage. The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their pre-construction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site.

Vibration Monitoring Results Report. After construction is complete, the project sponsor shall submit a final report from structural engineer (for effects on historic and non-historic buildings and/or structures) to the planning department. 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 planning department shall review and approve the vibration monitoring results report.

The implementation of Mitigation Measure M-NOI-2 would reduce project-generated vibration and protect of adjacent buildings and structures from vibration impacts. Therefore, the proposed project would have a less-than-significant impact with implementation of this mitigation measure.

Impact NOI-3: The proposed project's construction activities would generate excessive groundborne vibration or groundborne noise levels within the vicinity of a private airstrip or an airport land use plan area, or in an area within two miles of a public airport or public use airport. (No Impact)

There are no operational public use airports in the vicinity of the project site. The project site is approximately 10 nautical miles north of the San Francisco International Airport and 10 nautical miles northwest of the Oakland International Airport and is not located within any currently adopted 60 or 65 dB community noise equivalent level\Ldn airport noise contours (San Francisco International Airport 2018; Oakland International Airport 2020). As such, noise associated with existing and future aircraft operations in the area is not a substantial contributor to the ambient noise environment. Thus, there would be no impact.

Cumulative Analysis

Impact C-NOI-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable contribution to cumulative noise impacts. (Less than Significant with Mitigation)

The cumulative setting for noise impacts includes a 0.25-mile buffer around the project site. Cumulative projects proposed within this buffer were qualitatively evaluated to determine if noise levels produced by the proposed project and cumulative projects could combine and result in noticeably higher construction noise levels at nearby sensitive receptors. The nearest cumulative project that would have the potential to contribute to the cumulative noise environment would be the 80-foot-tall mixed-use building located at 955 Post Street; which is approximately 300 feet southwest of the project site with existing structures directly between the two, including the 5-story building at the northeast corner of Larkin and Post Streets (1000 - 10014 Larking Street/982 984 Post Street). Other projects on the cumulative list are located too far from the project site, with a significant number of intervening structures, which would limit the ability for noise levels to combine in the cumulative environment.

Construction Noise

Cumulative noise increases associated with construction of the proposed project and 955 Post Street could occur if this project were to be constructed at the same time and affect the sensitive receptors between the two sites. However, both projects would be required to comply with the police code and FTA construction thresholds at adjacent receptors. Given the distance between the two projects, intervening structures, and existing background noise sources, with Mitigation Measure M-NOI-1 noise levels generated by project construction would not combine to result in noise levels exceeding the noise level thresholds.

Operational Noise

If operational noise sources associated with cumulative projects were located in close proximity, it would be possible for the sound levels to combine and result in elevated noise levels. However, due to the distance between the proposed project and the other cumulative projects and the typical attenuation rate for operational/stationary noise sources of 6 dB per doubling of distance, sound levels generated by the proposed project would attenuate to less than background ambient noise levels and not contribute to a combined cumulative noise environment.

Traffic Noise

As cumulative development projects are completed, the additional vehicular trips generated by the projects would increase traffic noise levels to some degree. Cumulative projects with the potential to generate significant vehicular trips on area roadways include the mixed-use developments located at 955 Post Street, 1200 Van Ness Avenue, and 921 O'Farrell. The Transportation Study Determination Request for 955 Post Street illustrates that the Travel Demand Tool estimates a total vehicle trips of 143 associated with the project. The transportation analysis for 1200 Van Ness Avenue is currently in progress; however, the Travel Demand Tool for 1200 Van Ness estimates a total number of 543 vehicle trips would be associated with the project. For 921 O'Farrell, the Travel Demand Tool estimated a total of 86 vehicle trips would be associated with 921 O'Farrell. Based on the estimated total vehicle trips associated with the cumulative projects the projects would not generate the doubling of traffic volumes that would be necessary to result in a 3 dB increase in traffic noise levels on the roadway segments adjacent to the proposed project. Additionally, with the distance between the proposed project and the other cumulative projects, vehicle trips would be distributed across the roadway network as they disperse from the origin. This distribution of trips would result in further reductions in the effect of the cumulative traffic volumes on the cumulative noise environment.

Vibration

Vibration impacts attributable to vibration generating activities generally would be limited to buildings and structures adjacent to the project site. Implementation of Mitigation Measure M-NOI-2 for the proposed project would reduce the project-related groundborne noise and vibration levels to below the Caltrans recommended damage thresholds. Due to vibration effects being highly localized and the rapid attenuation of rates, vibration levels generated by the proposed project would not combine with those of the closest cumulative projects (955 Post Street and 1033 Polk Street) to result in cumulative vibration effects that would damage nearby buildings, including at 1151 Sutter which would require vibration reduction measures to reduce vibration impacts.

E.7 Air Quality

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

Setting

The Bay Area Air Quality Management District is the regional agency with jurisdiction over the nine-county San Francisco Bay Area Air Basin, which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa

Clara, and Napa counties and portions of Sonoma and Solano counties. The air district is responsible for attaining and maintaining air quality in the air basin within federal and state air quality standards, as established by the federal Clean Air Act and the California Clean Air Act, respectively. Specifically, the air district has the responsibility to monitor ambient air pollutant levels throughout the air basin and to develop and implement strategies to attain the applicable federal and state standards. The federal and California Clean Air Acts require plans to be developed for areas that do not meet air quality standards, generally.

The most recent air quality plan, the 2017 Clean Air Plan, was developed in accordance with the requirements of the California Clean Air Act to implement all feasible measures to reduce O_3; provide a control strategy to reduce O_3, PM, toxic air contaminants (TACs), and GHGs in a single, integrated plan; and establish emission control measures to be adopted or implemented. The clean air plan contains the following primary goals:

- Protect air quality and health at the regional and local scale: Attain all state and national air quality standards and eliminate disparities among Bay Area communities in cancer health risk from TACs.
- Protect the climate: Reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

The clean air plan represents the most current applicable air quality plan for the air basin. Consistency with this plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of air quality plans.

Criteria Air Pollutants

In accordance with the federal and California Clean Air Acts, air pollutant standards are identified for the following criteria air pollutants: O_3, carbon monoxide (CO), particulate matter with a diameter less than or equal to 10 microns (PM_{10}), particulate matter with a diameter less than or equal to 2.5 microns ($PM_{2.5}$), nitrogen dioxide, sulfur dioxide (SO_2), and lead. These air pollutants are termed criteria air pollutants because they are regulated by developing specific public health– and welfare-based criteria as the basis for setting permissible levels. In general, the air basin experiences low concentrations of most pollutants when compared to federal or state standards. The air basin is designated as either in attainment[44] or unclassified for most criteria pollutants, with the exception of O_3, $PM_{2.5}$, and PM_{10}, for which the air basin is designated as non-attainment for either the state or federal standards. By its nature, regional air pollution is largely a cumulative impact, in that no single project is sufficient in size to, by itself, result in non-attainment of air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's contribution to cumulative air quality impacts is considerable, then the project's impact on air quality would be considered significant.[45]

Land use projects may contribute to regional criteria air pollutants during the construction and operational phases of a project. Table 15 identifies air quality significance thresholds and describes each threshold. Projects that would result in criteria air pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the air basin.

OZONE AND ITS PRECURSORS

As described above, the air basin is currently designated as non-attainment for O_3. O_3 is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic

[44] *Attainment* status refers to those regions that are meeting federal and/or state standards for a specified criteria pollutant. *Non-attainment* status refers to regions that do not meet federal and/or state standards for a specified criteria pollutant. *Unclassified* status refers to regions where there is not enough data to determine the region's attainment status for a specified criteria air pollutant.

[45] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, May 2017.

gases (ROG) and oxides of nitrogen (NO_x). The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, is based on emissions limits for stationary sources per the federal and California Clean Air Acts. To ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, air district regulation 2, rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For O_3 precursors ROG and NO_x, the offset emissions level is an annual average of 10 tons per year (or 54 pounds per day).[46] These levels represent emissions below which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

[46] Bay Area Air Quality Management District, Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance, October 2009.

Table 15: Air Quality Thresholds of Significance

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
Reactive Organic Gases	54	54	10
NOx	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
Fugitive Dust	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average, 20.0 ppm (1-hour average)	
Odor	A type of odor source with five or more confirmed complaints in the new source area per year averaged over three years.		
Risks and Hazards (Individual Project)	Compliance with Qualified Community Risk Reduction Plan or Increased cancer risk of > 10.0 in a million Increased noncancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM2.5 increase > 0.3 µg/m3 annual average Zone of Influence: 1,000-foot radius from property line of source or receptor		
Risks and Hazards (Cumulative)	Compliance with Qualified Community Risk Reduction Plan or Cancer risk of > 100 in a million (from all local sources) Noncancer risk of > 10.0 Hazard Index (chronic, from all local sources) Ambient PM2.5 > 0.8 µg/m3 annual average (from all local sources) Zone of Influence: 1,000-foot radius from property line of source or receptor		
Accidental Release of Acutely Hazardous Air Pollutants	None	Storage or use of acutely hazardous material located near receptors or new receptors located near stored or used acutely hazardous materials considered significant	
Odors	None	Five confirmed complaints to the air district per year averaged over three years	

Notes:

lbs/day = pounds per day; tons/year = tons per year; ppm = parts per million; µg/m^3 = micrograms per cubic meter;
ROG = reactive organic gases; NO_x = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; CO = carbon monoxide; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

Source: Bay Area Air Quality Management District, CEQA Air Quality Guidelines, 2017.

Although this regulation applies to new or modified stationary sources, land use development projects result in ROG and NO_x emissions associated with vehicle trips, architectural coating, and construction activities. Therefore, these thresholds can be applied to the construction and operational phases of land use projects. Projects that result in emissions below these thresholds would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ROG and NO_x emissions. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

PARTICULATE MATTER (PM_{10} AND $PM_{2.5}$)

As described above, the air basin is currently designated as non-attainment for PM_{10} and $PM_{2.5}$. PM_{10} is often called *coarse PM* and is made of particulates that are 10 microns in diameter or smaller. $PM_{2.5}$, or *fine PM*, is composed of particles that are 2.5 microns or less in diameter. The air district has not established an offset limit for $PM_{2.5}$. However, the emissions limit in the Federal New Source Review for stationary sources in non-attainment areas is an appropriate significance threshold. For PM_{10} and $PM_{2.5}$, the emissions limits under New Source Review are 15 tons per year (82 pounds per day) and 10 tons per year (54 pounds per day), respectively. These emissions limits represent levels below which a source is not expected to have a significant impact on air quality.[47] Similar to O_3 precursor thresholds identified above, land use development projects typically result in PM emissions as a result of associated vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of a land use project. Again, because construction activities are temporary in nature, only the average daily thresholds are applicable to construction-phase emissions.

FUGITIVE DUST

Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of best management practices at construction sites significantly controls fugitive dust and individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.[48, 49] The air district has identified a number of best management practices to control fugitive dust emissions from construction activities.[50] The City's Construction Dust Control Ordinance (ordinance 176-08, effective July 30, 2008) requires a number of measures to control fugitive dust and the best management practices employed in compliance with the City's Construction Dust Control Ordinance are an effective strategy for controlling construction-related fugitive dust.

OTHER CRITERIA AIR POLLUTANTS

Regional concentrations of CO in the Bay Area have not exceeded the state standards in the past 11 years and SO_2 concentrations have never exceeded the standards. The primary source of CO emissions from development projects is vehicle traffic. Construction-related SO_2 emissions represent a negligible portion of the total basin-wide emissions and construction-related CO emissions represent less than 5 percent of total basin-wide CO emissions. As discussed previously, the Bay Area is in attainment for both CO and SO_2. Furthermore, the air district has demonstrated, based on modeling, that to exceed the California Ambient Air Quality Standard of 9.0 parts per million (eight-hour average) or 20.0 parts per million (one-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 of air is limited).[51] Therefore, given the Bay Area's attainment status and the limited CO and SO_2 emissions that could result from development projects, the proposed project would not result in a cumulatively considerable net increase in CO or SO_2 emissions, and quantitative analysis is not required.

Local Health Risks and Hazards

In addition to criteria air pollutants, individual projects may emit TACs. TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of 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 mortality. There are hundreds of different types of TACs with varying

47 Bay Area Air Quality Management District, Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance, October 2009.

48 Western Regional Air Partnership, *WRAP Fugitive Dust Handbook,* September 7, 2006.

49 Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

50 Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

51 Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

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, there are no ambient air quality standards for TACs; however, they 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. 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.[52]

Air pollution does not affect every individual in the population similarly and some groups are more sensitive to adverse health effects than others. Land uses such as residences, schools, children's daycare centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than that of other land uses. Therefore, these groups are referred to as sensitive receptors. Exposure assessment guidance typically assumes that residences would be exposed to air pollution 24 hours per day, 7 days a week, for 30 years.[53] 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 worse lung development in children and other endpoints such as hospitalization for cardiopulmonary disease.[54] In addition to $PM_{2.5}$, diesel particulate matter (DPM) is also of concern. The California Air Resources Board identified DPM as a toxic air contaminant in 1998, primarily based on evidence demonstrating cancer effects in humans.[55] 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 an effort to identify areas of San Francisco most adversely affected by sources of TACs, San Francisco partnered with the air district to conduct a citywide health risk assessment based on an inventory and assessment of air pollution and exposures from mobile, stationary, and area sources within San Francisco. Areas with poor air quality, called *Air Pollutant Exposure Zones*, were identified based on health-protective criteria that consider estimated cancer risk, exposures to $PM_{2.5}$, proximity to freeways, and locations with particularly vulnerable populations. The project site is located within an Air Pollutant Exposure Zone.[56] Each Air Pollutant Exposure Zone criteria is discussed below.

52 A health risk assessment is completed 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 moreTACs.

53 California Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spot Program Risk Assessment Guidelines*, February 2015.

54 San Francisco Department of Public Health, Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review, May 2008.

55 California Air Resources Board, The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-Fueled Engines, https://ww2.arb.ca.gov/sites/default/files/classic//toxics/dieseltac/factsht1.pdf, October 1998.

Contaminant Emissions from Diesel-fueled Engines," October 1998.

56 San Francisco Planning Department, San Francisco Property Information Map – Map Viewer, Air Pollutant Exposure Zone (2020), *https://sfplanninggis.org/pim/map.html?search=0691003&layers=Air%20Pollutant%20Exposure%20Zone*, accessed February 8, 2021.

EXCESS CANCER RISK

The Air Pollutant Exposure Zone includes areas where modeled cancer risk exceeds 100 incidents per million persons exposed. These criteria are based on U.S. Environmental Protection Agency (EPA) guidance for conducting air toxic analyses and making risk management decisions at the facility and community-scale level.[57] As described by the air district, the U.S. EPA considers a cancer risk of 100 per million to be within the acceptable range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants rulemaking, the U.S. EPA states that it "strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in one million and (2) limiting to no higher than approximately 1 in 10,000 (100 in 1 million) the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years."[58]

FINE PARTICULATE MATTER ($PM_{2.5}$)

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, U.S. EPA staff concluded that the then-current federal annual $PM_{2.5}$ standard of 15 micrograms per cubic meter ($\mu g/m^3$) should be revised to a level within the range of 11 to 13 $\mu g/m^3$, with evidence strongly supporting a standard within the range of 11 to 12 $\mu g/m^3$. The Air Pollutant Exposure Zone for San Francisco is based on the more conservative health protective $PM_{2.5}$ standard of 11 $\mu g/m^3$, as supported by the particulate matter policy assessment, although it has been lowered to 10 $\mu g/m^3$ to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs.

PROXIMITY TO FREEWAYS

According to the California 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. Siting sensitive uses in close proximity to freeways increases both exposure to air pollution and the potential for adverse health effects. Based on data that show sensitive uses within a 500-foot buffer of freeways are at an increased health risk from air pollution,[59] parcels that are within 500 feet of freeways are included in the Air Pollutant Exposure Zone.

HEALTH VULNERABLE LOCATIONS

Based on the air district's evaluation of health vulnerability in the Bay Area, the zip codes in the worst quintile of health vulnerability scores related to air pollution in San Francisco (94102, 94103, 94105, 94124, and 94130) were afforded additional protection by lowering the standards for parcels in the Air Pollutant Exposure Zone to (1) an excess cancer risk greater than 90 per 1 million persons exposed and/or (2) $PM_{2.5}$ concentrations in excess of 9 $\mu g/m^3$.[60] Thus, the thresholds of significance are lower for areas of the City that have a greater baseline air pollution.

The citywide health risk modeling was also used as the basis for approving amendments to the San Francisco Building and Health Codes, referred to as the *Enhanced Ventilation Required for Urban Infill Sensitive Use Developments*, or Health Code article 38 (ordinance 224-14, effective December 8, 2014). The purpose of article 38 is to protect the public health and welfare by establishing an Air Pollutant Exposure Zone and imposing an

57 Bay Area Air Quality Management District, Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance, October 2009.

58 54 Federal Register 38044, September 14, 1989.

59 California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005.

60 San Francisco Health Code, article 38, section 3806, Air Pollutant Exposure Zone and Air Pollutant Exposure Zone Map.

enhanced ventilation requirement for all urban infill sensitive use development within the Air Pollutant Exposure Zone. In addition, projects within the Air Pollutant Exposure Zone require special consideration to determine whether the project's activities would add a substantial amount of emissions to areas already adversely affected by poor air quality.

Project Analysis

This section presents an air quality impact analysis for the proposed project based on the significance criteria and thresholds described above. Project-related air quality impacts fall into two categories: short-term impacts from construction and long-term impacts from project operation. The following discussion generally addresses construction-related air quality impacts followed by operations-related impacts of the proposed project.

Impact AQ-1: The proposed project's construction activities would generate fugitive dust and criteria air pollutants, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

Construction activities (short term) typically result in emissions of O_3 precursors and $PM_{2.5}$ in the form of dust (fugitive dust) and exhaust (e.g., vehicle tailpipe emissions). Emissions of O_3 precursors and $PM_{2.5}$ are primarily a result of the combustion of fuel from on-road and off-road vehicles. However, ROGs are also emitted from activities that involve painting, other types of architectural coatings, or asphalt paving. Construction of the project would span approximately 30 months, beginning in May 2022. The proposed project would involve demolition of approximately 54,000 square feet of existing buildings and parking lot. As a conservative estimate, based on potential asbestos in the old buildings, demolished materials were assumed to be transported 260 miles to the Buttonwillow Landfill near Bakersfield. In addition, up to approximately 9,320 cubic yards of soil would be removed from the project site. The excavated material would be exported off site, potentially 28 miles to the Ox Mountain landfill in Half Moon Bay. Complete assumptions associated with project construction are provided in Attachment B.

During the approximately 30-month construction period, construction activities would have the potential to result in emissions of O_3 precursors and PM, as discussed below.

Fugitive Dust

Project-related demolition, excavation, grading, and other construction activities may cause wind-blown dust that could contribute PM into the local atmosphere. Depending on exposure, adverse health effects can occur due to PM and specific contaminants, such as lead or asbestos, that may be constituents of soil. Despite federal standards for air pollutants and ongoing implementation of state and regional air quality control plans, air pollutants continue to impact human health throughout the country. California has found that PM exposure can cause health effects at lower levels than national standards. The current health burden of PM demands that, where possible, public agencies take all feasible actions to reduce sources of PM exposure. According to the California air board, reducing $PM_{2.5}$ concentrations to state and federal standards of 12 µg/m^3 in the San Francisco Bay Area would prevent between 200 and 1,300 premature deaths.[61]

In response to these issues, the San Francisco Board of Supervisors approved the Construction Dust Control Ordinance (ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition, and other construction activities to protect the health of the general public

[61] California Air Resources Board, Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California, Staff Report, Table 4c, October 24, 2008.

and of on-site workers, minimize public nuisance complaints, and to avoid orders to stop work by the Department of Building Inspection.

The Construction Dust Control Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures, whether or not the activity requires a permit from the Department of Building Inspection. The Director of the Department of Building Inspection may waive this requirement for activities on sites less than 0.5 acres that are unlikely to result in any visible wind-blown dust.

In compliance with the Construction Dust Control Ordinance, the project sponsor and the contractor responsible for construction activities at the project site would be required to use the following practices to control construction dust on the site or other practices that result in equivalent dust control that are acceptable to the director. Dust suppression activities may include watering all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour (mph). During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths, and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than 7 days) greater than 10 cubic yards or 500 square feet of excavated material, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10-millimeter (0.01-inch) polyethylene plastic (or equivalent) tarp, braced down, or use other equivalent soil stabilization techniques. San Francisco ordinance 175-91 restricts the use of potable water for soil compaction and dust-control activities 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). Non-potable water must be used for soil compaction and dust-control activities during project construction and demolition. The SFPUC operates a recycled water truck-fill station at the Southeast Water Pollution Control Plant that provides recycled water for these activities at no charge.

Compliance with the regulations and procedures set forth by the Construction Dust Control Ordinance would ensure that potential dust-related air quality impacts would be reduced to aless-than-significant level.

Criteria Air Pollutants

As described above, construction activities would result in emissions of criteria air pollutants from the use of off-road and on-road vehicles and equipment. Emissions from proposed project construction activities were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant and GHG emissions associated with the construction and operational activities from a variety of land use projects, such as residential, commercial, and industrial facilities. CalEEMod input parameters, including the proposed project land use type, size, and construction schedule were based on information provided by the project applicant or default model assumptions if project specifics were unavailable.

Average daily emissions were computed by dividing the total construction emissions by the number of active construction days, which were then compared to the air district construction thresholds of significance. Table 16 shows average daily construction emissions of O_3 precursors (ROG and NO_x), PM_{10} exhaust, and $PM_{2.5}$ exhaust during project construction.[62]

Table 16: Average Daily Unmitigated Construction Emissions

Years	ROG	NO_x	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
	pounds per day			
2022–2024	7.28	16.32	0.59	0.54
Significance Thresholds	54	54	82	54
Exceed Threshold?	No	No	No	No

Notes: The values shown are average daily emissions based on total overall tons of construction emissions associated with the proposed project, converted to pounds, and divided by the anticipated number of active workdays (632 days).

ROG = reactive organic gases; NO_x = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less.

Source: Attachment B.

As shown in Table 16, construction of the proposed project would not exceed the air district's significance thresholds for criteria air pollutants. Therefore, criteria air pollutant impacts as a result of project construction would be less than significant.

Impact AQ-2: The proposed project's construction activities would generate toxic air contaminants, including diesel particulate matter, which would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)

As described above, the project site is located within an Air Pollutant Exposure Zone. Sensitive receptors are located in close proximity to the project site, including residential uses at 1151 Sutter Street immediately west of the site and residential uses north across Sutter Street, east across Larkin Street, and south across Hemlock Street.

With regard to construction emissions, off-road equipment (which includes construction-related equipment) is a large contributor to DPM emissions in California, although, since 2007, the California air board has found the emissions to be substantially lower than previously expected.[63]

Newer and more refined emission inventories have substantially lowered the estimates of DPM emissions from off-road equipment such that off-road equipment is now considered the sixth largest source of DPM emissions in California.[64] Approximately half the reduction in emissions (between 2005 and 2010) can be attributed to the economic recession and half to updated methodologies used to better assess construction emissions.[65]

[62] Fuel combustion during construction and operations would also result in the generation of SO_2 and CO. These values are included in Attachment B. However, since the air basin is in attainment of these pollutants, the air district has not established a quantitative mass-significance threshold for comparison and they are not included in the project-generated emissions tables in this document. The air district does have screening criteria for operational localized CO, which are discussed in more detail below.

[63] 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, p.1 and p. 13 (Figure 4), October 2010.

[64] 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.

[65] 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.

Additionally, a number of federal and state regulations are requiring cleaner off-road equipment. Specifically, both the U.S. EPA and the California air board have set emissions standards for new off-road equipment engines, ranging from Tier 1 to Tier 4. Tier 1 emission standards were phased in between 1996 and 2000 and Tier 4 Interim and Final emission standards for all new engines were phased in between 2008 and 2015. To meet the Tier 4 emission standards, engine manufacturers are required to produce new engines with advanced emission-control technologies. Although the full benefits of these regulations will not be realized for several years, the U.S. EPA estimates that by implementing the federal Tier 4 standards, NO_x and PM emissions will be reduced by more than 90 percent.[66]

Furthermore, construction activities do not lend themselves to analysis of long-term health risks because of their temporary and variable nature. As explained in the air district's *CEQA Air Quality Guidelines*:[67]

Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (ARB 2005). In addition, current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. This results in difficulties with producing accurate estimates of health risk.

Therefore, project-level analyses of construction activities tend to produce overestimated assessments of long-term health risks. However, within the Air Pollutant Exposure Zone, as discussed above, additional construction activity may adversely affect populations that are already at a higher risk for adverse long-term health risks from existing sources of air pollution. As such, Mitigation Measure M-AQ-2, Clean Off-Road Construction Equipment, has been included below to reduce potential exposure to air pollutants. While emission reductions from limiting idling, educating workers, and properly maintaining equipment are difficult to quantify, other measures, specifically the requirement for equipment with Tier 4 compliant emissions, can reduce construction emissions by 93 to 96 percent compared to equipment with engines meeting Tier 1 or Tier 2 emission standards.[68] Therefore, compliance with Mitigation Measure M-AQ-2 would reduce construction emissions impacts on nearby sensitive receptors to a less-than-significant level.

Mitigation Measure M-AQ-2: Clean Off-Road Construction Equipment

The project sponsor shall comply with the following:

A. *Engine Requirements*

   1. All off-road equipment greater than 25 horsepower and operating for more than 20 total hours over the entire duration of construction activities shall have engines that meet or exceed either U.S. Environmental Protection Agency or California Air Resources Board (ARB) Tier 4 Interim or Tier 4 Final off-road emission standards.

[66] U.S. Environmental Protection Agency, *Clean Air Nonroad Diesel Rule: Fact Sheet*, May 2004.

[67] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines,* May 2017, pp. 8-7.

[68] PM emissions benefits are estimated by comparing off-road PM emission standards for Tier 1 and Tier 2 with Tier 4 final emissions standards. Tier 1 PM emissions standards were established for equipment with 25 -< 50 horsepower and equipment with horsepower < 175. Tier 1 emissions standards for these engines were compared against Tier 4 final emissions standards, resulting in a 96 percent reduction in PM. The U.S. EPA established PM standards for engines with horsepower between 50 -< 175 as part of the Tier 2 emission standards. For these engines Tier 2 emissions standards were compared against Tier 4 final emissions standards, resulting in between 93 and 95 percent reduction in PM.

2. Where access to alternative sources of power are available, portable diesel engines (e.g., generators) shall be prohibited.
3. Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The contractor shall post legible and visible signs in English, Spanish, and Chinese, in designated queuing areas and at the construction site to remind operators of the two-minute idling limit.
4. The project sponsor shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications.

B. Waivers

1. The planning department's environmental review officer or designee (ERO) may waive the alternative source of power requirement of subsection (A)(2) if an alternative source of power is limited or infeasible at the project site. If the ERO grants the waiver, the contractor must submit documentation that the equipment used for on-site power generation meets the requirements of subsection (A)(1).
2. The ERO may waive the equipment requirements of Subsection (A)(1) if a particular piece of Tier 4 off-road equipment is technically not feasible, the equipment would not produce desired emissions reduction due to expected operating modes, or there is a compelling emergency need to use off-road equipment that is not Tier 4 compliant. If the ERO grants the waiver, the contractor must use the next cleanest piece of off-road equipment, according to the following table, or another alternative that results in comparable reductions of diesel particulate matter.

Off-Road Equipment Compliance Step-down Schedule		
Compliance Alternative	Engine Emission Standard	Emissions Control
1	Tier 2	ARB Level 3 VDECS
2	Tier 2	ARB Level 2 VDECS
3	Tier 2	ARB Level 1 VDECS
How to use the table: If the ERO determines that the equipment requirements cannot be met, then the project sponsor would need to meet Compliance Alternative 1. If the ERO determines that the contractor cannot supply off-road equipment meeting Compliance Alternative 1, then the contractor must meet Compliance Alternative 2. If the ERO determines that the contractor cannot supply off-road equipment meeting Compliance Alternative 2, then the contractor must meet Compliance Alternative 3.		

C. Construction Emissions Minimization Plan

Before starting on-site construction activities, the contractor 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 section A.

1. 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 (as reasonably available at the time of plan submission), but is

not limited to, equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. For VDECS installed, the description may include technology type, serial number, make, model, manufacturer, ARB verification number level, and installation date and hour meter reading on installation date. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used.

2. The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The plan shall include a certification statement that the project sponsor agrees to comply fully with the plan.

3. The project sponsor shall make the plan available to the public for review on site during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the plan. The sign 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.

D. *Monitoring*

After start of construction activities, the contractor shall submit reports every six months to the ERO documenting compliance with the plan. After completion of construction activities and prior to receiving a final certificate of occupancy, 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.

Impact AQ-3: During project operation, the proposed project would result in emissions of criteria air pollutants, but not at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

Operation of the proposed project would generate criteria pollutant emissions (including ROG, NO_x, PM_{10}, and $PM_{2.5}$) from area sources (consumer products, architectural coatings, landscaping equipment), diesel emergency generator testing and maintenance,[69] and mobile sources (vehicular traffic). CalEEMod was used to estimate daily emissions from these operational sources. Notably, the proposed project buildings would be all-electric, meaning that no natural gas would be consumed during operations. As such, natural gas was zeroed out in CalEEMod, and replaced with equivalent electricity demand to account for water heating and heating, ventilation, and air conditioning operations.[70] For on-road vehicle trips, the CalEEMod default trip rates were adjusted based on transportation authority trip rates and mode splits for automobiles, TNCs, and taxis. CalEEMod was also used to estimate criteria air pollutants associated with the operation of the existing land uses. Table 17 summarizes the emissions of criteria pollutants that would be generated by the proposed project, as well as emissions from existing land uses on the site, and compares the net change in emissions from existing to proposed conditions to the air district's operational thresholds.

69 The proposed project would include an 800-kilowatt diesel emergency generator. Operational emissions for testing and maintenance were assumed to occur for up to 2 hours in a day and 50 hours per year pursuant to the air board's Airborne Toxics Control Measure for Stationary Compression Ignition Engines.

70 The increased electricity consumption of the proposed project is included in the GHG emissions estimation, but would not generate on-site criteria air pollutants.

As depicted in Table 17, the net change in operational emissions associated with the proposed project would not exceed any of the air district's significance thresholds for criteria air pollutants. Therefore, this impact would be less than significant.

Table 17: Operational Criteria Air Pollutant Emissions

Source	ROG		NOx		PM_{10}		$PM_{2.5}$	
	tons/year	lbs/day	ton/year	lbs/day	tons/year	lbs/day	tons/year	lbs/day
Proposed Project								
Area	1.19	6.78	0.02	0.19	0.01	0.09	0.01	0.09
Energy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.11	0.79	0.44	2.83	0.43	2.87	0.12	0.79
Stationary	0.04	3.52	0.20	15.75	0.01	0.52	0.01	0.52
Total	1.35	11.09	0.65	18.77	0.45	3.48	0.13	1.40
Existing Conditions								
Area	0.07	0.41	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.01	0.02	0.10	0.00	0.01	0.00	0.01
Mobile	0.01	0.08	0.04	0.31	0.03	0.24	0.01	0.07
Total	0.09	0.50	0.06	0.41	0.03	0.25	0.01	0.08
Net Change in Emissions								
Net Change (Proposed Project minus Existing Conditions)	1.26	10.59	0.59	18.36	0.42	3.23	0.12	1.32
Significance Thresholds	10	54	10	54	15	82	10	54
Exceed Thresholds?	No	No	No	No	No	No	No	No

Notes:

The values shown are the maximum summer or winter daily emissions results from CalEEMod. Totals may not sum due to rounding.

ROG = reactive organic gases; NO_x = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; lbs/day = pounds per day; tons/year = tons per year.

Source: Attachment B.

Impact AQ-4: During project operation, the proposed project would generate toxic air contaminants, including diesel particulate matter, exposing sensitive receptors to substantial air pollutant concentrations. (Less than Significant with Mitigation)

As previously discussed, the project site is located within an Air Pollutant Exposure Zone. Sensitive receptors are located in close proximity to the project site, including residential uses at 1151 Sutter Street immediately west of the site and residential uses north across Sutter Street, east across Larkin Street, and south across Hemlock Street.

Individual projects result in emissions of TACs primarily as a result of an increase in vehicle trips. The air district considers roads with less than 10,000 vehicles per day to be minor, low-impact sources that do not pose a significant health impact even in combination with other nearby sources and recommends that these sources be excluded from the environmental analysis. As described in section E.5, Transportation and Circulation, p. 31, the proposed project would generate up to 363 daily vehicle trips (automobile and TNC/taxi modes), which would be well below this level and would be distributed across the local roadway network; therefore, an assessment of project-generated TACs resulting from vehicle trips is not required and the proposed project would not generate a substantial amount of TAC emissions from mobile sources that could affect nearby sensitive receptors.

The proposed project would also include a backup 800-kilowatt emergency diesel generator that would serve both buildings and would be contained in an acoustic enclosure on the deck on level 7 of 1123 Sutter Street. Although emergency generators are intended only to be used in periods of power outages, monthly testing of the generator would be required. The air district limits testing to no more than 50 hours per year. Emergency generators are regulated by the air district through their permitting process. The project applicant would be required to obtain applicable permits from the air district to operate an emergency generator. As part of the permitting process, the air district's New Source Review Rule (regulation 2, rule 2) requires that new or modified sources of air pollutants undergo permit review for Best Available Control Technology (BACT). The air district has established BACT for large (greater than 1,000 horsepower) diesel engines used for emergency standby power that requires them to meet the U.S. EPA's Tier 4 emissions standards. Additionally, as part of the permitting process, the air district would limit the excess cancer risk from any facility to no more than 10 per one million population. However, because the project site is in an area that already experiences poor air quality, the proposed emergency backup generator has the potential to expose sensitive receptors to substantial concentrations of diesel emissions, a known TAC, resulting in a significant air quality impact. Implementation of Mitigation Measure AQ-4, Best Available Control Technology for Diesel Generators, would reduce the magnitude of this impact by reducing emissions by 89 to 94 percent (i.e., compared to emissions from with engines meeting no emission standards and without a VDECS).

Mitigation Measure M-AQ-4: Best Available Control Technology for Diesel Generators

The project sponsor shall ensure that the backup diesel generator meets or exceeds one of the following emission standards for particulate matter: (1) the generator is equipped with a Tier 4 certified engine or (2) the generator is equipped with a Tier 2 or Tier 3 certified engine with a CARB Level 3 VDECS. A non-verified diesel emission control strategy may be used if the filter has the same particulate matter reduction as the identical CARB verified model and if the air district approves of its use. The project sponsor shall submit documentation of compliance with the air district New Source Review permitting process (Regulation 2, Rule 2, and Regulation 2, Rule 5) and the emission standard requirement of this mitigation measure to the department for review and approval prior to issuance of a permit for a backup diesel generator from any City agency.

This measure would serve to mitigate impacts from substantial concentrations of diesel emissions at the locations of sensitive receptors. Therefore, although the proposed project would add a new source of TACs within an area that already experiences poor air quality, implementation of Mitigation Measure M-AQ-4 would reduce this impact, resulting in an impact that would be less than significant with mitigation.

Impact AQ-5: The proposed project would not conflict with or obstruct implementation of the *2017 Clean Air Plan*. (Less than Significant)

The current adopted air quality plan for the air basin is the 2017 Clean Air Plan. The clean air plan is a road map that demonstrates how the San Francisco Bay Area will achieve compliance with the state O_3 standards as expeditiously as practicable and how the region will reduce the transport of O_3 and O_3 precursors to neighboring air basins. In determining consistency with the clean air plan, this analysis considers whether the project would (1) support the primary goals of the clean air plan, (2) include applicable control measures from the clean air plan, and (3) avoid disrupting or hindering implementation of control measures identified in the clean air plan.

The primary goals of the clean air plan are to (1) protect air quality and health at the regional and local scale, (2) eliminate disparities among Bay Area communities in cancer health risk from TACs, and (3) protect the climate by reducing GHG emissions. To meet the primary goals, the clean air plan recommends specific control measures and actions. These control measures are grouped into various categories and include stationary and area source measures, mobile source measures, transportation control measures, land use measures, and energy and climate measures. The clean air plan recognizes that to a great extent, community design dictates individual travel mode, and that a key long-term control strategy to reduce emissions of criteria pollutants, air toxics, and GHGs from motor vehicles is to channel future Bay Area growth into vibrant urban communities where goods and services are in close proximity and people have a range of viable transportation options. To this end, the clean air plan includes 85 control measures aimed at reducing air pollution in the air basin.

The measures most applicable to the proposed project are energy and climate control measures. The proposed project's energy reduction measures would include, but not be limited to, compliance with the San Francisco Green Building Code, including that new construction be all-electric, and that the buildings would be GreenPoint Rated. The proposed project's impacts with respect to GHGs are discussed in section E.8, Greenhouse Gas Emissions, p. 82, which demonstrates that the proposed project would comply with the applicable provisions of the City's Greenhouse Gas Reduction Strategy.

The compact development of the proposed project and high availability of viable transportation options ensure that residents could bicycle, walk, and ride transit to and from the project site instead of taking trips via private automobile. These features ensure that the proposed project would avoid substantial growth in automobile trips and VMT. As described above, the proposed project would add up to 361 new vehicle trips (automobile and TNC/taxi modes), which would result in a negligible increase in air pollutant emissions. Furthermore, the proposed project would be generally consistent with the general plan. Transportation control measures that are identified in the clean air plan are implemented by the general plan and the planning code, for example, through the City's Transit First Policy, bicycle parking requirements, and transit impact development fees. Compliance with these requirements would ensure the project includes relevant transportation control measures specified in the clean air plan. Therefore, the proposed project would include applicable control measures identified in the clean air plan to the meet the clean air plan's primary goals.

Examples of a project that could cause the disruption or delay of clean air plan control measures are projects that would preclude the extension of a transit line or bike path or projects that propose excessive parking beyond parking requirements. The proposed project would add a total of 221 residential units and 8,330 square feet of commercial and childcare uses to a dense, walkable urban area near a concentration of regional and local transit service. It would not preclude the extension of a transit line or a bike path or any other transit improvement, and thus would not disrupt or hinder implementation of control measures identified in the clean air plan.

For the reasons described above, the proposed project would not interfere with implementation of the clean air plan, and because the proposed project would be consistent with the applicable air quality plan that demonstrates how the region will improve ambient air quality and achieve the state and federal ambient air quality standards, this impact would be less than significant.

Impact AQ-6: The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. (Less than Significant)

Typical odor sources include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, automobile body shops, rendering plants, and coffee-roasting facilities. During construction, diesel exhaust from construction equipment would generate some odors. However, construction-related odors would be temporary and would not persist upon project completion. Additionally, the proposed project would not include uses that have been identified by air district as potential sources of objectionable odors during operations. Therefore, odor impacts would be less than significant.

Cumulative Analysis

Impact C-AQ-1: The proposed project, in combination with reasonably foreseeable future development in the project area would contribute to significant cumulative air quality impacts. (Less than Significant with Mitigation)

As discussed above, regional air pollution is by its very nature largely a cumulative impact. Emissions from existing and reasonably foreseeable future projects contribute to the region's adverse air quality on a cumulative basis. No single project by itself would be sufficient in size to result in regional non-attainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative adverse air quality impacts.[71] The project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Therefore, because the proposed project's construction (Impact AQ-1) and operational (Impact AQ-3) emissions would not exceed the project-level thresholds for criteria air pollutants, they would not result in a cumulatively considerable contribution to regional air quality impacts.

As previously noted, the project is located in an Air Pollutant Exposure Zone, which is an area with poor air quality from the cumulative contribution of air pollutant sources in the area. Since the proposed project would generate new emissions related to construction vehicle trips and construction equipment operations proximate to existing sensitive receptors in an area that already experiences poor air quality, the project would result in a potentially considerable contribution to cumulative health risk impacts on nearby sensitive receptors. This would be a potentially significant cumulative impact. However, the proposed project would be required to implement Mitigation Measure M-AQ-2, Clean Off-Road Construction Equipment, which could reduce construction TAC emissions by as much as 96 percent. With implementation of Mitigation Measure M-AQ-2, the project's potential contribution to significant cumulative air quality impacts would not be cumulatively considerable and would be less than significant.

In regard to long-term generation of TACs associated with operations, the project would result in DPM from the routine testing and maintenance of an emergency diesel generator. However, per air district BACT requirements, the project's emergency diesel generator would meet the U.S. EPA's Tier 4 emissions standards. Additionally, as part of the permitting process, the air district would limit the excess cancer risk from any facility to no more than 10 per one million population. Thus, although the project would add a new source of TACs within an area that already experiences poor air quality from cumulative sources, compliance with the air district permitting process and BACT requirements would ensure that the project's potential contribution to significant cumulative air quality impacts would not be cumulatively considerable and would be less than significant.

[71] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines,* May 2017.

E.8 Greenhouse Gas

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	☐
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	☐

Setting

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

The air district has prepared guidelines and methodologies for analyzing GHGs. These guidelines are consistent with CEQA Guidelines sections 15064.4 and 15183.5, which address the analysis and determination of significant impacts from a proposed project's GHG emissions. CEQA Guidelines section 15064.4 allows lead agencies to rely on a qualitative analysis to describeGHG emissions resulting from a project. CEQA Guidelines section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of GHGs and describes the required contents of such a plan. Accordingly, San Francisco has prepared *Strategies to Address Greenhouse Gas Emissions*,[72,73] which presents a comprehensive assessment of policies, programs, and ordinances that collectively represent San Francisco's qualified GHG reduction strategy in compliance with the CEQA guidelines. These GHG reduction actions have resulted in a 36 percent reduction in GHG emissions in 2017 compared to 1990 levels,[74] exceeding the year 2020 reduction goals outlined in the air district's clean air plan,[75] Executive Order S-3-05,[76] and Assembly Bill 32 (also known as the Global Warming Solutions Act).[77][78]

[72] San Francisco Planning Department, Strategies to Address Greenhouse Gas Emissions in San Francisco, November 2010.

[73] San Francisco Planning Department, *2017 Greenhouse Gas Reduction Strategy Update*, July 2017.

[74] San Francisco Department of the Environment, *San Francisco's Carbon Footprint (2017)*, June 2019.

[75] Bay Area Air Quality Management District, *2017 Clean Air Plan*, April 19, 2017.

[76] Office of the Governor, Executive Order S-3-05, June 1, 2005.

[77] Office of the Governor, Assembly Bill 32, September 27, 2006.

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

Given that the City has met the state and region's 2020 GHG reduction targets and San Francisco's GHG reduction goals are consistent with, or more aggressive than, the long-term goals established under Executive Order S-3-05, Executive Order B-30-15, and Senate Bill 32, the City's GHG reduction goals are consistent with Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32, Senate Bill 32, and the clean air plan. Therefore, projects that are consistent with the City's GHG reduction strategy would be consistent with the aforementioned GHG reduction goals, would not conflict with these plans or result in significant GHG emissions, and would therefore, not exceed San Francisco's applicable GHG threshold of significance.

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

Project and Cumulative Analyses

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

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

The proposed project would increase the intensity of use of the site by developing a total of 221 new dwelling units and approximately 8,330 square feet of commercial and childcare uses. The proposed project would also include associated amenities for the residential uses, as well as on-site parking. The proposed project would be all-electric, meaning that no natural gas would be consumed during operations. Overall, the proposed project would contribute to annual long-term increases in GHGs as a result of increased vehicle trips (mobile sources), backup generator testing and maintenance, and residential and commercial operations that result in an increase in energy use, water use, wastewater treatment, and solid waste disposal. Construction activities would also result in temporary increases in GHG emissions. Construction and operational emissions were estimated for disclosure purposes only and are depicted in Table 18.

Table 18. Proposed Project Greenhouse Gas Emissions

Phase	CO_2	CH_4	N_2O	CO_2e
	metric tons per year			
Construction				
Total Construction	1,459.46	0.24	0.00	1,465.43
Operations				
Area	2.44	< 0.01	0.00	2.50
Energy	154.22	0.02	0.01	156.10
Mobile	424.12	0.02	0.00	424.56
Stationary	20.43	< 0.01	0.00	20.50
Waste	35.72	2.11	0.00	88.51
Water	14.92	0.48	0.01	30.54
Total Operations	651.85	2.64	0.02	722.71

Note: < 0.01 = value less than reported 0.01 metric tons per year. Totals may not sum due to rounding.

CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.

Source: Attachment B.

The proposed project would be subject to regulations adopted to reduce GHG emissions as identified in the GHG reduction strategy. As discussed below, compliance with the applicable regulations would reduce the proposed project's GHG emissions related to transportation, energy use, waste disposal, wood burning, and use of refrigerants.

Compliance with the City's Transportation Sustainability Program, bicycle parking requirements, low-emission car parking requirements, and car-sharing requirements, as applicable, would reduce the proposed project's transportation-related emissions. These regulations reduce GHG emissions from single-occupancy vehicles by promoting the use of alternative transportation modes with zero or lower GHG emissions on a per capita basis.

The proposed project would be required to comply with the energy efficiency requirements of the City's Green Building Code, Stormwater Management Ordinance, Water Efficient Irrigation Ordinance, and Commercial Water Conservation Ordinance, green building requirements for renewable energy, and the proposed building code mandating new construction be all-electric, which would promote energy and water efficiency, thereby reducing the proposed project's energy-related GHG emissions.

The proposed project's waste-related emissions would be reduced through compliance with the City's Recycling and Compositing Ordinance, Construction and Demolition Debris Recovery Ordinance, Construction and Demolition Debris Recycling Requirements, and Green Building Code requirements. These regulations reduce the amount of materials sent to a landfill, reducing GHGs emitted by landfill operations. These regulations also promote reuse of materials, conserving their embodied energy[79] and reducing the energy required to produce new materials.

Compliance with the City's street tree–planting requirements would serve to increase carbon sequestration. Other regulations, including the air district's wood-burning regulations, would reduce emissions of GHGs and

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

black carbon. Regulations requiring low-emitting finishes would reduce volatile organic compounds.[80] Thus, the proposed project was determined to be consistent with San Francisco's GHG reduction strategy.[81]

The project sponsor is required to comply with these regulations, which have proven effective, as San Francisco's GHG emissions have measurably decreased when compared to 1990 emissions levels, demonstrating that the City has met and exceeded Executive Order S-3-05, Assembly Bill 32, and the clean air plan GHG reduction goals for the year 2020. Furthermore, the City exceeded its 2017 GHG reduction goal of reducing GHG emissions to 25 percent below 1990 levels by 2017. Other existing regulations, such as those implemented through Assembly Bill 32, will continue to reduce projects' contributions to climate change. In addition, San Francisco's local GHG reduction targets are consistent with the long-term GHG reduction goals of Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32, Senate Bill 32, and the clean air plan. The San Francisco Department of the Environment is also developing a plan to meet carbon neutrality goals to be consistent with statewide Executive Order B-55-18, signed in September 2018. Therefore, because the proposed project would be consistent with the City's GHG reduction strategy, it would also be consistent with the GHG reduction goals of Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32, Senate Bill 32, and the clean air plan; would not conflict with these plans; and therefore, would not exceed San Francisco's applicable GHG threshold of significance[82]. As such, the proposed project would result in a less-than-significant impact with respect to GHG emissions and no mitigation measures are necessary.

E.9 Wind

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Create wind hazards in publicly accessible areas of substantial pedestrian use?	☐	☐	☒	☐	☐

Background

A *Screening-Level Wind Analysis Report*, prepared by Rowan William Davies Inc. in December 2020, reviewed the potential wind impacts of the proposed project.[83]

Average wind speeds in San Francisco are the highest in the summer and lowest in the winter with the strongest peak winds occurring in the winter. Throughout the year, the highest average wind speeds occur in mid-afternoon

[80] While not a GHG, volatile organic compounds are precursor pollutants that form ground-level O_3. Increased ground-level O_3 is an anticipated effect of future climate change that would result in added health effects locally. Reducing volatile organic compound emissions would reduce the anticipated local effects of climate change.

[81] Martin Building Company, San Francisco Planning Department's Greenhouse Gas Analysis: Compliance Checklist for 1101-1123 Sutter Street, December 14, 2019.

[82] San Francisco Planning Department, Compliance Checklist Table for Greenhouse Gas Analysis: Table 1. Private Development Projects, December 4, 2019.

[83] Rowan William Davies & Irwin Inc., *1101-1123 Sutter Street Screening-Level Wind Analysis,* December 4, 2020.

and the lowest in the early morning. Westerly to northwesterly winds are the most frequent and strongest winds during the year regardless of season. Of the primary wind directions, four have the greatest frequencies of occurrence and make up the majority of the strong winds that occur. These wind directions are west-northwest, west, northwest, and west-southwest. Although wind from these directions is the most important for the proposed project, wind from other directions is also considered in the analysis.

Wind impacts are generally caused by large building masses extending substantially above their surroundings and by buildings oriented such that a large wall catches a prevailing wind, particularly if such a wall has little or no articulation. When a building is much taller than those around it, it can intercept and redirect winds downward that might otherwise flow overhead. The winds can be directed down the vertical face of the building to ground level, and these redirected winds can be relatively strong and turbulent. The massing of a building can affect wind speeds. In general, slab-shaped buildings have the greatest potential to accelerate ground-level winds, while buildings that have more geometrically complex shapes tend to have lesser effects. When the wide face of a building, as opposed to its narrow face, is oriented toward the prevailing wind direction, the building has more surface area to intercept winds and redirect them down to ground level, thus increasing the probability of strong and turbulent winds at ground level.

San Francisco Planning Code Requirements

Planning code section 148, Reduction of Ground-level Wind Currents in C-3 Districts, requires buildings to be shaped so as not to cause ground-level wind currents that exceed defined comfort and hazard criteria.

Per planning code section 148, the comfort criteria require that wind speeds will not exceed, more than 10 percent of the time, 11 mph in substantial pedestrian use areas and 7 mph in public seating areas. Similarly, the hazard criterion requires that buildings not cause equivalent wind speeds to reach or exceed the hazard level of 26 mph as averaged from a single full hour of the year.

The project site is located in an NCD (Polk Street Neighborhood Commercial District) district and is not subject to the wind regulations in planning code section 148. Nonetheless, for the purposes of environmental review under CEQA, the wind hazard criterion of planning code section 148 is used to determine if a proposed project would have significant wind impacts and is often applied across the various zoning districts in San Francisco.

Project Analysis

Impact WI-1: The proposed project would not create wind hazards in publicly accessible areas of substantial pedestrian use. (Less than Significant)

A project's wind impacts are directly related to its height, orientation, design, location, and surrounding development context. The proposed project would include a 150-foot-tall building (up to 161 feet to top of rooftop mechanical equipment) and would be tall enough to affect ground-level wind currents adjacent to and near the project site. As the proposed development would be significantly taller than the majority of the surrounding buildings immediately to the westerly directions, down-washing and corner accelerations of wind flows could occur.

Wind conditions at all primary pedestrian entrances would be anticipated to comply with the comfort criterion due to project design features such as building overhangs above entrances, vertical structural columns used in the building design, and proposed street trees. In addition, wind speeds at the building entrances would not be anticipated to exceed the wind hazard criterion.

The building design includes several setbacks and a podium on the west side of the project that would serve to disrupt wind flows and prevent them from reaching the pedestrian level. Wind speeds along the sidewalks adjacent to the proposed project, along Sutter, Larkin, and Hemlock streets, would be anticipated to increase; however, conditions would remain appropriate for the intended use. The highest wind activity would occur at the corner of Sutter and Larkin streets, where conditions may exceed the 11 mph criterion; however, conditions are not predicted to exceed the wind hazard criterion in this or other locations.

Therefore, the proposed project would not cause exceedance of the wind hazard criterion in any public pedestrian areas near the project site and impacts would be less than significant.

Cumulative Analysis

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

The geographic scope for potential cumulative wind impacts encompasses land uses within a 0.25-mile radius of the project site. Cumulative development includes the projects identified in Table 1, p. 14, and on Figure 1, p. 17, with a focus on taller buildings; generally, buildings less than 85 feet tall have limited potential to change ground-level wind conditions. Long-term or permanent cumulative wind impacts could occur if the proposed project, in combination with cumulative projects in the vicinity, would alter wind patterns and speed. Due to the distance of the cumulative projects from the project site (as shown in Table 1, p. 14, the closest project, 955 Post Street, is located approximately 340 feet away and separated from the project site by multiple buildings) and due to the already densely built surrounding environment, the cumulative projects are not anticipated to combine with the proposed project to have a significant adverse impact on wind patterns and speed.[84] Therefore, the proposed project in combination with other cumulative projects would not result in a significant cumulative wind hazard impact.

E.10 Shadow

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces?	☐	☐	☒	☐	☐

Impact SH-1: The proposed project would not create new shadow in a manner that could substantially and adversely affect the use and enjoyment of publicly accessible open spaces. (Less than Significant)

Planning code section 295 regulates new structures above 40 feet in height that would cast additional shadows on open space that is under the jurisdiction of the San Francisco Recreation and Park Commission between 1 hour after sunrise and 1 hour before sunset, at any time of the year. Public open spaces that are not under the

84 Rowan William Davies & Irwin Inc., *1101-1123 Sutter Street Screening-Level Wind Analysis,* December 4, 2020.

jurisdiction of the recreation and park commission, as well as private open spaces open to the public, are not subject to planning code section 295, but are also assessed for shadow impacts under CEQA. In addition, schoolyards associated with schools participating in the Shared Schoolyard Project and open space managed by public works are also assessed for shadow impacts under CEQA.

The nearest public open spaces under the jurisdiction of the recreation and park commission are Sergeant John Macaulay Park, approximately 0.13 miles south, and Tenderloin Recreation Center and Children's Playground, approximately 0.23 miles southwest of the project site. There are two schools in the vicinity of the project site: Alliance Française de San Francisco, approximately 0.04 miles north at 1345 Bush Street, and Redding Elementary School, approximately 0.08 miles north at 1621 Pine Street.

As the project would construct a 150-foot-tall building (with rooftop mechanical equipment up to 161 feet), a shadow analysis under planning code section 295 is required. The planning department prepared a preliminary shadow fan analysis to determine whether the proposed project would have the potential to cast shadow on nearby parks or public open spaces.[85] The shadow fan analysis determined that the project would not cast shadow on any publicly accessible open spaces or open spaces under the jurisdiction of the recreation and park commission, public works, or San Francisco Unified School District (SFUSD), including Redding Elementary School.

During the scoping period for the DEIR, a comment was received regarding potential shading of nearby buildings and obstruction of views of the City from adjacent buildings. Although the proposed project would shade portions of streets, sidewalks, and private properties in the project vicinity at various times of the day throughout the year, such shadows would be transitory in nature, would not substantially affect the use publicly accessible areas such as sidewalks, and would not increase shadows above levels that are common and generally expected in a densely developed urban environment. Although occupants of nearby properties may regard the increase in shadow as undesirable, the limited increase in shading of private properties as a result of the proposed project would not be considered an adverse impact under CEQA. Therefore, shadow impacts on adjacent properties, streets, and sidewalks would be less than significant under CEQA.

Therefore, the proposed project would not create new shadow in a manner that substantially and adversely affects publicly accessible open spaces and would result in a less than significant impact.

Cumulative Analysis

Impact C-SH-1: The proposed project, in combination with other reasonably foreseeable projects, would not have significant cumulative shadow impacts. (Less than Significant Impact)

As discussed above, the proposed project would result in less than significant shadow impacts. Therefore, the proposed project would not contribute to any cumulative impacts related to shadow and further analysis is not required.

[85] San Francisco Planning Department, *1101-1123 Sutter Street – Shadow Fan at 167 Feet*, April 31, 2020.

E.11 Recreation

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☒	☐	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐	☐

Impact RE-1: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. The proposed project would not require the construction of new recreational facilities, or the expansion of existing recreational facilities, that may have an adverse physical effect on the environment. (Less than Significant)

The proposed project would involve the construction of one building and rehabilitation of one building resulting in the development of 221 residential units; 8,330 square feet of commercial and childcare uses; and 11,637 square feet of open space. The proposed land uses would add approximately 504 new residents and 31 employees to the area. The amount of open space provided by the proposed project would be equal to 49 square feet of common open space per unit and 65 square feet of private open space per unit. Approximately 8,630 square feet of common open space would be located at 1123 Sutter Street and accessible to residents of both 1101 Sutter Street and 1123 Sutter Street, as well as commercial tenants of the building. The locations of proposed common open spaces are shown on Figures 2-5, 2-8, and 2-9 of the DEIR and would consist of an outdoor entry court along Hemlock Street, common deck on level 7, and a common deck on level 14. The common open space areas would include both landscape and hardscape areas.

In addition to utilizing the open space provided by the proposed project, residents of the proposed project would be served by the Recreation and Parks Department, which administers more than 220 parks, playgrounds, and open spaces throughout the City, as well as recreational facilities including recreation centers, swimming pools, golf courses, and athletic fields, tennis courts, and basketball courts.[86] The nearest public open spaces to the project site include Sergeant John Macaulay Park, approximately 0.13 miles south; the Tenderloin Recreation Center and Children's Playground, approximately 0.23 miles southwest; and Lafayette Park, approximately 0.4 miles northwest. Residents are expected to primarily use the recreational facilities nearest the project site, as well

[86] San Francisco Recreation and Parks Department, sfrecpark.org, accessed December 28, 2020.

as regional open space attractions offered in the City, including Golden Gate Park, the Presidio, Lake Merced, McLaren Park, and other open spaces. The use of these parks by residents of the proposed project would be dispersed across parks and across different days and times of day. Therefore, it is anticipated that the existing recreational facilities would be able to accommodate the relatively minor increase in demand for recreational resources that would be generated by the project residents without causing deterioration of these facilities or requiring their expansion. Therefore, the proposed project would not increase the use of existing recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. In addition, construction activities for the proposed project would not interfere with recreational resources. For these reasons, impacts on recreational facilities and resources would be less than significant.

Cumulative Analysis

Impact C-RE-1: The proposed project, in combination with other reasonably foreseeable projects, would not result in cumulative recreational impacts. (Less than Significant)

Cumulative development within 0.25 miles of the project site, as described in Table 1, p. 14, and shown on Figure 1, p. 17, would result in an intensification of land uses and a cumulative increase in the demand for recreational facilities and resources. The proposed project would add approximately 504 new residents and 31 employees to the area, which could incrementally increase demand for open space in the project vicinity and the City in general. Future residents of cumulative development could use many of the same public parks, open spaces, and recreation facilities as the residents and employees of the proposed project. Similar to the proposed project, any cumulative project with residential uses would be required to provide common and/or private open space, as defined in the planning code. As discussed above, there are three parks in the project vicinity. It is expected that these existing recreational facilities would be able to accommodate the increase in demand for recreational resources generated by nearby cumulative development projects. Furthermore, the City has accounted for greater use of public parks due to planned population growth as part of the recreation and open space element of the city's general plan.[87] In addition, San Francisco voters passed two bond measures, in 2008 and 2012, to fund the acquisition, planning, and renovation of the City's network of recreational resources.

Therefore, because the proposed project and reasonably foreseeable projects would be required to provide open space for project residents in accordance with planning code requirements and because the City has accounted for the effects of increased growth on its facilities as part of the recreation and open space element and bond measures, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to parks and recreation.

87 San Francisco Planning Department, San Francisco General Plan Recreation and Open Space Element, http://www.sf-planning.org/ftp/General_Plan/Recreation_OpenSpace_Element_ADOPTED.pdf, April 2014, accessed December 2020.

E.12 Utilities and Service Systems

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Require or result in the relocation or construction of new or expanded wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant physical environmental effects?	☐	☐	☒	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? Require or result in the relocation of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐	☐
c) Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity or local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐	☐

Impact UT-1: The proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects; and would not result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's demand. (Less than Significant)

The project site is served by the City's combined sewer system, which collects and treats most wastewater and stormwater at one of three SFPUC treatment facilities. The Southeast Water Pollution Control Plant provides wastewater and stormwater treatment and management for approximately 80 percent of the City, including the project site. Stormwater discharges from City buildings, including the existing project site, are treated to standards specified in San Francisco's National Pollutant Discharge Elimination System (NPDES) permit, which is described in section E.16, Hydrology and Water Quality, p. 116. The southeast plant has an average dry weather design flow capacity of approximately 85 million gallons per day; average wastewater flows to the southeast plant were approximately 60 million gallons per day in 2019.[88] Therefore, the remaining dry weather capacity is approximately 25 million gallons per day. Although the proposed project would add new residents and employees to the project site, this additional population is not beyond the growth projections included in long-range plans for the City's wastewater system. In addition, separate from the proposed project, the SFPUC is upgrading the existing infrastructure at the southeast plant as part of its Sewer System Improvement Program to ensure reliability and performance of the City's sewer system.[89]

The project site is currently covered with impervious surfaces and the proposed project would not create new impervious surfaces or substantially increase total stormwater volume discharged through the combined sewer system. The proposed project would be required to comply with the City's Stormwater Management Ordinance (as codified in section 147 of the San Francisco Public Works Code) and the 2016 Stormwater Management Requirements and Design Guidelines, which require projects replacing more than 5,000 square feet of impervious surface to decrease the existing stormwater runoff flow rate and volume at the site by 25 percent for the two-year 24-hour design storm.[90] This will be achieved by incorporating bioretention areas in the form of flow through planters on the roof. While the proposed project would add wastewater flows in the area, stormwater and wastewater treatment and collection would not exceed existing remaining dry weather capacity of approximately 25 million gallons per day. No new wastewater or stormwater facilities or construction would be needed to serve the proposed project.

It is expected that the project would increase demand for utility services in the area. However, the project site is located within a developed area served by existing electric power, natural gas, and telecommunications, and would not necessitate the construction of new power generation, natural gas, or telecommunications infrastructure (e.g., electric substations, telecommunication towers). Therefore, impacts to utility services would be less than significant.

[88] San Francisco Public Utilities Commission, San Francisco's Wastewater Treatment Facilities, *https://sfwater.org/modules/showdocument.aspx?documentid=14116, 2019*, accessed December 29, 2020.

[89] San Francisco Public Utilities Commission, San Francisco's Wastewater Treatment Facilities, *https://sfwater.org/modules/showdocument.aspx?documentid=14116, 2019*, accessed December 29, 2020.

[90] San Francisco Public Utilities Commission, Stormwater Management Requirements and Design Guidelines, https://sfwater.org/Modules/ShowDocument.aspx?documentID=9026, 2016, accessed December 12, 2020.

Impact UT-2: The proposed project would have sufficient water supply available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. (Less than Significant)

The proposed project would create 221 new residential units and approximately 4,575 square feet of commercial space. This would result in an incremental increase in water usage within the City. The proposed project does not qualify as a "large water demand" project as defined by CEQA Guidelines section 15155(a)(1).[91] Therefore, water supply assessment is not required and has not been prepared for the project.

The SFPUC provides the potable water supply through its regional water system within the City, including the project site. In June 2016, the SFPUC adopted the *2015 Urban Water Management Plan for the City and County of San Francisco*.[92] The water management plan estimates that current and projected water supplies will be sufficient to meet future retail demand[93] through 2035 under normal year, single dry year, and multiple dry year conditions; however, if a multiple dry year event occurs, the SFPUC would implement water use and supply reductions through its drought response plan and a corresponding retail water shortage allocation plan.

As described under section E.2, Population and Housing, p. 20, the proposed project would not generate unplanned population growth. Therefore, the increased water usage as a result of development of the proposed project is accounted for under the urban water management plan and, under existing conditions, the proposed project would have sufficient water supply during normal, dry, and multiple dry years.

However, in December 2018, the State Water Resources Control Board adopted the *Bay-Delta Plan Amendment to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary*, establishing water quality objectives to maintain the health of rivers and the Bay-Delta ecosystem.[94] Implementation of the Bay-Delta plan amendment would result in a substantial reduction in SFPUC's water supplies from the Tuolumne River watershed during dry years, requiring rationing in San Francisco to a greater degree than that previously anticipated to address supply shortages that were not accounted for in the water management plan.

[91] Pursuant to CEQA Guidelines section 15155:

a. The following definitions are applicable to this section.

1. A "water-demand project" means:

A. A residential development of more than 500 dwelling units.

B. A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

C. A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor area.

D. A hotel or motel, or both, having more than 500 rooms.

E. An industrial, manufacturing, or processing plant or industrial park for more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

F. A mixed-use project that includes one or more of the projects specified in subdivisions (a)(1)(A), (a)(1)(B), (a)(1)(C), (a)(1)(D), (a)(1)(E), and (a)(1)(G) of this section.

G. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a project with 500 dwelling units.

[92] San Francisco Public Utilities Commission, 2015 Urban Water Management Plan for the City and County of San Francisco, https://sfwater.org/index.aspx?page=75, June 2016, accessed December 12, 2020.

[93] Retail demand represents water the SFPUC provides to individual customers within San Francisco. Wholesale demand represents water the SFPUC provides to other water agencies supplying other jurisdictions.

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

The SFPUC has prepared a memorandum to consider future water supply scenarios with adoption of the Bay-Delta plan amendment.[95] The SFPUC memorandum estimates total shortfalls in water supply (e.g., total retail demand minus total retail supply) to retail customers through 2040 under three increasingly supply-limited scenarios:

1. Without implementation of the Bay-Delta plan amendment, wherein the water supply and demand assumptions contained in the water management plan and the 2009 Water Supply Agreement, as amended, would remain applicable.
2. With implementation of a voluntary agreement between the SFPUC and the state water board, including a combination of flow and non-flow measures that would be designed to benefit fisheries at a lower water cost, particularly during multiple dry years, than that under the Bay-Delta plan amendment. [96]
3. With implementation of the Bay-Delta plan amendment as adopted.

Under all three scenarios, the SFPUC would have adequate water to meet total retail demands through 2040 in normal years.[97] Under scenarios 1 and 2, if a single or multiple dry year event occurs, the SFPUC would implement water use and supply reductions through its drought response plan and a corresponding retail water shortage allocation plan, as described in the water management plan. However, under scenario 3 (implementation of the Bay-Delta plan amendment as adopted), the drought response actions described in the water management plan would not be sufficient to make up for water supply shortfalls under single and multiple dry year events.

The SFPUC is accelerating its efforts to develop additional water supplies and explore other projects that would increase overall water supply resilience in case the Bay-Delta plan amendment is implemented. The SFPUC has identified possible projects that it will study, but it has not determined the feasibility of the projects and has not made a decision to pursue any particular water supply project. The potential impacts that could result from construction and/or operation of any such water supply facility projects cannot be identified at this time and would be evaluated under a separate environmental review in support of those projects. In any event, under a worst-case scenario, demand for the SFPUC to develop new or expanded dry year water supplies will exist, regardless of whether the proposed project is constructed.

Because the SFPUC would develop appropriate approaches to ration and secure additional water supplies during dry and multiple dry years if the Bay-Delta plan amendment is adopted, and because the increased water usage due to development of the proposed project is accounted for under the water management plan, the proposed project would have sufficient water supply available to serve the project during normal, dry, and multiple dry year conditions. Therefore, this impact would be less than significant.

[95] Ritchie, Steven R., San Francisco Public Utilities Commission, memorandum to Lisa Gibson, Environmental Review Officer, San Francisco Planning Department, Environmental Planning Division, May 31, 2019.

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

[97] Based on historic records of hydrology and reservoir inflow from 1920 to 2017 and current delivery and flow obligations, with the fully implemented infrastructure from the 2018 Phased Water System Improvement Program Variant, normal or wet years occurred during 85 out of 97 years. This translates into roughly 9 normal or wet years out of every 10. Conversely, system-wide rationing is required roughly 1 out of every 10 years. This frequency is expected to increase as climate change intensifies.

Impact UT-3: The proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local solid waste infrastructure, otherwise impair the attainment of solid waste reduction goals, or conflict with applicable management and reduction statutes and regulations related to solid waste. (Less than Significant)

In September 2015, the City entered into a landfill disposal agreement with Recology Inc. for disposal of all solid waste collected in San Francisco at the Recology Hay Road Landfill in Solano County for nine years or until 3.4 million tons have been disposed, whichever occurs first. The City would have an option to renew the agreement for a period of six years or until an additional 1.6 million tons have been disposed, whichever occurs first.[98] The Recology Hay Road Landfill is permitted to accept up to 2,400 tons per day of solid waste and has a maximum permitted capacity of 37,000,000 cubic yards.[99] At that maximum permitted rate, the landfill has the capacity to accommodate solid waste until approximately 2077. The City's contract with the Recology Hay Road Landfill will extend until 2031 or when the City has disposed 5 million tons of solid waste, whichever occurs first. At that point, the City would either further extend the landfill contract or find and entitle an alternative landfill site. The Recology Hay Road Landfill facility is seeking a permit to expand its capacity by an additional 8.8 million cubic yards and increase the peak tonnage amounts.[100]

The California Integrated Waste Management Act of 1989 (Assembly Bill 939) requires municipalities to adopt an integrated waste management plan to establish objectives, policies, and programs relative to waste disposal, management, source reduction, and recycling. The proposed project would involve the full demolition of the existing building at 1123 Sutter Street, and therefore would be subject to chapter 14 of the San Francisco Environment Code, Construction and Demolition Debris Recovery Ordinance, and chapter 7, section 708, of the San Francisco Environment Code. Section 708 applies to all construction and/or demolition City projects and requires the contractor to prepare and submit a Construction and Demolition Debris Management Plan. A minimum of 65 percent of construction and demolition debris must be recycled and diverted from landfills. Construction and demolition debris are defined as building materials and solid waste generated from construction and demolition activities, but do not include refuse regulated under chapter 19 of the San Francisco Environment Code, materials excavated from the public right-of-way, or hazardous waste. Additionally, San Francisco Ordinance 100-09, Mandatory Recycling and Composting Ordinance, requires everyone in the City to separate their refuse into recyclables, compostables, and trash.

Although the proposed project would incrementally increase total waste generation from the City, the increasing rate of diversion through recycling and other methods would result in a decreasing share of total waste that requires deposition into the landfill. Given this net reduction in landfill waste and the City's agreement for disposal of municipal solid waste at the Recology Hay Road Landfill in Solano County, the solid waste generated by project construction and operation would not result in the landfill exceeding its permitted capacity.

Solid waste generated from the project's construction and operation would comply with statutes and regulations for solid waste disposal, and no associated impacts related to compliance with solid waste regulations would

[98] San Francisco Planning Department, Agreement for Disposal of San Francisco Municipal Solid Waste at Recology Hay Road Landfill in Solano Count, Final Negative Declaration, Planning Department Case No. 2014.0653, http://sfmea.sfplanning.org/2014.0653E_Revised_FND.pdf, May 21, 2015, accessed January 4, 2021.

[99] California Department of Resources Recycling and Recovery, SWIS Facility/Site Summary: Recology Hay Road Landfill, *https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/3582*, accessed January 4, 2021.

[100] Solano County, Final Subsequent Environmental Impact Report for Recology Hay Road Landfill Land Use Permit Amendment No. 2. State Clearinghouse No. 201803203, https://www.solanocounty.com/depts/rm/documents/eir/recology_hay_road_landfill_.asp, approved April 23, 2020, accessed January 4, 2021.

occur. Because the proposed project would comply with all applicable local, state, and federal laws and regulations pertaining to solid waste, the project's impact on solid waste generation would be less than significant.

Cumulative Analysis

Impact C-UT-1: The project, in combination with other reasonably foreseeable projects, would not result in significant cumulative impacts on utilities and service systems. (Less than Significant)

Wastewater and Stormwater

The geographic context for cumulative wastewater and stormwater impacts is the southeast plant drainage basin. The City's combined sewer system and treatment facilities are designed to accept both wastewater and stormwater flows. As with the proposed project, all reasonably foreseeable projects in the drainage basin would be required to comply with San Francisco regulations regarding wastewater and stormwater generation. Although reasonably foreseeable projects would likely result in increased wastewater flows to the southeast plant, as described under Impact UT-1, based on existing dry weather flows, the plant currently treats approximately 60 million gallons per day (80 percent of the City's flows) and has a current remaining dry weather capacity of approximately 25 million gallons per day. The population of San Francisco is projected to increase by approximately 255,000 persons for a total of 1,136,455 persons by 2040.[101] This is a 29 percent increase in population. Assuming a proportional increase in wastewater flows, flows to the southeast plant would increase by approximately 17 million gallons per day. Therefore, the southeast plant has sufficient capacity to accommodate the proposed project and reasonably foreseeable future projects. Furthermore, existing stormwater regulations require that projects replacing 5,000 square feet or more of impervious surface reduce stormwater flows by 25 percent for a two-year 24-hour design storm. The 25 percent reduction in stormwater flows relative to existing conditions would result in an overall reduction in combined flows during wet-weather flow events. Therefore, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to the combined sewer collection and treatment system.

Other Utilities

The geographic context for cumulative impacts related to electric power, natural gas, or telecommunications facilities is the City. The proposed project and cumulative projects would incrementally increase demand on citywide utilities and service systems, but not beyond levels anticipated and planned for by public service providers. The proposed project and cumulative projects are infill development projects and would connect to existing utilities in the surrounding roadways. No substantial relocation or construction of new or expanded utilities would occur. Therefore, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to electric power, natural gas, or telecommunications facilities.

Water Supply

The geographic context for water supply is the City. Under existing conditions, the water management plan indicates that there would be sufficient water supply to accommodate planned cumulative development in the City under normal, dry, and multiple dry year conditions. However, in the event that the Bay-Delta plan amendment were to take effect sometime after 2022, there could be substantial water shortages during dry and multiple dry year events. This is a potentially significant cumulative impact. As discussed in the SFPUC

[101] Association of Bay Area Governments and Metropolitan Transportation Commission, *Plan Bay Area Projections 2040*, *https://mtc.ca.gov/sites/default/files/Projections_2040-ABAG-MTC-web.pdf*, approved November 2018, accessed December 2020.

memorandum, the SFPUC plans to respond to these conditions by developing projects to secure additional water supplies.[102] Any water development projects would require their own separate environmental review. Given the long lead times associated with developing water supply projects, water supply rationing would be implemented in the City until additional water supplies are secured. The SFPUC has established a process through its Retail Water Shortage Allocation Plan for actions it would take under circumstances that would require rationing.[103] The level of rationing that would be required of the proposed project and cumulative projects is unknown at this time. However, the small increase in potable water demand attributable to the proposed project, compared with citywide demand, would not substantially affect the levels of dry year rationing that would otherwise be required throughout the City. Therefore, the proposed project would not make a considerable contribution to a potentially significant cumulative impact under the Bay-Delta Plan Amendment scenario, and the project's contribution would be less than significant.

Solid Waste

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

Although reasonably foreseeable development projects could incrementally increase total solid waste generation from the City by increasing the number of residents and excavation, demolition, and remodeling activities associated with growth, the increasing rate of landfill diversion citywide through recycling, composting, and other methods would result in a decrease of total solid waste that requires deposition into the landfill. Given the City's progress to date on diversion and waste reduction and given the future long-term capacity available at the Recology Hay Road Landfill and other area landfills, reasonably foreseeable development projects would be served by a landfill with sufficient permitted capacity to accommodate their solid waste disposal needs. For these reasons, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to solid waste.

Conclusion

Based on the above, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to utilities and service systems.

[102] Ritchie, Steven R., San Francisco Public Utilities Commission, memorandum to Lisa Gibson, Environmental Review Officer, San Francisco Planning Department, Environmental Planning Division, May 31, 2019.

[103] Ritchie, Steven R., San Francisco Public Utilities Commission, memorandum to Lisa Gibson, Environmental Review Officer, San Francisco Planning Department, Environmental Planning Division, May 31, 2019.

E.13 Public Services

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services such as fire protection, police protection, schools, parks, or other services?	☐	☐	☒	☐	☐

The project's impacts to parks are discussed in section E.11, Recreation, p. 89. Impacts to other public services are discussed below.

Impact PS-1: The proposed project would not result in adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services such as fire protection, police protection, schools, and other services. (Less than Significant)

Fire Protection and Medical Emergency Service

The San Francisco Fire Department provides fire suppression and emergency medical services in the City, including at the project site. In addition, several privately operated ambulance companies are authorized to provide advanced life support services. The fire department responds to non-life-threatening fire and medical emergencies (code 2) as well as life-threatening fire and medical emergencies (code 3). Response times are measured from the time a unit is dispatched to the time the unit arrives at the scene. According to San Francisco's Emergency Medical Services Agency policy, the target response time for a life-threatening emergency medical incident should be within 10 minutes 91 percent of the time. In fiscal year 2019–2020, 92 percent of ambulances arrived on scene within 10 minutes.[104] The fire department is on track to meet its target in fiscal year 2019–2020 as well.

The fire department consists of three divisions, which are subdivided into 10 battalions and 45 active stations throughout the City. The project would be served by Fire Station 3, located at 1067 Post Street, approximately two

[104] City and County of San Francisco, City Performance Standards, *https://sfgov.org/scorecards/public-safety*, accessed January 3, 2021.

blocks south of the project site.[105] As discussed in section E.2, Population and Housing, p. 20, the proposed project would add approximately 504 residents and 31 employees on the project site. The increased population resulting from the proposed project would be expected to result in an incremental increase in demand for fire protection and emergency medical services. However, this increase in demand would not be substantial given the overall demand for such services on a citywide basis. Furthermore, the fire department conducts ongoing assessments of its service capacity and response times to maintain acceptable service levels, given the demand resulting from changes in population.

The proposed project would comply with the applicable requirements of the California Fire Code, which includes requirements pertaining to fire protection systems, provision of state-mandated fire alarms, fire extinguishers, appropriate building access and egress, and emergency response notification systems. In addition, the proposed project would be required to comply with the California Fire Code requirements pertaining to high rise structures and approved water supply capable of supplying the required flow for fire protection. Moreover, the proximity of the project site to Fire Station No. 3 would help minimize fire department response times should incidents occur at the project site. As such, the proposed project would not require the construction of new, or alteration of existing, fire protection facilities. Therefore, this impact would be less than significant.

Police Protection Services

The San Francisco Police Department, headquartered at 850 Bryant Street in the Hall of Justice (approximately 2.0 miles southeast of the project site),[106] provides police protection services for the City. The police department's Tenderloin Station, at 301 Eddy Street, is the nearest police station, located approximately 0.6 miles southeast of the project site.[107] As discussed in section E.2, Population and Housing, p. 20, the proposed project would add approximately 504 residents and 31 employees on the project site. This increased population resulting from the proposed project would be expected to increase demand for police protection services. However, the police department conducts ongoing assessments of its staffing and facility needs as part of the City's annual operating and capital budget process. This increase in demand would not be substantial given the overall demand for such services on a citywide basis. Moreover, the proximity of the project site to the Tenderloin Station would help minimize police department response times should incidents occur at the project site. As such, the proposed project would not require the construction of new, or alteration of existing, police protection facilities. Therefore, this impact would be less than significant.

Schools

SFUSD operates San Francisco's public schools. During the 2019–2020 academic year, the school district managed 121 schools (75 elementary schools, 16 middle schools, 18 high schools, five alternative schools, five preschools, and two continuation schools).[108] Although overall enrollment in the SFUSD declined between 2000 and 2010, between 2010 and 2020 the district experienced a gradual increase in enrollment.[109] Total enrollment

[105] San Francisco Fire Department, Fire Station Location Maps, *https://sf-fire.org/fire-station-locations*, accessed January 3, 2021.

[106] This distance is based on the shortest route by car between the police headquarters and the project site.

[107] This distance is based on the shortest route by car between the police station and the project site.

[108] California Department of Education, *Educational Demographics Office, Fiscal, Demographic, and Performance Data: San Francisco Unified, https://www.ed-data.org/district/San-Francisco/San-Francisco-Unified*, accessed December 2020.

[109] San Francisco Unified School District, San Francisco Bay Area Planning and Urban Research (SPUR) Forum Presentation, Growing Population, Growing Schools, https://www.spur.org/sites/default/files/events_pdfs/SPUR%20Forum_August%2031%202016.pptx_.pdf, August 31, 2016.

in the district increased from 55,571 in 2010–2011 to 61,231 in the 2019–2020 school year.[110] By 2030, SFUSD estimates that total enrollments could range from 64,000 to 73,000.[111]

SFUSD works with the planning department and other City agencies to develop public school student enrollment projections and inform its facility planning. Should additional capacity be required to meet updated educational space standards and projected public school student population, SFUSD is considering several options including the future Mission Bay School, an existing school site on Treasure Island that will be leased by SFUSD, and the planned renovation and expansion of the district's 135 Van Ness property for the Arts Center Campus.[112]

Under the current system, school district students are not automatically assigned to a particular school based on their geographic location but rather entered into a diversity index lottery system in which families can request to be enrolled in schools anywhere in the district. The system assigns students to schools according to several factors, including parental choice, school capacity, and special program needs.[113]

Based on a study by Lapkoff & Gobalet Demographic Research Inc. that evaluated student generation rates for different types of San Francisco developments, very few students are generated from large apartment and condominium complexes, even when the buildings contain some below-market-rate units.[114] Furthermore, based on a student generation rates used by the SFUSD (0.203 students per dwelling unit), the proposed project could generate up to approximately 45 K–12 students, or an approximately 0.07 percent increase above the 2019–2020 SFUSD student enrollment.[115] However, some of the students generated by the project might already attend schools operated by SFUSD, while others might attend private schools. The SFUSD would be able to accommodate the approximately 45 students generated by the proposed project without requiring the construction of new school facilities or expansion of existing school facilities. In addition, the proposed project would be subject to a citywide development impact fee, which requires a payment of $3.79 per square foot of assessable space for residential development and $0.61 per square foot of covered and enclosed space for commercial development to be funded by the project sponsor and paid to SFUSD.[116] This fee would be used for funding the construction or reconstruction of school facilities to offset the impact of new development.

Therefore, implementation of the proposed project would not necessitate the need for new or physically altered schools and impacts would be less than significant.

Other Public Services

Implementation of the proposed project would increase the number of people on the project site (residents and commercial employees), which could increase the demand for other public services, such as

[110] California Department of Education, Educational Demographics, 2020, *https://www.ed-data.org/district/San-Francisco/San-Francisco-Unified*, accessed December 28, 2020.

[111] Lapkoff & Gobalet Demographics Research Inc., Demographic Analyses and Enrollment Forecasts, San Francisco Unified School District, February 2018.

[112] San Francisco Unified School District, Presentation to the Capital Planning Committee, https://onesanfrancisco.org/sites/default/files/2019-04/Agenda%20Item%204D%20-%20SFUSD%20Presentation_0.pdf, December 2018, accessed January 21, 2021.

[113] San Francisco Unified School District, Student Assignment Policy, *https://www.sfusd.edu/schools/enroll/student-assignment-policy*, accessed December 2020.

[114] Lapkoff & Gobalet Demographic Research Inc., Demographic Analyses and Enrollment Forecasts for the San Francisco Unified School District, February 16, 2018.

[115] City and County of San Francisco, *Central SoMa Plan, Case No. 2011.1356E*, *https://sf-planning.org/area-plan-eirs*, Certified December 17, 2018, accessed December 2020.

[116] San Francisco Planning Department, San Francisco Citywide Development Impact Fee Register, *https://sfplanning.org/sites/default/files/forms/Impact_Fee_Schedule.pdf*, accessed December 2020.

libraries. This increase in demand would not be substantial relative to the overall demand for library services on a citywide basis. The San Francisco Public Library operates 34 neighborhood branches and mobile units throughout San Francisco, and it is anticipated that the Main Library at 100 Larkin Street, which is 0.6 miles south of the project site, would be able to accommodate the minor increase in demand for library services generated by the proposed project.[117] For these reasons, implementation of the proposed project would not require the construction of new, or alteration of existing, governmental facilities. This impact would be less than significant.

Cumulative Analysis

Impact C-PS-1: The proposed project, in combination with other reasonably foreseeable projects, would not have a significant cumulative impact on public services. (Less than Significant)

The geographic context for cumulative fire, police, schools, and library impacts are the police, fire, and library service areas, while the geographic context for cumulative school impacts is the SFUSD service area. The reasonably foreseeable future projects within 0.25 miles of the project site (as described in Table 1, p. 14, and shown on Figure 1, p. 17) or, in the case of schools, within the school district, in combination with the proposed project, would result in an incremental increase in the population in the area, leading to an limited increase in demand for public services, including fire and police protection, school services, and library services. These essential City service providers continually assess demand based on anticipated growth and service needs. By analyzing their service metrics, these agencies and services are able to adjust staffing, capacity, response times, and other measures of performance. Additionally, police and fire services are provided on a cooperative basis; other stations can respond to calls for service if needed and service would not be restricted to the local police and fire stations. In addition, the proposed project and other cumulative projects would be required to contribute to school development impact fees, which would be used for funding the construction or reconstruction of school facilities to offset the impact of new development. Any development or expansion of schools by the SFUSD to accommodate the projected increase in demand for school services by 2040 would undergo its own separate environmental review process.

As a result, the proposed project in combination with cumulative projects would not result in a cumulative impact related to a service gap in fire, police, schools, or library services requiring new or physically altered facilities, the construction of which could cause significant environmental impacts.

[117] San Francisco Public Library, Library Locations, *https://sfpl.org/*, accessed December 2020.

E.14 Biological Resources

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐	☐
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☐	☒

The project site is in an urbanized area completely developed with buildings and impervious surfaces. The project area does not include riparian habitat or other sensitive natural communities as defined by the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service; therefore, question 14(b) is not applicable to the proposed project. In addition, the project area does not contain any wetlands as defined by section 404 of the Clean Water Act; therefore, question 14(c) is not applicable to the proposed project. Moreover, the proposed project does not fall within any local, regional, or state habitat conservation plans; therefore, question 14(f) is not applicable to the proposed project.

Impact BI-1: The proposed project could have a substantial adverse effect, either directly or indirectly through habitat modifications, on any special-status species, including interference with the migratory paths of avian species. (Less than Significant with Mitigation)

The project site is entirely covered with impervious surfaces and has one existing tree on the surface parking lot at 1123 Sutter Street that will be removed for the project and three street trees along Larkin Street, which will remain. As such, the site does not provide habitat for any rare, threatened, or endangered plant or animal species and does not contain any established terrestrial wildlife movement corridors that link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or areas of human disturbance or urban development.

However, the location, height, and material of the proposed 150-foot-tall building at 1123 Sutter Street, particularly transparent or reflective glass, may present risks for birds as they travel along their migratory paths. The planning department adopted Standards for Bird-Safe Buildings in 2011 (Bird Safe Building Ordinance, San Francisco Ordinance 199-11), adding planning code section 139, which establishes building design standards to reduce avian mortality rates associated with bird strikes. The building standards are based on two types of bird hazards: (1) location-related hazards that pertain to new buildings within 300 feet of an urban bird refuge and (2) feature-related hazards such as free-standing glass walls, wind barriers, skywalks, balconies, and greenhouses on rooftops that have unbroken glazed segments 24 square feet or larger in size. The project site is not located within 300 feet of an urban bird refuge, so the standards concerning location-related hazards are not applicable to the proposed project.[118] However, the proposed project would comply with the building feature–related hazard standards of planning code section 139 by using bird-safe glazing treatment on 100 percent of any building feature–related hazard. This would reduce the potential for development of the proposed 150-foot-tall building to interfere with migratory birds to less than significant.

Removal of the existing tree on site or construction adjacent to the street trees along Larkin Street during the nesting bird season could result in potentially significant impacts to nesting birds and their nests, potentially resulting in nest abandonment, destruction, injury or mortality of nestlings, and disruption of reproductive behavior during the breeding season. The proposed project would be subject to the requirements of the Migratory Bird Treaty Act of 1918 (16 USC 703–711) and the California Fish and Game Code (sections 3503, 3503.5, 3511, and 3513), which provide that it is unlawful to take or possess any migratory nongame bird or needlessly destroy nests of birds except as otherwise outlined in the code. The proposed project may result in the displacement of nesting migratory birds and/or the abandonment of active nests should construction and vegetation removal occur during the typical nesting season (January 15 through August 15). Consistent with the requirements of the Migratory Bird Treaty Act and California Fish and Game Code, the proposed project would implement Mitigation Measure M-BI-1, Preconstruction Nesting Bird Surveys and Buffer Areas.

[118] San Francisco Planning Department, Standards for Bird-Safe Buildings, https://sfplanning.org/sites/default/files/resources/2018-08/Urban%20Bird%20Refuge.pdf, July 23, 2014.

Mitigation Measure M-BI-1: Preconstruction Nesting Bird Surveys and Buffer Areas

Nesting birds and their nests shall be protected during construction by implementation of the following measure:

a) To the extent feasible, the project sponsor shall conduct initial activities including, but not limited to, vegetation removal, tree trimming or removal, ground disturbance, building demolition, site grading, and other construction activities that may compromise breeding birds or the success of their nests outside of the nesting season (January 15 through August 31).

b) If construction during the bird nesting season cannot be fully avoided, a qualified wildlife biologist shall conduct pre-construction nesting surveys within 7 days prior to the start of construction or demolition at areas that have not been previously disturbed by project activities or after any construction breaks of 7 days or more. Typical experience requirements for a “qualified biologist” include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities and a minimum of two years of experience in biological monitoring or surveying for nesting birds. Surveys of suitable habitat shall be performed in publicly accessible areas within 100 feet of the project site in order to locate any active nests of common bird species and within 200 feet of the project site to locate any active raptor (birds of prey) nests.

c) If active nests are located during the preconstruction nesting bird surveys a qualified biologist shall evaluate if the schedule of construction activities could affect the active nests; if so, the following measures shall apply, as determined by the biologist:

    i. If construction is not likely to affect the active nest or nesting behavior, construction may proceed without restriction; however, a qualified biologist shall regularly monitor the nest at a frequency determined appropriate for the surrounding construction activity to confirm there is no adverse effect. Spot-check monitoring frequency would be determined on a nest-by-nest basis considering the particular construction activity, duration, proximity to the nest, and physical barriers that may screen activity from the nest. The qualified biologist may revise their determination at any time during the nesting season in coordination with the planning department.

    ii. If it is determined that construction may affect the active nest, the qualified biologist shall establish a no-disturbance buffer around the nest and all project work shall halt within the buffer until a qualified biologist determines the nest is no longer in use. These buffer distances shall be equivalent to the survey distances (100 feet for passerines and 200 feet for raptors); however, the buffers may be adjusted if an obstruction, such as a building, is within line of sight between the nest and construction and the biologist determines the construction activity, including noise, is not affecting nesting behaviors.

    iii. Modifying nest buffer distances, allowing certain construction activities within the buffer, and/or modifying construction methods in proximity to active nests shall be done at the discretion of the qualified biologist and in coordination with the planning department, who would notify the

California Department of Fish and Wildlife (CDFW). Necessary actions to remove or relocate an active nest shall be coordinated with the planning department and approved by CDFW.

iv. Any work that must occur within established no-disturbance buffers around active nests shall be monitored by a qualified biologist. If adverse effects in response to project work within the buffer are observed and could compromise the nest, work within the no-disturbance buffer(s) shall halt until the nest is vacated, young have fledged, and there is no evidence of a second attempt at nesting.

v. Any birds that begin nesting within the project area and survey buffers amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels, so exclusion zones around nests may be reduced or eliminated in these cases as determined by the qualified biologist in coordination with the planning department, who would notify CDFW. Work may proceed around these active nests as long as the nests and their occupants are not directly affected.

d) In the event inactive nests are observed within or adjacent to the project site at any time throughout the year, any removal or relocation of the inactive nests shall be at the discretion of the qualified biologist in coordination with the planning department, who would notify and seek approval from the CDFW, as appropriate. Work may proceed around these inactive nests.

Compliance with existing regulations through implementation of Mitigation Measure M-BI-1 would ensure that the proposed project would not result in significant impacts to nesting birds. Therefore, the proposed project's impacts associated with special-status species, the movement of any native resident or migratory wildlife species, or with established native resident or migratory wildlife corridors would be less than significant with mitigation.

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. (Less than Significant)

As described above, the project site has one existing tree on the surface parking lot at 1123 Sutter Street, which would be removed for the proposed project, and three street trees along Larkin Street, which would remain. The San Francisco Urban Forestry Ordinance (article 16 of the San Francisco Public Works Code) was enacted to protect several categories of trees: street trees, significant trees, and landmark trees (collectively referred to as *protected trees*) in areas under public works jurisdiction and trees located on City-owned property. Significant trees must have a portion of their trunk within ten feet of a public right-of-way and meet one of the following size requirements: 20 feet in height, 15 feet in canopy width, or 12 inches in trunk diameter.[119] Landmark trees are designated by the Board of Supervisors.[120] The existing tree located in the parking lot of 1123 Sutter Street that is proposed for removal is within ten feet of a public right-of-way more than 20 feet in height and therefore qualifies as a significant tree. The proposed project would apply for the required tree removal permit from public works.

In addition, planning code section 138.1(c)(1) requires that for every 20 feet of property frontage along each street, one 24-inch box tree be planted, with any remaining fraction of 10 feet or more of frontage requiring an additional tree. The project site has a total of approximately 247.5 feet of frontage along Sutter and Hemlock streets, and approximately 120 feet of frontage along Larkin Street. Therefore, 30 street trees are required for the

[119] San Francisco Public Works Code, Article 16, Section 810A.

[120] San Francisco Public Works, Significant and Landmark Trees, *https://sfpublicworks.org/services/significant-and-landmark-trees*, accessed January 14, 2020.

proposed project. In addition to the three existing trees, 15 new street trees would be planted along Sutter, Larkin, and Hemlock streets (Figure 2-11 of the DEIR). Street level landscaped areas totaling about 582 square feet would also be developed, providing an equivalent of eight street trees. Consistent with the Urban Forestry Ordinance, the proposed project would obtain a permit for removal of the existing significant tree, request a waiver from the public works for 25 equivalent street trees instead of the required 30 street trees, and pay an in-lieu fee that would be used by the City to plant and water trees in other areas of the City. Therefore, as the project would not conflict with the City's local tree ordinance, impacts would be less than significant.

Cumulative Analysis

Impact C-BI-1: The project, in combination with other reasonably foreseeable future projects, would not substantially contribute to cumulative impacts on biological resources. (Less than Significant)

The geographic scope of cumulative impacts related to biological resources includes the project site and an approximately 0.25-mile radius around the site. Cumulative projects are listed in Table 1, p. 14, and shown on Figure 1, p. 17. The project vicinity does not currently support any candidate, sensitive, or special-status species; any riparian habitat; or any other sensitive natural community identified in local or regional plans, policies, or regulations by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service. As with the proposed project, nearby cumulative projects would also be subject to the California Fish and Game Code, Migratory Bird Treaty Act, Bird-Safe Building Ordinance, and Urban Forestry Ordinance. This would protect native and migratory birds and street trees. Therefore, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to biological resources.

E.15 Geology and Soils

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐	☐
iv) Landslides?	☐	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	☐
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐	☐

The project does not propose septic tanks or alternative wastewater disposal systems. Therefore, question 15(e) is not applicable to the proposed project.

Existing Conditions

The site is entirely developed with two buildings and a surface parking lot. The property slopes downhill from Sutter Street to Hemlock Street, which is approximately 10 feet below the Sutter Street grade. Therefore, the existing garages in both 1101 and 1123 Sutter street are below-grade along Sutter Street at the front of the property and at-grade along Hemlock Street at the rear of the property.

This section is based on the information provided in the *Preliminary Geotechnical Investigation Report* prepared by Rockridge Geotechnical for the 1101-1123 Sutter Street site.[121] The geotechnical field investigation consisted of drilling three test borings and performing laboratory testing on soil samples. One test boring was drilled to a depth of 101.5 feet below the ground surface of the 1123 Sutter Street surface parking lot. Two test borings were drilled to depths of 31.5 and 35 feet below the top of the basement slab inside the existing 1123 Sutter Street building. Based on the geotechnical field investigation and regional geologic maps, the geology underlying the project site is described as follows (from shallowest to deepest):

- *Fill*: Approximately 7 feet of fill is located beneath the northern half of the 1123 Sutter Street surface parking lot; the remainder of the project site is developed with Hemlock Street ground-floor level uses associated with the existing garage and mortuary buildings, and therefore does not contain any fill. The fill consists of very loose to medium dense sand and clayey sand with gravel and brick and wood fragments.
- *Quaternary-age Dune sand*: With the exception of the northern half of the 1123 Sutter Street surface parking lot, the project site is underlain by Dune sand, a poorly graded, fine-grained sand. The Dune sand extends to depths of approximately 57 feet below the Sutter Street grade, and is dense to medium dense to a depth of about 15 feet below the Sutter Street grade and medium dense to very dense between depths of 15 and 57 feet below the ground surface.
- *Colma formation*: The Dune sand is underlain by clayey sand of the Colma formation to a depth of approximately 100 feet below the Sutter Street grade.
- *Hard sandy clay*: The Colma formation is underlain by hard, sandy clay that was encountered at the bottom of the test boring, to a depth of approximately 101.5 feet below the Sutter Street grade.

Groundwater was encountered at a depth of 60 feet below the Sutter Street grade in the deep boring, and was not encountered in the shallower borings.

Seismic Setting

The project site, like the rest of the San Francisco Bay Area, is in a seismically active region. The project site is approximately 8 miles east of the San Andreas Fault, 10 miles east of the San Gregorio Fault, and 10 miles west of the northern Hayward Fault.[122] ABAG has prepared a regional shaking hazard map showing that the project site would be susceptible to very strong shaking (Modified Mercalli Intensity Shaking Severity Level [MMI] of VII) during a major earthquake on the Hayward Fault or San Gregorio Fault, and severe shaking during a major earthquake on the San Andreas Fault (MMI VIII).[123] The MMI scale is the most commonly used scale to measure the subjective

[121] Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

[122] California Geological Survey, Fault Activity Map of California, 2015, http://maps.conservation.ca.gov/cgs/fam/, accessed December 1, 2020.

[123] Association of Bay Area Governments, Shaking Scenarios Map, https://abag.ca.gov/our-work/resilience/data-research/hazard-viewer, accessed December 1, 2020.

effects of earthquake intensity with values ranging from I to XII. An earthquake intensity of MMI VII would result in negligible damage in buildings of good design and construction, slight to moderate damage in well-built ordinary structures, and considerable damage in poorly built or badly designed structures.[124] An earthquake intensity of MMI VIII would result in slight damage in specially designed structures, considerable damage in ordinary substantial buildings with partial collapse, and substantial damage in poorly built structures. The Working Group for California Earthquake Probabilities estimates that there is a 72 percent probability of a magnitude 6.7 or greater earthquake in the San Francisco Bay Area within 30 years (starting in 2014).[125] Therefore, there is a potential for a strong to very strong earthquake to affect the project during its lifetime.

California Building Standards Code

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

The state building code requires that a site-specific geotechnical investigation report be prepared by a licensed professional for proposed developments of one or more buildings greater than 4,000 square feet to evaluate geologic and seismic hazards. The purpose of the geotechnical investigation is to identify seismic and geologic conditions that require project mitigation, such as ground shaking, liquefaction, differential settlement, and expansive soils. Based on the conditions of the site, the state building code requires specific design parameters to ensure construction of buildings that will resist collapse during an earthquake. These design parameters do not protect buildings from all earthquake shaking hazards, but are designed to reduce hazards to a manageable level.

To ensure that the potential for adverse geologic, soil, and seismic hazards is adequately addressed, San Francisco relies on the state and local regulatory review process, as well as building permits approved pursuant to the state building code and the San Francisco Building Code, which is the state building code plus local amendments that supplement the state building code.

[124] U.S. Geological Survey, The Modified Mercalli Intensity Scale, https://www.usgs.gov/natural-hazards/earthquake-hazards/science/modified-mercalli-intensity-scale?qt-science_center_objects=0#qt-science_center_objects, accessed December 23, 2020.

[125] Field, E.H., and 2014 Working Group on California Earthquake Probabilities, UCERF3: A New Earthquake Forecast for California's Complex Fault System, USGS Fact Sheet 2015-3009, 2015, https://dx.doi.org/10.3133/fs20153009, accessed December 1, 2020.

Project Analysis

Impact GE-1: The proposed project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, strong seismic ground shaking, or seismic-related ground failure, including liquefaction or landslides. (Less than Significant)

Fault Rupture

The project site is not located within an Earthquake Fault Zone as defined by the Alquist-Priolo Earthquake Fault Zoning Act and there are no active or potentially active faults on or in the immediate vicinity of the project site.[126] Therefore, there would be no impact related to fault rupture.

Seismic Ground Shaking

Based on the geology of the project site and the potential seismic hazards, the geotechnical investigation report indicates that the proposed building at 1123 Sutter Street can be supported by a reinforced mat foundation. The report provides preliminary recommendations for site preparation and compaction, foundation specifications, and seismic design of the structure.[127] The report recommends testing of the original foundation of the 1101 Sutter Street building, which will be rehabilitated by the proposed project, and provides preliminary recommendations for the allowable bearing capacity of existing and new footings for the building.[128] The seismic retrofit of the 1101 Sutter Street building would require the construction of new interior concrete shear walls and the placement of new footings.[129] Additionally, the roof would be strengthened with the addition of plywood and wall anchors.[130] The report notes that a design-level geotechnical investigation based on further geotechnical exploration, testing, and engineering analysis will be required to develop final recommendations for the development of the proposed project.[131]

The building department would review the final structural and foundation plans (construction documents) for the proposed rehabilitation of 1101 Sutter Street and the development of the mixed-use building at 1123 Sutter Street to ensure that the proposed project conforms with the provisions of the San Francisco Building Code, state building code, and the recommendations of the design-level geotechnical study to address impacts from seismic ground shaking. Therefore, the proposed project would not cause substantial adverse effects associated with ground shaking in the event of an earthquake, and impacts would be less than significant.

Seismic-Related Ground Failure

Liquefaction and Related Hazards

Soil liquefaction is a phenomenon primarily associated with saturated soil layers (soil layers below the groundwater table) located close to the ground surface. These soils lose strength during ground shaking. Due to the loss of strength, the soil may move both horizontally and vertically, which can result in differential settlement,

[126] U.S. Geological Survey, 2020, Quaternary Faults Map, https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf, accessed December 23, 2020.

[127] Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

[128] Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

[129] Heinzler, Julie, Director of Architecture, Martin Building Company, e-mail to Monika Krupa, Dudek, December 11, 2020.

[130] Heinzler, Julie, Director of Architecture, Martin Building Company, e-mail to Monika Krupa, Dudek , December 11, 2020.

[131] Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

loss of bearing strength, ground fissures, and sand boils. In areas where sloping ground or open slope faces are present, this mobility can result in lateral spreading. Soils that are most susceptible to liquefaction are saturated, clean, loose, uniformly graded, fine-grained sands that are relatively close to the ground surface. However, loose sands that contain a significant number of fines (silt and clay) may also liquefy.

The project site is not located within areas mapped by California Geologic Survey as being susceptible to liquefaction.[132] The geotechnical investigation report notes that groundwater was encountered at a depth of 60 feet below the Sutter Street grade and that soils at depths greater than 40 feet below the Sutter Street grade consist of very dense Dune sand and medium dense to very dense clay sand of the Colma formation. Based on the high density and cohesion of the geologic units beneath the groundwater table, the report concludes that the potential for liquefaction and associated hazards to occur at the project site is very low.[133] Therefore, the potential impacts related to seismically induced liquefaction would be less than significant.

Cyclic Densification

Cyclic densification (also known as differential compaction) of non-saturated sand (sand above the groundwater table) can occur during an earthquake, resulting in settlement of the ground surface, which in turn can result in damage to overlying structures. The geotechnical investigation report indicates that the project site is underlain by loose to medium dense Dune sand above the groundwater table and therefore is susceptible to cyclic densification.[134] The report evaluated the potential settlement that could result due to cyclic densification based on the geologic testing conducted on the project site and estimates that less than 0.5 inches of total settlement and less than 0.25 inches of differential settlement over a distance of 30 feet could occur during a major earthquake at the 1123 Sutter Street property.[135] The evaluation estimates that 0.75 inches of total settlement and 0.25 to 0.5 inches of differential settlement over a distance of 30 feet could occur during a major earthquake at the 1101 Sutter Street property.[136]

As described above, the geotechnical investigation report indicates that the proposed building at 1123 Sutter Street can be supported by a reinforced mat foundation and provides preliminary recommendations for site preparation and compaction, foundation specifications, and seismic design of the structure that account for settlement and differential settlement due to both building loads and cyclic densification.[137] The existing foundation of 1101 Sutter Street is adequate to withstand the estimated level of differential settlement.[138] The proposed seismic retrofit of the building would involve the placement of new footings that would further improve the building's ability to withstand differential settlement. Final recommendations for the project design would be provided in a design-level geotechnical investigation report. The building department would review the final structural and foundation plans (construction documents) to ensure that the proposed project conforms with the

[132] California Geological Survey, Earthquake Zones of Required Investigation, San Francisco North Quadrangle, 2000, http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/SAN_FRANCISCO_NORTH_EZRIM.pdf.

[133] Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

[134] Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

[135] Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

[136] Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

[137] Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

[138] Shields, Craig, Principal Engineer, Rockridge Geotechnical, e-mail with Julie Heinzler, Director of Architecture, Martin Building Company, December 2, 2020.

provisions of the San Francisco Building Code, state building code, and the recommendations of the design-level geotechnical study to address impacts from seismic ground shaking. Therefore, the proposed project would not cause substantial adverse effects associated with cyclic densification in the event of an earthquake, and impacts would be less than significant.

Landslides

Seismically induced ground failures, including landslides, can occur in areas underlain by saturated, loose, unconsolidated silts, sands, silty sands, and gravel. The project site and surrounding areas are gently sloped and are not located within or near areas subject to landslides as identified by the California Geologic Survey.[139] Therefore, the project would have no impact related to landslides.

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

The project site is covered with buildings and impervious surfaces; the existing building at 1101 Sutter Street would be rehabilitated and the existing building and surface parking on at 1123 Sutter Street would be demolished for construction of a new building. The rehabilitation of the existing building at 1101 Sutter Street would require soil excavation to a depth of up to 1 foot below the existing basement slab (which is approximately 18 feet below the Sutter Street grade and 3 feet below the Hemlock Street grade) to facilitate the installation of a new basement slab. Pits to depths of between 3.5 and 5 feet below the existing basement slab would be required for the installation of three new footings and an elevator pit. Approximately 520 cubic yards of soil would be excavated and removed from the site. Excavation to a depth of up to 1 foot below the ground surface is shallow and would not have the potential to destabilize surrounding soils. It is possible that the excavation could reduce the bearing capacity of the existing footings.[140] As noted under Impact GE-1, the geotechnical investigation report provides preliminary recommendations for the allowable bearing capacity of existing and new footings.[141] The project would be required to conduct an evaluation of the existing footing sizes and depths to determine whether the bearing capacity would be reduced by the excavation, and, if needed, conduct permeation grouting of the sand beneath the footings to meet the bearing capacity recommendations.[142] The pits would be relatively small, ranging in size from approximately 16 feet by 12 feet for the elevator pit to 16 feet by 48 feet for the largest footing. Grouting would occur at an estimated depth of 5 feet below the bottom of the footings.

Although rehabilitation of the existing building at 1101 Sutter Street would require soil excavation during the installation of a new basement slab, footings, and elevator pits, the work would be done inside of the existing buildings and the disturbed soils would not be exposed to stormwater runoff. Therefore, rehabilitation of the existing building at 1101 Sutter Street would not have the potential to result in erosion or loss of topsoil.

The elevations of the existing basements on the 1123 Sutter Street parcel range from 0 feet below Sutter Street grade at the northern half of the surface parking lot to 6 feet below Sutter Street grade at the southern half of the surface parking lot. The elevations of the existing basement of the mortuary building are approximately 8.5 feet below the Sutter Street grade at the western half of the building and approximately 11 feet below Sutter Street grade at the eastern half of the building. The proposed project would excavate the entire 1123 Sutter Street parcel

139 California Geological Survey, Earthquake Zones of Required Investigation, San Francisco North Quadrangle, 2000, http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/SAN_FRANCISCO_NORTH_EZRIM.pdf.

140 Shields, Craig, Principal Engineer, Rockridge Geotechnical, e-mail with Julie Heinzler, Director of Architecture, Martin Building Company, December 2, 2020.

141 Rockridge Geotechnical, Preliminary Geotechnical Investigation, Proposed Mixed-Use Development, 1101-1123 Sutter Street, San Francisco, California, October 23, 2020.

142 Shields, Craig, Principal Engineer, Rockridge Geotechnical, e-mail with Julie Heinzler, Director of Architecture, Martin Building Company, December 2, 2020.

to depths of approximately 18 feet below the Sutter Street grade and approximately 8 feet below the Hemlock Street grade. Approximately 8,800 cubic yards of soil would be removed from the area. Erosion could occur due to soil exposure to stormwater runoff during subgrade work.

The project site is 29,700 square feet (0.68 acres) and would be under the 1-acre threshold for an NPDES Construction General Permit. However, the project sponsor and its contractor would be required to comply with the construction site runoff requirements of article 4.2, section 146, of the San Francisco Public Works Code. Pursuant to article 4.2 requirements, a Construction Site Runoff Control Permit must be obtained and an erosion and sediment control plan must be prepared for any project that disturbs more than 5,000 square feet of ground surface. The erosion and sediment control plan is required to detail the use, location, and placement of sediment and erosion control measures for the proposed project, and the construction contractor would be required to conduct daily inspections and maintenance of all erosion and sediment controls and must provide inspection and maintenance information to the SFPUC as the administering agency. Therefore, compliance with article 4.2 requirements would reduce the potential for short-term, construction-related erosion impacts to less than significant.

Upon completion of construction of the proposed project, the project site would be covered with buildings and impervious surfaces similar to existing conditions. Sixteen new street trees and approximately 613 square feet of landscaped areas would be developed along the existing sidewalks, but these areas would be vegetated and maintained, and the soils would not be disturbed and exposed to stormwater runoff. Therefore, the potential for the operation of the proposed project to result in substantial erosion during operation would be less than significant.

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. (Less than Significant)

The project site and surrounding areas are gently sloped and do not include hills or cut slopes likely to be subject to soil instability.

As described under Impact GE-2, the rehabilitation of the existing building at 1101 Sutter Street would require limited excavation below the existing basement. Approximately 520 cubic yards of soil would be excavated and removed from the site. Any excavation pits deeper than 5 feet that could be entered by workers would be sloped or shored in accordance with California Division of Occupational Safety and Health standards (title 29 of the Code of Federal Regulations part 1926). Therefore, the potential for the rehabilitation of the 1101 Sutter Street building to result in soil instability would be less than significant.

As described under Impact GE-2, the 1123 Sutter Street parcel would be excavated to a depth of approximately 18 feet below Sutter Street grade (and approximately 8 feet below Hemlock Street grade) and 8,800 cubic yards of soil would be removed from the site. During excavation activities, the loose to medium dense sand could become unstable, potentially causing settlement of adjacent structures and streets. The geotechnical report recommends the use of shoring and underpinning during construction activities to support the sides of the excavation and protect adjacent buildings (i.e., 1151 Sutter Street and 1101 Sutter Street). The underpinning would likely involve the installation of hand-excavated piers combined with permeation grouting to harden the soils underneath the building and reduce caving potential. Pile-driving techniques would not be used to construct the foundation, although a shoring system involving soldier pile installation may be required around the perimeter of the construction excavation area. The piles would be installed in pre-drilled holes, and would not require the use of impact or vibratory driving methods. No other use of piles is anticipated to occur during construction. Tiebacks[143] may be needed on the north, south, and west sides of the site to support the shoring system.

The project sponsor would be required to implement measures to address unstable soils, including the final underpinning and shoring system, in accordance with the recommendations of the design-level geotechnical report, and the requirements of the state building code and San Francisco Building Code. Therefore, the potential for the development of a new mixed-use building at 1123 Sutter Street to result in soil instability would be less than significant.

Impact GE-4: The proposed project would not be located on expansive soils which could create substantial direct or indirect risks to life or property. (Less than Significant)

Expansive soils expand and contract in response to changes in soil moisture, most notably when near-surface soils change from saturated to a low-moisture content condition and back again. Expansive soils are typically very fine grained, with a high to very high percentage of clay. Such soils have a greater potential to shrink when dry and swell when wet. The associated changes in the soil due to these shrink-swell characteristics can affect the structural integrity of overlying buildings and facilities and cause damage to roads, pipelines, and utilities.

The geotechnical investigation report indicates that the site is underlain by Dune sands to depths of up to about 57 feet below the Sutter Street grade. The depth of excavation for development of the foundation for the proposed building at 1123 Sutter Street would be up to 18 feet below Sutter Street grade, and the depth of excavation for the basement of 1101 Sutter Street would be about 1 foot below the existing basement floor. Therefore, the proposed structures would not encounter the clayey sands of the deeper Colma formation. Because Dune sands have low clay content, the project would not be located on potentially expansive soils, and this impact would be less than significant.

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

The project site is located in a developed, urban area that is gently sloped and has no unique geologic features. Paleontological resources are fossilized remains or traces of organisms including plants, vertebrates (animals with backbones), invertebrates (e.g., starfish, clams, ammonites, and marine coral), and microscopic plants and animals (microfossils), including their imprints, from a previous geological period. The fossil yielding potential of a particular area is highly dependent on the geologic age and origin of the underlying rocks. In general, older sedimentary rocks (more than 10,000 years old) are considered most likely to yield vertebrate fossils of scientific interest. When fossils are discovered at the earth's surface, it is because the material in which the organism was fossilized has been eroded away by natural processes or exhumed by humans.

Fossils are typically found in river, lake, and bog deposits, although they may occur in nearly any type of sedimentary sequence. San Francisco, including the project site, is primarily underlain by Franciscan Complex bedrock and surficial deposits such as Dune sand and artificial fill.[144] Surficial sedimentary deposits found in the city are primarily Holocene and Pleistocene artificial fill, Dune sand, slope and ravine fill, and undifferentiated Quaternary sedimentary deposits.[145] The potential for paleontological resources in these deposits is considered

143 A tieback is a structural element commonly used to provide additional stability to retaining walls.

144 San Francisco Planning Department, *Central South of Market (SoMa) Plan, Draft Environmental Impact Report,* Case No. 2011.1356E, State Clearinghouse No. 2013042070, December 2016.

145 San Francisco Planning Department, *Central South of Market (SoMa) Plan, Draft Environmental Impact Report,* Case No. 2011.1356E, State Clearinghouse No. 2013042070, December 2016.

to be low.[146] In San Francisco, important fossil discoveries have occurred in the Franciscan Complex, Colma Formation, Bay mud, and localities in younger alluvium along the bay margin south of the main anchorage of the San Francisco Bay Bridge.[147]

The geologic units that would be disturbed during construction of the proposed project are recent artificial fill and Quaternary-age Dune sand. Recent artificial fill is considered to have a low sensitivity for paleontological resources due to its already disturbed nature. As described above, Dune sands are a type of surficial deposit found in the City that has low potential for paleontological resources. Furthermore, ground disturbance associated with the project site is relatively limited because the project site is already developed. As described above, the excavation required would range from approximately 1 foot below the foundation of the existing building at 1101 Sutter Street with some additional excavation for footings and elevator pits and up to 18 feet below the Sutter Street grade at 1123 Sutter Street (approximately 8 feet below the Hemlock Street grade). Because the project site is already developed and would involve limited excavation in a geologic formation with low paleontological sensitivity, the potential for of the proposed project to destroy a unique paleontological resource would be less than significant.

Cumulative Analysis

Impact C-GE-1: The proposed project, in combination with other reasonably foreseeable projects, would not have a significant cumulative impact on geology and soils. (Less than Significant)

Although the entire Bay Area is located within a seismically active region with a high risk of seismic hazards and a wide variety of geologic conditions, the geographic scope for geology and soils is generally localized and site specific, because a geologic impact at one location does not increase the geologic impact at another discontinuous location. Therefore, the geographic scope for potential geology and soils impacts encompasses the project site and adjacent properties. As shown in Figure 1, p. 17, there are no cumulative projects located adjacent to the project site. Furthermore, the proposed project and all nearby cumulative projects would be designed and constructed in accordance with current building codes, standards, and engineering practices to protect against seismic and soil-related hazards and would implement recommendations from their respective geotechnical reports. Therefore, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to geology and soils.

Impact C-GE-2: The project, in combination with other reasonably foreseeable projects, would not substantially contribute to cumulative impacts on paleontological resources. (Less than Significant)

The geographic scope for paleontological resources impacts encompasses the project site and the reasonably foreseeable nearby cumulative projects listed in Table 1, p. 14, and shown in Figure 1, p. 17, that could also disturb the Quaternary-age Dune sand in the project vicinity. As described under Impact GE-5, due to their age and origin, these geological materials have little to no likelihood of containing unique or significant fossils. Therefore, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to paleontological resources.

[146] San Francisco Planning Department, *Central South of Market (SoMa) Plan, Draft Environmental Impact Report,* Case No. 2011.1356E, State Clearinghouse No. 2013042070, December 2016.

[147] San Francisco Planning Department, *Central South of Market (SoMa) Plan, Draft Environmental Impact Report,* Case No. 2011.1356E, State Clearinghouse No. 2013042070, December 2016.

E.16 Hydrology and Water Quality

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:	☐	☐	☒	☐	☐
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐	☐
(iv) Impede or redirect flood flows?	☐	☐	☒	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☐	☒
e) Conflict or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐	☐

According to SFPUC's 100-Year Storm Flood Risk Map, the project site is not located within a 100-year flood hazard area[148] or an area identified as being subject to potential inundation in the event of a tsunami along the San Francisco coast or a dam or levee failure.[149] Therefore, the proposed project would not create a risk related to a release of pollutants due to inundation in a flood hazard, tsunami, or seiche zone and question 16(d) is not applicable to the proposed project and is not discussed below.

Impact HY-1: The proposed project would not violate water quality standards or waste discharge requirements, substantially degrade water quality, or otherwise substantially degrade surface or groundwater quality. (Less than Significant)

Project-related wastewater and stormwater would flow to the City's combined stormwater/sewer system and would be treated to standards contained in the City's NPDES permit for the southeast plant (Order No. R2-2013-0029) prior to discharge into San Francisco Bay. The NPDES standards are set and regulated by the San Francisco Regional Water Quality Control Board.

Construction Dewatering Discharges

As described under section E. 15, Geology and Soils, Impact GE-2, p. 111, the proposed project would entail excavation of approximately 1 foot below the foundation of the existing building at 1101 Sutter Street with some additional excavation for footings and elevator pits and up to 18 feet below the Sutter Street grade at 1123 Sutter Street (approximately 8 feet below the Hemlock Street grade). As discussed in section E.15, Geology and Soils, p. 106, the geotechnical investigation report encountered groundwater at a depth of 60 feet below the Sutter Street grade in the deepest boring. However, perched groundwater from rainfall infiltration, landscaping irrigation, or broken utilities may seep into the project site and could be encountered during construction excavation activities. Therefore, it is possible that perched water could be encountered during construction and groundwater dewatering and discharge could be required.

Dewatering effluent generated during project construction would contain sediment and suspended solids. As discussed under Impact HZ-2 in section E.17, Hazards and Hazardous Materials, p. 123, investigations of the project site indicate a low potential for hazardous materials contamination to be present in the soil and groundwater. Any groundwater encountered during construction would be subject to the requirements of article 4.1 of the San Francisco Public Works Code (Industrial Waste Ordinance), requiring groundwater to meet specified water quality standards before it is discharged into the sewer system. The SFPUC must be notified regarding projects that require dewatering and the project contractor must obtain a Batch Wastewater Discharge Permit from the SFPUC Wastewater Enterprise Collection System Division prior to any dewatering activities. The SFPUC may require water analysis and treatment prior to permit approval. Therefore, compliance with local regulatory requirements governing non-stormwater discharges to the combined sewer system would ensure that potential water quality impacts related to discharges of construction dewatering effluent would be less than significant.

[148] San Francisco Floodplain Management Program, Northeast San Francisco Interim Floodplain Map, https://sfgsa.org/sites/default/files/Document/SF_NE.pdf, November 12, 2015, accessed December 12, 2020.

[149] City and County of San Francisco, *Community Safety Element of the San Francisco General Plan*, Map 5, Tsunami Hazard Zones San Francisco, and Map 6, Potential Inundation Areas Due to Reservoir Failure, https://generalplan.sfplanning.org/Community_Safety_Element_2012.pdf, October 2012, accessed December 12, 2020.

Construction Stormwater Runoff

Construction of the proposed project could result in impacts to stormwater runoff quality from earthmoving operations (e.g., grading, excavation, stockpiling, and backfilling) and erosion, as well as from the storage or accidental release of chemicals and fuels. Earthmoving operations would expose soil and could result in erosion, which can lead to excess sediments and pollutants in stormwater runoff. In addition, the temporary use and storage of chemicals, fuels, and building materials could affect stormwater runoff quality if stormwater comes into contact with these materials and carries pollutants in runoff.

Construction activities at all of these locations would be required to comply with article 4.2, section 146, of the San Francisco Public Works Code. Pursuant to article 4.2 requirements, a Construction Site Runoff Control Permit must be obtained and an erosion and sediment control plan must be prepared for any project that would disturb more than 5,000 square feet of ground surface. The SFPUC must review and approve the permit and erosion and sediment control plan prior to the commencement of any ground-disturbing activities. The erosion and sediment control plan would identify the best management practices and erosion and sedimentation control measures to prevent sediment from entering the City's combined sewer system. The construction best management practices that would be implemented as part of the proposed project would address inspection and maintenance, water conservation, spill prevention and control, street cleaning, and prevention of illicit connection and discharge. These best management practices would minimize disturbance to the project site, adjacent areas, and storm drains and would retain sediment. The SFPUC's Construction Runoff Control Program staff enforces this requirement through periodic and unplanned site inspections.

Implementation of the requirements of article 4.2, section 146, of the San Francisco Public Works Code would ensure that water quality impacts due to discharge of construction-related stormwater runoff to the combined sewer system would be less than significant.

Operational Wastewater and Stormwater Discharges

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

The proposed project would be required to implement a stormwater control plan in accordance with the City's Stormwater Management Ordinance (article 4.2, section 147, of the San Francisco Public Works Code). The project sponsor would be required to submit a stormwater control plan for approval by SFPUC that complies with the Stormwater Design Guidelines to ensure the proposed project meets performance measures set by SFPUC related to stormwater runoff rate and volume.[150] Proposed low-impact development features include the development of 582 square feet of landscaped areas and planting of 15 new street trees as described in chapter 2, Project Description, and shown on Figure 2-6 of the DEIR. The final low-impact development features incorporated into the proposed project would be designed to reduce the stormwater peak flow and volume from a two-year, 24-hour storm event by at least 25 percent, which would reduce peak flows entering the combined sewer system during wet-weather events and minimize the potential for downstream or localized flooding.[151] Compliance with San Francisco's Stormwater Design Guidelines would reduce the quantity and rate of

[150] San Francisco Public Utilities Commission, Stormwater Management Requirements and Design Guidelines, https://sfwater.org/Modules/ShowDocument.aspx?documentID=9026, May 2016.

[151] San Francisco Public Utilities Commission, Stormwater Management Requirements and Design Guidelines, *https://sfwater.org/Modules/ShowDocument.aspx?documentID=9026*, May 2016.

stormwater runoff to the City's combined sewer system and improve the water quality of those discharges. Therefore, this impact would be less than significant.

Impact HY-2: The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. (Less than Significant)

The proposed project is located within the Downtown San Francisco Groundwater Basin.[152] This basin is not used as a potable water source and there are no plans for development of this basin for groundwater production.[153] Therefore, a sustainable groundwater management plan has not been adopted for the Downtown San Francisco Groundwater Basin. The project site is currently covered with impervious surfaces. The proposed project would not increase the amount of impervious surface at the project site; therefore, the proposed project would not result in any change in groundwater infiltration on the project site.

As discussed in Impact HY-1, groundwater is not expected to be encountered during construction excavation activities, although perched water may be encountered and could require temporary dewatering. The project would not require long-term dewatering during project operation, and the temporary dewatering of perched water during project construction would not extract any underlying groundwater supplies.

In summary, the proposed project would not substantially deplete groundwater resources or interfere with groundwater recharge, and therefore would not have the potential to impede the sustainable management of the groundwater basin. Therefore, this impact would be less than significant.

Impact HY-3: The proposed project would not substantially alter the existing drainage pattern within the project site in a manner that would result in substantial erosion or siltation on- or off-site; result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. (Less than Significant)

The project site is covered by impervious surfaces and no streams or creeks occur on the project site. The proposed project would not alter the topography of the project site; therefore, site drainage would remain generally the same as existing conditions, with runoff flowing to the combined sewer system via drainage inlets located along Sutter, Larkin, and Hemlock streets. The project would incrementally reduce the amount of impervious surface on the project site through implementation of low-impact design measures as required by the City's Stormwater Management Ordinance (article 4.2, section 147, of the San Francisco Public Works Code) and Stormwater Management Requirements and Design Guidelines.[154] Proposed low-impact development features include the development of 582 square feet of landscaped areas and planting of 15 new street trees as described in chapter 2, Project Description, and shown on Figure 2-6 of the DEIR. The final low-impact development features incorporated into the proposed project would be designed to reduce the stormwater peak flow and volume from a two-year, 24-hour storm event by at least 25 percent, as required, which would reduce peak flows entering the combined sewer system during wet-weather events and minimize the potential for downstream or localized

[152] California Department of Water Resources, California's Groundwater, Bulletin 118, Downtown San Francisco Groundwater Basin, February 27, 2004.

[153] San Francisco Public Utilities Commission, Groundwater, http://sfwater.org/index.aspx?page=184, accessed December 12, 2020.

[154] San Francisco Public Utilities Commission, *Stormwater Management Requirements and Design Guidelines*, https://sfwater.org/Modules/ShowDocument.aspx?documentID=9026, May 2016.

flooding.[155] Therefore, the proposed project would not alter drainage patterns in a manner that could result in substantial erosion, flooding, exceedance of the capacity of the existing combined sewer system, or contribution of substantial additional sources of polluted runoff. Therefore, this impact would be less than significant.

Impact HY-4: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (Less than Significant)

As described under Impact HY-2, there is no groundwater management plan for the groundwater basin that underlies the project site. Therefore, the proposed project would not conflict with a sustainable groundwater management plan.

The regional water board's *Water Quality Control Plan for the San Francisco Bay Basin*[156] (commonly referred to as the basin plan) designates beneficial uses and water quality objectives for waters of the state, including surface waters and groundwater. It also includes implementation programs to achieve water quality objectives, such as the waste discharge permitting program. The proposed project would be constructed in compliance with all applicable federal, state, and local regulations governing water quality and discharges into surface and underground bodies of water. Runoff from the project site would drain into the City's combined stormwater/sewer system, ensuring that such runoff is properly treated at the southeast plant before being discharged into San Francisco Bay. Therefore, the proposed project would not conflict with or obstruct implementation of a water quality control plan and this impact would be less than significant.

Cumulative Analysis

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

The geographic scope for potential cumulative impacts on hydrology and water quality encompasses the project site and water bodies that could be affected by implementation of project activities. Specifically, the geographic scope includes (1) the groundwater basin for impacts related to groundwater and (2) the areas that drain to the southeast plant via the City's combined sewer system for impacts related to wastewater and stormwater flows.

As described under Impact HY-2, there is no sustainable groundwater management plan for the groundwater basin and this basin is not a potable water source. Therefore, the proposed project in combination with other cumulative projects would not result in a cumulative impact related to conflicts with a groundwater management plan or the sustainable management of the basin.

Construction and operation activities associated with the cumulative projects in areas that drain to the southeast plant, including the cumulative projects listed in Table 1, p. 14, and shown on Figure 1, p. 17, could result in erosion and the transport of soil into the combined sewer system, accidental releases of chemicals and fuels, discharges of groundwater from dewatering activities associated with excavation during construction, and intensification of urban land uses. Additionally, although much of the area that drains to the southeast plant is developed with impervious surfaces, some future cumulative projects could increase impervious surfaces and alter local topography within the basin and therefore could result in substantial erosion, flooding, exceedance of the capacity of the existing combined sewer system, or contribution of substantial additional sources of polluted

155 San Francisco Public Utilities Commission, Stormwater Management Requirements and Design Guidelines, https://sfwater.org/Modules/ShowDocument.aspx?documentID=9026, May 2016.

156 San Francisco Bay Regional Water Quality Control Board, Water Quality Control Plan for the San Francisco Bay Basin, https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html, May 4, 2017, accessed September 20, 2019.

runoff. However, similar to the proposed project, all cumulative projects within the area that drains to the southeast plant would be subject to applicable stormwater discharge and water quality regulatory requirements, including the implementation of best management practices for the management of construction wastewater and construction and operation period stormwater runoff. As a result, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to the potential to conflict with the basin plan, water quality degradation, or flooding.

E.17 Hazards and Hazardous Materials

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☐	☒

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☐	☒

The project site is not within an airport land use plan or within 2 miles of a public airport or public use airport and would not result in a safety hazard or excessive noise for people residing or working in the area; therefore, question 17(e) is not applicable. The project site is not located within or adjacent to a wildland area; therefore, question 17(g) is not applicable.

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

Construction

Hazardous materials that may be stored on site during construction of the proposed project include fuel for construction equipment, paints, solvents, and other types of construction materials that may contain hazardous ingredients. The proposed project would be required to comply with federal, state, and local laws and regulations regarding the storage, use, transport, and disposal of hazardous materials. The construction contractor would be required to comply with the federal Occupational Safety and Health Administration standards defined under title 29 of the Code of Federal Regulations section 1910, and the California Occupational Safety and Health Administration (Cal OSHA) requirements under California Code of Regulations, title 8, which specify requirements for employee training, availability of safety equipment, accident prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. California Code of Regulations title 8 also includes requirements for accident and illness prevention programs and hazard communication program regulations that include worker safety training and hazard information requirements, procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparing health and safety plans to protect workers. Any transportation of hazardous materials to and from the project site during construction would occur on designated hazardous materials routes, by licensed hazardous materials handlers, as required, and would be subject to regulation by the California Highway Patrol and the California Department of Transportation. Compliance with existing regulations would reduce any risk from the routine transport, use, or disposal of hazardous materials during construction to less than significant.

Operation

Operation of the proposed project would likely result in use of common types of hazardous materials typically associated with commercial and residential uses, such as cleaning products and disinfectants. These products are labeled to inform users of their potential risks and to instruct them in appropriate handling procedures. Most of these materials are consumed through use, resulting in relatively little waste. The use and storage of hazardous materials by businesses on the project site would comply with San Francisco Health Code article 21, which implements the hazardous materials requirements of the California Health and Safety Code and provides for the safe handling of hazardous materials in the City. Any person or business that handles, sells, stores, or otherwise uses hazardous materials in quantities exceeding specified threshold amounts would be required to obtain and keep a current hazardous materials certificate of registration and to implement a hazardous materials business plan submitted with the business license application. Businesses are required by law to ensure employee safety by identifying hazardous materials in the workplace, providing safety information to workers who handle hazardous materials, and adequately training workers.

Compliance with local and state regulations would ensure that impacts related to the routine transport, use, or disposal of hazardous materials would not create a significant hazard to the public or the environment. For these reasons, this impact would be less than significant.

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

Hazardous Building Materials

Asbestos is a known human carcinogen that was commonly used in building materials until the early 1980s. Lead is a suspected human carcinogen, a known teratogen, and a reproductive toxin, and was widely used as an additive in paints prior to 1978. Polychlorinated biphenyls (PCBs) are known to cause cancer and other adverse health effects and were used as additives to building materials (e.g., caulking, light ballasts, electrical equipment) prior to 1979. The garage at 1101 Sutter Street was constructed in 1920 and the mortuary at 1123 Sutter Street was constructed in 1926. Based on the age of these buildings, asbestos-containing materials, lead-based paint, and PCBs may be present in structures at the project site.

Asbestos and Lead

Asbestos and lead inspections of the buildings on the site were conducted by NorBay Consulting.[157,158] The inspections did not address potential PCB-containing materials. The inspection and testing conducted at 1101 Sutter Street found that asbestos-containing materials are present in the exterior window caulking and that lead-based paint/glazing is present on concrete columns, windows, and metal piping on the interior of the garage.[159] The inspection and testing conducted at 1123 Sutter Street found that asbestos-containing materials are present in the thermal system insulation and on ductwork in the basement and that lead-based paint/glazing is present on numerous building components including walls, windowsills, doors, freight elevator, bathroom fixtures, crown molding, and baseboards.[160]

<u>Asbestos</u>

The California Department of Toxic Substances Control considers asbestos hazardous, and removal of asbestos-containing materials is required prior to demolition or construction activities that could result in disturbance of

[157] NorBay Consulting, Pre-Demolition Asbestos and Lead Inspection, 1101 Sutter Street, San Francisco, California, April 3, 2019.

[158] NorBay Consulting, Pre-Renovation/Demolition Asbestos and Lead Inspection, 1123 Sutter Street, San Francisco, California, April 4, 2019.

[159] NorBay Consulting, Pre-Demolition Asbestos and Lead Inspection, 1101 Sutter Street, San Francisco, California, April 3, 2019.

[160] NorBay Consulting, Pre-Renovation/Demolition Asbestos and Lead Inspection, 1123 Sutter Street, San Francisco, California, April 4, 2019.

these materials. Asbestos-containing materials must be removed in accordance with local and state regulations and air district, Cal OSHA, and California Department of Health Services requirements.

Specifically, section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The California legislature vests the air district with the authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and the air district is to be notified 10 days in advance of any proposed demolition or abatement work. Any asbestos-containing material disturbance at the project site would be subject to the requirements of air district regulation 11, rule 2, Hazardous Materials—Asbestos Demolition, Renovation, and Manufacturing. The local office of Cal OSHA must also be notified of asbestos abatement to be carried out. Asbestos abatement contractors must follow state regulations contained in title 8 California Code of Regulations section 1529 and sections 341.6 through 341.14 where there is asbestos-related work involving 100 gross square feet or more of asbestos-containing materials. The owner of the property where abatement is to occur must have a hazardous waste generator number assigned by and registered with the Office of the California Department of Health Services. The contractor and hauler of the material are required to file a Hazardous Waste Manifest that details the hauling of the material from the site and the disposal of it. These established regulations and procedures would ensure that any potential impacts due to asbestos would be reduced to a less-than-significant level.

Lead

Renovation and demolition activities that could result in disturbance of lead paint must comply with section 327 of the San Francisco Building Code, Work Practices for Lead-Based Paint on Pre-1979 Buildings and Steel Structures. Where there is any work that may disturb or remove lead paint on the interior or exterior of any building built prior to 1979, section 327 requires specific notification and work standards and identifies prohibited work methods and penalties. Any person performing work subject to the ordinance shall, to the maximum extent possible, protect the ground from contamination during exterior work, protect floors and other horizontal surfaces from work debris during interior work, and make all reasonable efforts to prevent migration of lead paint contaminants beyond containment barriers during the course of the work. Clean-up standards require the removal of visible work debris, including the use of a high-efficiency particulate air filter vacuum following interior work.

The ordinance also includes notification requirements and requirements for signs. Prior to the commencement of work, the responsible party must provide written notice to the Director of the Department of Building Inspection of the address and location of the project; the scope of work, including specific location within the site; methods and tools to be used; the approximate age of the structure; anticipated job start and completion dates for the work; whether the building is residential or nonresidential, owner-occupied or rental property; the dates by which the responsible party has fulfilled or will fulfill any tenant or adjacent property notification requirements; and the name, address, telephone number, and pager number of the party who will perform the work. Further notice requirements include a posted sign notifying the public of restricted access to the work area, a Notice to Residential Occupants, Availability of Pamphlet related to protection from lead in the home, and Notice of Early Commencement of Work (by Owner, Requested by Tenant), and Notice of Lead Contaminated Dust or Soil, if applicable.

Demolition would also be subject to the Cal OSHA Lead in Construction Standard (title 8 California Code of Regulations section 1532.1). This standard requires development and implementation of a lead compliance plan when materials containing lead would be disturbed during construction. The plan must describe activities that could emit lead, methods that will be used to comply with the standard safe work practices, and a plan to protect workers from exposure to lead during construction activities. Cal OSHA would require 24-hour notification if more than 100 square feet of materials containing lead would be disturbed.

Implementation of procedures required by section 327 of the San Francisco Building Code and the Cal OSHA Lead in Construction Standard would ensure that potential impacts of demolition or renovation of structures with lead-based paint would be less than significant.

Polychlorinated Biphenyls

The phase I environmental site assessment completed for the project site did not identify evidence of potential PCB-containing electrical transformers.[161] However, all light ballasts manufactured through 1978 contain PCBs. Installation of ballasts manufactured prior to 1978 continued for several more years. As a result, it can be expected that any building constructed before 1980 that has not had a complete lighting retrofit is likely to have PCB-containing ballasts. Therefore, unless the ballast is electronic (this type is PCB free), determined by testing not to contain PCBs, or the manufacturers label on the ballast states "No PCBs," it is assumed all light ballasts on this site contain PCBs and must be handled as hazardous waste. Any ballast containing PCBs is required to be removed by personnel trained in PCB-related work (inspection, removal, clean-up). All workers must also follow OSHA regulations governing the removal and handling of PCB products including title 29 Code of Federal Regulations section 1910.120, Hazardous Waste Operations and Emergency Response, and title 8 California Code of Regulations section 5192, Hazardous Waste Operations and Emergency Response, as well as other applicable federal, state, and local laws and regulations. These existing regulations and abatement procedures would reduce potential impacts of light ballasts with PCBs to a less-than-significant level.

Hazardous Materials Releases

The project site is included on a list of hazardous materials sites at the regional water board's Geotracker database as Leaking Underground Storage Tank with case closed status compiled pursuant to California Government Code section 65962.5.[162] In addition, the project site is located in an area of San Francisco governed by article 22A of the Health Code, also known as the Maher Ordinance, meaning that it is known or suspected to contain contaminated soil and/or groundwater. The overarching goal of the Maher Ordinance is to protect public health and safety by requiring appropriate handling, treatment, disposal, and, when necessary, remediation of contaminated soils that are encountered in the building construction process. Projects that disturb 50 cubic yards or more of soil that are located on sites with potentially hazardous soil or groundwater are subject to this ordinance. As described is section E. 15, Geology and Soils, Impact GE-2, p. 111, the proposed project would entail excavation of approximately 1 foot below the foundation of the existing building at 1101 Sutter Street with some additional excavation for footings and elevator pits and up to 18 feet below the Sutter Street grade at 1123 Sutter Street (approximately 8 feet below the Hemlock Street grade). Approximately 9,320 cubic yards of soil would be off-hauled from the site. Therefore, the proposed project is subject to the Maher Ordinance, which is administered and overseen by the San Francisco Department of Public Health. The project sponsor submitted an application to the Maher Program and retained the services of a qualified professional to prepare multiple site investigations. Over the course of the subsequent site investigations, the project sponsor has submitted the following documents to the public health department, Environmental Health Division:

- Phase I Environmental Site Assessment[163]

[161] Applied Remedial Services Inc., Phase I Environmental Site Assessment, 1101 & 1123 Sutter Street, San Francisco, California, April 18, 2019.

[162] Applied Remedial Services Inc., Phase I Environmental Site Assessment, 1101 & 1123 Sutter Street, San Francisco, California, April 18, 2019.

[163] Applied Remedial Services Inc., Phase I Environmental Site Assessment, 1101 & 1123 Sutter Street, San Francisco, California, April 18, 2019.

- Limited Phase II Investigation Report[164]
- Letter on UST at 40 Hemlock Street (area at the sidewalk of Hemlock Street adjacent to the 1123 Sutter Street parcel)[165]
- Investigation for Presence of an UST Report[166]
- Closure of Drain Sump & Piston Hydraulic Oil Reservoir[167]

The findings of these site investigations are discussed below.

The purpose of a phase I environmental site assessment is to identify current and historical recognized environmental conditions on a property.[168,169] The phase I environmental site assessment identified historical recognized environmental conditions on the project site as a result of the former operation of three underground storage tanks containing gasoline on the 1101 Sutter Street parcel and the former operation of one underground storage tank containing gasoline on the 1123 Sutter Street parcel. All four underground storage tanks were removed in March 1999 and soil samples collected after the tanks were removed showed limited residual hydrocarbons in the soils. Based on these results, regulatory closure of both the 1101 Sutter Street and 1123 Sutter Street leaking underground storage tank cases was granted by the public health department in August 2000, with no land use restrictions.

The site reconnaissance conducted as part of the phase I environmental site assessment included a scan of the basement and sidewalk areas of the project site by a geophysical surveying company, Foresite Engineering Services. The scan noted the potential presence of an underground storage tank at the 1123 Sutter Street parcel that was not previously identified in site records or investigations. As a result, the phase I environmental assessment concluded that there is a recognized environmental condition on the 1123 Sutter Street parcel due to the potential presence of an underground storage tank and recommended the exploration of the site to determine whether an underground storage tank may be present. The assessment also recommended that the sump within the 1123 Sutter Street garage should be cleaned and closed and that the existing elevator piston reservoir should be drained and removed.

The limited phase II investigation report provided the same recommendations as the phase I environmental site assessment.[170] The investigation involved eight borings at the project site to depths of between 4 to 10 feet beneath the ground surface, from which 14 soil samples were collected to characterize the subsurface soil quality beneath the project site. The soil samples were analyzed for petroleum hydrocarbon compounds; heavy metals; benzene, toluene, ethylbenzene, and xylene; and volatile organic compounds. Water from the sump pump was also collected and sampled, and recommendations for the disposal of the water were provided in the report. The

164 Applied Remedial Services Inc., Limited Phase II Investigation Report, 1101, 1123 Sutter and 40 Hemlock Street, San Francisco, CA, April 22, 2019.

165 Applied Remedial Services Inc., Letter on UST at 40 Hemlock Street, San Francisco, CA 94109, March 28, 2019.

166 Applied Remedial Services Inc., Investigation for Presence of an UST Report, 1123 Sutter Street, San Francisco, CA, June 10, 2019.

167 Applied Remedial Services Inc., Closure of Drain Sump & Piston Hydraulic Oil Reservoir, July 18, 2019.

168 A recognized environmental condition is defined in *ASTM Standard E 1527-13* as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property (1) due to release to the environment, (2) under conditions indicative of a release to the environment, or (3) under conditions that pose a material threat of future release.

169 A historical recognized environmental condition refers to a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meets unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A historical recognized environmental condition is not a recognized environmental condition.

170 Applied Remedial Services Inc., Limited Phase II Investigation Report, 1101, 1123 Sutter and 40 Hemlock Street, San Francisco, CA, April 22, 2019.

soil sample testing did not detect petroleum hydrocarbons; benzene, toluene, ethylbenzene, and xylene; or volatile organic compounds in the soil. None of the heavy metals were detected above residential environmental screening levels, with the exception of arsenic, which was detected above the residential environmental screening level of 0.067 milligrams per kilogram in all soil samples. Arsenic concentrations ranged from 3.1 to 44 milligrams per kilogram, which is noted to be within the range of naturally occurring background concentrations of soils within the San Francisco Bay Area. Consequently, the limited phase II investigation report concluded that the arsenic is naturally occurring and that no remediation is required. The report recommended the preparation and implementation of a site-specific health and safety plan and dust control plan in order to control the hazard posed to workers and the public from potential dust generated during construction ground-disturbing activities.

As documented in the Investigation for Presence of a UST Report,[171] the investigation of the area with the potential presence of an underground storage tank found a 3- to 5-inch diameter metal pipe. No evidence of an underground storage tank was identified and the matter was concluded to be closed with no further action recommended.

The Closure of Drain Sump & Piston Hydraulic Oil Reservoir report documents that the cleaning of the drain sump and the cleaning and removal of the piston reservoir were completed in accordance with the recommendations of the phase I environmental site assessment.[172]

The public health department has reviewed the investigations related to the project site and concurs with the findings and recommendations.[173] The public health department indicates that a site mitigation plan must be submitted for the proposed project that specifies dust control, excavation, disposal, and site maintenance measures required for the protection of construction workers and the public during ground-disturbing activities.[174] The site mitigation plan must also contain procedures for initial response to unanticipated conditions such as discovery of underground storage tanks, sumps, or pipelines during excavation activities.[175] Specified construction procedures at a minimum must comply with San Francisco Building Code section 106A.3.2.6.3 and Health Code article 22B related to construction dust control. Additional measures would typically include notification, field screening, and worker health and safety measures to comply with Cal OSHA requirements. As discussed under Impact HY-1, any perched water encountered and dewatered during construction would be subject to the requirements of article 4.1 of the San Francisco Public Works Code (Industrial Waste Ordinance), requiring groundwater meet specified water quality standards before it is discharged into the sewer system. Therefore, compliance with local regulatory requirements would ensure that the proposed project would not result in a significant hazard to the public or environment from the disturbance or release of contaminated soil or groundwater. Therefore, this impact would be less than significant.

[171] Applied Remedial Services Inc., Investigation for Presence of an UST Report, 1123 Sutter Street, San Francisco, CA, June 10, 2019.

[172] Applied Remedial Services Inc., Closure of Drain Sump & Piston Hydraulic Oil Reservoir, July 18, 2019.

[173] Cushing, Stephanie, Director of Environmental Health, San Francisco Department of Public Health – Environmental Health Unit, letter to Julie Heinzler, Director of Architecture, Martin Building Company, August 27, 2019.

[174] Cushing, Stephanie, Director of Environmental Health, San Francisco Department of Public Health – Environmental Health Unit, letter to Julie Heinzler, Director of Architecture, Martin Building Company, August 27, 2019.

[175] Cushing, Stephanie, Director of Environmental Health, San Francisco Department of Public Health – Environmental Health Unit, letter to Julie Heinzler, Director of Architecture, Martin Building Company, August 27, 2019.

Impact HZ-3: The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. (Less than Significant)

There are two schools within 0.25 miles of the project site: Alliance Française de San Francisco, approximately 0.04 miles north at 1345 Bush Street, and Redding Elementary School, approximately 0.08 miles north at 1421 Pine Street.

The proposed project would consist of residential and commercial uses; would not store, handle, or dispose significant quantities of hazardous materials; and would not otherwise include uses that would include emissions of hazardous substances. Construction of the proposed project would require the temporary transportation, use, storage, and disposal of hazardous materials such as fuels and paints. With implementation of proper protocols in compliance with all applicable federal, state, and local regulations for site investigation and cleanup; dust mitigation and monitoring; hazardous waste operations; and handling, management, and transportation and disposal of hazardous wastes, as described under Impacts HZ-1 and HZ-2 above, the proposed project would pose a less-than-significant hazard to schools located within 0.25 miles of the project site.

Impact HZ-4: The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)

The San Francisco Emergency Response Plan addresses the roles and responsibilities of the City during emergency response, in particular its interaction with regional, state, and federal entities and the role of the San Francisco Emergency Operations Center and City agencies.[176] The Transportation Annex of the San Francisco Emergency Response Plan describes the procedures for assessment, identification of temporary alternative solutions, and restoration of damage to transportation systems, facilities, and infrastructure due to an emergency incident. To allow for flexibility for incident response associated with identifying routing for emergency response and evacuation, the plan does not specify designated emergency response or evacuation routes.

The proposed project would not permanently alter the existing street network, and therefore operation of the proposed project would not interfere with the selection of emergency evacuation/response access routes. As discussed in chapter 2, Project Description, of the DEIR, the proposed project would require temporary street and sidewalk closures to allow for project construction activities. A portion of Hemlock Street and its northern sidewalk located adjacent to the project site would be closed for construction staging for the duration of construction. Construction activities would also require the closure of a portion of the southern parking lane on Sutter Street adjacent to the project site; this area would also be used for construction staging. The sidewalk on Sutter Street and along Larkin Street would generally remain open, though temporary closures would be required to complete proposed streetscape improvements (i.e., curb cut removal and street tree planting).

Temporary roadway, street lane, and sidewalk closures would be performed in compliance with the requirements of San Francisco Municipal Transportation Agency and public works permits (described in chapter 2, Project Description, of the DEIR), which would require that the proposed project implement traffic control measures sufficient to maintain traffic and pedestrian circulation on streets affected by construction activities. These measures would be detailed in a traffic control plan that conforms to the San Francisco Municipal Transportation Agency's Regulation for Working in San Francisco Streets (Blue Book), which would specify the circulation and detour plans during construction and require the contractor to notify the police and emergency responders of any lane closure and traffic control measures to be implemented. In the event of an emergency, appropriate emergency evacuation and response routing would be selected with consideration for any project-

[176] City and County of San Francisco, Emergency Response Plan, an Element of the CCFS Emergency Management Program, updated May 2017.

related lane and roadway closures. For these reasons, lane and road closures associated with the construction of the proposed project would not have the potential to interfere with an emergency response or evacuation plan, and this impact would be less than significant.

Cumulative Analysis

Impact C-HZ-1: The proposed project, in combination with other reasonably foreseeable projects, would not have significant cumulative impacts related to hazards and hazardous materials. (Less than Significant)

The geographic context for analysis of cumulative hazardous and hazardous materials impacts is generally site specific. In addition, the cumulative development projects identified in Table 1, p. 14, and Figure 1, p. 17., would be subject to the same fire safety, emergency response, roadway closure, and hazardous materials regulations that are applicable to the proposed project. As such, the proposed project would not combine with reasonably foreseeable projects to create a significant cumulative impact related to hazards and hazardous materials.

E.18 Energy Resources

Project Analysis

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Would the project:					
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐	☐

Impact EN-1: The proposed project would result in increased energy consumption, but not in large amounts or in a wasteful manner nor would it conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (Less than Significant)

The state building code regulates energy consumption in buildings. Specifically, the state building code includes standards that regulate energy consumption for the heating, cooling, ventilation, and lighting of residential and nonresidential buildings. In San Francisco, documentation demonstrating compliance with state building code standards is required to be submitted with building permit applications. Therefore, compliance with state building code standards is enforced by the building department. The proposed project would change the existing uses from a mortuary, automobile repair shop, and associated parking to new residential and commercial uses with associated parking. This would increase the intensity of land uses at the project site, although not to an extent that exceeds anticipated growth in the area.

As new and altered buildings in San Francisco, the proposed project would be subject to the energy conservation standards included in the San Francisco Green Building Ordinance, which would require the proposed project to meet a number of conservation standards. Documentation showing compliance with the ordinance would be submitted with the application of the building permit and would be enforced by the Department of Building Inspection. See also section E.8, Greenhouse Gas Emissions, p. 82, for a detailed description of conservation standards.

Consumption of non-renewable energy would occur during construction of the proposed project and during the operational phase. Construction energy consumption would be primarily in the form of indirect energy inherent in the production of materials used for construction (e.g., the energy necessary to manufacture a steel beam from raw materials) and the fuel used to transport materials to and from the site and by construction equipment. Construction-related energy consumption is roughly proportional to the size of the proposed altered and new buildings (i.e., the larger the building, the greater the amount of energy required for construction).

Operational-related energy consumption would include electricity and fuel used by residents and commercial employees traveling to and from the project site, as represented by VMT as discussed in E.5, Transportation and Circulation, p. 31. Electricity would be used for building heating and lighting and for operation of equipment and machines. The buildings would be all-electric, and thus, no natural gas would be consumed during building operations.

Energy conservation design features to meet state and local goals for energy efficiency and renewable energy have been incorporated into the project design to reduce wasteful, inefficient, and unnecessary consumption of energy during project construction and operation. As stated above, the proposed project would be required to comply with the standards of the state building code and the requirements of the San Francisco Green Building Code, thus minimizing the amount of fuel, water, and energy used. The proposed project would also incorporate transportation demand management measures into its design, such as bicycle parking and 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, p. 31, the project site is in an area with a comparably low VMT per capita relative to the regional average, and new residents would most likely engage in vehicle use patterns similar to those of the existing population in the neighborhood and general vicinity. Given the project's features and location, it would not result in wasteful use of fuel associated with vehicle trips.

The following discussion provides a quantitative assessment of the proposed project's energy use, including energy use calculations and a discussion of energy conservation measures. Electrical energy demand is measured by power flow, expressed in kilowatt-hours. Diesel and gasoline fuel use is measured in gallons. The energy consumption calculations are provided in Attachment B of this initial study.

Construction

Energy use associated with construction of the proposed project would include the use of diesel fuel consumption from on-road hauling and vendor truck trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute trips. Construction of the proposed project would use approximately 53,277 gallons of diesel for off-road construction equipment. Approximately 41,832 gallons of diesel and 55,626 gallons of gasoline would be used for on-road trips during construction of the proposed project. Construction of the proposed project would occur over an approximately 30-month timeframe; thus, construction-related energy use would be temporary. Furthermore, as compared to other states and the country as a whole, construction projects in California and in the San Francisco Bay Area use the most energy-efficient equipment available in order to meet state and local goals for criteria air pollutant and GHG emissions reductions. As a result, construction activities would not have a measurable effect on regional energy supplies or on peak energy demand resulting in a need for additional capacity. Therefore, as a temporary activity, construction of the proposed project would not result in inefficient or wasteful use of fuel or energy.

Operations

Project operations would require electricity for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, and electronics. Additionally, the supply, conveyance, treatment, and distribution of water used by the project would indirectly result in electricity usage. CalEEMod was used to estimate the electricity demand for the existing uses to be demolished and for the project (see Attachment B for calculations). Table 19 presents the net increase in electricity demand for the project. Further, since the project would not consume natural gas, it would result in a reduction of natural gas usage of approximately 370,835 thousand British thermal units per year compared to existing conditions. With implementation of the energy conservation measures required to meet the City's Green Building Code, the proposed project would meet the state building code energy conservation standards.

Table 19: Annual Electricity Demand

Scenario	kWh/Year
Proposed Project	
Buildings	1,650,507.20
Water/Wastewater	109,230.37
Total Project Demand	1,759,737.57
Existing Conditions	
Buildings	553,912.20
Water/Wastewater	21,111.71
Total Existing Use Demand	575,023.91
Net Increase in Electricity Demand (Project minus Existing)	1,184,713.65

Notes: kWh = kilowatt-hour.

Source: Attachment B.

Petroleum fuel consumption associated with motor vehicles traveling to and from the project site is a function of the VMT as a result of project operations. Based on default CalEEMod trip lengths, the annual VMT attributable to the project is conservatively expected to be 1,142,967 VMT, whereas the existing land uses to be demolished are estimated to generate 84,740 VMT per year (Attachment B). Fuel estimates for the project and existing uses are provided in Table 20.

Table 20: Annual Operational Petroleum Demand

Scenario	Vehicle MT CO_2	kg CO_2/ Gallon	Gallons
Proposed Project			
Gasoline	396.41	8.78	45,148.72
Diesel	27.72	10.21	2,714.55
Total Project Petroleum Use			47,863.27
Existing Conditions			
Gasoline	33.13	8.78	3,773.88
Diesel	2.21	10.21	216.50
Total Existing Petroleum Use			3,990.38
Net Increase in Petroleum Demand (Project minus Existing)			43,872.89

Notes: MT = metric ton; CO_2 = carbon dioxide; kg = kilogram.

Sources: Trips and vehicle CO_2 (Attachment B); kg CO_2/Gallon (The Climate Registry 2019).

During operation of the proposed project, mobile sources would use a net increase of approximately 43,873 gallons of petroleum per year. However, as discussed in section E.5, Transportation and Circulation, p. 31, project VMT is expected to be substantially less than 15 percent below the regional average.

Compliance with state building code energy conservation standards would ensure that operation of the proposed project would not have a measurable effect on regional energy supplies or on peak energy demand resulting in a need for additional capacity. Electric service would be provided to meet the needs of the project, as required by the California Public Utilities Commission, which obligates Pacific Gas and Electric (PG&E) and SFPUC to provide service to its existing and potential customers. PG&E and SFPUC update their service projections in order to meet regional energy demand. Energy conservation measures incorporated into the proposed project would decrease overall energy consumption, decrease reliance on non-renewable energy sources, and increase reliance on renewable energy sources at the project site. The proposed project would also be consistent with San Francisco's GHG reduction strategy (see section E.8, Greenhouse Gas Emissions, p. 82). Therefore, energy consumption associated with operation of the proposed project would not occur in an inefficient or wasteful manner.

Conclusions

In summary, construction and operation of the proposed project would not use energy resources in a wasteful, inefficient, or unnecessary manner, nor would the proposed project conflict with or obstruct implementation of a state or local plan for renewable energy or energy efficiency. Therefore, the proposed project would have a less-than-significant impact on energy resources and no mitigation measures are required.

Cumulative Analysis

Impact C-EN-1: The proposed project, in combination with the other reasonably foreseeable projects, would not result in a cumulative impact related to energy resources. (Less than Significant)

The geographic context for the analysis of cumulative impacts associated with energy is the service territory of the energy utilities that serve the project site, PG&E and SFPUC, while the geographic context for the analysis of cumulative impacts associated with fuel use is the City.

The proposed project and cumulative projects would be required by the Department of Building Inspection to conform to current state and local energy conservation standards, including the state building code. As a result, the proposed project, in combination with other reasonably foreseeable projects, would not cause a wasteful use of energy or other non-renewable natural resources. In addition, the City plans to reduce GHG emissions to 80 percent below 1990 levels by 2050, which would be achieved through a number of different strategies, including energy efficiency. The proposed project would be consistent with the City's GHG reduction strategy. Therefore, the energy demand and use associated with the proposed project and cumulative projects would not substantially contribute to a cumulative impact on existing or proposed energy supplies or resources and would not cause a significant cumulative impact on energy resources.

E.19 Mandatory Findings of Significance

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
Does the project:					
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐	☐

Impact MF-1: The proposed project has the potential to degrade the quality of the environment. (Potentially Significant Impact)

This initial study determined that the proposed project could have potential individual environmental effects on cultural resources—the historical architectural resources at 1101 Sutter Street and 1123 Sutter Street—which are further evaluated in the DEIR, section 3.B, Historic Architectural Resources. The initial study found that the proposed project would not have a significant adverse individual or cumulative environmental effect relating to all other topics. For those topics, the project would have no impact, a less-than-significant impact, or a less-than-significant impact with the implementation of mitigation measures. Mitigation measures are included for the following topics: cultural resources, tribal cultural resources, noise, air quality, and biological resources.

The excavation and grading activities associated with the proposed project could result in the degradation of prehistoric and historic archeological resources if they are discovered during construction, the accidental disturbance of unknown human remains, and adverse effects on tribal cultural resources. Mitigation Measure M-CR-2, Accidental Discovery and Mitigation Measure M-TCR-1, Tribal Cultural Resources Interpretive Program require archeological identification/discovery/evaluation, implementation of a monitoring program during excavation activities if resources are discovered, the lawful treatment of human remains with notification of the most likely descendant, and the development of an interpretive plan in consultation with affiliated Native American tribal representatives should tribal cultural resources be encountered that cannot be preserved in place. These measures would reduce impacts to cultural resources and tribal cultural resources to a less-than-significant level.

Noise associated with project construction activities would require preparation of a project-specific noise control Plan to address construction noise, specified in Mitigation Measure M-NOI-1: Construction Noise Control. Vibration associated with construction is also a concern due to proximity of 1151 Sutter Street and the potential for damage to occur. Mitigation Measure M-NOI-2: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction is designed to minimize and manage any vibration impacts to ensure adjacent buildings are not damaged. These measures would reduce impacts associated with noise to a less than significant level.

Construction activities for the proposed project could result in increased health risks and, as the project site is within the Air Pollutant Exposure Zone, construction activity associated with the proposed project may adversely affect populations that are already at a higher risk for adverse long-term health risks from existing sources of air pollution. Mitigation Measure M-AQ-2, Clean Off-Road Construction Equipment, would reduce potential exposure to air pollutants by limiting equipment idling, educating workers, and properly maintaining equipment. This would reduce impacts related to TACs from construction to a less-than-significant level. During project operation a back up generator would be required. All generators are required to get a permit from the air district to operate and compliance with Mitigation Measure M-AQ-4: Best Available Control Technology for Diesel Generators would ensure the backup diesel generator meets or exceeds all emission standards resulting in a less than significant impact.

The project, being in an urban environment, would not have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. However, removal of the existing tree on site or construction adjacent to the street trees along Larkin Street during the nesting bird season could result in potentially significant impacts to nesting birds and their nests, potentially resulting in nest abandonment, destruction, injury or mortality of nestlings, and disruption of reproductive behavior during the breeding season. Mitigation Measure M-BI-1, Preconstruction Nesting Bird Surveys and Buffer Areas, provides for tree removal consistent with the Migratory Bird Treaty Act and California Fish and Game Code and would reduce potential impacts to nesting birds to a less-than-significant level.

Impact MF-2: The proposed project would not have impacts that would be individually limited but cumulatively considerable. (Less than Significant)

Mitigation measures described in Impact MF-1 would reduce the project's potential impacts to less than significant. In addition, cumulative development projects listed in Table 1, p. 14, would be subject to the same land use and environmental regulations that have been described throughout this document. Furthermore, all development projects are guided by the policies identified in the general plan and by the regulations established in the planning code. Therefore, compliance with applicable land use and environmental regulations would ensure that environmental effects associated with the proposed project would not combine with effects from reasonably foreseeable future development in the project vicinity to cause cumulatively considerable significant impacts. See DEIR, section 3.B, Historic Architectural Resources, for further discussion of potential cumulative impacts associated with historic architectural resources.

Impact MF-3: The proposed project would have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. (Less than Significant with Mitigation)

As discussed above, the proposed project would have the potential to result in significant impacts with respect to air quality and noise, which could adversely affect human beings. With incorporation of Mitigation Measure M-AQ-2, Clean Off-Road Construction Equipment and Mitigation Measure M-AQ-4: Best Available Control Technology for Diesel Generators and Mitigation Measure M-NOI-1: Construction Noise Control and Mitigation Measure M-NOI-2: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction for noise, direct and indirect impacts to humans would be reduced to a less than significant level.

F. Mitigation and Improvement Measures

The following mitigation measures have been identified to reduce potentially significant environmental impacts resulting from the proposed project to less-than-significant levels.

Mitigation Measure M-CR-2: Accidental Discovery

The following mitigation measure is required to avoid any potential adverse effect from the proposed project on accidentally discovered buried or submerged historical resources as defined in CEQA Guidelines section 15064.5(a) and (c), on tribal cultural resources as defined in CEQA Statute section 21074, and on human remains and associated or unassociated funerary objects.

The project sponsor shall distribute the planning department archeological resource "ALERT" sheet to the project 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. Prior to any soils-disturbing activities being undertaken, each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, supervisory personnel, etc. The project sponsor shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor[s], and utilities firm) to the ERO confirming that all field personnel have received copies of the Alert Sheet.

A preconstruction training shall be provided to all construction personnel performing or managing soil disturbing activities by a qualified archeologist prior to the start of soils disturbing activities on the project. The training may be provided in person or using a video and include a handout prepared by the qualified archeologist. The video and materials will be reviewed and approved by the ERO. The purpose of the training is to enable personnel to identify archeological resources that may be encountered and to instruct them on what to do if a potential discovery occurs. Images of expected archeological resource types and archeological testing and data recovery methods should be included in the training.

The project sponsor shall provide the ERO with a signed affidavit from the responsible parties (prime contractor, subcontractor[s], and utilities firm) to the ERO confirming that all field personnel have taken the preconstruction training.

Should any indication of an archeological resource be encountered during any soils-disturbing activity of the project, the project Head Foreman and/or project sponsor shall immediately notify the ERO and shall immediately suspend any soils-disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken.

If the ERO determines that an archeological resource may be present within the project site, the project sponsor shall retain the services of an archeological consultant Qualified Archaeological Consultants List maintained by the planning department archeologist. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource retains sufficient integrity and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological resource. The archeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the project sponsor. The ERO may also determine that the archeological resource is a tribal cultural resource and will consult with affiliated Native Americans tribal representatives, if warranted.

Measures might include preservation in situ of the archeological resource, an archeological monitoring program, an archeological testing program, or an archeological interpretation program. If an archeological interpretive, monitoring, and/or testing program is required, it shall be consistent with the Environmental Planning Division guidelines for such programs. The ERO may also require that the project sponsor immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.

If human remains and associated or unassociated funerary objects are discovered during any soils disturbing activity, all applicable state and federal laws shall be followed, including immediate notification of the San Francisco Office of the Chief Medical Examiner, and in the event of the Medical Examiner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission who shall appoint a Most Likely Descendant (MLD) (California Public Resources Code, section 5097.98).

The ERO shall also be immediately notified upon discovery of human remains. The archeological consultant, project sponsor, ERO, and MLD shall have up to but not beyond six days after the discovery to make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, curation, possession, and final disposition of the human remains and associated or unassociated funerary objects. Nothing in existing state regulations or in this mitigation measure compels the project sponsor and the ERO to accept recommendations of an MLD. The archeological consultant shall retain possession of any Native American human remains and associated or unassociated burial objects until completion of any scientific analyses of the human remains or objects as specified in the treatment agreement if such an agreement has been made or, otherwise, as determined by the archeological consultant and the ERO. If no agreement is reached state regulations shall be followed including the reinternment of the human remains and associated burial objects with appropriate dignity on the property in a location not subject to further subsurface disturbance (California Public Resources Code, section 5097.98).

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.

The archeological consultant shall submit an Archeological Resources Report (ARR) to the ERO. The ARR shall evaluate the historical significance of any discovered archeological resource and describing the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken. It shall include a curation and deaccession plan for all recovered cultural materials. Formal site recordation forms (CA DPR 523 series) shall be attached to the ARR as an appendix.

The project archeological consultant shall also submit an Archeological Public Interpretation Plan if a significant archeological resource is discovered during a project. The Archeological Public Interpretation Plan 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.

Once approved by the ERO, copies of the ARR shall be distributed as follows: California Archeological Site Survey Northwest Information Center shall receive one copy, and the ERO shall receive a copy of the transmittal of the ARR to the Northwest Information Center. The Environmental Planning Division of the planning department shall receive one bound copy and one unlocked searchable PDF copy on of the ARR along with geographic information system shapefiles of the site and feature locations and copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. Digital files should be submitted via USB or other stable storage device. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.

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

In the event of the discovery of an archeological resource of Native American origin, the Environmental Review Officer (ERO), the project sponsor, and the tribal representative shall consult to determine whether preservation in place would be feasible and effective. If it is determined that preservation in place of the tribal cultural resource would be both feasible and effective, then the archeological consultant shall prepare an Archeological Resource Preservation Plan, which shall be implemented by the project sponsor during construction. The consultant shall submit a draft Archeological Resource Preservation Plan to the planning department for review and approval.

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

Mitigation Measure M-AQ-2: Clean Off-Road Construction Equipment

The project sponsor shall comply with the following:

A. *Engine Requirements*
   1. All off-road equipment greater than 25 horsepower and operating for more than 20 total hours over the entire duration of construction activities shall have engines that meet or exceed either U.S. Environmental Protection Agency or California Air Resources Board (ARB) Tier 4 Interim or Tier 4 Final off-road emission standards.
   2. Where access to alternative sources of power are available, portable diesel engines (e.g., generators) shall be prohibited.
   3. Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The contractor shall post legible and visible signs in English, Spanish, and Chinese, in designated queuing areas and at the construction site to remind operators of the two-minute idling limit.
   4. The project sponsor shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications.

B. *Waivers*
   1. The planning department's environmental review officer or designee (ERO) may waive the alternative source of power requirement of subsection (A)(2) if an alternative source of power is limited or infeasible at the project site. If the ERO grants the waiver, the contractor must submit documentation that the equipment used for on-site power generation meets the requirements of subsection (A)(1).
   2. The ERO may waive the equipment requirements of Subsection (A)(1) if a particular piece of Tier 4 off-road equipment is technically not feasible, the equipment would not produce desired emissions reduction due to expected operating modes, or there is a compelling emergency need to use off-road equipment that is not Tier 4 compliant. If the ERO grants the waiver, the contractor must use the next cleanest piece of off-road equipment, according to the following table, or another alternative that results in comparable reductions of diesel particulate matter.

Off-Road Equipment Compliance Step-down Schedule		
Compliance Alternative	Engine Emission Standard	Emissions Control
1	Tier 2	ARB Level 3 VDECS
2	Tier 2	ARB Level 2 VDECS
3	Tier 2	ARB Level 1 VDECS
How to use the table: If the ERO determines that the equipment requirements cannot be met, then the project sponsor would need to meet Compliance Alternative 1. If the ERO determines that the contractor cannot supply off-road equipment meeting Compliance Alternative 1, then the contractor must meet Compliance Alternative 2. If the ERO determines that the contractor cannot supply off-road equipment meeting Compliance Alternative 2, then the contractor must meet Compliance Alternative 3.		

C. *Construction Emissions Minimization Plan*

Before starting on-site construction activities, the contractor 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 section A.

1. 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 (as reasonably available at the time of plan submission), but is not limited to, equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. For VDECS installed, the description may include technology type, serial number, make, model, manufacturer, ARB verification number level, and installation date and hour meter reading on installation date. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used.
2. The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The plan shall include a certification statement that the project sponsor agrees to comply fully with the plan.
3. The project sponsor shall make the plan available to the public for review on site during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the plan. The sign 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.

D. *Monitoring*

After start of construction activities, the contractor shall submit reports every six months to the ERO documenting compliance with the plan. After completion of construction activities and prior to receiving a final certificate of occupancy, 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.

Mitigation Measure M-AQ-4: Best Available Control Technology for Diesel Generators

The project sponsor shall ensure that the backup diesel generator meets or exceeds one of the following emission standards for particulate matter: (1) the generator is equipped with a Tier 4 certified engine or (2) the generator is equipped with a Tier 2 or Tier 3 certified engine with a CARB Level 3 VDECS. A non-verified diesel emission control strategy may be used if the filter has the same particulate matter reduction as the identical CARB verified model and if the air district approves of its use. The project sponsor shall submit documentation of compliance with the air district New Source Review permitting process (Regulation 2, Rule 2, and Regulation 2, Rule 5) and the emission standard requirement of this mitigation measure to the department for review and approval prior to issuance of a permit for a backup diesel generator from any City agency.

Mitigation Measure M-BI-1: Preconstruction Nesting Bird Surveys and Buffer Areas

Nesting birds and their nests shall be protected during construction by implementation of the following measure:

a) To the extent feasible, the project sponsor shall conduct initial activities including, but not limited to, vegetation removal, tree trimming or removal, ground disturbance, building demolition, site grading, and other construction activities that may compromise breeding birds or the success of their nests outside of the nesting season (January 15 through August 31).

b) If construction during the bird nesting season cannot be fully avoided, a qualified wildlife biologist shall conduct pre-construction nesting surveys within 7 days prior to the start of construction or demolition at areas that have not been previously disturbed by project activities or after any construction breaks of 7 days or more. Typical experience requirements for a “qualified biologist” include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities and a minimum of two years of experience in biological monitoring or surveying for nesting birds. Surveys of suitable habitat shall be performed in publicly accessible areas within 100 feet of the project site in order to locate any active nests of common bird species and within 200 feet of the project site to locate any active raptor (birds of prey) nests.

c) If active nests are located during the preconstruction nesting bird surveys a qualified biologist shall evaluate if the schedule of construction activities could affect the active nests; if so, the following measures shall apply, as determined by the biologist:

   vi. If construction is not likely to affect the active nest or nesting behavior, construction may proceed without restriction; however, a qualified biologist shall regularly monitor the nest at a frequency determined appropriate for the surrounding construction activity to confirm there is no adverse effect. Spot-check monitoring frequency would be determined on a nest-by-nest basis considering the particular construction activity, duration, proximity to the nest, and physical barriers that may screen activity from the nest. The qualified biologist may revise their determination at any time during the nesting season in coordination with the planning department.

   vii. If it is determined that construction may affect the active nest, the qualified biologist shall establish a no-disturbance buffer around the nest and all project work shall halt within the buffer until a qualified biologist determines the nest is no longer in use. These buffer distances shall be equivalent to the survey distances (100 feet for passerines and 200 feet for raptors); however, the buffers may be adjusted if an obstruction, such as a building, is within line of sight between the nest and construction and the biologist determines the construction activity, including noise, is not affecting nesting behaviors.

viii. Modifying nest buffer distances, allowing certain construction activities within the buffer, and/or modifying construction methods in proximity to active nests shall be done at the discretion of the qualified biologist and in coordination with the planning department, who would notify the California Department of Fish and Wildlife (CDFW). Necessary actions to remove or relocate an active nest shall be coordinated with the planning department and approved by CDFW.

ix. Any work that must occur within established no-disturbance buffers around active nests shall be monitored by a qualified biologist. If adverse effects in response to project work within the buffer are observed and could compromise the nest, work within the no-disturbance buffer(s) shall halt until the nest is vacated, young have fledged, and there is no evidence of a second attempt at nesting.

x. Any birds that begin nesting within the project area and survey buffers amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels, so exclusion zones around nests may be reduced or eliminated in these cases as determined by the qualified biologist in coordination with the planning department, who would notify CDFW. Work may proceed around these active nests as long as the nests and their occupants are not directly affected.

In the event inactive nests are observed within or adjacent to the project site at any time throughout the year, any removal or relocation of the inactive nests shall be at the discretion of the qualified biologist in coordination with the planning department, who would notify and seek approval from the CDFW, as appropriate. Work may proceed around these inactive nests.

G. Public Notice and Comment

Publication of the Notice of Preparation initiated a 30-day public review and comment period that began on December 17, 2020, and ended on January 22, 2021. During the review and comment period, a total of three commenters submitted letters to the planning department by interested parties. The Native American Heritage Commission commented on Assembly Bill 52 tribal cultural resources notification and consultation requirements. Other commenters on the Notice of Preparation commented on impacts to the adjacent building including construction noise and debris control, access to sunlight and views, and project merits. The planning department has considered the comments made by the public in preparation of the initial study and DEIR for the proposed project. There are no known areas of controversy or issues to be resolved.

H. Determination

On the basis of this Initial Study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

____

Lisa Gibson, Environmental Review Officer

for Richard Hillis, Director of Planning

DATE______________________________

I. Initial Study Preparers

Planning Department, City and County of San Francisco
Environmental Planning Division
49 South Vane Ness Avenue, Suite 1400
San Francisco, CA 94103
Environmental Review Officer: Lisa Gibson

Senior Environmental Planner: David Young
Principal Environmental Planner: Joy Navarrete

Project Sponsor
1101 Sutter Affordable, LP
1101 Sutter St, San Francisco, CA 94109

Julie Heinzler, AIA

Initial Study Consultants
Dudek (Environmental Consultant)
1630 San Pablo Avenue
Oakland, CA 94612

Project Manager/Principal: Christine Kronenberg, AICP
Environmental Planner: Kara Laurenson-Wright, Angelica Chiu
Lead Editor: Hannah Wertheimer

Air Quality/Greenhouse Gases/Energy Specialist: Matthew Morales
Acoustician: Michael Carr
Transportation: Mladen Popovic and Amanda Meroux

Architectural Resources Group (Historic Architecture Analysis)
Pier 9, The Embarcadero, Suite 107
San Francisco, CA 94111

Stacy Farr
Sarah Hahn

RWDI (Wind Analysis)
600 Southgate Drive
Guelph, Canada, N1G 4P6

Raisa Lalui
Tammy Gazzola
Tim Wiechers

ATTACHMENT A.

TRAVEL DEMAND INFORMATION

Proposed Project Trip Generation

SAN FRANCISCO TRAVEL DEMAND TOOL INFO

WEBSITE VERSION: 0.3.2
DATA VERSION: 0.3

PROJECT LOCATION ATTRIBUTES

Address:	1101 Sutter Street
District:	Downtown/NorthBeach
Place Type	Urban high density
City:	San Francisco

SELECTED FILTERS

Time Perio	pm
Purpose:	work and non-work
Direction:	inbound and outbound
Distributioi	district

Average vehicle occupancy

Landuse	District AV	Place Type	City AVO
Residential	1.5	1.5	1.5
Hotel	1.7	1.6	1.7
Retail	1.7	1.6	1.7
Supermark	1.7	1.6	1.7
Office	1.2	1.2	1.2
Restaurant	1.7	1.6	1.7
Composite	1.7	1.6	1.7

Total Trips Generated by Land Use and Time

Landuse	Amount	Unit	Daily Persc	Daily Persc	PM Person	PM Person Trips
Residential	310	Bedrooms	4.5	1395	0.4	124
Hotel	null	Rooms	8.4	0	0.6	0
Retail	4.575	1K Square	150	686.3	13.5	61.8
Supermark	0	1K Square	297	0	21.7	0
Office	3.755	1K Square	15.7	59	1.4	5.3
Restaurant	0	1K Square	200	0	27	0
Composite	0	1K Square	600	0	81	0
Total				2140.2		191

Mode Split Distribution

Landuse	Auto	TNC/Taxi	Transit	Private Shu	Walk	Bike
Residential	0.248	0.06	0.28	0.005	0.377	0.029
Hotel	0.175	0.196	0.059	0.018	0.551	0
Retail	0.113	0.046	0.254	0	0.549	0.037
Supermark	0.113	0.046	0.254	0	0.549	0.037
Office	0.184	0.061	0.288	0.006	0.423	0.037
Restaurant	0.113	0.046	0.254	0	0.549	0.037
Composite	0.113	0.046	0.254	0	0.549	0.037

Total Trips by Mode

Mode	Total Persc	Filtered Pe	Total Vehic	Filtered Vehicle Trips
Auto	434.4	38.7	283.3	25.2
TNC/Taxi	118.9	10.6	79.2	7.1
Transit	581.9	51.9		
Private Shu	7.3	0.7		
Walk	927.6	82.9		
Bike	68	6.1		

auto Person Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	12.3	2.1	4.6	0	1.7	0.5	2.1	0	1.4	1.1	0.4	4.7
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	2.3	0.3	0.8	0.8	0.1	0.3	0.2	0	1	0.4	0.2	0.5
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0.1	0	0.1	0	0	0	0	0	0.1	0.2	0.1	0.2
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	14.6	2.5	5.4	0.8	1.8	0.8	2.3	0	2.5	1.7	0.7	5.5

auto Vehicle Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	8.1	1.4	3	0	1.1	0.3	1.4	0	0.9	0.7	0.2	3.1
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	1.4	0.2	0.5	0.5	0.1	0.2	0.1	0	0.6	0.3	0.1	0.3
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0.1	0	0.1	0	0	0	0	0	0.1	0.2	0.1	0.2
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	9.5	1.6	3.5	0.5	1.2	0.5	1.5	0	1.6	1.2	0.5	3.6

Cumulative Development Projects Trip Generation

SAN FRANCISCO TRAVEL DEMAND TOOL INFO

WEBSITE VERSION: 0.3.2
DATA VERSION: 0.3

PROJECT LOCATION ATTRIBUTES

Address:	1000 Sutter St
District:	Downtown/NorthBeach
Place Type	Urban high density
City:	San Francisco

SELECTED FILTERS

Time Perio	pm
Purpose:	work and non-work
Direction:	inbound and outbound
Distributio	district

Average vehicle occupancy

Landuse	District AV	Place Type	City AVO
Residential	1.5	1.5	1.5
Hotel	1.7	1.6	1.7
Retail	1.7	1.6	1.7
Supermark	1.7	1.6	1.7
Office	1.2	1.2	1.2
Restaurant	1.7	1.6	1.7
Composite	1.7	1.6	1.7

Total Trips Generated by Land Use and Time

Landuse	Amount	Unit	Daily Persc	Daily Persc	PM Person	PM Person Trips
Residential	0	Bedrooms	4.5	0	0.4	0
Hotel	152	Rooms	8.4	1276.8	0.6	91.2
Retail	0	1K Square	150	0	13.5	0
Supermark	0	1K Square	297	0	21.7	0
Office	0	1K Square	15.7	0	1.4	0
Restaurant	0	1K Square	200	0	27	0
Composite	0	1K Square	600	0	81	0
Total				1276.8		91.2

Mode Split Distribution

Landuse	Auto	TNC/Taxi	Transit	Private Shu	Walk	Bike
Residential	0.248	0.06	0.28	0.005	0.377	0.029
Hotel	0.175	0.196	0.059	0.018	0.551	0
Retail	0.113	0.046	0.254	0	0.549	0.037
Supermark	0.113	0.046	0.254	0	0.549	0.037
Office	0.184	0.061	0.288	0.006	0.423	0.037
Restaurant	0.113	0.046	0.254	0	0.549	0.037
Composite	0.113	0.046	0.254	0	0.549	0.037

Total Trips by Mode

Mode	Total Persc	Filtered Pe	Total Vehic	Filtered Vehicle Trips
Auto	223.4	16	134.5	9.6
TNC/Taxi	250.3	17.9	166.8	11.9
Transit	75.3	5.4		
Private Shu	23	1.6		
Walk	703.5	50.3		
Bike	0	0		

auto Person Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Hotel	5.2	0.7	1.8	1.8	0.3	0.6	0.5	0	2.4	1	0.5	1.2
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	5.2	0.7	1.8	1.8	0.3	0.6	0.5	0	2.4	1	0.5	1.2

auto Vehicle Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Hotel	3.1	0.5	1.1	1.1	0.2	0.4	0.3	0	1.4	0.6	0.3	0.7
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	3.1	0.5	1.1	1.1	0.2	0.4	0.3	0	1.4	0.6	0.3	0.7

SAN FRANCISCO TRAVEL DEMAND TOOL INFO

WEBSITE VERSION: 0.3.2
DATA VERSION: 0.3

PROJECT LOCATION ATTRIBUTES

Address:	3 Meacham Pl
District:	Downtown/NorthBeach
Place Type	Urban high density
City:	San Francisco

SELECTED FILTERS

Time Perio	pm
Purpose:	work and non-work
Direction:	inbound and outbound
Distributio	district

Average vehicle occupancy

Landuse	District AV	Place Type	City AVO
Residential	1.5	1.5	1.5
Hotel	1.7	1.6	1.7
Retail	1.7	1.6	1.7
Supermark	1.7	1.6	1.7
Office	1.2	1.2	1.2
Restaurant	1.7	1.6	1.7
Composite	1.7	1.6	1.7

Total Trips Generated by Land Use and Time

Landuse	Amount	Unit	Daily Perso	Daily Perso	PM Person	PM Person Trips
Residential	31	Bedrooms	4.5	139.5	0.4	12.4
Hotel	null	Rooms	8.4	0	0.6	0
Retail	0	1K Square	150	0	13.5	0
Supermark	0	1K Square	297	0	21.7	0
Office	0	1K Square	15.7	0	1.4	0
Restaurant	0	1K Square	200	0	27	0
Composite	0	1K Square	600	0	81	0
Total				139.5		12.4

Mode Split Distribution

Landuse	Auto	TNC/Taxi	Transit	Private Shu	Walk	Bike
Residential	0.248	0.06	0.28	0.005	0.377	0.029
Hotel	0.175	0.196	0.059	0.018	0.551	0
Retail	0.113	0.046	0.254	0	0.549	0.037
Supermark	0.113	0.046	0.254	0	0.549	0.037
Office	0.184	0.061	0.288	0.006	0.423	0.037
Restaurant	0.113	0.046	0.254	0	0.549	0.037
Composite	0.113	0.046	0.254	0	0.549	0.037

Total Trips by Mode

Mode	Total Perso	Filtered Pe	Total Vehic	Filtered Vehicle Trips
Auto	34.6	3.1	22.7	2
TNC/Taxi	8.4	0.7	5.6	0.5
Transit	39.1	3.5		
Private Shu	0.7	0.1		
Walk	52.6	4.7		
Bike	4	0.4		

auto Person Trips Distribution by District

Landuse	Downtown	SoMa	Marina/W	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	1.2	0.2	0.5	0	0.2	0	0.2	0	0.1	0.1	0	0.5
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	1.2	0.2	0.5	0	0.2	0	0.2	0	0.1	0.1	0	0.5

auto Vehicle Trips Distribution by District

Landuse	Downtown	SoMa	Marina/W	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0.8	0.1	0.3	0	0.1	0	0.1	0	0.1	0.1	0	0.3
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	0.8	0.1	0.3	0	0.1	0	0.1	0	0.1	0.1	0	0.3

SAN FRANCISCO TRAVEL DEMAND TOOL INFO

WEBSITE VERSION: 0.3.2
DATA VERSION: 0.3

PROJECT LOCATION ATTRIBUTES

Address: 1240 Bush St
District: Downtown/NorthBeach
Place Type Urban high density
City: San Francisco

SELECTED FILTERS

Time Perio pm
Purpose: work and non-work
Direction: inbound and outbound
Distributioı district

Average vehicle occupancy

Landuse	District AV	Place Type	City AVO
Residential	1.5	1.5	1.5
Hotel	1.7	1.6	1.7
Retail	1.7	1.6	1.7
Supermark	1.7	1.6	1.7
Office	1.2	1.2	1.2
Restaurant	1.7	1.6	1.7
Composite	1.7	1.6	1.7

Total Trips Generated by Land Use and Time

Landuse	Amount	Unit	Daily Persc	Daily Persc	PM Person	PM Person Trips
Residential	5	Bedrooms	4.5	22.5	0.4	2
Hotel	null	Rooms	8.4	0	0.6	0
Retail	0	1K Square	150	0	13.5	0
Supermark	0	1K Square	297	0	21.7	0
Office	0	1K Square	15.7	0	1.4	0
Restaurant	0	1K Square	200	0	27	0
Composite	0	1K Square	600	0	81	0
Total				22.5		2

Mode Split Distribution

Landuse	Auto	TNC/Taxi	Transit	Private Shu	Walk	Bike
Residential	0.248	0.06	0.28	0.005	0.377	0.029
Hotel	0.175	0.196	0.059	0.018	0.551	0
Retail	0.113	0.046	0.254	0	0.549	0.037
Supermark	0.113	0.046	0.254	0	0.549	0.037
Office	0.184	0.061	0.288	0.006	0.423	0.037
Restaurant	0.113	0.046	0.254	0	0.549	0.037
Composite	0.113	0.046	0.254	0	0.549	0.037

Total Trips by Mode

Mode	Total Persc	Filtered Pe	Total Vehic	Filtered Vehicle Trips
Auto	5.6	0.5	3.7	0.3
TNC/Taxi	1.3	0.1	0.9	0.1
Transit	6.3	0.6		
Private Shu	0.1	0		
Walk	8.5	0.8		
Bike	0.7	0.1		

auto Person Trips Distribution by District

Landuse	Downtown	SoMa	Marina/W	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0.2	0	0.1	0	0	0	0	0	0	0	0	0.1
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	0.2	0	0.1	0	0	0	0	0	0	0	0	0.1

auto Vehicle Trips Distribution by District

Landuse	Downtown	SoMa	Marina/W	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0.1	0	0	0	0	0	0	0	0	0	0	0.1
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	0.1	0	0	0	0	0	0	0	0	0	0	0.1

SAN FRANCISCO TRAVEL DEMAND TOOL INFO

WEBSITE VERSION: 0.3.2
DATA VERSION: 0.3

PROJECT LOCATION ATTRIBUTES

Address:	921 O'Farrell St
District:	Downtown/NorthBeach
Place Type	Urban high density
City:	San Francisco

SELECTED FILTERS

Time Perio	pm
Purpose:	work and non-work
Direction:	inbound and outbound
Distributio	district

Average vehicle occupancy

Landuse	District AV	Place Type	City AVO
Residential	1.5	1.5	1.5
Hotel	1.7	1.6	1.7
Retail	1.7	1.6	1.7
Supermark	1.7	1.6	1.7
Office	1.2	1.2	1.2
Restaurant	1.7	1.6	1.7
Composite	1.7	1.6	1.7

Total Trips Generated by Land Use and Time

Landuse	Amount	Unit	Daily Persc	Daily Persc	PM Person	PM Person Trips
Residential	66	Bedrooms	4.5	297	0.4	26.4
Hotel	null	Rooms	8.4	0	0.6	0
Retail	0	1K Square	150	0	13.5	0
Supermark	0	1K Square	297	0	21.7	0
Office	0	1K Square	15.7	0	1.4	0
Restaurant	0	1K Square	200	0	27	0
Composite	0	1K Square	600	0	81	0
Total				297		26.4

Mode Split Distribution

Landuse	Auto	TNC/Taxi	Transit	Private Shu	Walk	Bike
Residential	0.248	0.06	0.28	0.005	0.377	0.029
Hotel	0.175	0.196	0.059	0.018	0.551	0
Retail	0.113	0.046	0.254	0	0.549	0.037
Supermark	0.113	0.046	0.254	0	0.549	0.037
Office	0.184	0.061	0.288	0.006	0.423	0.037
Restaurant	0.113	0.046	0.254	0	0.549	0.037
Composite	0.113	0.046	0.254	0	0.549	0.037

Total Trips by Mode

Mode	Total Persc	Filtered Pe	Total Vehic	Filtered Vehicle Trips
Auto	73.7	6.5	48.4	4.3
TNC/Taxi	17.8	1.6	11.9	1.1
Transit	83.2	7.4		
Private Shu	1.5	0.1		
Walk	112	10		
Bike	8.6	0.8		

auto Person Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	2.6	0.5	1	0	0.4	0.1	0.4	0	0.3	0.2	0.1	1
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	2.6	0.5	1	0	0.4	0.1	0.4	0	0.3	0.2	0.1	1

auto Vehicle Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	1.7	0.3	0.6	0	0.2	0.1	0.3	0	0.2	0.2	0.1	0.7
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	1.7	0.3	0.6	0	0.2	0.1	0.3	0	0.2	0.2	0.1	0.7

SAN FRANCISCO TRAVEL DEMAND TOOL INFO

WEBSITE VERSION: 0.3.2
DATA VERSION: 0.3

PROJECT LOCATION ATTRIBUTES

Address: 901 Van Ness Ave
District: Marina/WesternMarket
Place Type Urban medium density
City: San Francisco

SELECTED FILTERS

Time Perio pm
Purpose: work and non-work
Direction: inbound and outbound
Distributio district

Average vehicle occupancy

Landuse	District AV	Place Type	City AVO
Residential	1.3	1.5	1.5
Hotel	1.4	1.5	1.7
Retail	1.4	1.5	1.7
Supermark	1.4	1.5	1.7
Office	1.2	1.2	1.2
Restaurant	1.4	1.5	1.7
Composite	1.4	1.5	1.7

Total Trips Generated by Land Use and Time

Landuse	Amount	Unit	Daily Persc	Daily Persc	PM Person	PM Person Trips
Residential	0	Bedrooms	4.5	0	0.4	0
Hotel	null	Rooms	8.4	0	0.6	0
Retail	7.622	1K Square	150	1143.3	13.5	102.9
Supermark	0	1K Square	297	0	21.7	0
Office	2.814	1K Square	15.7	44.2	1.4	3.9
Restaurant	0	1K Square	200	0	27	0
Composite	0	1K Square	600	0	81	0
Total				1187.5		106.8

Mode Split Distribution

Landuse	Auto	TNC/Taxi	Transit	Private Shu	Walk	Bike
Residential	0.389	0.035	0.19	0.003	0.343	0.039
Hotel	0.269	0.157	0.147	0.042	0.384	0
Retail	0.259	0.014	0.118	0.005	0.576	0.028
Supermark	0.259	0.014	0.118	0.005	0.576	0.028
Office	0.374	0.111	0.186	0.129	0.171	0.028
Restaurant	0.259	0.014	0.118	0.005	0.576	0.028
Composite	0.259	0.014	0.118	0.005	0.576	0.028

Total Trips by Mode

Mode	Total Persc	Filtered Pe	Total Vehic	Filtered Vehicle Trips
Auto	312.6	28.1	223.2	20.1
TNC/Taxi	20.9	1.9	13.9	1.3
Transit	143.1	12.9		
Private Shu	11.4	1		
Walk	666.1	59.9		
Bike	33.2	3		

auto Person Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	2.1	0.9	7.8	2.2	0.2	5	1.4	0	1.7	1.6	0.8	2.9
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0.1	0	0.1	0.2	0	0	0.2	0	0.4	0.2	0.1	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	2.2	0.9	7.9	2.4	0.2	5	1.6	0	2.1	1.8	0.9	3

auto Vehicle Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	1.5	0.6	5.5	1.6	0.1	3.5	1	0	1.2	1.1	0.6	2.1
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0.1	0	0.1	0.1	0	0	0.2	0	0.3	0.2	0.1	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	1.6	0.6	5.6	1.7	0.1	3.5	1.2	0	1.6	1.3	0.7	2.1

SAN FRANCISCO TRAVEL DEMAND TOOL INFO

WEBSITE VERSION: 0.3.2
DATA VERSION: 0.3

PROJECT LOCATION ATTRIBUTES

Address: 955 Post St
District: Downtown/NorthBeach
Place Type Urban high density
City: San Francisco

SELECTED FILTERS

Time Perio pm
Purpose: work and non-work
Direction: inbound and outbound
Distributioi district

Average vehicle occupancy

Landuse	District AV	Place Type	City AVO
Residential	1.5	1.5	1.5
Hotel	1.7	1.6	1.7
Retail	1.7	1.6	1.7
Supermark	1.7	1.6	1.7
Office	1.2	1.2	1.2
Restaurant	1.7	1.6	1.7
Composite	1.7	1.6	1.7

Total Trips Generated by Land Use and Time

Landuse	Amount	Unit	Daily Persc	Daily Persc	PM Person	PM Person Trips
Residential	123	Bedrooms	4.5	553.5	0.4	49.2
Hotel	null	Rooms	8.4	0	0.6	0
Retail	0	1K Square	150	0	13.5	0
Supermark	0	1K Square	297	0	21.7	0
Office	0	1K Square	15.7	0	1.4	0
Restaurant	0	1K Square	200	0	27	0
Composite	0	1K Square	600	0	81	0
Total				553.5		49.2

Mode Split Distribution

Landuse	Auto	TNC/Taxi	Transit	Private Shu	Walk	Bike
Residential	0.248	0.06	0.28	0.005	0.377	0.029
Hotel	0.175	0.196	0.059	0.018	0.551	0
Retail	0.113	0.046	0.254	0	0.549	0.037
Supermark	0.113	0.046	0.254	0	0.549	0.037
Office	0.184	0.061	0.288	0.006	0.423	0.037
Restaurant	0.113	0.046	0.254	0	0.549	0.037
Composite	0.113	0.046	0.254	0	0.549	0.037

Total Trips by Mode

Mode	Total Persc	Filtered Pe	Total Vehic	Filtered Vehicle Trips
Auto	137.3	12.2	90.3	8
TNC/Taxi	33.2	3	22.1	2
Transit	155	13.8		
Private Shu	2.8	0.2		
Walk	208.7	18.5		
Bike	16.1	1.4		

auto Person Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	4.9	0.8	1.8	0	0.7	0.2	0.8	0	0.5	0.4	0.1	1.9
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	4.9	0.8	1.8	0	0.7	0.2	0.8	0	0.5	0.4	0.1	1.9

auto Vehicle Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	3.2	0.6	1.2	0	0.4	0.1	0.5	0	0.4	0.3	0.1	1.2
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	3.2	0.6	1.2	0	0.4	0.1	0.5	0	0.4	0.3	0.1	1.2

SAN FRANCISCO TRAVEL DEMAND TOOL INFO

WEBSITE VERSION: 0.3.2
DATA VERSION: 0.3

PROJECT LOCATION ATTRIBUTES

Address:	1525 Pine St
District:	Downtown/NorthBeach
Place Type	Urban high density
City:	San Francisco

SELECTED FILTERS

Time Perio	pm
Purpose:	work and non-work
Direction:	inbound and outbound
Distributio	district

Average vehicle occupancy

Landuse	District AV	Place Type	City AVO
Residential	1.5	1.5	1.5
Hotel	1.7	1.6	1.7
Retail	1.7	1.6	1.7
Supermark	1.7	1.6	1.7
Office	1.2	1.2	1.2
Restaurant	1.7	1.6	1.7
Composite	1.7	1.6	1.7

Total Trips Generated by Land Use and Time

Landuse	Amount	Unit	Daily Persc	Daily Persc	PM Person	PM Person Trips
Residential	21	Bedrooms	4.5	94.5	0.4	8.4
Hotel	null	Rooms	8.4	0	0.6	0
Retail	0	1K Square	150	0	13.5	0
Supermark	0	1K Square	297	0	21.7	0
Office	0	1K Square	15.7	0	1.4	0
Restaurant	0	1K Square	200	0	27	0
Composite	0	1K Square	600	0	81	0
Total				94.5		8.4

Mode Split Distribution

Landuse	Auto	TNC/Taxi	Transit	Private Shu	Walk	Bike
Residential	0.248	0.06	0.28	0.005	0.377	0.029
Hotel	0.175	0.196	0.059	0.018	0.551	0
Retail	0.113	0.046	0.254	0	0.549	0.037
Supermark	0.113	0.046	0.254	0	0.549	0.037
Office	0.184	0.061	0.288	0.006	0.423	0.037
Restaurant	0.113	0.046	0.254	0	0.549	0.037
Composite	0.113	0.046	0.254	0	0.549	0.037

Total Trips by Mode

Mode	Total Persc	Filtered Pe	Total Vehic	Filtered Vehicle Trips
Auto	23.4	2.1	15.4	1.4
TNC/Taxi	5.7	0.5	3.8	0.3
Transit	26.5	2.4		
Private Shu	0.5	0		
Walk	35.6	3.2		
Bike	2.7	0.2		

auto Person Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0.8	0.1	0.3	0	0.1	0	0.1	0	0.1	0.1	0	0.3
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	0.8	0.1	0.3	0	0.1	0	0.1	0	0.1	0.1	0	0.3

auto Vehicle Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0.5	0.1	0.2	0	0.1	0	0.1	0	0.1	0	0	0.2
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	0.5	0.1	0.2	0	0.1	0	0.1	0	0.1	0	0	0.2

SAN FRANCISCO TRAVEL DEMAND TOOL INFO

WEBSITE VERSION: 0.3.2
DATA VERSION: 0.3

PROJECT LOCATION ATTRIBUTES

Address:	1200 Van Ness Ave
District:	Downtown/NorthBeach
Place Type	Urban high density
City:	San Francisco

SELECTED FILTERS

Time Perio	pm
Purpose:	work and non-work
Direction:	inbound and outbound
Distributioi	district

Average vehicle occupancy

Landuse	District AV	Place Type	City AVO
Residential	1.5	1.5	1.5
Hotel	1.7	1.6	1.7
Retail	1.7	1.6	1.7
Supermark	1.7	1.6	1.7
Office	1.2	1.2	1.2
Restaurant	1.7	1.6	1.7
Composite	1.7	1.6	1.7

Total Trips Generated by Land Use and Time

Landuse	Amount	Unit	Daily Persc	Daily Persc	PM Person	PM Person Trips
Residential	119	Bedrooms	4.5	535.5	0.4	47.6
Hotel	null	Rooms	8.4	0	0.6	0
Retail	0	1K Square	150	0	13.5	0
Supermark	0	1K Square	297	0	21.7	0
Office	0	1K Square	15.7	0	1.4	0
Restaurant	0	1K Square	200	0	27	0
Composite	0	1K Square	600	0	81	0
Total				535.5		47.6

Mode Split Distribution

Landuse	Auto	TNC/Taxi	Transit	Private Shu	Walk	Bike
Residential	0.248	0.06	0.28	0.005	0.377	0.029
Hotel	0.175	0.196	0.059	0.018	0.551	0
Retail	0.113	0.046	0.254	0	0.549	0.037
Supermark	0.113	0.046	0.254	0	0.549	0.037
Office	0.184	0.061	0.288	0.006	0.423	0.037
Restaurant	0.113	0.046	0.254	0	0.549	0.037
Composite	0.113	0.046	0.254	0	0.549	0.037

Total Trips by Mode

Mode	Total Persc	Filtered Pe	Total Vehic	Filtered Vehicle Trips
Auto	132.8	11.8	87.3	7.8
TNC/Taxi	32.1	2.9	21.4	1.9
Transit	149.9	13.3		
Private Shu	2.7	0.2		
Walk	201.9	17.9		
Bike	15.5	1.4		

auto Person Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	4.7	0.8	1.7	0	0.6	0.2	0.8	0	0.5	0.4	0.1	1.8
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	4.7	0.8	1.7	0	0.6	0.2	0.8	0	0.5	0.4	0.1	1.8

auto Vehicle Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	3.1	0.5	1.1	0	0.4	0.1	0.5	0	0.3	0.3	0.1	1.2
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0	0	0	0	0	0	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	3.1	0.5	1.1	0	0.4	0.1	0.5	0	0.3	0.3	0.1	1.2

SAN FRANCISCO TRAVEL DEMAND TOOL INFO

WEBSITE VERSION: 0.3.2
DATA VERSION: 0.3

PROJECT LOCATION ATTRIBUTES

Address:	1033 Polk St
District:	Downtown/NorthBeach
Place Type	Urban high density
City:	San Francisco

SELECTED FILTERS

Time Perio	pm
Purpose:	work and non-work
Direction:	inbound and outbound
Distributio	district

Average vehicle occupancy

Landuse	District AV	Place Type	City AVO
Residential	1.5	1.5	1.5
Hotel	1.7	1.6	1.7
Retail	1.7	1.6	1.7
Supermark	1.7	1.6	1.7
Office	1.2	1.2	1.2
Restaurant	1.7	1.6	1.7
Composite	1.7	1.6	1.7

Total Trips Generated by Land Use and Time

Landuse	Amount	Unit	Daily Perso	Daily Perso	PM Person	PM Person Trips
Residential	20	Bedrooms	4.5	90	0.4	8
Hotel	null	Rooms	8.4	0	0.6	0
Retail	0.605	1K Square	150	90.8	13.5	8.2
Supermark	0	1K Square	297	0	21.7	0
Office	0	1K Square	15.7	0	1.4	0
Restaurant	0	1K Square	200	0	27	0
Composite	0	1K Square	600	0	81	0
Total				180.8		16.2

Mode Split Distribution

Landuse	Auto	TNC/Taxi	Transit	Private Shu	Walk	Bike
Residential	0.248	0.06	0.28	0.005	0.377	0.029
Hotel	0.175	0.196	0.059	0.018	0.551	0
Retail	0.113	0.046	0.254	0	0.549	0.037
Supermark	0.113	0.046	0.254	0	0.549	0.037
Office	0.184	0.061	0.288	0.006	0.423	0.037
Restaurant	0.113	0.046	0.254	0	0.549	0.037
Composite	0.113	0.046	0.254	0	0.549	0.037

Total Trips by Mode

Mode	Total Perso	Filtered Pe	Total Vehic	Filtered Vehicle Trips
Auto	32.6	2.9	20.8	1.9
TNC/Taxi	9.6	0.9	6.4	0.6
Transit	48.3	4.3		
Private Shu	0.5	0		
Walk	83.8	7.5		
Bike	6	0.5		

auto Person Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0.8	0.1	0.3	0	0.1	0	0.1	0	0.1	0.1	0	0.3
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0.3	0	0.1	0.1	0	0	0	0	0.1	0.1	0	0.1
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	1.1	0.2	0.4	0.1	0.1	0.1	0.2	0	0.2	0.1	0.1	0.4

auto Vehicle Trips Distribution by District

Landuse	Downtown	SoMa	Marina/We	Mission/	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	OuterMission/Hills
Residential	0.5	0.1	0.2	0	0.1	0	0.1	0	0.1	0	0	0.2
Hotel	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0.2	0	0.1	0.1	0	0	0	0	0.1	0	0	0
Supermark	0	0	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0	0	0	0	0	0	0
Composite	0	0	0	0	0	0	0	0	0	0	0	0
Total	0.7	0.1	0.3	0.1	0.1	0	0.1	0	0.1	0.1	0	0.2

ATTACHMENT B.

AIR QUALITY AND GREENHOUSE GAS MODEL OUTPUTS

1101-1123 Sutter Street Project

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.00	1000sqft	0.00	1,999.00	0
Day-Care Center	3.65	1000sqft	0.00	3,650.00	0
Enclosed Parking with Elevator	18.53	1000sqft	0.00	18,530.00	0
Parking Lot	14.00	Space	0.13	5,600.00	0
Health Club	12.21	1000sqft	0.00	12,215.00	0
Apartments High Rise	185.00	Dwelling Unit	0.48	209,435.00	422
Apartments Mid Rise	16.00	Dwelling Unit	0.21	14,800.00	37
Strip Mall	6.97	1000sqft	0.00	6,972.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 was adjusted based on PG&E's reported intensity for 2018 from the PG&E Corporate Responsibility and Sustainability Report (2020)

Land Use - All acreage for the lot included under residential land use. Incl circulation/open space area SF in residential total. Incl all common area SF under "health club" use. Pop based on ave household size of 2.28 persons

Construction Phase - Construction phases and schedule based on applicant input

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Trips and VMT - Adjusted trips based on applicant input. Increased haul truck trip length for demolition to 260 miles to account for potential hazardous material transport, assuming Buttonwillow Landfill receipt. Ox Mountain landfill assumed as recipient of soils.

On-road Fugitive Dust - Defaults

Demolition - 54,000 SF of existing buildings/parking lot to be demolished

Grading - Total of 9,320 CY of soils exported

Architectural Coating - Adjusted architectural coating areas to 1101 and 1123 buildings based on square footage to be developed for each building

Vehicle Trips - Adjusted trip rates based on SFCTA rates and splits for Auto and TNC/Taxi modes

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Road Dust - Defaults

Woodstoves - No fireplaces or woodstoves assumed

Consumer Products - Defaults

Area Coating - Defaults

Landscape Equipment - Defaults

Energy Use - Adjusted energy use factors for the project based on Title 2019 standards and accounting for increased electricity based on zero natural gas development

Water And Wastewater - No outdoor water use assumed for non-residential uses

Solid Waste - Defaults

Construction Off-road Equipment Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps - Generac SD800 diesel emergency generator. Assumes up to 50 hours/year testing/maintenance

Stationary Sources - Emergency Generators and Fire Pumps EF - Defaults

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,418.00	3,521.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,418.00	8,897.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,254.00	10,564.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,254.00	26,690.00
tblArchitecturalCoating	ConstArea_Parking	1,448.00	779.00
tblArchitecturalCoating	ConstArea_Parking	1,448.00	669.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	151,359.00	14,478.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	151,359.00	136,881.00
tblArchitecturalCoating	ConstArea_Residential_Interior	454,076.00	43,432.00
tblArchitecturalCoating	ConstArea_Residential_Interior	454,076.00	410,644.00
tblConstructionPhase	NumDays	5.00	40.00
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	NumDays	100.00	540.00
tblConstructionPhase	NumDays	100.00	310.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	40.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	NT24NG	1.62	0.00

tblEnergyUse	NT24NG	1.01	0.00
tblEnergyUse	NT24NG	6.90	0.00
tblEnergyUse	NT24NG	0.70	0.00
tblEnergyUse	T24E	426.45	1,503.04
tblEnergyUse	T24E	426.45	358.49
tblEnergyUse	T24E	0.66	2.33
tblEnergyUse	T24E	3.92	13.81
tblEnergyUse	T24E	4.10	14.45
tblEnergyUse	T24E	1.21	4.26
tblEnergyUse	T24E	2.24	7.89
tblEnergyUse	T24NG	6,115.43	0.00
tblEnergyUse	T24NG	6,115.43	0.00
tblEnergyUse	T24NG	14.85	0.00
tblEnergyUse	T24NG	18.32	0.00
tblEnergyUse	T24NG	17.85	0.00
tblEnergyUse	T24NG	3.90	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	27.75	0.00
tblFireplaces	NumberGas	2.40	0.00
tblFireplaces	NumberNoFireplace	7.40	185.00
tblFireplaces	NumberNoFireplace	0.64	16.00
tblFireplaces	NumberWood	31.45	0.00
tblFireplaces	NumberWood	2.72	0.00
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	AcresOfGrading	100.00	0.50
tblGrading	MaterialExported	0.00	8,800.00

tblGrading	MaterialExported	0.00	520.00
tblLandUse	LandUseSquareFeet	2,000.00	1,999.00
tblLandUse	LandUseSquareFeet	12,210.00	12,215.00
tblLandUse	LandUseSquareFeet	185,000.00	209,435.00
tblLandUse	LandUseSquareFeet	16,000.00	14,800.00
tblLandUse	LandUseSquareFeet	6,970.00	6,972.00
tblLandUse	LotAcreage	0.05	0.00
tblLandUse	LotAcreage	0.08	0.00
tblLandUse	LotAcreage	0.43	0.00
tblLandUse	LotAcreage	0.28	0.00
tblLandUse	LotAcreage	2.98	0.48
tblLandUse	LotAcreage	0.42	0.21
tblLandUse	LotAcreage	0.16	0.00
tblLandUse	Population	529.00	422.00
tblLandUse	Population	46.00	37.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	HaulingTripLength	20.00	260.00
tblTripsAndVMT	HaulingTripLength	20.00	260.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	VendorTripNumber	30.00	26.00
tblTripsAndVMT	VendorTripNumber	30.00	10.00
tblVehicleTrips	ST_TR	4.98	2.31

tblVehicleTrips	ST_TR	6.39	2.31
tblVehicleTrips	ST_TR	6.21	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	42.04	22.62
tblVehicleTrips	SU_TR	3.65	1.69
tblVehicleTrips	SU_TR	5.86	1.69
tblVehicleTrips	SU_TR	5.83	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	20.43	10.99
tblVehicleTrips	WD_TR	4.20	1.94
tblVehicleTrips	WD_TR	6.65	1.94
tblVehicleTrips	WD_TR	74.06	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	44.32	23.85
tblWater	OutdoorWaterUseRate	402,549.23	0.00
tblWater	OutdoorWaterUseRate	217,867.17	0.00
tblWater	OutdoorWaterUseRate	442,600.58	0.00
tblWater	OutdoorWaterUseRate	316,433.03	0.00
tblWoodstoves	NumberCatalytic	3.70	0.00
tblWoodstoves	NumberCatalytic	0.32	0.00
tblWoodstoves	NumberNoncatalytic	3.70	0.00
tblWoodstoves	NumberNoncatalytic	0.32	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2378	2.5219	2.1095	6.5700e-003	0.3606	0.0843	0.4449	0.1272	0.0782	0.2054	0.0000	627.5836	627.5836	0.1159	0.0000	630.4811
2023	0.2611	1.7486	2.1511	6.2300e-003	0.3383	0.0671	0.4054	0.0907	0.0618	0.1525	0.0000	572.9964	572.9964	0.0825	0.0000	575.0595
2024	1.8023	0.8864	1.0821	2.8400e-003	0.1239	0.0341	0.1580	0.0332	0.0319	0.0651	0.0000	258.8810	258.8810	0.0405	0.0000	259.8925
Maximum	**1.8023**	**2.5219**	**2.1511**	**6.5700e-003**	**0.3606**	**0.0843**	**0.4449**	**0.1272**	**0.0782**	**0.2054**	**0.0000**	**627.5836**	**627.5836**	**0.1159**	**0.0000**	**630.4811**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2378	2.5219	2.1095	6.5700e-003	0.3606	0.0843	0.4449	0.1272	0.0782	0.2054	0.0000	627.5833	627.5833	0.1159	0.0000	630.4808
2023	0.2611	1.7486	2.1511	6.2300e-003	0.3383	0.0671	0.4054	0.0907	0.0618	0.1525	0.0000	572.9962	572.9962	0.0825	0.0000	575.0593
2024	1.8023	0.8864	1.0821	2.8400e-003	0.1239	0.0341	0.1580	0.0332	0.0319	0.0651	0.0000	258.8809	258.8809	0.0405	0.0000	259.8923
Maximum	**1.8023**	**2.5219**	**2.1511**	**6.5700e-003**	**0.3606**	**0.0843**	**0.4449**	**0.1272**	**0.0782**	**0.2054**	**0.0000**	**627.5833**	**627.5833**	**0.1159**	**0.0000**	**630.4808**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-2-2022**	**8-1-2022**	1.3988	1.3988
2	**8-2-2022**	**11-1-2022**	0.9408	0.9408
3	**11-2-2022**	**2-1-2023**	0.5483	0.5483
4	**2-2-2023**	**5-1-2023**	0.4903	0.4903
5	**5-2-2023**	**8-1-2023**	0.5019	0.5019
6	**8-2-2023**	**11-1-2023**	0.5034	0.5034
7	**11-2-2023**	**2-1-2024**	0.6185	0.6185
8	**2-2-2024**	**5-1-2024**	0.4460	0.4460
9	**5-2-2024**	**8-1-2024**	1.2504	1.2504
10	**8-2-2024**	**9-30-2024**	0.6951	0.6951
		Highest	1.3988	1.3988

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1905	0.0172	1.4924	8.0000e-005		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	2.4389	2.4389	2.3400e-003	0.0000	2.4975
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	154.2235	154.2235	0.0217	4.4900e-003	156.1048
Mobile	0.1136	0.4369	1.2318	4.6000e-003	0.4272	4.9000e-003	0.4321	0.1151	4.5700e-003	0.1196	0.0000	424.1213	424.1213	0.0177	0.0000	424.5630
Stationary	0.0440	0.1969	0.1123	2.1000e-004		6.4800e-003	6.4800e-003		6.4800e-003	6.4800e-003	0.0000	20.4298	20.4298	2.8600e-003	0.0000	20.5014
Waste						0.0000	0.0000		0.0000	0.0000	35.7244	0.0000	35.7244	2.1113	0.0000	88.5056
Water						0.0000	0.0000		0.0000	0.0000	4.7101	10.2065	14.9166	0.4852	0.0117	30.5393
Total	**1.3481**	**0.6510**	**2.8364**	**4.8900e-003**	**0.4272**	**0.0197**	**0.4469**	**0.1151**	**0.0193**	**0.1344**	**40.4345**	**611.4199**	**651.8544**	**2.6410**	**0.0162**	**722.7117**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1905	0.0172	1.4924	8.0000e-005		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	2.4389	2.4389	2.3400e-003	0.0000	2.4975
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	154.2235	154.2235	0.0217	4.4900e-003	156.1048
Mobile	0.1136	0.4369	1.2318	4.6000e-003	0.4272	4.9000e-003	0.4321	0.1151	4.5700e-003	0.1196	0.0000	424.1213	424.1213	0.0177	0.0000	424.5630
Stationary	0.0440	0.1969	0.1123	2.1000e-004		6.4800e-003	6.4800e-003		6.4800e-003	6.4800e-003	0.0000	20.4298	20.4298	2.8600e-003	0.0000	20.5014
Waste						0.0000	0.0000		0.0000	0.0000	35.7244	0.0000	35.7244	2.1113	0.0000	88.5056
Water						0.0000	0.0000		0.0000	0.0000	4.7101	10.2065	14.9166	0.4852	0.0117	30.5393
Total	**1.3481**	**0.6510**	**2.8364**	**4.8900e-003**	**0.4272**	**0.0197**	**0.4469**	**0.1151**	**0.0193**	**0.1344**	**40.4345**	**611.4199**	**651.8544**	**2.6410**	**0.0162**	**722.7117**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition - 1123 Sutter	Demolition	5/2/2022	5/27/2022	5	20	1123 Sutter Demo
2	Demolition - 1101 Sutter	Demolition	5/2/2022	7/22/2022	5	60	1101 Sutter Demo
3	Grading - 1123 Sutter	Grading	5/28/2022	6/24/2022	5	20	1123 Sutter Grading
4	Building Construction - 1123 Sutter	Building Construction	6/25/2022	7/19/2024	5	540	1123 Sutter Bldg Construction
5	Grading - 1101 Sutter	Grading	7/23/2022	8/19/2022	5	20	1101 Sutter Grading
6	Building Construction - 1101 Sutter	Building Construction	8/20/2022	10/27/2023	5	310	1101 Sutter Bldg Construction
7	Paving - 1101 Sutter	Paving	10/28/2023	12/22/2023	5	40	1101 Sutter Paving
8	Architectural Coating - 1101 Sutter	Architectural Coating	12/23/2023	2/16/2024	5	40	1101 Sutter Architectural Coating
9	Architectural Coating - 1123 Sutter	Architectural Coating	5/15/2024	10/1/2024	5	100	1123 Sutter Architectural Coating

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.13

Residential Indoor: 43,432; Residential Outdoor: 14,478; Non-Residential Indoor: 10,564; Non-Residential Outdoor: 3,521; Striped Parking Area: 779 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition - 1123 Sutter	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - 1123 Sutter	Rubber Tired Dozers	1	8.00	247	0.40
Demolition - 1123 Sutter	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition - 1101 Sutter	Concrete/Industrial Saws	1	7.00	81	0.73
Demolition - 1101 Sutter	Rubber Tired Dozers	0	0.00	247	0.40
Demolition - 1101 Sutter	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading - 1123 Sutter	Concrete/Industrial Saws	1	8.00	81	0.73
Grading - 1123 Sutter	Rubber Tired Dozers	1	8.00	247	0.40
Grading - 1123 Sutter	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction - 1123 Sutter	Cranes	1	8.00	231	0.29
Building Construction - 1123 Sutter	Forklifts	2	8.00	89	0.20
Building Construction - 1123 Sutter	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading - 1101 Sutter	Concrete/Industrial Saws	0	0.00	81	0.73
Grading - 1101 Sutter	Rubber Tired Dozers	1	8.00	247	0.40
Grading - 1101 Sutter	Scrapers	5	8.00	367	0.48
Grading - 1101 Sutter	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction - 1101 Sutter	Cranes	0	0.00	231	0.29
Building Construction - 1101 Sutter	Forklifts	1	8.00	89	0.20
Building Construction - 1101 Sutter	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Paving - 1101 Sutter	Cement and Mortar Mixers	1	7.00	9	0.56
Paving - 1101 Sutter	Pavers	0	0.00	130	0.42
Paving - 1101 Sutter	Rollers	0	0.00	80	0.38
Paving - 1101 Sutter	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating - 1101 Sutter	Air Compressors	1	8.00	78	0.48
Architectural Coating - 1123 Sutter	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition - 1123 Sutter	4	10.00	0.00	207.00	10.80	7.30	260.00	LD_Mix	HDT_Mix	HHDT
Demolition - 1101 Sutter	2	5.00	0.00	39.00	10.80	7.30	260.00	LD_Mix	HDT_Mix	HHDT
Grading - 1123 Sutter	4	10.00	0.00	1,100.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction - 1123 Sutter	5	164.00	26.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading - 1101 Sutter	7	18.00	0.00	65.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction - 1101 Sutter	1	164.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving - 1101 Sutter	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - 1101 Sutter	1	33.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - 1123 Sutter	1	33.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 1123 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0242	0.0000	0.0242	3.6600e-003	0.0000	3.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0152	0.1495	0.1172	2.1000e-004		7.4800e-003	7.4800e-003		7.0000e-003	7.0000e-003	0.0000	18.3449	18.3449	4.4900e-003	0.0000	18.4571
Total	**0.0152**	**0.1495**	**0.1172**	**2.1000e-004**	**0.0242**	**7.4800e-003**	**0.0317**	**3.6600e-003**	**7.0000e-003**	**0.0107**	**0.0000**	**18.3449**	**18.3449**	**4.4900e-003**	**0.0000**	**18.4571**

3.2 Demolition - 1123 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-003	0.2856	0.1275	9.9000e-004	0.0225	9.9000e-004	0.0235	6.1900e-003	9.5000e-004	7.1400e-003	0.0000	107.2539	107.2539	0.0197	0.0000	107.7474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.6000e-004	1.9400e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6973	0.6973	1.0000e-005	0.0000	0.6976
Total	**8.2700e-003**	**0.2858**	**0.1295**	**1.0000e-003**	**0.0233**	**1.0000e-003**	**0.0243**	**6.4000e-003**	**9.6000e-004**	**7.3600e-003**	**0.0000**	**107.9512**	**107.9512**	**0.0198**	**0.0000**	**108.4450**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0242	0.0000	0.0242	3.6600e-003	0.0000	3.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0152	0.1495	0.1172	2.1000e-004		7.4800e-003	7.4800e-003		7.0000e-003	7.0000e-003	0.0000	18.3449	18.3449	4.4900e-003	0.0000	18.4571
Total	**0.0152**	**0.1495**	**0.1172**	**2.1000e-004**	**0.0242**	**7.4800e-003**	**0.0317**	**3.6600e-003**	**7.0000e-003**	**0.0107**	**0.0000**	**18.3449**	**18.3449**	**4.4900e-003**	**0.0000**	**18.4571**

3.2 Demolition - 1123 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-003	0.2856	0.1275	9.9000e-004	0.0225	9.9000e-004	0.0235	6.1900e-003	9.5000e-004	7.1400e-003	0.0000	107.2539	107.2539	0.0197	0.0000	107.7474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.6000e-004	1.9400e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6973	0.6973	1.0000e-005	0.0000	0.6976
Total	**8.2700e-003**	**0.2858**	**0.1295**	**1.0000e-003**	**0.0233**	**1.0000e-003**	**0.0243**	**6.4000e-003**	**9.6000e-004**	**7.3600e-003**	**0.0000**	**107.9512**	**107.9512**	**0.0198**	**0.0000**	**108.4450**

3.3 Demolition - 1101 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.5800e-003	0.0000	4.5800e-003	6.9000e-004	0.0000	6.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.1238	0.1633	2.6000e-004		6.6500e-003	6.6500e-003		6.4300e-003	6.4300e-003	0.0000	22.3119	22.3119	3.4200e-003	0.0000	22.3974
Total	**0.0143**	**0.1238**	**0.1633**	**2.6000e-004**	**4.5800e-003**	**6.6500e-003**	**0.0112**	**6.9000e-004**	**6.4300e-003**	**7.1200e-003**	**0.0000**	**22.3119**	**22.3119**	**3.4200e-003**	**0.0000**	**22.3974**

3.3 Demolition - 1101 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5100e-003	0.0538	0.0240	1.9000e-004	4.2500e-003	1.9000e-004	4.4300e-003	1.1700e-003	1.8000e-004	1.3400e-003	0.0000	20.2073	20.2073	3.7200e-003	0.0000	20.3002
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.5000e-004	2.9100e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0459	1.0459	2.0000e-005	0.0000	1.0464
Total	**1.9100e-003**	**0.0541**	**0.0269**	**2.0000e-004**	**5.4400e-003**	**2.0000e-004**	**5.6200e-003**	**1.4900e-003**	**1.9000e-004**	**1.6600e-003**	**0.0000**	**21.2532**	**21.2532**	**3.7400e-003**	**0.0000**	**21.3467**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.5800e-003	0.0000	4.5800e-003	6.9000e-004	0.0000	6.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.1238	0.1633	2.6000e-004		6.6500e-003	6.6500e-003		6.4300e-003	6.4300e-003	0.0000	22.3118	22.3118	3.4200e-003	0.0000	22.3974
Total	**0.0143**	**0.1238**	**0.1633**	**2.6000e-004**	**4.5800e-003**	**6.6500e-003**	**0.0112**	**6.9000e-004**	**6.4300e-003**	**7.1200e-003**	**0.0000**	**22.3118**	**22.3118**	**3.4200e-003**	**0.0000**	**22.3974**

3.3 Demolition - 1101 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5100e-003	0.0538	0.0240	1.9000e-004	4.2500e-003	1.9000e-004	4.4300e-003	1.1700e-003	1.8000e-004	1.3400e-003	0.0000	20.2073	20.2073	3.7200e-003	0.0000	20.3002
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.5000e-004	2.9100e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0459	1.0459	2.0000e-005	0.0000	1.0464
Total	**1.9100e-003**	**0.0541**	**0.0269**	**2.0000e-004**	**5.4400e-003**	**2.0000e-004**	**5.6200e-003**	**1.4900e-003**	**1.9000e-004**	**1.6600e-003**	**0.0000**	**21.2532**	**21.2532**	**3.7400e-003**	**0.0000**	**21.3467**

3.4 Grading - 1123 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0621	0.0000	0.0621	0.0334	0.0000	0.0334	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0152	0.1495	0.1172	2.1000e-004		7.4800e-003	7.4800e-003		7.0000e-003	7.0000e-003	0.0000	18.3449	18.3449	4.4900e-003	0.0000	18.4571
Total	**0.0152**	**0.1495**	**0.1172**	**2.1000e-004**	**0.0621**	**7.4800e-003**	**0.0695**	**0.0334**	**7.0000e-003**	**0.0404**	**0.0000**	**18.3449**	**18.3449**	**4.4900e-003**	**0.0000**	**18.4571**

3.4 Grading - 1123 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.5800e-003	0.2198	0.0855	6.4000e-004	0.0138	6.5000e-004	0.0145	3.8000e-003	6.2000e-004	4.4200e-003	0.0000	69.1448	69.1448	0.0129	0.0000	69.4672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.6000e-004	1.9400e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6973	0.6973	1.0000e-005	0.0000	0.6976
Total	**5.8500e-003**	**0.2200**	**0.0874**	**6.5000e-004**	**0.0146**	**6.6000e-004**	**0.0153**	**4.0100e-003**	**6.3000e-004**	**4.6400e-003**	**0.0000**	**69.8421**	**69.8421**	**0.0129**	**0.0000**	**70.1648**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0621	0.0000	0.0621	0.0334	0.0000	0.0334	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0152	0.1495	0.1172	2.1000e-004		7.4800e-003	7.4800e-003		7.0000e-003	7.0000e-003	0.0000	18.3449	18.3449	4.4900e-003	0.0000	18.4571
Total	**0.0152**	**0.1495**	**0.1172**	**2.1000e-004**	**0.0621**	**7.4800e-003**	**0.0695**	**0.0334**	**7.0000e-003**	**0.0404**	**0.0000**	**18.3449**	**18.3449**	**4.4900e-003**	**0.0000**	**18.4571**

3.4 Grading - 1123 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.5800e-003	0.2198	0.0855	6.4000e-004	0.0138	6.5000e-004	0.0145	3.8000e-003	6.2000e-004	4.4200e-003	0.0000	69.1448	69.1448	0.0129	0.0000	69.4672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.6000e-004	1.9400e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6973	0.6973	1.0000e-005	0.0000	0.6976
Total	**5.8500e-003**	**0.2200**	**0.0874**	**6.5000e-004**	**0.0146**	**6.6000e-004**	**0.0153**	**4.0100e-003**	**6.3000e-004**	**4.6400e-003**	**0.0000**	**69.8421**	**69.8421**	**0.0129**	**0.0000**	**70.1648**

3.5 Building Construction - 1123 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0628	0.6511	0.5856	1.0200e-003		0.0333	0.0333		0.0307	0.0307	0.0000	89.2420	89.2420	0.0289	0.0000	89.9636
Total	**0.0628**	**0.6511**	**0.5856**	**1.0200e-003**		**0.0333**	**0.0333**		**0.0307**	**0.0307**	**0.0000**	**89.2420**	**89.2420**	**0.0289**	**0.0000**	**89.9636**

3.5 Building Construction - 1123 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0200e-003	0.1905	0.0603	4.6000e-004	0.0115	4.0000e-004	0.0119	3.3200e-003	3.8000e-004	3.7000e-003	0.0000	47.3289	47.3289	6.2800e-003	0.0000	47.4859
Worker	0.0297	0.0182	0.2145	8.5000e-004	0.0875	6.5000e-004	0.0881	0.0233	6.0000e-004	0.0239	0.0000	77.1895	77.1895	1.4900e-003	0.0000	77.2267
Total	**0.0347**	**0.2087**	**0.2748**	**1.3100e-003**	**0.0989**	**1.0500e-003**	**0.1000**	**0.0266**	**9.8000e-004**	**0.0276**	**0.0000**	**124.5184**	**124.5184**	**7.7700e-003**	**0.0000**	**124.7125**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0628	0.6511	0.5856	1.0200e-003		0.0333	0.0333		0.0307	0.0307	0.0000	89.2419	89.2419	0.0289	0.0000	89.9635
Total	**0.0628**	**0.6511**	**0.5856**	**1.0200e-003**		**0.0333**	**0.0333**		**0.0307**	**0.0307**	**0.0000**	**89.2419**	**89.2419**	**0.0289**	**0.0000**	**89.9635**

3.5 Building Construction - 1123 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0200e-003	0.1905	0.0603	4.6000e-004	0.0115	4.0000e-004	0.0119	3.3200e-003	3.8000e-004	3.7000e-003	0.0000	47.3289	47.3289	6.2800e-003	0.0000	47.4859
Worker	0.0297	0.0182	0.2145	8.5000e-004	0.0875	6.5000e-004	0.0881	0.0233	6.0000e-004	0.0239	0.0000	77.1895	77.1895	1.4900e-003	0.0000	77.2267
Total	**0.0347**	**0.2087**	**0.2748**	**1.3100e-003**	**0.0989**	**1.0500e-003**	**0.1000**	**0.0266**	**9.8000e-004**	**0.0276**	**0.0000**	**124.5184**	**124.5184**	**7.7700e-003**	**0.0000**	**124.7125**

3.5 Building Construction - 1123 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1117	1.1448	1.1163	1.9600e-003		0.0558	0.0558		0.0514	0.0514	0.0000	171.9518	171.9518	0.0556	0.0000	173.3421
Total	**0.1117**	**1.1448**	**1.1163**	**1.9600e-003**		**0.0558**	**0.0558**		**0.0514**	**0.0514**	**0.0000**	**171.9518**	**171.9518**	**0.0556**	**0.0000**	**173.3421**

3.5 Building Construction - 1123 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8000e-003	0.3041	0.1120	8.6000e-004	0.0221	4.4000e-004	0.0225	6.3900e-003	4.2000e-004	6.8000e-003	0.0000	88.8871	88.8871	0.0118	0.0000	89.1825
Worker	0.0542	0.0317	0.3857	1.5800e-003	0.1685	1.2400e-003	0.1697	0.0448	1.1400e-003	0.0460	0.0000	142.9194	142.9194	2.6000e-003	0.0000	142.9843
Total	**0.0620**	**0.3359**	**0.4978**	**2.4400e-003**	**0.1906**	**1.6800e-003**	**0.1922**	**0.0512**	**1.5600e-003**	**0.0528**	**0.0000**	**231.8065**	**231.8065**	**0.0144**	**0.0000**	**232.1668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1117	1.1448	1.1163	1.9600e-003		0.0558	0.0558		0.0514	0.0514	0.0000	171.9516	171.9516	0.0556	0.0000	173.3419
Total	**0.1117**	**1.1448**	**1.1163**	**1.9600e-003**		**0.0558**	**0.0558**		**0.0514**	**0.0514**	**0.0000**	**171.9516**	**171.9516**	**0.0556**	**0.0000**	**173.3419**

3.5 Building Construction - 1123 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8000e-003	0.3041	0.1120	8.6000e-004	0.0221	4.4000e-004	0.0225	6.3900e-003	4.2000e-004	6.8000e-003	0.0000	88.8871	88.8871	0.0118	0.0000	89.1825
Worker	0.0542	0.0317	0.3857	1.5800e-003	0.1685	1.2400e-003	0.1697	0.0448	1.1400e-003	0.0460	0.0000	142.9194	142.9194	2.6000e-003	0.0000	142.9843
Total	**0.0620**	**0.3359**	**0.4978**	**2.4400e-003**	**0.1906**	**1.6800e-003**	**0.1922**	**0.0512**	**1.5600e-003**	**0.0528**	**0.0000**	**231.8065**	**231.8065**	**0.0144**	**0.0000**	**232.1668**

3.5 Building Construction - 1123 Sutter - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0586	0.5922	0.6180	1.0900e-003		0.0276	0.0276		0.0254	0.0254	0.0000	95.9204	95.9204	0.0310	0.0000	96.6960
Total	**0.0586**	**0.5922**	**0.6180**	**1.0900e-003**		**0.0276**	**0.0276**		**0.0254**	**0.0254**	**0.0000**	**95.9204**	**95.9204**	**0.0310**	**0.0000**	**96.6960**

3.5 Building Construction - 1123 Sutter - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1600e-003	0.1655	0.0619	4.7000e-004	0.0123	2.3000e-004	0.0126	3.5600e-003	2.2000e-004	3.7800e-003	0.0000	49.1118	49.1118	6.5800e-003	0.0000	49.2763
Worker	0.0287	0.0161	0.2016	8.5000e-004	0.0940	6.8000e-004	0.0946	0.0250	6.3000e-004	0.0256	0.0000	76.5318	76.5318	1.3200e-003	0.0000	76.5647
Total	**0.0329**	**0.1816**	**0.2634**	**1.3200e-003**	**0.1063**	**9.1000e-004**	**0.1072**	**0.0286**	**8.5000e-004**	**0.0294**	**0.0000**	**125.6436**	**125.6436**	**7.9000e-003**	**0.0000**	**125.8410**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0586	0.5922	0.6180	1.0900e-003		0.0276	0.0276		0.0254	0.0254	0.0000	95.9203	95.9203	0.0310	0.0000	96.6959
Total	**0.0586**	**0.5922**	**0.6180**	**1.0900e-003**		**0.0276**	**0.0276**		**0.0254**	**0.0254**	**0.0000**	**95.9203**	**95.9203**	**0.0310**	**0.0000**	**96.6959**

3.5 Building Construction - 1123 Sutter - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1600e-003	0.1655	0.0619	4.7000e-004	0.0123	2.3000e-004	0.0126	3.5600e-003	2.2000e-004	3.7800e-003	0.0000	49.1118	49.1118	6.5800e-003	0.0000	49.2763
Worker	0.0287	0.0161	0.2016	8.5000e-004	0.0940	6.8000e-004	0.0946	0.0250	6.3000e-004	0.0256	0.0000	76.5318	76.5318	1.3200e-003	0.0000	76.5647
Total	**0.0329**	**0.1816**	**0.2634**	**1.3200e-003**	**0.1063**	**9.1000e-004**	**0.1072**	**0.0286**	**8.5000e-004**	**0.0294**	**0.0000**	**125.6436**	**125.6436**	**7.9000e-003**	**0.0000**	**125.8410**

3.6 Grading - 1101 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0606	0.0000	0.0606	0.0331	0.0000	0.0331	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0510	0.5519	0.3770	8.8000e-004		0.0225	0.0225		0.0207	0.0207	0.0000	76.9269	76.9269	0.0249	0.0000	77.5489
Total	**0.0510**	**0.5519**	**0.3770**	**8.8000e-004**	**0.0606**	**0.0225**	**0.0831**	**0.0331**	**0.0207**	**0.0539**	**0.0000**	**76.9269**	**76.9269**	**0.0249**	**0.0000**	**77.5489**

3.6 Grading - 1101 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.3000e-004	0.0130	5.0500e-003	4.0000e-005	8.2000e-004	4.0000e-005	8.6000e-004	2.2000e-004	4.0000e-005	2.6000e-004	0.0000	4.0858	4.0858	7.6000e-004	0.0000	4.1049
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.0000e-004	3.4900e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2551	1.2551	2.0000e-005	0.0000	1.2557
Total	**8.1000e-004**	**0.0133**	**8.5400e-003**	**5.0000e-005**	**2.2400e-003**	**5.0000e-005**	**2.2900e-003**	**6.0000e-004**	**5.0000e-005**	**6.5000e-004**	**0.0000**	**5.3409**	**5.3409**	**7.8000e-004**	**0.0000**	**5.3606**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0606	0.0000	0.0606	0.0331	0.0000	0.0331	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0510	0.5519	0.3770	8.8000e-004		0.0225	0.0225		0.0207	0.0207	0.0000	76.9269	76.9269	0.0249	0.0000	77.5488
Total	**0.0510**	**0.5519**	**0.3770**	**8.8000e-004**	**0.0606**	**0.0225**	**0.0831**	**0.0331**	**0.0207**	**0.0539**	**0.0000**	**76.9269**	**76.9269**	**0.0249**	**0.0000**	**77.5488**

3.6 Grading - 1101 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.3000e-004	0.0130	5.0500e-003	4.0000e-005	8.2000e-004	4.0000e-005	8.6000e-004	2.2000e-004	4.0000e-005	2.6000e-004	0.0000	4.0858	4.0858	7.6000e-004	0.0000	4.1049
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.0000e-004	3.4900e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2551	1.2551	2.0000e-005	0.0000	1.2557
Total	**8.1000e-004**	**0.0133**	**8.5400e-003**	**5.0000e-005**	**2.2400e-003**	**5.0000e-005**	**2.2900e-003**	**6.0000e-004**	**5.0000e-005**	**6.5000e-004**	**0.0000**	**5.3409**	**5.3409**	**7.8000e-004**	**0.0000**	**5.3606**

3.7 Building Construction - 1101 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4000e-003	0.0501	0.0548	7.0000e-005		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	6.3788	6.3788	2.0600e-003	0.0000	6.4304
Total	**5.4000e-003**	**0.0501**	**0.0548**	**7.0000e-005**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**6.3788**	**6.3788**	**2.0600e-003**	**0.0000**	**6.4304**

3.7 Building Construction - 1101 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3600e-003	0.0516	0.0163	1.2000e-004	3.1000e-003	1.1000e-004	3.2100e-003	9.0000e-004	1.0000e-004	1.0000e-003	0.0000	12.8098	12.8098	1.7000e-003	0.0000	12.8523
Worker	0.0209	0.0128	0.1509	6.0000e-004	0.0616	4.6000e-004	0.0620	0.0164	4.2000e-004	0.0168	0.0000	54.3185	54.3185	1.0500e-003	0.0000	54.3447
Total	**0.0223**	**0.0644**	**0.1672**	**7.2000e-004**	**0.0647**	**5.7000e-004**	**0.0652**	**0.0173**	**5.2000e-004**	**0.0178**	**0.0000**	**67.1284**	**67.1284**	**2.7500e-003**	**0.0000**	**67.1970**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4000e-003	0.0501	0.0548	7.0000e-005		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	6.3788	6.3788	2.0600e-003	0.0000	6.4304
Total	**5.4000e-003**	**0.0501**	**0.0548**	**7.0000e-005**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**6.3788**	**6.3788**	**2.0600e-003**	**0.0000**	**6.4304**

3.7 Building Construction - 1101 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3600e-003	0.0516	0.0163	1.2000e-004	3.1000e-003	1.1000e-004	3.2100e-003	9.0000e-004	1.0000e-004	1.0000e-003	0.0000	12.8098	12.8098	1.7000e-003	0.0000	12.8523
Worker	0.0209	0.0128	0.1509	6.0000e-004	0.0616	4.6000e-004	0.0620	0.0164	4.2000e-004	0.0168	0.0000	54.3185	54.3185	1.0500e-003	0.0000	54.3447
Total	**0.0223**	**0.0644**	**0.1672**	**7.2000e-004**	**0.0647**	**5.7000e-004**	**0.0652**	**0.0173**	**5.2000e-004**	**0.0178**	**0.0000**	**67.1284**	**67.1284**	**2.7500e-003**	**0.0000**	**67.1970**

3.7 Building Construction - 1101 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1032	0.1231	1.6000e-004		6.3700e-003	6.3700e-003		5.8600e-003	5.8600e-003	0.0000	14.4363	14.4363	4.6700e-003	0.0000	14.5530
Total	**0.0110**	**0.1032**	**0.1231**	**1.6000e-004**		**6.3700e-003**	**6.3700e-003**		**5.8600e-003**	**5.8600e-003**	**0.0000**	**14.4363**	**14.4363**	**4.6700e-003**	**0.0000**	**14.5530**

3.7 Building Construction - 1101 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4800e-003	0.0967	0.0356	2.7000e-004	7.0300e-003	1.4000e-004	7.1700e-003	2.0300e-003	1.3000e-004	2.1600e-003	0.0000	28.2703	28.2703	3.7600e-003	0.0000	28.3643
Worker	0.0448	0.0263	0.3190	1.3100e-003	0.1393	1.0300e-003	0.1403	0.0371	9.4000e-004	0.0380	0.0000	118.1833	118.1833	2.1500e-003	0.0000	118.2370
Total	**0.0473**	**0.1230**	**0.3546**	**1.5800e-003**	**0.1463**	**1.1700e-003**	**0.1475**	**0.0391**	**1.0700e-003**	**0.0402**	**0.0000**	**146.4537**	**146.4537**	**5.9100e-003**	**0.0000**	**146.6013**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1032	0.1231	1.6000e-004		6.3700e-003	6.3700e-003		5.8600e-003	5.8600e-003	0.0000	14.4363	14.4363	4.6700e-003	0.0000	14.5530
Total	**0.0110**	**0.1032**	**0.1231**	**1.6000e-004**		**6.3700e-003**	**6.3700e-003**		**5.8600e-003**	**5.8600e-003**	**0.0000**	**14.4363**	**14.4363**	**4.6700e-003**	**0.0000**	**14.5530**

3.7 Building Construction - 1101 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4800e-003	0.0967	0.0356	2.7000e-004	7.0300e-003	1.4000e-004	7.1700e-003	2.0300e-003	1.3000e-004	2.1600e-003	0.0000	28.2703	28.2703	3.7600e-003	0.0000	28.3643
Worker	0.0448	0.0263	0.3190	1.3100e-003	0.1393	1.0300e-003	0.1403	0.0371	9.4000e-004	0.0380	0.0000	118.1833	118.1833	2.1500e-003	0.0000	118.2370
Total	**0.0473**	**0.1230**	**0.3546**	**1.5800e-003**	**0.1463**	**1.1700e-003**	**0.1475**	**0.0391**	**1.0700e-003**	**0.0402**	**0.0000**	**146.4537**	**146.4537**	**5.9100e-003**	**0.0000**	**146.6013**

3.8 Paving - 1101 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0600e-003	0.0372	0.0500	7.0000e-005		1.7700e-003	1.7700e-003		1.6500e-003	1.6500e-003	0.0000	6.2737	6.2737	1.8500e-003	0.0000	6.3200
Paving	1.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.2300e-003**	**0.0372**	**0.0500**	**7.0000e-005**		**1.7700e-003**	**1.7700e-003**		**1.6500e-003**	**1.6500e-003**	**0.0000**	**6.2737**	**6.2737**	**1.8500e-003**	**0.0000**	**6.3200**

3.8 Paving - 1101 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.5000e-004	1.8100e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6704	0.6704	1.0000e-005	0.0000	0.6707
Total	**2.5000e-004**	**1.5000e-004**	**1.8100e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6704**	**0.6704**	**1.0000e-005**	**0.0000**	**0.6707**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0600e-003	0.0372	0.0500	7.0000e-005		1.7700e-003	1.7700e-003		1.6500e-003	1.6500e-003	0.0000	6.2737	6.2737	1.8500e-003	0.0000	6.3200
Paving	1.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.2300e-003**	**0.0372**	**0.0500**	**7.0000e-005**		**1.7700e-003**	**1.7700e-003**		**1.6500e-003**	**1.6500e-003**	**0.0000**	**6.2737**	**6.2737**	**1.8500e-003**	**0.0000**	**6.3200**

3.8 Paving - 1101 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.5000e-004	1.8100e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6704	0.6704	1.0000e-005	0.0000	0.6707
Total	**2.5000e-004**	**1.5000e-004**	**1.8100e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6704**	**0.6704**	**1.0000e-005**	**0.0000**	**0.6707**

3.9 Architectural Coating - 1101 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0238					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4000e-004	4.3400e-003	6.0400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.8511	0.8511	5.0000e-005	0.0000	0.8524
Total	**0.0244**	**4.3400e-003**	**6.0400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.8511**	**0.8511**	**5.0000e-005**	**0.0000**	**0.8524**

3.9 Architectural Coating - 1101 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.2000e-004	1.4900e-003	1.0000e-005	6.5000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5530	0.5530	1.0000e-005	0.0000	0.5533
Total	**2.1000e-004**	**1.2000e-004**	**1.4900e-003**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5530**	**0.5530**	**1.0000e-005**	**0.0000**	**0.5533**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0238					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4000e-004	4.3400e-003	6.0400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.8511	0.8511	5.0000e-005	0.0000	0.8524
Total	**0.0244**	**4.3400e-003**	**6.0400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.8511**	**0.8511**	**5.0000e-005**	**0.0000**	**0.8524**

3.9 Architectural Coating - 1101 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.2000e-004	1.4900e-003	1.0000e-005	6.5000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5530	0.5530	1.0000e-005	0.0000	0.5533
Total	**2.1000e-004**	**1.2000e-004**	**1.4900e-003**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5530**	**0.5530**	**1.0000e-005**	**0.0000**	**0.5533**

3.9 Architectural Coating - 1101 Sutter - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1666					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2200e-003	0.0284	0.0422	7.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	5.9576	5.9576	3.4000e-004	0.0000	5.9660
Total	**0.1708**	**0.0284**	**0.0422**	**7.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**5.9576**	**5.9576**	**3.4000e-004**	**0.0000**	**5.9660**

3.9 Architectural Coating - 1101 Sutter - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-003	7.8000e-004	9.7900e-003	4.0000e-005	4.5600e-003	3.0000e-005	4.6000e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	3.7172	3.7172	6.0000e-005	0.0000	3.7188
Total	**1.4000e-003**	**7.8000e-004**	**9.7900e-003**	**4.0000e-005**	**4.5600e-003**	**3.0000e-005**	**4.6000e-003**	**1.2100e-003**	**3.0000e-005**	**1.2400e-003**	**0.0000**	**3.7172**	**3.7172**	**6.0000e-005**	**0.0000**	**3.7188**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1666					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2200e-003	0.0284	0.0422	7.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	5.9576	5.9576	3.4000e-004	0.0000	5.9660
Total	**0.1708**	**0.0284**	**0.0422**	**7.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**5.9576**	**5.9576**	**3.4000e-004**	**0.0000**	**5.9660**

3.9 Architectural Coating - 1101 Sutter - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-003	7.8000e-004	9.7900e-003	4.0000e-005	4.5600e-003	3.0000e-005	4.6000e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	3.7172	3.7172	6.0000e-005	0.0000	3.7188
Total	**1.4000e-003**	**7.8000e-004**	**9.7900e-003**	**4.0000e-005**	**4.5600e-003**	**3.0000e-005**	**4.6000e-003**	**1.2100e-003**	**3.0000e-005**	**1.2400e-003**	**0.0000**	**3.7172**	**3.7172**	**6.0000e-005**	**0.0000**	**3.7188**

3.10 Architectural Coating - 1123 Sutter - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5226					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.0813	0.1207	2.0000e-004		4.0600e-003	4.0600e-003		4.0600e-003	4.0600e-003	0.0000	17.0217	17.0217	9.6000e-004	0.0000	17.0457
Total	**1.5347**	**0.0813**	**0.1207**	**2.0000e-004**		**4.0600e-003**	**4.0600e-003**		**4.0600e-003**	**4.0600e-003**	**0.0000**	**17.0217**	**17.0217**	**9.6000e-004**	**0.0000**	**17.0457**

3.10 Architectural Coating - 1123 Sutter - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9900e-003	2.2400e-003	0.0280	1.2000e-004	0.0130	9.0000e-005	0.0131	3.4700e-003	9.0000e-005	3.5600e-003	0.0000	10.6205	10.6205	1.8000e-004	0.0000	10.6250
Total	**3.9900e-003**	**2.2400e-003**	**0.0280**	**1.2000e-004**	**0.0130**	**9.0000e-005**	**0.0131**	**3.4700e-003**	**9.0000e-005**	**3.5600e-003**	**0.0000**	**10.6205**	**10.6205**	**1.8000e-004**	**0.0000**	**10.6250**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5226					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.0813	0.1207	2.0000e-004		4.0600e-003	4.0600e-003		4.0600e-003	4.0600e-003	0.0000	17.0217	17.0217	9.6000e-004	0.0000	17.0456
Total	**1.5347**	**0.0813**	**0.1207**	**2.0000e-004**		**4.0600e-003**	**4.0600e-003**		**4.0600e-003**	**4.0600e-003**	**0.0000**	**17.0217**	**17.0217**	**9.6000e-004**	**0.0000**	**17.0456**

3.10 Architectural Coating - 1123 Sutter - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9900e-003	2.2400e-003	0.0280	1.2000e-004	0.0130	9.0000e-005	0.0131	3.4700e-003	9.0000e-005	3.5600e-003	0.0000	10.6205	10.6205	1.8000e-004	0.0000	10.6250
Total	**3.9900e-003**	**2.2400e-003**	**0.0280**	**1.2000e-004**	**0.0130**	**9.0000e-005**	**0.0131**	**3.4700e-003**	**9.0000e-005**	**3.5600e-003**	**0.0000**	**10.6205**	**10.6205**	**1.8000e-004**	**0.0000**	**10.6250**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1136	0.4369	1.2318	4.6000e-003	0.4272	4.9000e-003	0.4321	0.1151	4.5700e-003	0.1196	0.0000	424.1213	424.1213	0.0177	0.0000	424.5630
Unmitigated	0.1136	0.4369	1.2318	4.6000e-003	0.4272	4.9000e-003	0.4321	0.1151	4.5700e-003	0.1196	0.0000	424.1213	424.1213	0.0177	0.0000	424.5630

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	358.90	427.35	312.65	836,243	836,243
Apartments Mid Rise	31.04	36.96	27.04	72,324	72,324
Day-Care Center	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	166.23	157.66	76.60	234,401	234,401
Total	556.17	621.97	416.29	1,142,967	1,142,967

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Apartments Mid Rise	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Day-Care Center	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Enclosed Parking with Elevator	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
General Office Building	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Health Club	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Parking Lot	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Strip Mall	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	154.2235	154.2235	0.0217	4.4900e-003	156.1048
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	154.2235	154.2235	0.0217	4.4900e-003	156.1048
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	980237	91.5934	0.0129	2.6700e-003	92.7108
Apartments Mid Rise	66464.5	6.2104	8.7000e-004	1.8000e-004	6.2862
Day-Care Center	22301.5	2.0839	2.9000e-004	6.0000e-005	2.1093
Enclosed Parking with Elevator	291848	27.2702	3.8400e-003	7.9000e-004	27.6029
General Office Building	45637.2	4.2643	6.0000e-004	1.2000e-004	4.3164
Health Club	129601	12.1099	1.7000e-003	3.5000e-004	12.2577
Parking Lot	1960	0.1831	3.0000e-005	1.0000e-005	0.1854
Strip Mall	112458	10.5081	1.4800e-003	3.1000e-004	10.6363
Total		**154.2235**	**0.0217**	**4.4900e-003**	**156.1048**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	980237	91.5934	0.0129	2.6700e-003	92.7108
Apartments Mid Rise	66464.5	6.2104	8.7000e-004	1.8000e-004	6.2862
Day-Care Center	22301.5	2.0839	2.9000e-004	6.0000e-005	2.1093
Enclosed Parking with Elevator	291848	27.2702	3.8400e-003	7.9000e-004	27.6029
General Office Building	45637.2	4.2643	6.0000e-004	1.2000e-004	4.3164
Health Club	129601	12.1099	1.7000e-003	3.5000e-004	12.2577
Parking Lot	1960	0.1831	3.0000e-005	1.0000e-005	0.1854
Strip Mall	112458	10.5081	1.4800e-003	3.1000e-004	10.6363
Total		**154.2235**	**0.0217**	**4.4900e-003**	**156.1048**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1905	0.0172	1.4924	8.0000e-005		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	2.4389	2.4389	2.3400e-003	0.0000	2.4975
Unmitigated	1.1905	0.0172	1.4924	8.0000e-005		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	2.4389	2.4389	2.3400e-003	0.0000	2.4975

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1713					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9743					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0449	0.0172	1.4924	8.0000e-005		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	2.4389	2.4389	2.3400e-003	0.0000	2.4975
Total	**1.1905**	**0.0172**	**1.4924**	**8.0000e-005**		**8.2700e-003**	**8.2700e-003**		**8.2700e-003**	**8.2700e-003**	**0.0000**	**2.4389**	**2.4389**	**2.3400e-003**	**0.0000**	**2.4975**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1713					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9743					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0449	0.0172	1.4924	8.0000e-005		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	2.4389	2.4389	2.3400e-003	0.0000	2.4975
Total	**1.1905**	**0.0172**	**1.4924**	**8.0000e-005**		**8.2700e-003**	**8.2700e-003**		**8.2700e-003**	**8.2700e-003**	**0.0000**	**2.4389**	**2.4389**	**2.3400e-003**	**0.0000**	**2.4975**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	14.9166	0.4852	0.0117	30.5393
Unmitigated	14.9166	0.4852	0.0117	30.5393

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	12.0535 / 7.59894	12.4035	0.3940	9.5200e-003	25.0909
Apartments Mid Rise	1.04246 / 0.657206	1.0727	0.0341	8.2000e-004	2.1700
Day-Care Center	0.156547 / 0	0.1288	5.1100e-003	1.2000e-004	0.2932
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0.355467 / 0	0.2925	0.0116	2.8000e-004	0.6658
Health Club	0.722138 / 0	0.5942	0.0236	5.7000e-004	1.3525
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.516285 / 0	0.4248	0.0169	4.0000e-004	0.9670
Total		**14.9166**	**0.4852**	**0.0117**	**30.5393**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	12.0535 / 7.59894	12.4035	0.3940	9.5200e-003	25.0909
Apartments Mid Rise	1.04246 / 0.657206	1.0727	0.0341	8.2000e-004	2.1700
Day-Care Center	0.156547 / 0	0.1288	5.1100e-003	1.2000e-004	0.2932
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0.355467 / 0	0.2925	0.0116	2.8000e-004	0.6658
Health Club	0.722138 / 0	0.5942	0.0236	5.7000e-004	1.3525
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.516285 / 0	0.4248	0.0169	4.0000e-004	0.9670
Total		**14.9166**	**0.4852**	**0.0117**	**30.5393**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	35.7244	2.1113	0.0000	88.5056
Unmitigated	35.7244	2.1113	0.0000	88.5056

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	85.1	17.2745	1.0209	0.0000	42.7969
Apartments Mid Rise	7.36	1.4940	0.0883	0.0000	3.7014
Day-Care Center	4.75	0.9642	0.0570	0.0000	2.3888
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1.86	0.3776	0.0223	0.0000	0.9354
Health Club	69.6	14.1282	0.8350	0.0000	35.0020
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.32	1.4859	0.0878	0.0000	3.6812
Total		**35.7244**	**2.1112**	**0.0000**	**88.5057**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	85.1	17.2745	1.0209	0.0000	42.7969
Apartments Mid Rise	7.36	1.4940	0.0883	0.0000	3.7014
Day-Care Center	4.75	0.9642	0.0570	0.0000	2.3888
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1.86	0.3776	0.0223	0.0000	0.9354
Health Club	69.6	14.1282	0.8350	0.0000	35.0020
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.32	1.4859	0.0878	0.0000	3.6812
Total		**35.7244**	**2.1112**	**0.0000**	**88.5057**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	2	50	1073	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.0440	0.1969	0.1123	2.1000e-004		6.4800e-003	6.4800e-003		6.4800e-003	6.4800e-003	0.0000	20.4298	20.4298	2.8600e-003	0.0000	20.5014
Total	**0.0440**	**0.1969**	**0.1123**	**2.1000e-004**		**6.4800e-003**	**6.4800e-003**		**6.4800e-003**	**6.4800e-003**	**0.0000**	**20.4298**	**20.4298**	**2.8600e-003**	**0.0000**	**20.5014**

11.0 Vegetation

1101-1123 Sutter Street Project

San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.00	1000sqft	0.00	1,999.00	0
Day-Care Center	3.65	1000sqft	0.00	3,650.00	0
Enclosed Parking with Elevator	18.53	1000sqft	0.00	18,530.00	0
Parking Lot	14.00	Space	0.13	5,600.00	0
Health Club	12.21	1000sqft	0.00	12,215.00	0
Apartments High Rise	185.00	Dwelling Unit	0.48	209,435.00	422
Apartments Mid Rise	16.00	Dwelling Unit	0.21	14,800.00	37
Strip Mall	6.97	1000sqft	0.00	6,972.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 was adjusted based on PG&E's reported intensity for 2018 from the PG&E Corporate Responsibility and Sustainability Report (2020)

Land Use - All acreage for the lot included under residential land use. Incl circulation/open space area SF in residential total. Incl all common area SF under "health club" use. Pop based on ave household size of 2.28 persons

Construction Phase - Construction phases and schedule based on applicant input

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Trips and VMT - Adjusted trips based on applicant input. Increased haul truck trip length for demolition to 260 miles to account for potential hazardous material transport, assuming Buttonwillow Landfill receipt. Ox Mountain landfill assumed as recipient of soils.

On-road Fugitive Dust - Defaults

Demolition - 54,000 SF of existing buildings/parking lot to be demolished

Grading - Total of 9,320 CY of soils exported

Architectural Coating - Adjusted architectural coating areas to 1101 and 1123 buildings based on square footage to be developed for each building

Vehicle Trips - Adjusted trip rates based on SFCTA rates and splits for Auto and TNC/Taxi modes

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Road Dust - Defaults

Woodstoves - No fireplaces or woodstoves assumed

Consumer Products - Defaults

Area Coating - Defaults

Landscape Equipment - Defaults

Energy Use - Adjusted energy use factors for the project based on Title 2019 standards and accounting for increased electricity based on zero natural gas development

Water And Wastewater - No outdoor water use assumed for non-residential uses

Solid Waste - Defaults

Construction Off-road Equipment Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps - Generac SD800 diesel emergency generator. Assumes up to 50 hours/year testing/maintenance

Stationary Sources - Emergency Generators and Fire Pumps EF - Defaults

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,418.00	3,521.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,418.00	8,897.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,254.00	10,564.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,254.00	26,690.00
tblArchitecturalCoating	ConstArea_Parking	1,448.00	779.00
tblArchitecturalCoating	ConstArea_Parking	1,448.00	669.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	151,359.00	14,478.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	151,359.00	136,881.00
tblArchitecturalCoating	ConstArea_Residential_Interior	454,076.00	43,432.00
tblArchitecturalCoating	ConstArea_Residential_Interior	454,076.00	410,644.00
tblConstructionPhase	NumDays	5.00	40.00
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	NumDays	100.00	540.00
tblConstructionPhase	NumDays	100.00	310.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	40.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	NT24NG	1.62	0.00

tblEnergyUse	NT24NG	1.01	0.00
tblEnergyUse	NT24NG	6.90	0.00
tblEnergyUse	NT24NG	0.70	0.00
tblEnergyUse	T24E	426.45	1,503.04
tblEnergyUse	T24E	426.45	358.49
tblEnergyUse	T24E	0.66	2.33
tblEnergyUse	T24E	3.92	13.81
tblEnergyUse	T24E	4.10	14.45
tblEnergyUse	T24E	1.21	4.26
tblEnergyUse	T24E	2.24	7.89
tblEnergyUse	T24NG	6,115.43	0.00
tblEnergyUse	T24NG	6,115.43	0.00
tblEnergyUse	T24NG	14.85	0.00
tblEnergyUse	T24NG	18.32	0.00
tblEnergyUse	T24NG	17.85	0.00
tblEnergyUse	T24NG	3.90	0.00
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tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	27.75	0.00
tblFireplaces	NumberGas	2.40	0.00
tblFireplaces	NumberNoFireplace	7.40	185.00
tblFireplaces	NumberNoFireplace	0.64	16.00
tblFireplaces	NumberWood	31.45	0.00
tblFireplaces	NumberWood	2.72	0.00
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	AcresOfGrading	100.00	0.50
tblGrading	MaterialExported	0.00	8,800.00

tblGrading	MaterialExported	0.00	520.00
tblLandUse	LandUseSquareFeet	2,000.00	1,999.00
tblLandUse	LandUseSquareFeet	12,210.00	12,215.00
tblLandUse	LandUseSquareFeet	185,000.00	209,435.00
tblLandUse	LandUseSquareFeet	16,000.00	14,800.00
tblLandUse	LandUseSquareFeet	6,970.00	6,972.00
tblLandUse	LotAcreage	0.05	0.00
tblLandUse	LotAcreage	0.08	0.00
tblLandUse	LotAcreage	0.43	0.00
tblLandUse	LotAcreage	0.28	0.00
tblLandUse	LotAcreage	2.98	0.48
tblLandUse	LotAcreage	0.42	0.21
tblLandUse	LotAcreage	0.16	0.00
tblLandUse	Population	529.00	422.00
tblLandUse	Population	46.00	37.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	UsageHours	6.00	8.00

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tblOffRoadEquipment	UsageHours	4.00	0.00
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tblOffRoadEquipment	UsageHours	6.00	8.00
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tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
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tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	HaulingTripLength	20.00	260.00
tblTripsAndVMT	HaulingTripLength	20.00	260.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	VendorTripNumber	30.00	26.00
tblTripsAndVMT	VendorTripNumber	30.00	10.00
tblVehicleTrips	ST_TR	4.98	2.31

tblVehicleTrips	ST_TR	6.39	2.31
tblVehicleTrips	ST_TR	6.21	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	42.04	22.62
tblVehicleTrips	SU_TR	3.65	1.69
tblVehicleTrips	SU_TR	5.86	1.69
tblVehicleTrips	SU_TR	5.83	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	26.73	0.00
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tblVehicleTrips	WD_TR	4.20	1.94
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tblVehicleTrips	WD_TR	74.06	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	44.32	23.85
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tblWater	OutdoorWaterUseRate	316,433.03	0.00
tblWoodstoves	NumberCatalytic	3.70	0.00
tblWoodstoves	NumberCatalytic	0.32	0.00
tblWoodstoves	NumberNoncatalytic	3.70	0.00
tblWoodstoves	NumberNoncatalytic	0.32	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	6.6223	69.1413	51.5156	0.1362	8.0585	2.7671	10.5785	3.8228	2.5461	6.3305	0.0000	15,534.3031	15,534.3031	3.4273	0.0000	15,607.6732
2023	11.1942	13.3990	17.2603	0.0516	2.9374	0.5387	3.4498	0.7846	0.5033	1.2562	0.0000	5,230.3167	5,230.3167	0.7033	0.0000	5,247.8977
2024	32.0315	12.2853	15.3575	0.0405	1.7938	0.4764	2.2702	0.4797	0.4449	0.9247	0.0000	4,069.6389	4,069.6389	0.6173	0.0000	4,085.0710
Maximum	**32.0315**	**69.1413**	**51.5156**	**0.1362**	**8.0585**	**2.7671**	**10.5785**	**3.8228**	**2.5461**	**6.3305**	**0.0000**	**15,534.3031**	**15,534.3031**	**3.4273**	**0.0000**	**15,607.6732**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	6.6223	69.1413	51.5156	0.1362	8.0585	2.7671	10.5785	3.8228	2.5461	6.3305	0.0000	15,534.3031	15,534.3031	3.4273	0.0000	15,607.6732
2023	11.1942	13.3990	17.2603	0.0516	2.9374	0.5387	3.4498	0.7846	0.5033	1.2562	0.0000	5,230.3167	5,230.3167	0.7033	0.0000	5,247.8977
2024	32.0315	12.2853	15.3575	0.0405	1.7938	0.4764	2.2702	0.4797	0.4449	0.9247	0.0000	4,069.6389	4,069.6389	0.6173	0.0000	4,085.0710
Maximum	**32.0315**	**69.1413**	**51.5156**	**0.1362**	**8.0585**	**2.7671**	**10.5785**	**3.8228**	**2.5461**	**6.3305**	**0.0000**	**15,534.3031**	**15,534.3031**	**3.4273**	**0.0000**	**15,607.6732**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.7762	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919	0.0000	29.8716	29.8716	0.0287	0.0000	30.5886
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.7931	2.6755	7.9930	0.0308	2.8339	0.0312	2.8651	0.7607	0.0292	0.7898		3,127.8034	3,127.8034	0.1247		3,130.9220
Stationary	3.5217	15.7490	8.9797	0.0169		0.5181	0.5181		0.5181	0.5181		1,801.5973	1,801.5973	0.2526		1,807.9119
Total	**11.0910**	**18.6155**	**33.5543**	**0.0486**	**2.8339**	**0.6412**	**3.4750**	**0.7607**	**0.6391**	**1.3998**	**0.0000**	**4,959.2723**	**4,959.2723**	**0.4060**	**0.0000**	**4,969.4225**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.7762	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919	0.0000	29.8716	29.8716	0.0287	0.0000	30.5886
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.7931	2.6755	7.9930	0.0308	2.8339	0.0312	2.8651	0.7607	0.0292	0.7898		3,127.8034	3,127.8034	0.1247		3,130.9220
Stationary	3.5217	15.7490	8.9797	0.0169		0.5181	0.5181		0.5181	0.5181		1,801.5973	1,801.5973	0.2526		1,807.9119
Total	**11.0910**	**18.6155**	**33.5543**	**0.0486**	**2.8339**	**0.6412**	**3.4750**	**0.7607**	**0.6391**	**1.3998**	**0.0000**	**4,959.2723**	**4,959.2723**	**0.4060**	**0.0000**	**4,969.4225**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition - 1123 Sutter	Demolition	5/2/2022	5/27/2022	5	20	1123 Sutter Demo
2	Demolition - 1101 Sutter	Demolition	5/2/2022	7/22/2022	5	60	1101 Sutter Demo
3	Grading - 1123 Sutter	Grading	5/28/2022	6/24/2022	5	20	1123 Sutter Grading
4	Building Construction - 1123 Sutter	Building Construction	6/25/2022	7/19/2024	5	540	1123 Sutter Bldg Construction
5	Grading - 1101 Sutter	Grading	7/23/2022	8/19/2022	5	20	1101 Sutter Grading
6	Building Construction - 1101 Sutter	Building Construction	8/20/2022	10/27/2023	5	310	1101 Sutter Bldg Construction
7	Paving - 1101 Sutter	Paving	10/28/2023	12/22/2023	5	40	1101 Sutter Paving
8	Architectural Coating - 1101 Sutter	Architectural Coating	12/23/2023	2/16/2024	5	40	1101 Sutter Architectural Coating
9	Architectural Coating - 1123 Sutter	Architectural Coating	5/15/2024	10/1/2024	5	100	1123 Sutter Architectural Coating

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.13

Residential Indoor: 43,432; Residential Outdoor: 14,478; Non-Residential Indoor: 10,564; Non-Residential Outdoor: 3,521; Striped Parking Area: 779 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition - 1123 Sutter	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - 1123 Sutter	Rubber Tired Dozers	1	8.00	247	0.40
Demolition - 1123 Sutter	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition - 1101 Sutter	Concrete/Industrial Saws	1	7.00	81	0.73
Demolition - 1101 Sutter	Rubber Tired Dozers	0	0.00	247	0.40
Demolition - 1101 Sutter	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading - 1123 Sutter	Concrete/Industrial Saws	1	8.00	81	0.73
Grading - 1123 Sutter	Rubber Tired Dozers	1	8.00	247	0.40
Grading - 1123 Sutter	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction - 1123 Sutter	Cranes	1	8.00	231	0.29
Building Construction - 1123 Sutter	Forklifts	2	8.00	89	0.20
Building Construction - 1123 Sutter	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading - 1101 Sutter	Concrete/Industrial Saws	0	0.00	81	0.73
Grading - 1101 Sutter	Rubber Tired Dozers	1	8.00	247	0.40
Grading - 1101 Sutter	Scrapers	5	8.00	367	0.48
Grading - 1101 Sutter	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction - 1101 Sutter	Cranes	0	0.00	231	0.29
Building Construction - 1101 Sutter	Forklifts	1	8.00	89	0.20
Building Construction - 1101 Sutter	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Paving - 1101 Sutter	Cement and Mortar Mixers	1	7.00	9	0.56
Paving - 1101 Sutter	Pavers	0	0.00	130	0.42
Paving - 1101 Sutter	Rollers	0	0.00	80	0.38
Paving - 1101 Sutter	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating - 1101 Sutter	Air Compressors	1	8.00	78	0.48
Architectural Coating - 1123 Sutter	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition - 1123 Sutter	4	10.00	0.00	207.00	10.80	7.30	260.00	LD_Mix	HDT_Mix	HHDT
Demolition - 1101 Sutter	2	5.00	0.00	39.00	10.80	7.30	260.00	LD_Mix	HDT_Mix	HHDT
Grading - 1123 Sutter	4	10.00	0.00	1,100.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction - 1123 Sutter	5	164.00	26.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading - 1101 Sutter	7	18.00	0.00	65.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction - 1101 Sutter	1	164.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving - 1101 Sutter	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - 1101 Sutter	1	33.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - 1123 Sutter	1	33.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 1123 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4191	0.0000	2.4191	0.3663	0.0000	0.3663			0.0000			0.0000
Off-Road	1.5242	14.9461	11.7226	0.0210		0.7478	0.7478		0.7000	0.7000		2,022.1779	2,022.1779	0.4947		2,034.5445
Total	**1.5242**	**14.9461**	**11.7226**	**0.0210**	**2.4191**	**0.7478**	**3.1669**	**0.3663**	**0.7000**	**1.0663**		**2,022.1779**	**2,022.1779**	**0.4947**		**2,034.5445**

3.2 Demolition - 1123 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8005	27.4347	12.8593	0.0991	2.3324	0.0993	2.4318	0.6377	0.0950	0.7327		11,827.1442	11,827.1442	2.1755		11,881.5304
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0269	0.0144	0.2080	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.4000e-004	0.0223		81.5954	81.5954	1.5700e-003		81.6347
Total	**0.8274**	**27.4491**	**13.0672**	**0.0999**	**2.4146**	**0.0999**	**2.5145**	**0.6595**	**0.0956**	**0.7551**		**11,908.7395**	**11,908.7395**	**2.1770**		**11,963.1650**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4191	0.0000	2.4191	0.3663	0.0000	0.3663			0.0000			0.0000
Off-Road	1.5242	14.9461	11.7226	0.0210		0.7478	0.7478		0.7000	0.7000	0.0000	2,022.1779	2,022.1779	0.4947		2,034.5445
Total	**1.5242**	**14.9461**	**11.7226**	**0.0210**	**2.4191**	**0.7478**	**3.1669**	**0.3663**	**0.7000**	**1.0663**	**0.0000**	**2,022.1779**	**2,022.1779**	**0.4947**		**2,034.5445**

3.2 Demolition - 1123 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8005	27.4347	12.8593	0.0991	2.3324	0.0993	2.4318	0.6377	0.0950	0.7327		11,827.14 42	11,827.14 42	2.1755		11,881.53 04
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0269	0.0144	0.2080	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.4000e-004	0.0223		81.5954	81.5954	1.5700e-003		81.6347
Total	**0.8274**	**27.4491**	**13.0672**	**0.0999**	**2.4146**	**0.0999**	**2.5145**	**0.6595**	**0.0956**	**0.7551**		**11,908.73 95**	**11,908.73 95**	**2.1770**		**11,963.16 50**

3.3 Demolition - 1101 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1528	0.0000	0.1528	0.0231	0.0000	0.0231			0.0000			0.0000
Off-Road	0.4777	4.1267	5.4445	8.5900e-003		0.2215	0.2215		0.2143	0.2143		819.8205	819.8205	0.1257		822.9634
Total	**0.4777**	**4.1267**	**5.4445**	**8.5900e-003**	**0.1528**	**0.2215**	**0.3743**	**0.0231**	**0.2143**	**0.2374**		**819.8205**	**819.8205**	**0.1257**		**822.9634**

3.3 Demolition - 1101 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0503	1.7230	0.8076	6.2200e-003	0.1465	6.2400e-003	0.1527	0.0401	5.9700e-003	0.0460		742.7675	742.7675	0.1366		746.1831
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0134	7.1700e-003	0.1040	4.1000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		40.7977	40.7977	7.9000e-004		40.8173
Total	**0.0637**	**1.7301**	**0.9116**	**6.6300e-003**	**0.1876**	**6.5300e-003**	**0.1941**	**0.0509**	**6.2400e-003**	**0.0572**		**783.5652**	**783.5652**	**0.1374**		**787.0004**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1528	0.0000	0.1528	0.0231	0.0000	0.0231			0.0000			0.0000
Off-Road	0.4777	4.1267	5.4445	8.5900e-003		0.2215	0.2215		0.2143	0.2143	0.0000	819.8205	819.8205	0.1257		822.9634
Total	**0.4777**	**4.1267**	**5.4445**	**8.5900e-003**	**0.1528**	**0.2215**	**0.3743**	**0.0231**	**0.2143**	**0.2374**	**0.0000**	**819.8205**	**819.8205**	**0.1257**		**822.9634**

3.3 Demolition - 1101 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0503	1.7230	0.8076	6.2200e-003	0.1465	6.2400e-003	0.1527	0.0401	5.9700e-003	0.0460		742.7675	742.7675	0.1366		746.1831
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0134	7.1700e-003	0.1040	4.1000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		40.7977	40.7977	7.9000e-004		40.8173
Total	**0.0637**	**1.7301**	**0.9116**	**6.6300e-003**	**0.1876**	**6.5300e-003**	**0.1941**	**0.0509**	**6.2400e-003**	**0.0572**		**783.5652**	**783.5652**	**0.1374**		**787.0004**

3.4 Grading - 1123 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2049	0.0000	6.2049	3.3356	0.0000	3.3356			0.0000			0.0000
Off-Road	1.5242	14.9461	11.7226	0.0210		0.7478	0.7478		0.7000	0.7000		2,022.1779	2,022.1779	0.4947		2,034.5445
Total	**1.5242**	**14.9461**	**11.7226**	**0.0210**	**6.2049**	**0.7478**	**6.9527**	**3.3356**	**0.7000**	**4.0356**		**2,022.1779**	**2,022.1779**	**0.4947**		**2,034.5445**

3.4 Grading - 1123 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5542	21.3621	8.5067	0.0641	1.4312	0.0642	1.4953	0.3914	0.0614	0.4527		7,645.4040	7,645.4040	1.4165		7,680.8167
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0269	0.0144	0.2080	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.4000e-004	0.0223		81.5954	81.5954	1.5700e-003		81.6347
Total	**0.5811**	**21.3764**	**8.7147**	**0.0649**	**1.5133**	**0.0647**	**1.5780**	**0.4132**	**0.0619**	**0.4751**		**7,726.9994**	**7,726.9994**	**1.4181**		**7,762.4513**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2049	0.0000	6.2049	3.3356	0.0000	3.3356			0.0000			0.0000
Off-Road	1.5242	14.9461	11.7226	0.0210		0.7478	0.7478		0.7000	0.7000	0.0000	2,022.1779	2,022.1779	0.4947		2,034.5445
Total	**1.5242**	**14.9461**	**11.7226**	**0.0210**	**6.2049**	**0.7478**	**6.9527**	**3.3356**	**0.7000**	**4.0356**	**0.0000**	**2,022.1779**	**2,022.1779**	**0.4947**		**2,034.5445**

3.4 Grading - 1123 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5542	21.3621	8.5067	0.0641	1.4312	0.0642	1.4953	0.3914	0.0614	0.4527		7,645.4040	7,645.4040	1.4165		7,680.8167
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0269	0.0144	0.2080	8.2000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.4000e-004	0.0223		81.5954	81.5954	1.5700e-003		81.6347
Total	**0.5811**	**21.3764**	**8.7147**	**0.0649**	**1.5133**	**0.0647**	**1.5780**	**0.4132**	**0.0619**	**0.4751**		**7,726.9994**	**7,726.9994**	**1.4181**		**7,762.4513**

3.5 Building Construction - 1123 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9296	9.6454	8.6757	0.0151		0.4937	0.4937		0.4542	0.4542		1,457.3699	1,457.3699	0.4713		1,469.1535
Total	**0.9296**	**9.6454**	**8.6757**	**0.0151**		**0.4937**	**0.4937**		**0.4542**	**0.4542**		**1,457.3699**	**1,457.3699**	**0.4713**		**1,469.1535**

3.5 Building Construction - 1123 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0726	2.7857	0.8535	6.8600e-003	0.1754	5.7600e-003	0.1812	0.0505	5.5100e-003	0.0560		778.7215	778.7215	0.1011		781.2492
Worker	0.4410	0.2353	3.4104	0.0134	1.3472	9.6500e-003	1.3569	0.3574	8.8900e-003	0.3662		1,338.1637	1,338.1637	0.0258		1,338.8083
Total	**0.5135**	**3.0210**	**4.2639**	**0.0203**	**1.5227**	**0.0154**	**1.5381**	**0.4078**	**0.0144**	**0.4222**		**2,116.8852**	**2,116.8852**	**0.1269**		**2,120.0575**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9296	9.6454	8.6757	0.0151		0.4937	0.4937		0.4542	0.4542	0.0000	1,457.3699	1,457.3699	0.4713		1,469.1535
Total	**0.9296**	**9.6454**	**8.6757**	**0.0151**		**0.4937**	**0.4937**		**0.4542**	**0.4542**	**0.0000**	**1,457.3699**	**1,457.3699**	**0.4713**		**1,469.1535**

3.5 Building Construction - 1123 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0726	2.7857	0.8535	6.8600e-003	0.1754	5.7600e-003	0.1812	0.0505	5.5100e-003	0.0560		778.7215	778.7215	0.1011		781.2492
Worker	0.4410	0.2353	3.4104	0.0134	1.3472	9.6500e-003	1.3569	0.3574	8.8900e-003	0.3662		1,338.163 7	1,338.163 7	0.0258		1,338.808 3
Total	**0.5135**	**3.0210**	**4.2639**	**0.0203**	**1.5227**	**0.0154**	**1.5381**	**0.4078**	**0.0144**	**0.4222**		**2,116.885 2**	**2,116.885 2**	**0.1269**		**2,120.057 5**

3.5 Building Construction - 1123 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8592	8.8062	8.5866	0.0151		0.4296	0.4296		0.3952	0.3952		1,458.033 9	1,458.033 9	0.4716		1,469.822 8
Total	**0.8592**	**8.8062**	**8.5866**	**0.0151**		**0.4296**	**0.4296**		**0.3952**	**0.3952**		**1,458.033 9**	**1,458.033 9**	**0.4716**		**1,469.822 8**

3.5 Building Construction - 1123 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0584	2.3157	0.8266	6.6500e-003	0.1754	3.2300e-003	0.1787	0.0505	3.0900e-003	0.0536		759.3718	759.3718	0.0990		761.8456
Worker	0.4165	0.2134	3.1922	0.0129	1.3472	9.5400e-003	1.3568	0.3574	8.7800e-003	0.3661		1,286.4070	1,286.4070	0.0234		1,286.9920
Total	**0.4750**	**2.5291**	**4.0188**	**0.0195**	**1.5227**	**0.0128**	**1.5354**	**0.4078**	**0.0119**	**0.4197**		**2,045.7788**	**2,045.7788**	**0.1224**		**2,048.8376**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8592	8.8062	8.5866	0.0151		0.4296	0.4296		0.3952	0.3952	0.0000	1,458.0339	1,458.0339	0.4716		1,469.8228
Total	**0.8592**	**8.8062**	**8.5866**	**0.0151**		**0.4296**	**0.4296**		**0.3952**	**0.3952**	**0.0000**	**1,458.0339**	**1,458.0339**	**0.4716**		**1,469.8228**

3.5 Building Construction - 1123 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0584	2.3157	0.8266	6.6500e-003	0.1754	3.2300e-003	0.1787	0.0505	3.0900e-003	0.0536		759.3718	759.3718	0.0990		761.8456
Worker	0.4165	0.2134	3.1922	0.0129	1.3472	9.5400e-003	1.3568	0.3574	8.7800e-003	0.3661		1,286.4070	1,286.4070	0.0234		1,286.9920
Total	**0.4750**	**2.5291**	**4.0188**	**0.0195**	**1.5227**	**0.0128**	**1.5354**	**0.4078**	**0.0119**	**0.4197**		**2,045.7788**	**2,045.7788**	**0.1224**		**2,048.8376**

3.5 Building Construction - 1123 Sutter - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8080	8.1678	8.5245	0.0151		0.3808	0.3808		0.3503	0.3503		1,458.4025	1,458.4025	0.4717		1,470.1944
Total	**0.8080**	**8.1678**	**8.5245**	**0.0151**		**0.3808**	**0.3808**		**0.3503**	**0.3503**		**1,458.4025**	**1,458.4025**	**0.4717**		**1,470.1944**

3.5 Building Construction - 1123 Sutter - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0559	2.2591	0.8200	6.5600e-003	0.1754	3.1100e-003	0.1786	0.0505	2.9700e-003	0.0534		752.3151	752.3151	0.0989		754.7878
Worker	0.3950	0.1942	2.9965	0.0124	1.3472	9.4400e-003	1.3567	0.3574	8.6800e-003	0.3660		1,235.1258	1,235.1258	0.0213		1,235.6579
Total	**0.4509**	**2.4533**	**3.8165**	**0.0189**	**1.5227**	**0.0126**	**1.5352**	**0.4078**	**0.0117**	**0.4195**		**1,987.4409**	**1,987.4409**	**0.1202**		**1,990.4458**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8080	8.1678	8.5245	0.0151		0.3808	0.3808		0.3503	0.3503	0.0000	1,458.4025	1,458.4025	0.4717		1,470.1944
Total	**0.8080**	**8.1678**	**8.5245**	**0.0151**		**0.3808**	**0.3808**		**0.3503**	**0.3503**	**0.0000**	**1,458.4025**	**1,458.4025**	**0.4717**		**1,470.1944**

3.5 Building Construction - 1123 Sutter - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0559	2.2591	0.8200	6.5600e-003	0.1754	3.1100e-003	0.1786	0.0505	2.9700e-003	0.0534		752.3151	752.3151	0.0989		754.7878
Worker	0.3950	0.1942	2.9965	0.0124	1.3472	9.4400e-003	1.3567	0.3574	8.6800e-003	0.3660		1,235.1258	1,235.1258	0.0213		1,235.6579
Total	**0.4509**	**2.4533**	**3.8165**	**0.0189**	**1.5227**	**0.0126**	**1.5352**	**0.4078**	**0.0117**	**0.4195**		**1,987.4409**	**1,987.4409**	**0.1202**		**1,990.4458**

3.6 Grading - 1101 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0563	0.0000	6.0563	3.3143	0.0000	3.3143			0.0000			0.0000
Off-Road	5.0980	55.1868	37.6989	0.0876		2.2531	2.2531		2.0729	2.0729		8,479.7438	8,479.7438	2.7425		8,548.3069
Total	**5.0980**	**55.1868**	**37.6989**	**0.0876**	**6.0563**	**2.2531**	**8.3094**	**3.3143**	**2.0729**	**5.3871**		**8,479.7438**	**8,479.7438**	**2.7425**		**8,548.3069**

3.6 Grading - 1101 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0328	1.2623	0.5027	3.7900e-003	0.0846	3.7900e-003	0.0884	0.0231	3.6300e-003	0.0268		451.7739	451.7739	0.0837		453.8664
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0484	0.0258	0.3743	1.4700e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		146.8716	146.8716	2.8300e-003		146.9424
Total	**0.0812**	**1.2881**	**0.8770**	**5.2600e-003**	**0.2324**	**4.8500e-003**	**0.2373**	**0.0624**	**4.6100e-003**	**0.0670**		**598.6455**	**598.6455**	**0.0865**		**600.8088**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0563	0.0000	6.0563	3.3143	0.0000	3.3143			0.0000			0.0000
Off-Road	5.0980	55.1868	37.6989	0.0876		2.2531	2.2531		2.0729	2.0729	0.0000	8,479.7438	8,479.7438	2.7425		8,548.3068
Total	**5.0980**	**55.1868**	**37.6989**	**0.0876**	**6.0563**	**2.2531**	**8.3094**	**3.3143**	**2.0729**	**5.3871**	**0.0000**	**8,479.7438**	**8,479.7438**	**2.7425**		**8,548.3068**

3.6 Grading - 1101 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0328	1.2623	0.5027	3.7900e-003	0.0846	3.7900e-003	0.0884	0.0231	3.6300e-003	0.0268		451.7739	451.7739	0.0837		453.8664
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0484	0.0258	0.3743	1.4700e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		146.8716	146.8716	2.8300e-003		146.9424
Total	**0.0812**	**1.2881**	**0.8770**	**5.2600e-003**	**0.2324**	**4.8500e-003**	**0.2373**	**0.0624**	**4.6100e-003**	**0.0670**		**598.6455**	**598.6455**	**0.0865**		**600.8088**

3.7 Building Construction - 1101 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1136	1.0549	1.1538	1.5300e-003		0.0699	0.0699		0.0643	0.0643		148.0308	148.0308	0.0479		149.2277
Total	**0.1136**	**1.0549**	**1.1538**	**1.5300e-003**		**0.0699**	**0.0699**		**0.0643**	**0.0643**		**148.0308**	**148.0308**	**0.0479**		**149.2277**

3.7 Building Construction - 1101 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0279	1.0714	0.3283	2.6400e-003	0.0675	2.2100e-003	0.0697	0.0194	2.1200e-003	0.0215		299.5083	299.5083	0.0389		300.4805
Worker	0.4410	0.2353	3.4104	0.0134	1.3472	9.6500e-003	1.3569	0.3574	8.8900e-003	0.3662		1,338.1637	1,338.1637	0.0258		1,338.8083
Total	**0.4689**	**1.3067**	**3.7387**	**0.0161**	**1.4147**	**0.0119**	**1.4266**	**0.3768**	**0.0110**	**0.3878**		**1,637.6720**	**1,637.6720**	**0.0647**		**1,639.2887**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1136	1.0549	1.1538	1.5300e-003		0.0699	0.0699		0.0643	0.0643	0.0000	148.0308	148.0308	0.0479		149.2277
Total	**0.1136**	**1.0549**	**1.1538**	**1.5300e-003**		**0.0699**	**0.0699**		**0.0643**	**0.0643**	**0.0000**	**148.0308**	**148.0308**	**0.0479**		**149.2277**

3.7 Building Construction - 1101 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0279	1.0714	0.3283	2.6400e-003	0.0675	2.2100e-003	0.0697	0.0194	2.1200e-003	0.0215		299.5083	299.5083	0.0389		300.4805
Worker	0.4410	0.2353	3.4104	0.0134	1.3472	9.6500e-003	1.3569	0.3574	8.8900e-003	0.3662		1,338.163 7	1,338.163 7	0.0258		1,338.808 3
Total	**0.4689**	**1.3067**	**3.7387**	**0.0161**	**1.4147**	**0.0119**	**1.4266**	**0.3768**	**0.0110**	**0.3878**		**1,637.672 0**	**1,637.672 0**	**0.0647**		**1,639.288 7**

3.7 Building Construction - 1101 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1025	0.9597	1.1448	1.5300e-003		0.0593	0.0593		0.0546	0.0546		148.0308	148.0308	0.0479		149.2277
Total	**0.1025**	**0.9597**	**1.1448**	**1.5300e-003**		**0.0593**	**0.0593**		**0.0546**	**0.0546**		**148.0308**	**148.0308**	**0.0479**		**149.2277**

3.7 Building Construction - 1101 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0225	0.8907	0.3179	2.5600e-003	0.0675	1.2400e-003	0.0687	0.0194	1.1900e-003	0.0206		292.0661	292.0661	0.0381		293.0176
Worker	0.4165	0.2134	3.1922	0.0129	1.3472	9.5400e-003	1.3568	0.3574	8.7800e-003	0.3661		1,286.4070	1,286.4070	0.0234		1,286.9920
Total	**0.4390**	**1.1040**	**3.5101**	**0.0155**	**1.4147**	**0.0108**	**1.4255**	**0.3768**	**9.9700e-003**	**0.3867**		**1,578.4731**	**1,578.4731**	**0.0615**		**1,580.0095**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1025	0.9597	1.1448	1.5300e-003		0.0593	0.0593		0.0546	0.0546	0.0000	148.0308	148.0308	0.0479		149.2277
Total	**0.1025**	**0.9597**	**1.1448**	**1.5300e-003**		**0.0593**	**0.0593**		**0.0546**	**0.0546**	**0.0000**	**148.0308**	**148.0308**	**0.0479**		**149.2277**

3.7 Building Construction - 1101 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0225	0.8907	0.3179	2.5600e-003	0.0675	1.2400e-003	0.0687	0.0194	1.1900e-003	0.0206		292.0661	292.0661	0.0381		293.0176
Worker	0.4165	0.2134	3.1922	0.0129	1.3472	9.5400e-003	1.3568	0.3574	8.7800e-003	0.3661		1,286.4070	1,286.4070	0.0234		1,286.9920
Total	**0.4390**	**1.1040**	**3.5101**	**0.0155**	**1.4147**	**0.0108**	**1.4255**	**0.3768**	**9.9700e-003**	**0.3867**		**1,578.4731**	**1,578.4731**	**0.0615**		**1,580.0095**

3.8 Paving - 1101 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2028	1.8578	2.5011	3.7400e-003		0.0883	0.0883		0.0823	0.0823		345.7783	345.7783	0.1021		348.3314
Paving	8.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2113**	**1.8578**	**2.5011**	**3.7400e-003**		**0.0883**	**0.0883**		**0.0823**	**0.0823**		**345.7783**	**345.7783**	**0.1021**		**348.3314**

3.8 Paving - 1101 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0127	6.5100e-003	0.0973	3.9000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.2197	39.2197	7.1000e-004		39.2376
Total	**0.0127**	**6.5100e-003**	**0.0973**	**3.9000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**39.2197**	**39.2197**	**7.1000e-004**		**39.2376**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2028	1.8578	2.5011	3.7400e-003		0.0883	0.0883		0.0823	0.0823	0.0000	345.7783	345.7783	0.1021		348.3314
Paving	8.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2113**	**1.8578**	**2.5011**	**3.7400e-003**		**0.0883**	**0.0883**		**0.0823**	**0.0823**	**0.0000**	**345.7783**	**345.7783**	**0.1021**		**348.3314**

3.8 Paving - 1101 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0127	6.5100e-003	0.0973	3.9000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.2197	39.2197	7.1000e-004		39.2376
Total	**0.0127**	**6.5100e-003**	**0.0973**	**3.9000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**39.2197**	**39.2197**	**7.1000e-004**		**39.2376**

3.9 Architectural Coating - 1101 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.5206					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944		375.2641	375.2641	0.0225		375.8253
Total	**9.7762**	**1.7373**	**2.4148**	**3.9600e-003**		**0.0944**	**0.0944**		**0.0944**	**0.0944**		**375.2641**	**375.2641**	**0.0225**		**375.8253**

3.9 Architectural Coating - 1101 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0429	0.6423	2.5900e-003	0.2711	1.9200e-003	0.2730	0.0719	1.7700e-003	0.0737		258.8502	258.8502	4.7100e-003		258.9679
Total	**0.0838**	**0.0429**	**0.6423**	**2.5900e-003**	**0.2711**	**1.9200e-003**	**0.2730**	**0.0719**	**1.7700e-003**	**0.0737**		**258.8502**	**258.8502**	**4.7100e-003**		**258.9679**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.5206					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944	0.0000	375.2641	375.2641	0.0225		375.8253
Total	**9.7762**	**1.7373**	**2.4148**	**3.9600e-003**		**0.0944**	**0.0944**		**0.0944**	**0.0944**	**0.0000**	**375.2641**	**375.2641**	**0.0225**		**375.8253**

3.9 Architectural Coating - 1101 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0838	0.0429	0.6423	2.5900e-003	0.2711	1.9200e-003	0.2730	0.0719	1.7700e-003	0.0737		258.8502	258.8502	4.7100e-003		258.9679
Total	**0.0838**	**0.0429**	**0.6423**	**2.5900e-003**	**0.2711**	**1.9200e-003**	**0.2730**	**0.0719**	**1.7700e-003**	**0.0737**		**258.8502**	**258.8502**	**4.7100e-003**		**258.9679**

3.9 Architectural Coating - 1101 Sutter - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.5206					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812		375.2641	375.2641	0.0211		375.7923
Total	**9.7617**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**		**375.2641**	**375.2641**	**0.0211**		**375.7923**

3.9 Architectural Coating - 1101 Sutter - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0795	0.0391	0.6030	2.4900e-003	0.2711	1.9000e-003	0.2730	0.0719	1.7500e-003	0.0737		248.5314	248.5314	4.2800e-003		248.6385
Total	**0.0795**	**0.0391**	**0.6030**	**2.4900e-003**	**0.2711**	**1.9000e-003**	**0.2730**	**0.0719**	**1.7500e-003**	**0.0737**		**248.5314**	**248.5314**	**4.2800e-003**		**248.6385**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.5206					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812	0.0000	375.2641	375.2641	0.0211		375.7923
Total	**9.7617**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**	**0.0000**	**375.2641**	**375.2641**	**0.0211**		**375.7923**

3.9 Architectural Coating - 1101 Sutter - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0795	0.0391	0.6030	2.4900e-003	0.2711	1.9000e-003	0.2730	0.0719	1.7500e-003	0.0737		248.5314	248.5314	4.2800e-003		248.6385
Total	**0.0795**	**0.0391**	**0.6030**	**2.4900e-003**	**0.2711**	**1.9000e-003**	**0.2730**	**0.0719**	**1.7500e-003**	**0.0737**		**248.5314**	**248.5314**	**4.2800e-003**		**248.6385**

3.10 Architectural Coating - 1123 Sutter - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	30.4522					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812		375.2641	375.2641	0.0211		375.7923
Total	**30.6932**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**		**375.2641**	**375.2641**	**0.0211**		**375.7923**

3.10 Architectural Coating - 1123 Sutter - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0795	0.0391	0.6030	2.4900e-003	0.2711	1.9000e-003	0.2730	0.0719	1.7500e-003	0.0737		248.5314	248.5314	4.2800e-003		248.6385
Total	**0.0795**	**0.0391**	**0.6030**	**2.4900e-003**	**0.2711**	**1.9000e-003**	**0.2730**	**0.0719**	**1.7500e-003**	**0.0737**		**248.5314**	**248.5314**	**4.2800e-003**		**248.6385**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	30.4522					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812	0.0000	375.2641	375.2641	0.0211		375.7923
Total	**30.6932**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**	**0.0000**	**375.2641**	**375.2641**	**0.0211**		**375.7923**

3.10 Architectural Coating - 1123 Sutter - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0795	0.0391	0.6030	2.4900e-003	0.2711	1.9000e-003	0.2730	0.0719	1.7500e-003	0.0737		248.5314	248.5314	4.2800e-003		248.6385
Total	**0.0795**	**0.0391**	**0.6030**	**2.4900e-003**	**0.2711**	**1.9000e-003**	**0.2730**	**0.0719**	**1.7500e-003**	**0.0737**		**248.5314**	**248.5314**	**4.2800e-003**		**248.6385**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7931	2.6755	7.9930	0.0308	2.8339	0.0312	2.8651	0.7607	0.0292	0.7898		3,127.8034	3,127.8034	0.1247		3,130.9220
Unmitigated	0.7931	2.6755	7.9930	0.0308	2.8339	0.0312	2.8651	0.7607	0.0292	0.7898		3,127.8034	3,127.8034	0.1247		3,130.9220

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	358.90	427.35	312.65	836,243	836,243
Apartments Mid Rise	31.04	36.96	27.04	72,324	72,324
Day-Care Center	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	166.23	157.66	76.60	234,401	234,401
Total	556.17	621.97	416.29	1,142,967	1,142,967

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Apartments Mid Rise	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Day-Care Center	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Enclosed Parking with Elevator	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
General Office Building	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Health Club	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Parking Lot	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Strip Mall	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.7762	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919	0.0000	29.8716	29.8716	0.0287	0.0000	30.5886
Unmitigated	6.7762	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919	0.0000	29.8716	29.8716	0.0287	0.0000	30.5886

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9386					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.3387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.4989	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919		29.8716	29.8716	0.0287		30.5886
Total	**6.7763**	**0.1910**	**16.5816**	**8.8000e-004**		**0.0919**	**0.0919**		**0.0919**	**0.0919**	**0.0000**	**29.8716**	**29.8716**	**0.0287**	**0.0000**	**30.5886**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9386					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.3387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.4989	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919		29.8716	29.8716	0.0287		30.5886
Total	**6.7763**	**0.1910**	**16.5816**	**8.8000e-004**		**0.0919**	**0.0919**		**0.0919**	**0.0919**	**0.0000**	**29.8716**	**29.8716**	**0.0287**	**0.0000**	**30.5886**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	2	50	1073	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	3.5217	15.7490	8.9797	0.0169		0.5181	0.5181		0.5181	0.5181		1,801.5973	1,801.5973	0.2526		1,807.9119
Total	**3.5217**	**15.7490**	**8.9797**	**0.0169**		**0.5181**	**0.5181**		**0.5181**	**0.5181**		**1,801.5973**	**1,801.5973**	**0.2526**		**1,807.9119**

11.0 Vegetation

1101-1123 Sutter Street Project

San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.00	1000sqft	0.00	1,999.00	0
Day-Care Center	3.65	1000sqft	0.00	3,650.00	0
Enclosed Parking with Elevator	18.53	1000sqft	0.00	18,530.00	0
Parking Lot	14.00	Space	0.13	5,600.00	0
Health Club	12.21	1000sqft	0.00	12,215.00	0
Apartments High Rise	185.00	Dwelling Unit	0.48	209,435.00	422
Apartments Mid Rise	16.00	Dwelling Unit	0.21	14,800.00	37
Strip Mall	6.97	1000sqft	0.00	6,972.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 was adjusted based on PG&E's reported intensity for 2018 from the PG&E Corporate Responsibility and Sustainability Report (2020)

Land Use - All acreage for the lot included under residential land use. Incl circulation/open space area SF in residential total. Incl all common area SF under "health club" use. Pop based on ave household size of 2.28 persons

Construction Phase - Construction phases and schedule based on applicant input

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Off-road Equipment - Default equipment mix. Increased usage to 8 hours/day

Off-road Equipment - Equipment based on applicant input

Trips and VMT - Adjusted trips based on applicant input. Increased haul truck trip length for demolition to 260 miles to account for potential hazardous material transport, assuming Buttonwillow Landfill receipt. Ox Mountain landfill assumed as recipient of soils.

On-road Fugitive Dust - Defaults

Demolition - 54,000 SF of existing buildings/parking lot to be demolished

Grading - Total of 9,320 CY of soils exported

Architectural Coating - Adjusted architectural coating areas to 1101 and 1123 buildings based on square footage to be developed for each building

Vehicle Trips - Adjusted trip rates based on SFCTA rates and splits for Auto and TNC/Taxi modes

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Road Dust - Defaults

Woodstoves - No fireplaces or woodstoves assumed

Consumer Products - Defaults

Area Coating - Defaults

Landscape Equipment - Defaults

Energy Use - Adjusted energy use factors for the project based on Title 2019 standards and accounting for increased electricity based on zero natural gas development

Water And Wastewater - No outdoor water use assumed for non-residential uses

Solid Waste - Defaults

Construction Off-road Equipment Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps - Generac SD800 diesel emergency generator. Assumes up to 50 hours/year testing/maintenance

Stationary Sources - Emergency Generators and Fire Pumps EF - Defaults

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,418.00	3,521.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,418.00	8,897.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,254.00	10,564.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,254.00	26,690.00
tblArchitecturalCoating	ConstArea_Parking	1,448.00	779.00
tblArchitecturalCoating	ConstArea_Parking	1,448.00	669.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	151,359.00	14,478.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	151,359.00	136,881.00
tblArchitecturalCoating	ConstArea_Residential_Interior	454,076.00	43,432.00
tblArchitecturalCoating	ConstArea_Residential_Interior	454,076.00	410,644.00
tblConstructionPhase	NumDays	5.00	40.00
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	NumDays	100.00	540.00
tblConstructionPhase	NumDays	100.00	310.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	40.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	NT24NG	1.62	0.00

tblEnergyUse	NT24NG	1.01	0.00
tblEnergyUse	NT24NG	6.90	0.00
tblEnergyUse	NT24NG	0.70	0.00
tblEnergyUse	T24E	426.45	1,503.04
tblEnergyUse	T24E	426.45	358.49
tblEnergyUse	T24E	0.66	2.33
tblEnergyUse	T24E	3.92	13.81
tblEnergyUse	T24E	4.10	14.45
tblEnergyUse	T24E	1.21	4.26
tblEnergyUse	T24E	2.24	7.89
tblEnergyUse	T24NG	6,115.43	0.00
tblEnergyUse	T24NG	6,115.43	0.00
tblEnergyUse	T24NG	14.85	0.00
tblEnergyUse	T24NG	18.32	0.00
tblEnergyUse	T24NG	17.85	0.00
tblEnergyUse	T24NG	3.90	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	27.75	0.00
tblFireplaces	NumberGas	2.40	0.00
tblFireplaces	NumberNoFireplace	7.40	185.00
tblFireplaces	NumberNoFireplace	0.64	16.00
tblFireplaces	NumberWood	31.45	0.00
tblFireplaces	NumberWood	2.72	0.00
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	AcresOfGrading	100.00	0.50
tblGrading	MaterialExported	0.00	8,800.00

tblGrading	MaterialExported	0.00	520.00
tblLandUse	LandUseSquareFeet	2,000.00	1,999.00
tblLandUse	LandUseSquareFeet	12,210.00	12,215.00
tblLandUse	LandUseSquareFeet	185,000.00	209,435.00
tblLandUse	LandUseSquareFeet	16,000.00	14,800.00
tblLandUse	LandUseSquareFeet	6,970.00	6,972.00
tblLandUse	LotAcreage	0.05	0.00
tblLandUse	LotAcreage	0.08	0.00
tblLandUse	LotAcreage	0.43	0.00
tblLandUse	LotAcreage	0.28	0.00
tblLandUse	LotAcreage	2.98	0.48
tblLandUse	LotAcreage	0.42	0.21
tblLandUse	LotAcreage	0.16	0.00
tblLandUse	Population	529.00	422.00
tblLandUse	Population	46.00	37.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	HaulingTripLength	20.00	260.00
tblTripsAndVMT	HaulingTripLength	20.00	260.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	VendorTripNumber	30.00	26.00
tblTripsAndVMT	VendorTripNumber	30.00	10.00
tblVehicleTrips	ST_TR	4.98	2.31

tblVehicleTrips	ST_TR	6.39	2.31
tblVehicleTrips	ST_TR	6.21	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	42.04	22.62
tblVehicleTrips	SU_TR	3.65	1.69
tblVehicleTrips	SU_TR	5.86	1.69
tblVehicleTrips	SU_TR	5.83	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	20.43	10.99
tblVehicleTrips	WD_TR	4.20	1.94
tblVehicleTrips	WD_TR	6.65	1.94
tblVehicleTrips	WD_TR	74.06	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	44.32	23.85
tblWater	OutdoorWaterUseRate	402,549.23	0.00
tblWater	OutdoorWaterUseRate	217,867.17	0.00
tblWater	OutdoorWaterUseRate	442,600.58	0.00
tblWater	OutdoorWaterUseRate	316,433.03	0.00
tblWoodstoves	NumberCatalytic	3.70	0.00
tblWoodstoves	NumberCatalytic	0.32	0.00
tblWoodstoves	NumberNoncatalytic	3.70	0.00
tblWoodstoves	NumberNoncatalytic	0.32	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	6.6860	69.2774	51.4297	0.1360	8.0585	2.7676	10.5789	3.8228	2.5465	6.3309	0.0000	15,515.7663	15,515.7663	3.4295	0.0000	15,589.1695
2023	11.2606	13.5211	17.0452	0.0499	2.9374	0.5390	3.4502	0.7846	0.5036	1.2566	0.0000	5,057.3122	5,057.3122	0.7042	0.0000	5,074.9175
2024	32.0971	12.3555	15.2390	0.0394	1.7938	0.4767	2.2705	0.4797	0.4452	0.9249	0.0000	3,967.3863	3,967.3863	0.6182	0.0000	3,982.8418
Maximum	**32.0971**	**69.2774**	**51.4297**	**0.1360**	**8.0585**	**2.7676**	**10.5789**	**3.8228**	**2.5465**	**6.3309**	**0.0000**	**15,515.7663**	**15,515.7663**	**3.4295**	**0.0000**	**15,589.1695**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	6.6860	69.2774	51.4297	0.1360	8.0585	2.7676	10.5789	3.8228	2.5465	6.3309	0.0000	15,515.7663	15,515.7663	3.4295	0.0000	15,589.1695
2023	11.2606	13.5211	17.0452	0.0499	2.9374	0.5390	3.4502	0.7846	0.5036	1.2566	0.0000	5,057.3122	5,057.3122	0.7042	0.0000	5,074.9175
2024	32.0971	12.3555	15.2390	0.0394	1.7938	0.4767	2.2705	0.4797	0.4452	0.9249	0.0000	3,967.3863	3,967.3863	0.6182	0.0000	3,982.8418
Maximum	**32.0971**	**69.2774**	**51.4297**	**0.1360**	**8.0585**	**2.7676**	**10.5789**	**3.8228**	**2.5465**	**6.3309**	**0.0000**	**15,515.7663**	**15,515.7663**	**3.4295**	**0.0000**	**15,589.1695**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.7762	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919	0.0000	29.8716	29.8716	0.0287	0.0000	30.5886
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.7267	2.8345	8.1734	0.0294	2.8339	0.0314	2.8652	0.7607	0.0293	0.7900		2,979.4691	2,979.4691	0.1261		2,982.6211
Stationary	3.5217	15.7490	8.9797	0.0169		0.5181	0.5181		0.5181	0.5181		1,801.5973	1,801.5973	0.2526		1,807.9119
Total	**11.0247**	**18.7745**	**33.7347**	**0.0472**	**2.8339**	**0.6413**	**3.4752**	**0.7607**	**0.6393**	**1.3999**	**0.0000**	**4,810.9379**	**4,810.9379**	**0.4073**	**0.0000**	**4,821.1216**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.7762	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919	0.0000	29.8716	29.8716	0.0287	0.0000	30.5886
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.7267	2.8345	8.1734	0.0294	2.8339	0.0314	2.8652	0.7607	0.0293	0.7900		2,979.4691	2,979.4691	0.1261		2,982.6211
Stationary	3.5217	15.7490	8.9797	0.0169		0.5181	0.5181		0.5181	0.5181		1,801.5973	1,801.5973	0.2526		1,807.9119
Total	**11.0247**	**18.7745**	**33.7347**	**0.0472**	**2.8339**	**0.6413**	**3.4752**	**0.7607**	**0.6393**	**1.3999**	**0.0000**	**4,810.9379**	**4,810.9379**	**0.4073**	**0.0000**	**4,821.1216**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition - 1123 Sutter	Demolition	5/2/2022	5/27/2022	5	20	1123 Sutter Demo
2	Demolition - 1101 Sutter	Demolition	5/2/2022	7/22/2022	5	60	1101 Sutter Demo
3	Grading - 1123 Sutter	Grading	5/28/2022	6/24/2022	5	20	1123 Sutter Grading
4	Building Construction - 1123 Sutter	Building Construction	6/25/2022	7/19/2024	5	540	1123 Sutter Bldg Construction
5	Grading - 1101 Sutter	Grading	7/23/2022	8/19/2022	5	20	1101 Sutter Grading
6	Building Construction - 1101 Sutter	Building Construction	8/20/2022	10/27/2023	5	310	1101 Sutter Bldg Construction
7	Paving - 1101 Sutter	Paving	10/28/2023	12/22/2023	5	40	1101 Sutter Paving
8	Architectural Coating - 1101 Sutter	Architectural Coating	12/23/2023	2/16/2024	5	40	1101 Sutter Architectural Coating
9	Architectural Coating - 1123 Sutter	Architectural Coating	5/15/2024	10/1/2024	5	100	1123 Sutter Architectural Coating

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.13

Residential Indoor: 43,432; Residential Outdoor: 14,478; Non-Residential Indoor: 10,564; Non-Residential Outdoor: 3,521; Striped Parking Area: 779 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition - 1123 Sutter	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition - 1123 Sutter	Rubber Tired Dozers	1	8.00	247	0.40
Demolition - 1123 Sutter	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition - 1101 Sutter	Concrete/Industrial Saws	1	7.00	81	0.73
Demolition - 1101 Sutter	Rubber Tired Dozers	0	0.00	247	0.40
Demolition - 1101 Sutter	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading - 1123 Sutter	Concrete/Industrial Saws	1	8.00	81	0.73
Grading - 1123 Sutter	Rubber Tired Dozers	1	8.00	247	0.40
Grading - 1123 Sutter	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction - 1123 Sutter	Cranes	1	8.00	231	0.29
Building Construction - 1123 Sutter	Forklifts	2	8.00	89	0.20
Building Construction - 1123 Sutter	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading - 1101 Sutter	Concrete/Industrial Saws	0	0.00	81	0.73
Grading - 1101 Sutter	Rubber Tired Dozers	1	8.00	247	0.40
Grading - 1101 Sutter	Scrapers	5	8.00	367	0.48
Grading - 1101 Sutter	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction - 1101 Sutter	Cranes	0	0.00	231	0.29
Building Construction - 1101 Sutter	Forklifts	1	8.00	89	0.20
Building Construction - 1101 Sutter	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Paving - 1101 Sutter	Cement and Mortar Mixers	1	7.00	9	0.56
Paving - 1101 Sutter	Pavers	0	0.00	130	0.42
Paving - 1101 Sutter	Rollers	0	0.00	80	0.38
Paving - 1101 Sutter	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating - 1101 Sutter	Air Compressors	1	8.00	78	0.48
Architectural Coating - 1123 Sutter	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition - 1123 Sutter	4	10.00	0.00	207.00	10.80	7.30	260.00	LD_Mix	HDT_Mix	HHDT
Demolition - 1101 Sutter	2	5.00	0.00	39.00	10.80	7.30	260.00	LD_Mix	HDT_Mix	HHDT
Grading - 1123 Sutter	4	10.00	0.00	1,100.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction - 1123 Sutter	5	164.00	26.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading - 1101 Sutter	7	18.00	0.00	65.00	10.80	7.30	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction - 1101 Sutter	1	164.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving - 1101 Sutter	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - 1101 Sutter	1	33.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating - 1123 Sutter	1	33.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 1123 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4191	0.0000	2.4191	0.3663	0.0000	0.3663			0.0000			0.0000
Off-Road	1.5242	14.9461	11.7226	0.0210		0.7478	0.7478		0.7000	0.7000		2,022.1779	2,022.1779	0.4947		2,034.5445
Total	**1.5242**	**14.9461**	**11.7226**	**0.0210**	**2.4191**	**0.7478**	**3.1669**	**0.3663**	**0.7000**	**1.0663**		**2,022.1779**	**2,022.1779**	**0.4947**		**2,034.5445**

3.2 Demolition - 1123 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8006	28.9620	12.7072	0.0990	2.3324	0.0996	2.4321	0.6377	0.0953	0.7330		11,816.61 67	11,816.61 67	2.1768		11,871.03 73
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0301	0.0178	0.1984	7.7000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.4000e-004	0.0223		76.6965	76.6965	1.4800e-003		76.7335
Total	**0.8308**	**28.9798**	**12.9055**	**0.0998**	**2.4146**	**0.1002**	**2.5148**	**0.6595**	**0.0958**	**0.7553**		**11,893.31 33**	**11,893.31 33**	**2.1783**		**11,947.77 08**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4191	0.0000	2.4191	0.3663	0.0000	0.3663			0.0000			0.0000
Off-Road	1.5242	14.9461	11.7226	0.0210		0.7478	0.7478		0.7000	0.7000	0.0000	2,022.177 9	2,022.177 9	0.4947		2,034.544 5
Total	**1.5242**	**14.9461**	**11.7226**	**0.0210**	**2.4191**	**0.7478**	**3.1669**	**0.3663**	**0.7000**	**1.0663**	**0.0000**	**2,022.177 9**	**2,022.177 9**	**0.4947**		**2,034.544 5**

3.2 Demolition - 1123 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8006	28.9620	12.7072	0.0990	2.3324	0.0996	2.4321	0.6377	0.0953	0.7330		11,816.6167	11,816.6167	2.1768		11,871.0373
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0301	0.0178	0.1984	7.7000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.4000e-004	0.0223		76.6965	76.6965	1.4800e-003		76.7335
Total	**0.8308**	**28.9798**	**12.9055**	**0.0998**	**2.4146**	**0.1002**	**2.5148**	**0.6595**	**0.0958**	**0.7553**		**11,893.3133**	**11,893.3133**	**2.1783**		**11,947.7708**

3.3 Demolition - 1101 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1528	0.0000	0.1528	0.0231	0.0000	0.0231			0.0000			0.0000
Off-Road	0.4777	4.1267	5.4445	8.5900e-003		0.2215	0.2215		0.2143	0.2143		819.8205	819.8205	0.1257		822.9634
Total	**0.4777**	**4.1267**	**5.4445**	**8.5900e-003**	**0.1528**	**0.2215**	**0.3743**	**0.0231**	**0.2143**	**0.2374**		**819.8205**	**819.8205**	**0.1257**		**822.9634**

3.3 Demolition - 1101 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0503	1.8189	0.7980	6.2200e-003	0.1465	6.2600e-003	0.1527	0.0401	5.9900e-003	0.0460		742.1064	742.1064	0.1367		745.5241
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0151	8.8800e-003	0.0992	3.8000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		38.3483	38.3483	7.4000e-004		38.3668
Total	**0.0654**	**1.8278**	**0.8972**	**6.6000e-003**	**0.1876**	**6.5500e-003**	**0.1941**	**0.0509**	**6.2600e-003**	**0.0572**		**780.4546**	**780.4546**	**0.1375**		**783.8908**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1528	0.0000	0.1528	0.0231	0.0000	0.0231			0.0000			0.0000
Off-Road	0.4777	4.1267	5.4445	8.5900e-003		0.2215	0.2215		0.2143	0.2143	0.0000	819.8205	819.8205	0.1257		822.9634
Total	**0.4777**	**4.1267**	**5.4445**	**8.5900e-003**	**0.1528**	**0.2215**	**0.3743**	**0.0231**	**0.2143**	**0.2374**	**0.0000**	**819.8205**	**819.8205**	**0.1257**		**822.9634**

3.3 Demolition - 1101 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0503	1.8189	0.7980	6.2200e-003	0.1465	6.2600e-003	0.1527	0.0401	5.9900e-003	0.0460		742.1064	742.1064	0.1367		745.5241
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0151	8.8800e-003	0.0992	3.8000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		38.3483	38.3483	7.4000e-004		38.3668
Total	**0.0654**	**1.8278**	**0.8972**	**6.6000e-003**	**0.1876**	**6.5500e-003**	**0.1941**	**0.0509**	**6.2600e-003**	**0.0572**		**780.4546**	**780.4546**	**0.1375**		**783.8908**

3.4 Grading - 1123 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2049	0.0000	6.2049	3.3356	0.0000	3.3356			0.0000			0.0000
Off-Road	1.5242	14.9461	11.7226	0.0210		0.7478	0.7478		0.7000	0.7000		2,022.1779	2,022.1779	0.4947		2,034.5445
Total	**1.5242**	**14.9461**	**11.7226**	**0.0210**	**6.2049**	**0.7478**	**6.9527**	**3.3356**	**0.7000**	**4.0356**		**2,022.1779**	**2,022.1779**	**0.4947**		**2,034.5445**

3.4 Grading - 1123 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5629	22.1254	8.6363	0.0636	1.4312	0.0657	1.4968	0.3914	0.0628	0.4542		7,589.461 0	7,589.461 0	1.4286		7,625.176 0
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0301	0.0178	0.1984	7.7000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.4000e-004	0.0223		76.6965	76.6965	1.4800e-003		76.7335
Total	**0.5930**	**22.1432**	**8.8347**	**0.0644**	**1.5133**	**0.0663**	**1.5796**	**0.4132**	**0.0634**	**0.4765**		**7,666.157 5**	**7,666.157 5**	**1.4301**		**7,701.909 5**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2049	0.0000	6.2049	3.3356	0.0000	3.3356			0.0000			0.0000
Off-Road	1.5242	14.9461	11.7226	0.0210		0.7478	0.7478		0.7000	0.7000	0.0000	2,022.177 9	2,022.177 9	0.4947		2,034.544 5
Total	**1.5242**	**14.9461**	**11.7226**	**0.0210**	**6.2049**	**0.7478**	**6.9527**	**3.3356**	**0.7000**	**4.0356**	**0.0000**	**2,022.177 9**	**2,022.177 9**	**0.4947**		**2,034.544 5**

3.4 Grading - 1123 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5629	22.1254	8.6363	0.0636	1.4312	0.0657	1.4968	0.3914	0.0628	0.4542		7,589.461 0	7,589.461 0	1.4286		7,625.176 0
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0301	0.0178	0.1984	7.7000e-004	0.0822	5.9000e-004	0.0827	0.0218	5.4000e-004	0.0223		76.6965	76.6965	1.4800e-003		76.7335
Total	**0.5930**	**22.1432**	**8.8347**	**0.0644**	**1.5133**	**0.0663**	**1.5796**	**0.4132**	**0.0634**	**0.4765**		**7,666.157 5**	**7,666.157 5**	**1.4301**		**7,701.909 5**

3.5 Building Construction - 1123 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9296	9.6454	8.6757	0.0151		0.4937	0.4937		0.4542	0.4542		1,457.369 9	1,457.369 9	0.4713		1,469.153 5
Total	**0.9296**	**9.6454**	**8.6757**	**0.0151**		**0.4937**	**0.4937**		**0.4542**	**0.4542**		**1,457.369 9**	**1,457.369 9**	**0.4713**		**1,469.153 5**

3.5 Building Construction - 1123 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0767	2.8148	0.9345	6.7400e-003	0.1754	6.1300e-003	0.1816	0.0505	5.8600e-003	0.0563		764.8871	764.8871	0.1043		767.4941
Worker	0.4942	0.2911	3.2532	0.0126	1.3472	9.6500e-003	1.3569	0.3574	8.8900e-003	0.3662		1,257.8231	1,257.8231	0.0243		1,258.4296
Total	**0.5709**	**3.1059**	**4.1877**	**0.0194**	**1.5227**	**0.0158**	**1.5384**	**0.4078**	**0.0148**	**0.4226**		**2,022.7102**	**2,022.7102**	**0.1285**		**2,025.9237**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9296	9.6454	8.6757	0.0151		0.4937	0.4937		0.4542	0.4542	0.0000	1,457.3699	1,457.3699	0.4713		1,469.1535
Total	**0.9296**	**9.6454**	**8.6757**	**0.0151**		**0.4937**	**0.4937**		**0.4542**	**0.4542**	**0.0000**	**1,457.3699**	**1,457.3699**	**0.4713**		**1,469.1535**

3.5 Building Construction - 1123 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0767	2.8148	0.9345	6.7400e-003	0.1754	6.1300e-003	0.1816	0.0505	5.8600e-003	0.0563		764.8871	764.8871	0.1043		767.4941
Worker	0.4942	0.2911	3.2532	0.0126	1.3472	9.6500e-003	1.3569	0.3574	8.8900e-003	0.3662		1,257.8231	1,257.8231	0.0243		1,258.4296
Total	**0.5709**	**3.1059**	**4.1877**	**0.0194**	**1.5227**	**0.0158**	**1.5384**	**0.4078**	**0.0148**	**0.4226**		**2,022.7102**	**2,022.7102**	**0.1285**		**2,025.9237**

3.5 Building Construction - 1123 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8592	8.8062	8.5866	0.0151		0.4296	0.4296		0.3952	0.3952		1,458.0339	1,458.0339	0.4716		1,469.8228
Total	**0.8592**	**8.8062**	**8.5866**	**0.0151**		**0.4296**	**0.4296**		**0.3952**	**0.3952**		**1,458.0339**	**1,458.0339**	**0.4716**		**1,469.8228**

3.5 Building Construction - 1123 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0620	2.3308	0.8983	6.5400e-003	0.1754	3.5400e-003	0.1790	0.0505	3.3800e-003	0.0539		745.8817	745.8817	0.1017		748.4248
Worker	0.4689	0.2640	3.0350	0.0121	1.3472	9.5400e-003	1.3568	0.3574	8.7800e-003	0.3661		1,209.2441	1,209.2441	0.0220		1,209.7932
Total	**0.5309**	**2.5948**	**3.9333**	**0.0187**	**1.5227**	**0.0131**	**1.5357**	**0.4078**	**0.0122**	**0.4200**		**1,955.1258**	**1,955.1258**	**0.1237**		**1,958.2180**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8592	8.8062	8.5866	0.0151		0.4296	0.4296		0.3952	0.3952	0.0000	1,458.0339	1,458.0339	0.4716		1,469.8228
Total	**0.8592**	**8.8062**	**8.5866**	**0.0151**		**0.4296**	**0.4296**		**0.3952**	**0.3952**	**0.0000**	**1,458.0339**	**1,458.0339**	**0.4716**		**1,469.8228**

3.5 Building Construction - 1123 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0620	2.3308	0.8983	6.5400e-003	0.1754	3.5400e-003	0.1790	0.0505	3.3800e-003	0.0539		745.8817	745.8817	0.1017		748.4248
Worker	0.4689	0.2640	3.0350	0.0121	1.3472	9.5400e-003	1.3568	0.3574	8.7800e-003	0.3661		1,209.2441	1,209.2441	0.0220		1,209.7932
Total	**0.5309**	**2.5948**	**3.9333**	**0.0187**	**1.5227**	**0.0131**	**1.5357**	**0.4078**	**0.0122**	**0.4200**		**1,955.1258**	**1,955.1258**	**0.1237**		**1,958.2180**

3.5 Building Construction - 1123 Sutter - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8080	8.1678	8.5245	0.0151		0.3808	0.3808		0.3503	0.3503		1,458.4025	1,458.4025	0.4717		1,470.1944
Total	**0.8080**	**8.1678**	**8.5245**	**0.0151**		**0.3808**	**0.3808**		**0.3503**	**0.3503**		**1,458.4025**	**1,458.4025**	**0.4717**		**1,470.1944**

3.5 Building Construction - 1123 Sutter - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0593	2.2741	0.8874	6.4500e-003	0.1754	3.3800e-003	0.1788	0.0505	3.2300e-003	0.0537		738.9789	738.9789	0.1015		741.5154
Worker	0.4468	0.2402	2.8417	0.0116	1.3472	9.4400e-003	1.3567	0.3574	8.6800e-003	0.3660		1,161.1041	1,161.1041	0.0199		1,161.6026
Total	**0.5060**	**2.5143**	**3.7291**	**0.0181**	**1.5227**	**0.0128**	**1.5355**	**0.4078**	**0.0119**	**0.4197**		**1,900.0830**	**1,900.0830**	**0.1214**		**1,903.1180**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8080	8.1678	8.5245	0.0151		0.3808	0.3808		0.3503	0.3503	0.0000	1,458.4025	1,458.4025	0.4717		1,470.1944
Total	**0.8080**	**8.1678**	**8.5245**	**0.0151**		**0.3808**	**0.3808**		**0.3503**	**0.3503**	**0.0000**	**1,458.4025**	**1,458.4025**	**0.4717**		**1,470.1944**

3.5 Building Construction - 1123 Sutter - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0593	2.2741	0.8874	6.4500e-003	0.1754	3.3800e-003	0.1788	0.0505	3.2300e-003	0.0537		738.9789	738.9789	0.1015		741.5154
Worker	0.4468	0.2402	2.8417	0.0116	1.3472	9.4400e-003	1.3567	0.3574	8.6800e-003	0.3660		1,161.1041	1,161.1041	0.0199		1,161.6026
Total	**0.5060**	**2.5143**	**3.7291**	**0.0181**	**1.5227**	**0.0128**	**1.5355**	**0.4078**	**0.0119**	**0.4197**		**1,900.0830**	**1,900.0830**	**0.1214**		**1,903.1180**

3.6 Grading - 1101 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0563	0.0000	6.0563	3.3143	0.0000	3.3143			0.0000			0.0000
Off-Road	5.0980	55.1868	37.6989	0.0876		2.2531	2.2531		2.0729	2.0729		8,479.7438	8,479.7438	2.7425		8,548.3069
Total	**5.0980**	**55.1868**	**37.6989**	**0.0876**	**6.0563**	**2.2531**	**8.3094**	**3.3143**	**2.0729**	**5.3871**		**8,479.7438**	**8,479.7438**	**2.7425**		**8,548.3069**

3.6 Grading - 1101 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0333	1.3074	0.5103	3.7600e-003	0.0846	3.8800e-003	0.0885	0.0231	3.7100e-003	0.0268		448.4682	448.4682	0.0844		450.5786
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0542	0.0320	0.3571	1.3800e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.0538	138.0538	2.6600e-003		138.1203
Total	**0.0875**	**1.3394**	**0.8674**	**5.1400e-003**	**0.2324**	**4.9400e-003**	**0.2374**	**0.0624**	**4.6900e-003**	**0.0670**		**586.5219**	**586.5219**	**0.0871**		**588.6989**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0563	0.0000	6.0563	3.3143	0.0000	3.3143			0.0000			0.0000
Off-Road	5.0980	55.1868	37.6989	0.0876		2.2531	2.2531		2.0729	2.0729	0.0000	8,479.7438	8,479.7438	2.7425		8,548.3068
Total	**5.0980**	**55.1868**	**37.6989**	**0.0876**	**6.0563**	**2.2531**	**8.3094**	**3.3143**	**2.0729**	**5.3871**	**0.0000**	**8,479.7438**	**8,479.7438**	**2.7425**		**8,548.3068**

3.6 Grading - 1101 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0333	1.3074	0.5103	3.7600e-003	0.0846	3.8800e-003	0.0885	0.0231	3.7100e-003	0.0268		448.4682	448.4682	0.0844		450.5786
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0542	0.0320	0.3571	1.3800e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		138.0538	138.0538	2.6600e-003		138.1203
Total	**0.0875**	**1.3394**	**0.8674**	**5.1400e-003**	**0.2324**	**4.9400e-003**	**0.2374**	**0.0624**	**4.6900e-003**	**0.0670**		**586.5219**	**586.5219**	**0.0871**		**588.6989**

3.7 Building Construction - 1101 Sutter - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1136	1.0549	1.1538	1.5300e-003		0.0699	0.0699		0.0643	0.0643		148.0308	148.0308	0.0479		149.2277
Total	**0.1136**	**1.0549**	**1.1538**	**1.5300e-003**		**0.0699**	**0.0699**		**0.0643**	**0.0643**		**148.0308**	**148.0308**	**0.0479**		**149.2277**

3.7 Building Construction - 1101 Sutter - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0295	1.0826	0.3594	2.5900e-003	0.0675	2.3600e-003	0.0698	0.0194	2.2500e-003	0.0217		294.1873	294.1873	0.0401		295.1900
Worker	0.4942	0.2911	3.2532	0.0126	1.3472	9.6500e-003	1.3569	0.3574	8.8900e-003	0.3662		1,257.8231	1,257.8231	0.0243		1,258.4296
Total	**0.5237**	**1.3737**	**3.6126**	**0.0152**	**1.4147**	**0.0120**	**1.4267**	**0.3768**	**0.0111**	**0.3879**		**1,552.0104**	**1,552.0104**	**0.0644**		**1,553.6196**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1136	1.0549	1.1538	1.5300e-003		0.0699	0.0699		0.0643	0.0643	0.0000	148.0308	148.0308	0.0479		149.2277
Total	**0.1136**	**1.0549**	**1.1538**	**1.5300e-003**		**0.0699**	**0.0699**		**0.0643**	**0.0643**	**0.0000**	**148.0308**	**148.0308**	**0.0479**		**149.2277**

3.7 Building Construction - 1101 Sutter - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0295	1.0826	0.3594	2.5900e-003	0.0675	2.3600e-003	0.0698	0.0194	2.2500e-003	0.0217		294.1873	294.1873	0.0401		295.1900
Worker	0.4942	0.2911	3.2532	0.0126	1.3472	9.6500e-003	1.3569	0.3574	8.8900e-003	0.3662		1,257.8231	1,257.8231	0.0243		1,258.4296
Total	**0.5237**	**1.3737**	**3.6126**	**0.0152**	**1.4147**	**0.0120**	**1.4267**	**0.3768**	**0.0111**	**0.3879**		**1,552.0104**	**1,552.0104**	**0.0644**		**1,553.6196**

3.7 Building Construction - 1101 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1025	0.9597	1.1448	1.5300e-003		0.0593	0.0593		0.0546	0.0546		148.0308	148.0308	0.0479		149.2277
Total	**0.1025**	**0.9597**	**1.1448**	**1.5300e-003**		**0.0593**	**0.0593**		**0.0546**	**0.0546**		**148.0308**	**148.0308**	**0.0479**		**149.2277**

3.7 Building Construction - 1101 Sutter - 2023

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0239	0.8965	0.3455	2.5100e-003	0.0675	1.3600e-003	0.0688	0.0194	1.3000e-003	0.0207		286.8776	286.8776	0.0391		287.8557
Worker	0.4689	0.2640	3.0350	0.0121	1.3472	9.5400e-003	1.3568	0.3574	8.7800e-003	0.3661		1,209.2441	1,209.2441	0.0220		1,209.7932
Total	**0.4927**	**1.1604**	**3.3805**	**0.0146**	**1.4147**	**0.0109**	**1.4256**	**0.3768**	**0.0101**	**0.3868**		**1,496.1217**	**1,496.1217**	**0.0611**		**1,497.6489**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	0.1025	0.9597	1.1448	1.5300e-003		0.0593	0.0593		0.0546	0.0546	0.0000	148.0308	148.0308	0.0479		149.2277
Total	**0.1025**	**0.9597**	**1.1448**	**1.5300e-003**		**0.0593**	**0.0593**		**0.0546**	**0.0546**	**0.0000**	**148.0308**	**148.0308**	**0.0479**		**149.2277**

3.7 Building Construction - 1101 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0239	0.8965	0.3455	2.5100e-003	0.0675	1.3600e-003	0.0688	0.0194	1.3000e-003	0.0207		286.8776	286.8776	0.0391		287.8557
Worker	0.4689	0.2640	3.0350	0.0121	1.3472	9.5400e-003	1.3568	0.3574	8.7800e-003	0.3661		1,209.2441	1,209.2441	0.0220		1,209.7932
Total	**0.4927**	**1.1604**	**3.3805**	**0.0146**	**1.4147**	**0.0109**	**1.4256**	**0.3768**	**0.0101**	**0.3868**		**1,496.1217**	**1,496.1217**	**0.0611**		**1,497.6489**

3.8 Paving - 1101 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2028	1.8578	2.5011	3.7400e-003		0.0883	0.0883		0.0823	0.0823		345.7783	345.7783	0.1021		348.3314
Paving	8.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2113**	**1.8578**	**2.5011**	**3.7400e-003**		**0.0883**	**0.0883**		**0.0823**	**0.0823**		**345.7783**	**345.7783**	**0.1021**		**348.3314**

3.8 Paving - 1101 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0143	8.0500e-003	0.0925	3.7000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		36.8672	36.8672	6.7000e-004		36.8839
Total	**0.0143**	**8.0500e-003**	**0.0925**	**3.7000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**36.8672**	**36.8672**	**6.7000e-004**		**36.8839**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2028	1.8578	2.5011	3.7400e-003		0.0883	0.0883		0.0823	0.0823	0.0000	345.7783	345.7783	0.1021		348.3314
Paving	8.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2113**	**1.8578**	**2.5011**	**3.7400e-003**		**0.0883**	**0.0883**		**0.0823**	**0.0823**	**0.0000**	**345.7783**	**345.7783**	**0.1021**		**348.3314**

3.8 Paving - 1101 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0143	8.0500e-003	0.0925	3.7000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		36.8672	36.8672	6.7000e-004		36.8839
Total	**0.0143**	**8.0500e-003**	**0.0925**	**3.7000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**36.8672**	**36.8672**	**6.7000e-004**		**36.8839**

3.9 Architectural Coating - 1101 Sutter - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.5206					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944		375.2641	375.2641	0.0225		375.8253
Total	**9.7762**	**1.7373**	**2.4148**	**3.9600e-003**		**0.0944**	**0.0944**		**0.0944**	**0.0944**		**375.2641**	**375.2641**	**0.0225**		**375.8253**

3.9 Architectural Coating - 1101 Sutter - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0943	0.0531	0.6107	2.4400e-003	0.2711	1.9200e-003	0.2730	0.0719	1.7700e-003	0.0737		243.3235	243.3235	4.4200e-003		243.4340
Total	**0.0943**	**0.0531**	**0.6107**	**2.4400e-003**	**0.2711**	**1.9200e-003**	**0.2730**	**0.0719**	**1.7700e-003**	**0.0737**		**243.3235**	**243.3235**	**4.4200e-003**		**243.4340**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.5206					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944	0.0000	375.2641	375.2641	0.0225		375.8253
Total	**9.7762**	**1.7373**	**2.4148**	**3.9600e-003**		**0.0944**	**0.0944**		**0.0944**	**0.0944**	**0.0000**	**375.2641**	**375.2641**	**0.0225**		**375.8253**

3.9 Architectural Coating - 1101 Sutter - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0943	0.0531	0.6107	2.4400e-003	0.2711	1.9200e-003	0.2730	0.0719	1.7700e-003	0.0737		243.3235	243.3235	4.4200e-003		243.4340
Total	**0.0943**	**0.0531**	**0.6107**	**2.4400e-003**	**0.2711**	**1.9200e-003**	**0.2730**	**0.0719**	**1.7700e-003**	**0.0737**		**243.3235**	**243.3235**	**4.4200e-003**		**243.4340**

3.9 Architectural Coating - 1101 Sutter - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.5206					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812		375.2641	375.2641	0.0211		375.7923
Total	**9.7617**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**		**375.2641**	**375.2641**	**0.0211**		**375.7923**

3.9 Architectural Coating - 1101 Sutter - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0899	0.0483	0.5718	2.3400e-003	0.2711	1.9000e-003	0.2730	0.0719	1.7500e-003	0.0737		233.6368	233.6368	4.0100e-003		233.7371
Total	**0.0899**	**0.0483**	**0.5718**	**2.3400e-003**	**0.2711**	**1.9000e-003**	**0.2730**	**0.0719**	**1.7500e-003**	**0.0737**		**233.6368**	**233.6368**	**4.0100e-003**		**233.7371**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.5206					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812	0.0000	375.2641	375.2641	0.0211		375.7923
Total	**9.7617**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**	**0.0000**	**375.2641**	**375.2641**	**0.0211**		**375.7923**

3.9 Architectural Coating - 1101 Sutter - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0899	0.0483	0.5718	2.3400e-003	0.2711	1.9000e-003	0.2730	0.0719	1.7500e-003	0.0737		233.6368	233.6368	4.0100e-003		233.7371
Total	**0.0899**	**0.0483**	**0.5718**	**2.3400e-003**	**0.2711**	**1.9000e-003**	**0.2730**	**0.0719**	**1.7500e-003**	**0.0737**		**233.6368**	**233.6368**	**4.0100e-003**		**233.7371**

3.10 Architectural Coating - 1123 Sutter - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	30.4522					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812		375.2641	375.2641	0.0211		375.7923
Total	**30.6932**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**		**375.2641**	**375.2641**	**0.0211**		**375.7923**

3.10 Architectural Coating - 1123 Sutter - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0899	0.0483	0.5718	2.3400e-003	0.2711	1.9000e-003	0.2730	0.0719	1.7500e-003	0.0737		233.6368	233.6368	4.0100e-003		233.7371
Total	**0.0899**	**0.0483**	**0.5718**	**2.3400e-003**	**0.2711**	**1.9000e-003**	**0.2730**	**0.0719**	**1.7500e-003**	**0.0737**		**233.6368**	**233.6368**	**4.0100e-003**		**233.7371**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	30.4522					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812	0.0000	375.2641	375.2641	0.0211		375.7923
Total	**30.6932**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**	**0.0000**	**375.2641**	**375.2641**	**0.0211**		**375.7923**

3.10 Architectural Coating - 1123 Sutter - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0899	0.0483	0.5718	2.3400e-003	0.2711	1.9000e-003	0.2730	0.0719	1.7500e-003	0.0737		233.6368	233.6368	4.0100e-003		233.7371
Total	**0.0899**	**0.0483**	**0.5718**	**2.3400e-003**	**0.2711**	**1.9000e-003**	**0.2730**	**0.0719**	**1.7500e-003**	**0.0737**		**233.6368**	**233.6368**	**4.0100e-003**		**233.7371**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7267	2.8345	8.1734	0.0294	2.8339	0.0314	2.8652	0.7607	0.0293	0.7900		2,979.469 1	2,979.469 1	0.1261		2,982.621 1
Unmitigated	0.7267	2.8345	8.1734	0.0294	2.8339	0.0314	2.8652	0.7607	0.0293	0.7900		2,979.469 1	2,979.469 1	0.1261		2,982.621 1

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	358.90	427.35	312.65	836,243	836,243
Apartments Mid Rise	31.04	36.96	27.04	72,324	72,324
Day-Care Center	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	166.23	157.66	76.60	234,401	234,401
Total	556.17	621.97	416.29	1,142,967	1,142,967

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Apartments Mid Rise	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Day-Care Center	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Enclosed Parking with Elevator	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
General Office Building	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Health Club	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Parking Lot	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Strip Mall	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.7762	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919	0.0000	29.8716	29.8716	0.0287	0.0000	30.5886
Unmitigated	6.7762	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919	0.0000	29.8716	29.8716	0.0287	0.0000	30.5886

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9386					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.3387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.4989	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919		29.8716	29.8716	0.0287		30.5886
Total	**6.7763**	**0.1910**	**16.5816**	**8.8000e-004**		**0.0919**	**0.0919**		**0.0919**	**0.0919**	**0.0000**	**29.8716**	**29.8716**	**0.0287**	**0.0000**	**30.5886**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9386					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.3387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.4989	0.1910	16.5816	8.8000e-004		0.0919	0.0919		0.0919	0.0919		29.8716	29.8716	0.0287		30.5886
Total	**6.7763**	**0.1910**	**16.5816**	**8.8000e-004**		**0.0919**	**0.0919**		**0.0919**	**0.0919**	**0.0000**	**29.8716**	**29.8716**	**0.0287**	**0.0000**	**30.5886**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	2	50	1073	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (750 - 9999 HP)	3.5217	15.7490	8.9797	0.0169		0.5181	0.5181		0.5181	0.5181		1,801.5973	1,801.5973	0.2526		1,807.9119
Total	**3.5217**	**15.7490**	**8.9797**	**0.0169**		**0.5181**	**0.5181**		**0.5181**	**0.5181**		**1,801.5973**	**1,801.5973**	**0.2526**		**1,807.9119**

11.0 Vegetation

1101-1123 Sutter Street Existing Uses

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	15.72	1000sqft	0.48	15,720.00	0
Enclosed Parking Structure	121.00	Space	0.00	48,400.00	0
Parking Lot	23.00	Space	0.21	9,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 was adjusted based on PG&E's reported intensity for 2018 from the PG&E Corporate Responsibility and Sustainability Report (2020)

Land Use - Existing uses based on project description. The auto-repair shop at 1101 Sutter is not in operation, so it was not included in the analysis

Construction Phase - Modeling operations only

Off-road Equipment - Equipment based on applicant input

Trips and VMT - Modeling operations only

On-road Fugitive Dust - Modeling operations only

Demolition - Modeling operations only

Grading - Modeling operations only

Architectural Coating - Modeling operations only

Vehicle Trips - Adjusted trip rates based on SFCTA rates and splits for Auto and TNC/Taxi modes

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Road Dust - Defaults

Woodstoves -

Consumer Products - Defaults

Area Coating - Defaults

Landscape Equipment - Defaults

Energy Use - Selected "historical data" option for energy use, based on age of existing buildings

Water And Wastewater - Defaults

Solid Waste - Defaults

Construction Off-road Equipment Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Emergency Generators and Fire Pumps EF -

Off-road Equipment - Modeling operations only

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	2.63	2.63
tblEnergyUse	LightingElect	0.88	0.88
tblEnergyUse	T24E	3.92	3.92
tblLandUse	LotAcreage	0.36	0.48
tblLandUse	LotAcreage	1.09	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblVehicleTrips	ST_TR	2.46	0.66
tblVehicleTrips	SU_TR	1.05	0.28
tblVehicleTrips	WD_TR	11.03	2.97

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0747	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8500e-003	2.8500e-003	1.0000e-005	0.0000	3.0500e-003
Energy	2.0000e-003	0.0182	0.0153	1.1000e-004		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	71.5468	71.5468	7.6700e-003	1.8700e-003	72.2958
Mobile	0.0104	0.0414	0.1146	3.9000e-004	0.0317	5.4000e-004	0.0323	8.5500e-003	5.0000e-004	9.0500e-003	0.0000	35.3451	35.3451	1.5700e-003	0.0000	35.3844
Waste						0.0000	0.0000		0.0000	0.0000	2.9677	0.0000	2.9677	0.1754	0.0000	7.3524
Water						0.0000	0.0000		0.0000	0.0000	0.8864	1.9727	2.8591	0.0913	2.2100e-003	5.7998
Total	**0.0870**	**0.0596**	**0.1314**	**5.0000e-004**	**0.0317**	**1.9300e-003**	**0.0336**	**8.5500e-003**	**1.8900e-003**	**0.0104**	**3.8541**	**108.8674**	**112.7216**	**0.2760**	**4.0800e-003**	**120.8354**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0747	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8500e-003	2.8500e-003	1.0000e-005	0.0000	3.0500e-003
Energy	2.0000e-003	0.0182	0.0153	1.1000e-004		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	71.5468	71.5468	7.6700e-003	1.8700e-003	72.2958
Mobile	0.0104	0.0414	0.1146	3.9000e-004	0.0317	5.4000e-004	0.0323	8.5500e-003	5.0000e-004	9.0500e-003	0.0000	35.3451	35.3451	1.5700e-003	0.0000	35.3844
Waste						0.0000	0.0000		0.0000	0.0000	2.9677	0.0000	2.9677	0.1754	0.0000	7.3524
Water						0.0000	0.0000		0.0000	0.0000	0.8864	1.9727	2.8591	0.0913	2.2100e-003	5.7998
Total	**0.0870**	**0.0596**	**0.1314**	**5.0000e-004**	**0.0317**	**1.9300e-003**	**0.0336**	**8.5500e-003**	**1.8900e-003**	**0.0104**	**3.8541**	**108.8674**	**112.7216**	**0.2760**	**4.0800e-003**	**120.8354**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/2/2019	5/15/2019	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.21

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	6.00	97	0.37

<u>Trips and VMT</u>

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0104	0.0414	0.1146	3.9000e-004	0.0317	5.4000e-004	0.0323	8.5500e-003	5.0000e-004	9.0500e-003	0.0000	35.3451	35.3451	1.5700e-003	0.0000	35.3844
Unmitigated	0.0104	0.0414	0.1146	3.9000e-004	0.0317	5.4000e-004	0.0323	8.5500e-003	5.0000e-004	9.0500e-003	0.0000	35.3451	35.3451	1.5700e-003	0.0000	35.3844

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	46.69	10.38	4.40	84,740	84,740
Parking Lot	0.00	0.00	0.00		
Total	46.69	10.38	4.40	84,740	84,740

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460
General Office Building	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460
Parking Lot	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	51.7576	51.7576	7.2900e-003	1.5100e-003	52.3890
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	51.7576	51.7576	7.2900e-003	1.5100e-003	52.3890
NaturalGas Mitigated	2.0000e-003	0.0182	0.0153	1.1000e-004		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	19.7892	19.7892	3.8000e-004	3.6000e-004	19.9068
NaturalGas Unmitigated	2.0000e-003	0.0182	0.0153	1.1000e-004		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	19.7892	19.7892	3.8000e-004	3.6000e-004	19.9068

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	370835	2.0000e-003	0.0182	0.0153	1.1000e-004		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	19.7892	19.7892	3.8000e-004	3.6000e-004	19.9068
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.0000e-003**	**0.0182**	**0.0153**	**1.1000e-004**		**1.3800e-003**	**1.3800e-003**		**1.3800e-003**	**1.3800e-003**	**0.0000**	**19.7892**	**19.7892**	**3.8000e-004**	**3.6000e-004**	**19.9068**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	370835	2.0000e-003	0.0182	0.0153	1.1000e-004		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	19.7892	19.7892	3.8000e-004	3.6000e-004	19.9068
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.0000e-003**	**0.0182**	**0.0153**	**1.1000e-004**		**1.3800e-003**	**1.3800e-003**		**1.3800e-003**	**1.3800e-003**	**0.0000**	**19.7892**	**19.7892**	**3.8000e-004**	**3.6000e-004**	**19.9068**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	316970	29.6177	4.1700e-003	8.6000e-004	29.9790
General Office Building	228883	21.3869	3.0100e-003	6.2000e-004	21.6478
Parking Lot	8059.2	0.7531	1.1000e-004	2.0000e-005	0.7622
Total		**51.7576**	**7.2900e-003**	**1.5000e-003**	**52.3890**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	316970	29.6177	4.1700e-003	8.6000e-004	29.9790
General Office Building	228883	21.3869	3.0100e-003	6.2000e-004	21.6478
Parking Lot	8059.2	0.7531	1.1000e-004	2.0000e-005	0.7622
Total		**51.7576**	**7.2900e-003**	**1.5000e-003**	**52.3890**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0747	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8500e-003	2.8500e-003	1.0000e-005	0.0000	3.0500e-003
Unmitigated	0.0747	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8500e-003	2.8500e-003	1.0000e-005	0.0000	3.0500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.4000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0651					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8500e-003	2.8500e-003	1.0000e-005	0.0000	3.0500e-003
Total	**0.0747**	**1.0000e-005**	**1.4800e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.8500e-003**	**2.8500e-003**	**1.0000e-005**	**0.0000**	**3.0500e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.4000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0651					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8500e-003	2.8500e-003	1.0000e-005	0.0000	3.0500e-003
Total	**0.0747**	**1.0000e-005**	**1.4800e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.8500e-003**	**2.8500e-003**	**1.0000e-005**	**0.0000**	**3.0500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.8591	0.0913	2.2100e-003	5.7998
Unmitigated	2.8591	0.0913	2.2100e-003	5.7998

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	2.79397 / 1.71244	2.8591	0.0913	2.2100e-003	5.7998
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.8591**	**0.0913**	**2.2100e-003**	**5.7998**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	2.79397 / 1.71244	2.8591	0.0913	2.2100e-003	5.7998
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.8591**	**0.0913**	**2.2100e-003**	**5.7998**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.9677	0.1754	0.0000	7.3524
Unmitigated	2.9677	0.1754	0.0000	7.3524

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	14.62	2.9677	0.1754	0.0000	7.3524
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.9677**	**0.1754**	**0.0000**	**7.3524**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	14.62	2.9677	0.1754	0.0000	7.3524
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.9677**	**0.1754**	**0.0000**	**7.3524**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

1101-1123 Sutter Street Existing Uses

San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	15.72	1000sqft	0.48	15,720.00	0
Enclosed Parking Structure	121.00	Space	0.00	48,400.00	0
Parking Lot	23.00	Space	0.21	9,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 was adjusted based on PG&E's reported intensity for 2018 from the PG&E Corporate Responsibility and Sustainability Report (2020)

Land Use - Existing uses based on project description. The auto-repair shop at 1101 Sutter is not in operation, so it was not included in the analysis

Construction Phase - Modeling operations only

Off-road Equipment - Equipment based on applicant input

Trips and VMT - Modeling operations only

On-road Fugitive Dust - Modeling operations only

Demolition - Modeling operations only

Grading - Modeling operations only

Architectural Coating - Modeling operations only

Vehicle Trips - Adjusted trip rates based on SFCTA rates and splits for Auto and TNC/Taxi modes

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Road Dust - Defaults

Woodstoves -

Consumer Products - Defaults

Area Coating - Defaults

Landscape Equipment - Defaults

Energy Use - Selected "historical data" option for energy use, based on age of existing buildings

Water And Wastewater - Defaults

Solid Waste - Defaults

Construction Off-road Equipment Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Emergency Generators and Fire Pumps EF -

Off-road Equipment - Modeling operations only

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	2.63	2.63
tblEnergyUse	LightingElect	0.88	0.88
tblEnergyUse	T24E	3.92	3.92
tblLandUse	LotAcreage	0.36	0.48
tblLandUse	LotAcreage	1.09	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblVehicleTrips	ST_TR	2.46	0.66
tblVehicleTrips	SU_TR	1.05	0.28
tblVehicleTrips	WD_TR	11.03	2.97

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4099	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373
Energy	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380
Mobile	0.0816	0.2859	0.8428	2.9300e-003	0.2383	3.8700e-003	0.2422	0.0640	3.6400e-003	0.0677		295.8972	295.8972	0.0126		296.2124
Total	**0.5024**	**0.3856**	**0.9429**	**3.5300e-003**	**0.2383**	**0.0115**	**0.2498**	**0.0640**	**0.0113**	**0.0753**		**415.4599**	**415.4599**	**0.0150**	**2.1900e-003**	**416.4877**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4099	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373
Energy	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380
Mobile	0.0816	0.2859	0.8428	2.9300e-003	0.2383	3.8700e-003	0.2422	0.0640	3.6400e-003	0.0677		295.8972	295.8972	0.0126		296.2124
Total	**0.5024**	**0.3856**	**0.9429**	**3.5300e-003**	**0.2383**	**0.0115**	**0.2498**	**0.0640**	**0.0113**	**0.0753**		**415.4599**	**415.4599**	**0.0150**	**2.1900e-003**	**416.4877**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/2/2019	5/15/2019	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.21

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	0.0816	0.2859	0.8428	2.9300e-003	0.2383	3.8700e-003	0.2422	0.0640	3.6400e-003	0.0677		295.8972	295.8972	0.0126		296.2124
Unmitigated	0.0816	0.2859	0.8428	2.9300e-003	0.2383	3.8700e-003	0.2422	0.0640	3.6400e-003	0.0677		295.8972	295.8972	0.0126		296.2124

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	46.69	10.38	4.40	84,740	84,740
Parking Lot	0.00	0.00	0.00		
Total	46.69	10.38	4.40	84,740	84,740

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460
General Office Building	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460
Parking Lot	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380
NaturalGas Unmitigated	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1015.99	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0110**	**0.0996**	**0.0837**	**6.0000e-004**		**7.5700e-003**	**7.5700e-003**		**7.5700e-003**	**7.5700e-003**		**119.5277**	**119.5277**	**2.2900e-003**	**2.1900e-003**	**120.2380**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.01599	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0110**	**0.0996**	**0.0837**	**6.0000e-004**		**7.5700e-003**	**7.5700e-003**		**7.5700e-003**	**7.5700e-003**		**119.5277**	**119.5277**	**2.2900e-003**	**2.1900e-003**	**120.2380**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4099	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373
Unmitigated	0.4099	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0515					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3568					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.5400e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373
Total	**0.4099**	**1.5000e-004**	**0.0164**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**		**0.0350**	**0.0350**	**9.0000e-005**		**0.0373**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0515					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3568					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.5400e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373
Total	**0.4099**	**1.5000e-004**	**0.0164**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**		**0.0350**	**0.0350**	**9.0000e-005**		**0.0373**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

1101-1123 Sutter Street Existing Uses

San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	15.72	1000sqft	0.48	15,720.00	0
Enclosed Parking Structure	121.00	Space	0.00	48,400.00	0
Parking Lot	23.00	Space	0.21	9,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 was adjusted based on PG&E's reported intensity for 2018 from the PG&E Corporate Responsibility and Sustainability Report (2020)

Land Use - Existing uses based on project description. The auto-repair shop at 1101 Sutter is not in operation, so it was not included in the analysis

Construction Phase - Modeling operations only

Off-road Equipment - Equipment based on applicant input

Trips and VMT - Modeling operations only

On-road Fugitive Dust - Modeling operations only

Demolition - Modeling operations only

Grading - Modeling operations only

Architectural Coating - Modeling operations only

Vehicle Trips - Adjusted trip rates based on SFCTA rates and splits for Auto and TNC/Taxi modes

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Vehicle Emission Factors - Defaults

Road Dust - Defaults

Woodstoves -

Consumer Products - Defaults

Area Coating - Defaults

Landscape Equipment - Defaults

Energy Use - Selected "historical data" option for energy use, based on age of existing buildings

Water And Wastewater - Defaults

Solid Waste - Defaults

Construction Off-road Equipment Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Emergency Generators and Fire Pumps EF -

Off-road Equipment - Modeling operations only

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	2.63	2.63
tblEnergyUse	LightingElect	0.88	0.88
tblEnergyUse	T24E	3.92	3.92
tblLandUse	LotAcreage	0.36	0.48
tblLandUse	LotAcreage	1.09	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblVehicleTrips	ST_TR	2.46	0.66
tblVehicleTrips	SU_TR	1.05	0.28
tblVehicleTrips	WD_TR	11.03	2.97

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4099	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373
Energy	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380
Mobile	0.0757	0.3061	0.8635	2.7800e-003	0.2383	3.8900e-003	0.2422	0.0640	3.6600e-003	0.0677		281.4345	281.4345	0.0127		281.7523
Total	**0.4965**	**0.4059**	**0.9636**	**3.3800e-003**	**0.2383**	**0.0115**	**0.2499**	**0.0640**	**0.0113**	**0.0753**		**400.9972**	**400.9972**	**0.0151**	**2.1900e-003**	**402.0276**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4099	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373
Energy	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380
Mobile	0.0757	0.3061	0.8635	2.7800e-003	0.2383	3.8900e-003	0.2422	0.0640	3.6600e-003	0.0677		281.4345	281.4345	0.0127		281.7523
Total	**0.4965**	**0.4059**	**0.9636**	**3.3800e-003**	**0.2383**	**0.0115**	**0.2499**	**0.0640**	**0.0113**	**0.0753**		**400.9972**	**400.9972**	**0.0151**	**2.1900e-003**	**402.0276**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/2/2019	5/15/2019	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.21

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0757	0.3061	0.8635	2.7800e-003	0.2383	3.8900e-003	0.2422	0.0640	3.6600e-003	0.0677		281.4345	281.4345	0.0127		281.7523
Unmitigated	0.0757	0.3061	0.8635	2.7800e-003	0.2383	3.8900e-003	0.2422	0.0640	3.6600e-003	0.0677		281.4345	281.4345	0.0127		281.7523

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	46.69	10.38	4.40	84,740	84,740
Parking Lot	0.00	0.00	0.00		
Total	46.69	10.38	4.40	84,740	84,740

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460
General Office Building	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460
Parking Lot	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380
NaturalGas Unmitigated	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1015.99	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0110**	**0.0996**	**0.0837**	**6.0000e-004**		**7.5700e-003**	**7.5700e-003**		**7.5700e-003**	**7.5700e-003**		**119.5277**	**119.5277**	**2.2900e-003**	**2.1900e-003**	**120.2380**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.01599	0.0110	0.0996	0.0837	6.0000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003		119.5277	119.5277	2.2900e-003	2.1900e-003	120.2380
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0110**	**0.0996**	**0.0837**	**6.0000e-004**		**7.5700e-003**	**7.5700e-003**		**7.5700e-003**	**7.5700e-003**		**119.5277**	**119.5277**	**2.2900e-003**	**2.1900e-003**	**120.2380**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4099	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373
Unmitigated	0.4099	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0515					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3568					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.5400e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373
Total	**0.4099**	**1.5000e-004**	**0.0164**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**		**0.0350**	**0.0350**	**9.0000e-005**		**0.0373**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0515					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3568					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.5400e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0373
Total	**0.4099**	**1.5000e-004**	**0.0164**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**		**0.0350**	**0.0350**	**9.0000e-005**		**0.0373**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

1101-1123 Sutter Street Project

Construction Energy Demand

Construction Worker Gasoline Demand

Phase	Trips	Vehicle CO_2 (MT)	Kg CO2/Gallon	Gallons
Demolition - 1123 Sutter	200	0.70	8.78	79.42
Demolition - 1101 Sutter	300	1.05	8.78	119.12
Grading - 1123 Sutter	200	0.70	8.78	79.42
Building Construction - 1123 Sutter	88,560	296.64	8.78	33,785.96
Grading - 1101 Sutter	360	1.26	8.78	142.95
Building Construction - 1101 Sutter	50,840	172.50	8.78	19,647.13
Paving - 1101 Sutter	200	0.67	8.78	76.36
Architectural Coating - 1101 Sutter	1,320	4.27	8.78	486.36
Architectural Coating - 1123 Sutter	3,300	10.62	8.78	1,209.62
Total				**55,626.33**

Construction Haul Diesel Demand

Phase	Trips	Vehicle CO_2 (MT)	Kg CO2/Gallon	Gallons
Demolition - 1123 Sutter	207	107.25	10.21	10,504.79
Demolition - 1101 Sutter	39	20.21	10.21	1,979.17
Grading - 1123 Sutter	1,100	69.14	10.21	6,772.26
Building Construction - 1123 Sutter	0	0.00	10.21	0.00
Grading - 1101 Sutter	65	4.09	10.21	400.18
Building Construction - 1101 Sutter	0	0.00	10.21	0.00
Paving - 1101 Sutter	0	0.00	10.21	0.00
Architectural Coating - 1101 Sutter	0	0.00	10.21	0.00
Architectural Coating - 1123 Sutter	0	0.00	10.21	0.00
Total				**19,656.40**

Construction Vendor Diesel Demand

Phase	Trips	Vehicle CO_2 (MT)	Kg CO2/Gallon	Gallons
Demolition - 1123 Sutter	0	0.00	10.21	0.00
Demolition - 1101 Sutter	0	0.00	10.21	0.00
Grading - 1123 Sutter	0	0.00	10.21	0.00
Building Construction - 1123 Sutter	14,040	185.33	10.21	18,151.60
Grading - 1101 Sutter	0	0.00	10.21	0.00
Building Construction - 1101 Sutter	3,100	41.08	10.21	4,023.52
Paving - 1101 Sutter	0	0.00	10.21	0.00
Architectural Coating - 1101 Sutter	0	0.00	10.21	0.00
Architectural Coating - 1123 Sutter	0	0.00	10.21	0.00
Total				**22,175.11**

Construction Equipment Diesel Demand

Phase		Equipment CO_2 (MT)	Kg CO2/Gallon	Gallons
Demolition - 1123 Sutter		18.34	10.21	1,796.76
Demolition - 1101 Sutter		22.31	10.21	2,185.30
Grading - 1123 Sutter		18.34	10.21	1,796.76
Building Construction - 1123 Sutter		357.11	10.21	34,976.83
Grading - 1101 Sutter		76.93	10.21	7,534.47
Building Construction - 1101 Sutter		20.82	10.21	2,038.70
Paving - 1101 Sutter		6.27	10.21	614.47
Architectural Coating - 1101 Sutter		6.81	10.21	666.87
Architectural Coating - 1123 Sutter		17.02	10.21	1,667.16
Total				**53,277.30**

1101-1123 Sutter Street Project
On-Road Emission Factors

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Sub-Area
Region: San Francisco (SF)
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Lookup	Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Proportion	CO2_TOTEX
HHDTGAS	San Francisco (SF	2024	HHDT	Aggregated	Aggregated	GAS	2095.973098	2.34%	3.863917169
HHDTDSL	San Francisco (SF	2024	HHDT	Aggregated	Aggregated	DSL	87606.63971	97.66%	193.0059975
LDAGAS	San Francisco (SF	2024	LDA	Aggregated	Aggregated	GAS	5365326.144	98.69%	1656.315974
LDADSL	San Francisco (SF	2024	LDA	Aggregated	Aggregated	DSL	71027.61744	1.31%	20.59997244
LDT1GAS	San Francisco (SF	2024	LDT1	Aggregated	Aggregated	GAS	368882.7501	99.92%	132.1315626
LDT1DSL	San Francisco (SF	2024	LDT1	Aggregated	Aggregated	DSL	289.5402492	0.08%	0.110078381
LDT2GAS	San Francisco (SF	2024	LDT2	Aggregated	Aggregated	GAS	1860347.587	99.77%	747.4361778
LDT2DSL	San Francisco (SF	2024	LDT2	Aggregated	Aggregated	DSL	4364.317247	0.23%	1.643290469
LHDT1GAS	San Francisco (SF	2024	LHDT1	Aggregated	Aggregated	GAS	67629.18776	50.91%	64.72300979
LHDT1DSL	San Francisco (SF	2024	LHDT1	Aggregated	Aggregated	DSL	65209.45235	49.09%	39.41607916
LHDT2GAS	San Francisco (SF	2024	LHDT2	Aggregated	Aggregated	GAS	15130.85875	30.75%	15.69947862
LHDT2DSL	San Francisco (SF	2024	LHDT2	Aggregated	Aggregated	DSL	34070.77402	69.25%	22.95711192
MCYGAS	San Francisco (SF	2024	MCY	Aggregated	Aggregated	GAS	60677.8179	100.00%	13.92799199
MDVGAS	San Francisco (SF	2024	MDV	Aggregated	Aggregated	GAS	847572.8798	97.27%	451.392942
MDVDSL	San Francisco (SF	2024	MDV	Aggregated	Aggregated	DSL	23821.36797	2.73%	11.5861159
MHGAS	San Francisco (SF	2024	MH	Aggregated	Aggregated	GAS	3911.901977	77.71%	5.321894048
MHDSL	San Francisco (SF	2024	MH	Aggregated	Aggregated	DSL	1121.865726	22.29%	1.261525892
MHDTGAS	San Francisco (SF	2024	MHDT	Aggregated	Aggregated	GAS	23919.66083	7.91%	34.8708526
MHDTDSL	San Francisco (SF	2024	MHDT	Aggregated	Aggregated	DSL	278523.6438	92.09%	364.1616403
OBUSGAS	San Francisco (SF	2024	OBUS	Aggregated	Aggregated	GAS	12612.42349	30.35%	17.95234571
OBUSDSL	San Francisco (SF	2024	OBUS	Aggregated	Aggregated	DSL	28942.7636	69.65%	43.49962983
SBUSGAS	San Francisco (SF	2024	SBUS	Aggregated	Aggregated	GAS	3321.323908	36.26%	2.674712771
SBUSDSL	San Francisco (SF	2024	SBUS	Aggregated	Aggregated	DSL	5838.791854	63.74%	8.895398569
UBUSGAS	San Francisco (SF	2024	UBUS	Aggregated	Aggregated	GAS	7516.543636	21.83%	13.90144874
UBUSDSL	San Francisco (SF	2024	UBUS	Aggregated	Aggregated	DSL	26910.87336	78.17%	71.91346422

1101-1123 Sutter Street Project
On-Road Emission Factors

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Sub-Area
Region: San Francisco (SF)
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Lookup	Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	Proportion	CO2_TOTEX
HHDTGAS	San Francisco (SF	2020	HHDT	Aggregated	Aggregated	GAS	1645.571289	1.97%	3.112337242
HHDTDSL	San Francisco (SF	2020	HHDT	Aggregated	Aggregated	DSL	81759.7095	98.03%	196.2337662
LDAGAS	San Francisco (SF	2020	LDA	Aggregated	Aggregated	GAS	5560437.082	98.74%	1940.146382
LDADSL	San Francisco (SF	2020	LDA	Aggregated	Aggregated	DSL	70867.79925	1.26%	23.28344043
LDT1GAS	San Francisco (SF	2020	LDT1	Aggregated	Aggregated	GAS	390994.2276	99.90%	160.7698036
LDT1DSL	San Francisco (SF	2020	LDT1	Aggregated	Aggregated	DSL	397.9837573	0.10%	0.171813376
LDT2GAS	San Francisco (SF	2020	LDT2	Aggregated	Aggregated	GAS	1821383.224	99.77%	842.6483285
LDT2DSL	San Francisco (SF	2020	LDT2	Aggregated	Aggregated	DSL	4281.92126	0.23%	1.814628733
LHDT1GAS	San Francisco (SF	2020	LHDT1	Aggregated	Aggregated	GAS	86820.57235	59.04%	84.02975322
LHDT1DSL	San Francisco (SF	2020	LHDT1	Aggregated	Aggregated	DSL	60222.8888	40.96%	37.60615845
LHDT2GAS	San Francisco (SF	2020	LHDT2	Aggregated	Aggregated	GAS	15403.98236	33.13%	16.3370745
LHDT2DSL	San Francisco (SF	2020	LHDT2	Aggregated	Aggregated	DSL	31093.42381	66.87%	21.68386049
MCYGAS	San Francisco (SF	2020	MCY	Aggregated	Aggregated	GAS	66386.93302	100.00%	15.02023568
MDVGAS	San Francisco (SF	2020	MDV	Aggregated	Aggregated	GAS	814986.4378	97.38%	492.4976849
MDVDSL	San Francisco (SF	2020	MDV	Aggregated	Aggregated	DSL	21903.06808	2.62%	12.00542103
MHGAS	San Francisco (SF	2020	MH	Aggregated	Aggregated	GAS	3437.242458	78.12%	4.746276784
MHDSL	San Francisco (SF	2020	MH	Aggregated	Aggregated	DSL	962.5170887	21.88%	1.096027693
MHDTGAS	San Francisco (SF	2020	MHDT	Aggregated	Aggregated	GAS	27370.32967	10.55%	40.51155537
MHDTDSL	San Francisco (SF	2020	MHDT	Aggregated	Aggregated	DSL	232084.7169	89.45%	309.526192
OBUSGAS	San Francisco (SF	2020	OBUS	Aggregated	Aggregated	GAS	14373.65914	35.14%	20.79360674
OBUSDSL	San Francisco (SF	2020	OBUS	Aggregated	Aggregated	DSL	26524.78577	64.86%	41.11459357
SBUSGAS	San Francisco (SF	2020	SBUS	Aggregated	Aggregated	GAS	3057.429324	34.53%	2.474030562
SBUSDSL	San Francisco (SF	2020	SBUS	Aggregated	Aggregated	DSL	5796.53963	65.47%	8.918602957
UBUSGAS	San Francisco (SF	2020	UBUS	Aggregated	Aggregated	GAS	7207.658289	16.31%	13.53370196
UBUSDSL	San Francisco (SF	2020	UBUS	Aggregated	Aggregated	DSL	36983.11765	83.69%	99.9481518

1101-1123 Sutter Street Energy Adjustments

CalEEMod Default (2016 Title 24)

EnergyUseLandUseSubType	T24E	NT24E	LightingElect	T24NG	NT24NG
Apartments High Rise	426.45	3054.1	741.44	6115.43	2615
Apartments Mid Rise	426.45	3054.1	741.44	6115.43	2615
Day-Care Center	0.66	1.27	2.51	14.85	1.62
Enclosed Parking with Elevator	3.92	0.19	1.75	0	0
General Office Building	4.1	4.8	3.58	18.32	1.01
Health Club	1.21	3.36	2.99	17.85	6.9
Parking Lot	0	0	0.35	0	0
Strip Mall	2.24	3.36	4.88	3.9	0.7

Adjusted (2019 Title 24)

Mid-Rise Residential	78.7%	reduction
Non-Residential	10.7%	reduction

EnergyUseLandUseSubType	T24E	NT24E	LightingElect	T24NG	NT24NG
Apartments High Rise	380.82	3054.1	741.44	0	0
Apartments Mid Rise	90.83	3054.1	741.44	0	0
Day-Care Center	0.59	1.27	2.51	0	0
Enclosed Parking with Elevator	3.5	0.19	1.75	0	0
General Office Building	3.66	4.8	3.58	0	0
Health Club	1.08	3.36	2.99	0	0
Parking Lot	0	0	0.35	0	0
Strip Mall	2	3.36	4.88	0	0

NOTES

Per the CEC Impact Analysis for the 2019 Update to the California Energy Efficiency Standards for Residential and
Residential buildings over 4 stories are considered non-residential under the Title 24 standards

Title 24 Definition

CalEEMod default values for Non-Title 24 and Lighting. Adjustments to Title 24 values to reflect 2019 Title 24 compliance.

1101-1123 Sutter Street Project Electricity Increase from Zero Natural Gas Consumption Associated with Electric HVAC and Water Heating Systems

Land Use Type	Natural Gas Consumption			Equivalent Electricity Consumption	
	Total[1]	HVAC Systems[2,3]	Water Heaters[4,5]	HVAC Systems[6]	Water Heaters[7]
	(kBtu/yr)			(kWh/yr)	
Residential	1,759,687	820,894	938,793	229,850	178,371
Non-residential	433,148	226,277	206,872	63,357	39,306
Total Consumption for HVAC and Water Heating Systems		2,192,835		510,884	

Notes:
1 Data obtained from default energy CalEEMod run for the project.
2 Natural gas consumption for residential HVAC systems was estimated by scaling total residential natural gas usage in Pacific census division by a percentage of natural gas that is used for space heating as given in Table CE4.5 in the EIA's 2015 RECS Survey. Note, EIA data assumes that air conditioning (space cooling) does not utilize natural gas.
3 Natural gas consumption for non-residential HVAC systems was estimated by scaling total non-residential natural gas use by a percentage of natural gas that is used for space heating and cooling as calculated from the California CEUS data.
4 Natural gas consumption for residential water heating systems was estimated by scaling total residential natural gas usage in Pacific census division by a percentage of natural gas that is used for water heating as given in Table CE4.5 in the EIA's 2015 RECS Survey.
5 Natural gas consumption for non-residential water heating systems was estimated by scaling total non-residential natural gas use by a percentage of natural gas that is used for water heating as calculated from the California CEUS data.
6 Electricity that would be needed to achieve the same level of space heating as natural gas was estimated based on typical annual fuel utilization efficiencies (AFUE) of electric and natural gas furnaces.
7 Electricity that would be needed to achieve the same level of water heating as natural gas was estimated based on the electric and gas energy factors found in Office of Energy Efficiency and Renewable Energy's Energy Cost Calculator for Electric and Gas Water Heaters.

Adjusted to account for Increased Electricity

EnergyUseLandUseSubType	Size	Metric	T24E	NT24E	LightingElect
Apartments High Rise	185	Dwelling Un	1,503.04	3054.1	741.44
Apartments Mid Rise	16	Dwelling Un	358.49	3054.1	741.44
Day-Care Center	3650	SF	2.33	1.27	2.51
Enclosed Parking with Elevator	18530	SF	13.81	0.19	1.75
General Office Building	1999	SF	14.45	4.8	3.58
Health Club	12215	SF	4.26	3.36	2.99
Parking Lot	5600	SF	0.00	0	0.35
Strip Mall	6972	SF	7.89	3.36	4.88

1101-1123 Sutter Street Project
Operational Electricity

Total Electricity - Project

Total Electricity - Project	kWh/yr
Buildings	1,650,507.20
Water/Wastewater	109,230.37
Total	**1,759,737.57**

Total Electricity - Existing

Total Electricity - Existing	kWh/yr
Buildings	553,912.20
Water/Wastewater	21,111.71
Total	**575,023.91**

Electricity Intensity Factors - Water/Wastewater

Process	Units	
Supply	kwh/MG	2,117
Treat	kwh/MG	111
Distribute	kwh/MG	1,272
Wastewater Treatment	kwh/MG	1,911
Total	**kwh/MG**	**5,411**

* Electricity intensity factors from CalEEMod Appendix D for BAAQMD

Electricity Demand - Water/Wastewater - Project

	Units	Potable Water - Indoor	Potable Water - Outdoor	Total
Electricity Intensity Factor				
Supply	kwh/MG	2,117	2,117	N/A
Treat	kwh/MG	111	111	N/A
Distribute	kwh/MG	1,272	1,272	N/A
Wastewater Treatment	kwh/MG	1,911	-	N/A
Total	**kwh/MG**	**5,411**	**3,500**	N/A
Water Consumption - Project				
Project Water	MG/yr	14.85	8.26	23.10
Total	**MG/yr**	**14.8**	**8.3**	**23.1**
Electricity Usage - Project	**kwh/yr**	**80,334**	**28,897**	**109,230**

Electricity Demand - Water/Wastewater - Existing

	Units	Potable Water - Indoor	Potable Water - Outdoor	Total
Electricity Intensity Factor				
Supply	kwh/MG	2,117	2,117	N/A
Treat	kwh/MG	111	111	N/A
Distribute	kwh/MG	1,272	1,272	N/A
Wastewater Treatment	kwh/MG	1,911	-	N/A
Total	**kwh/MG**	**5,411**	**3,500**	N/A
Water Consumption - Existing				
Exsting Uses	MG/yr	2.79	1.71	4.51
Total	**MG/yr**	**2.8**	**1.7**	**4.5**
Electricity Usage - Existing	**kwh/yr**	**15,118**	**5,994**	**21,112**

ATTACHMENT C.

ENVIRONMENTAL NOISE AND VIBRATION ASSESSMENT

Environmental Noise and Vibration Assessment
for the
1101–1123 Sutter Street Project (Case No. 2019-022850ENV)
City of San Francisco, California

Prepared for:

San Francisco Planning Department, Environmental Planning Division

City and County of San Francisco
49 South Van Ness Avenue, Suite 1400
San Francisco, California 94103

Prepared by:

DUDEK
1630 San Pablo Avenue, Suite 300
Oakland, California 94612
Contact: Michael Carr, INCE

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ANSI	American National Standards Institute
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
dB	decibel
dBA	A-weighted decibel
ERO	environmental review officer
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	heating, ventilation, and air conditioning
in/sec	inches per second
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
PPV	peak particle velocity

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1 Introduction

This report reviews applicable noise standards and criteria, evaluates the existing noise environment, and describes modeling assumptions and methodologies used to predict noise impacts and effects associated with the proposed 1101–1123 Sutter Street Project (project). The report assesses the potential for project-generated noise levels to result in noise impacts on nearby noise-sensitive receptors and the compatibility of the proposed project with existing and future noise levels in the area. Measures are recommended to avoid the effects of temporary construction noise and vibration. Appendix A provides a discussion of acoustical fundamentals and terminology used in this memorandum. Appendix B presents the ambient noise data collected at the project site. Appendices C and D present the traffic noise modeling and traffic count data. Appendix E presents the cumulative projects considered in this analysis.

1.1 Noise Analysis Study Area

1101 Sutter Affordable LP proposes to develop the proposed project, which would rehabilitate the existing building at 1101 Sutter Street and demolish the existing building and surface parking lot at 1123 Sutter Street and construct a new 14-story, 150-foot-tall building (up to 161 feet to top of rooftop mechanical equipment) in the City and County of San Francisco (City), California. The site is bounded by Sutter Street to the north, Larkin Street to the east, and Hemlock Street to the south. The project location is shown on **Figure 1**.

The 1101 Sutter Street building was determined eligible for the National Register of Historic Places and the California Register of Historical Resources, and it is considered a historic resource under the California Environmental Quality Act (CEQA) (NPS 2019). The 1123 Sutter Street building was determined eligible for the California register and is also considered a historic resource under CEQA (Architectural Resources Group 2019).

With the exception of the adjacent building immediately west of the site (1151 Sutter Street), which is condominium built in 2009 with office space on the ground floor, the buildings adjacent to and across the street from the project site were constructed in the early 1900s (DOI 1991). Many of the buildings to the north, east, and south of the project site are contributors to the Lower Nob Hill Apartment Hotel Historic District, which is listed in the national register. However, the existing buildings on the project site are not contributors to this district, nor are other buildings on the block, west of the project site (DOI 1991).

1.2 Project Description

The proposed project would rehabilitate the existing building at 1101 Sutter Street and demolish the existing building and surface parking lot at 1123 Sutter Street and construct a new 14-story building. The two buildings would provide 201 residential units, approximately 13,000 square feet of commercial space, and approximately 13,000 square feet of open space. Each building would include a partial-below-grade-garage with access from Hemlock Street. Together, the two garages would provide 61 vehicle parking spaces. The proposed project would also provide 232 bicycle spaces, located inside of the garages and outside along Hemlock Street and Sutter Street. The site plan is shown in **Figure 2**.

The commercial space is anticipated to include three ground-floor retail spaces with frontages along Sutter Street, approximately 1,000 square feet of general commercial space with a frontage along Hemlock Street, and approximately 2,000 square feet of office space accessed from the main building entrance on Sutter Street. Additionally, 3,650 square feet are intended for use as a childcare facility with an outdoor childcare play area facing Hemlock Street.

The 1101 Sutter Street building is currently used as a parking garage and automobile repair facility (assessor land use: Garages(Commercial)) and would be rehabilitated with new uses within the existing building envelope. Minor rehabilitation and improvements would be necessary to facilitate the new proposed uses. The 1101 Sutter Street building would become a mixed-use residential building with approximately 4,369 square feet of ground floor commercial and office uses, and 16 residential units that would be located on the second and third floors. The existing partially-below-grade portion of the garage would remain as a garage, providing 28 vehicular parking spaces and 24 bicycle parking spaces.

The 1123 Sutter Street building would incorporate heating, ventilation, and air conditioning (HVAC) mechanical equipment and solar panels on the rooftop of 1123 Sutter Street, at an elevation of 150 feet above the Sutter Street grade, which would provide service to both 1101 and 1123 Sutter Street. The HVAC equipment would be shielded by a rooftop parapet and equipment enclosures that would reach up to 161 feet above the Sutter Street grade. In addition, a backup 800-kilowatt emergency diesel generator would serve both buildings and would be contained in an acoustic enclosure on the level seven deck, at a height of approximately 66 feet above the Sutter Street grade.

Each building associated with the proposed project would incorporate a separate parking garage. Both the vehicle parking and bicycle parking areas would be accessible from Hemlock Street. The garage for each building would serve as the primary collection location for garbage generated by the buildings; maintenance staff would move the garbage from both buildings for pickup at the curb along Hemlock Street. The parking garage at 1123 Sutter Street would contain an electrical room and fire room that would serve both buildings.

The project would reconfigure the on-street parking along Sutter, Larkin, and Hemlock streets in the immediate vicinity of the project, resulting in a net removal of six parking spaces and construction of two white-curb passenger loading zones. The six existing parking spaces adjacent to the project site along the south side of Sutter Street would be replaced with two loading zones and eight parking spaces (a net increase of two parking spaces). The three existing parking spaces adjacent to the project site along the west side of Larkin Street would be replaced with four parking spaces (a net increase of one parking space). The nine existing parking spaces adjacent to the project site on the south side of Hemlock Street would be eliminated to provide space for the sidewalk widening along Hemlock Street (a net reduction of nine parking spaces).

Construction of the proposed project is anticipated to begin in May 2022 and would occur over approximately 30 months. More specifically, it is anticipated that demolition and construction at 1123 Sutter Street would occur over approximately 30 months, while rehabilitation of 1101 Sutter Street would occur concurrently over a 22-month duration within the same 30-month period as construction of 1123 Sutter Street.

Construction activities at 1123 Sutter Street would generally entail the following phases: (1) site preparation and demolition, (2) excavation and shoring, (3) foundation and below-grade construction, (4) construction of the building, and (5) finishing of interiors. Construction activities at 1101 Sutter Street would generally include the following phases: (1) abatement and demolition, (2) excavation and structural upgrades, (3) construction of the interior components of the building, and (4) finishing of interiors and rehabilitation of the exterior.

At the 1123 Sutter Street lot, excavation would be required to approximately 18 feet below the Sutter Street grade (approximately 8 feet below the Hemlock Street grade) and an additional 5 feet at two locations for elevator pits. The foundation for 1123 Sutter Street is anticipated to be a mat slab foundation. At the 1101 Sutter Street lot, excavation would be required approximately 1 foot below the basement slab of the existing building (to approximately 13 feet below the Sutter Street grade and 3 feet below the Hemlock Street grade) to provide the necessary headroom between the top surface of the basement slab and the structure above, and an additional 3.5 to 5 feet at some locations for new footings and an elevator pit, respectively. Limited permeation grouting of the sand beneath the footings may be required to meet the bearing capacity recommendations for the building. A total of 9,320 cubic yards of soil would be off-hauled from the site.

Construction hours would typically be from 7 a.m. to 3:30 p.m., Monday through Friday. Limited evening work (3:30 p.m. to 5:30 p.m.) and work on Saturdays (7 a.m. to 3:30 p.m.) would be required. Pile driving would not be required for the construction activities at either 1101 or 1123 Sutter Street, although a shoring system involving soldier pile installation around the perimeter of the construction excavation area at 1123 Sutter Street may be required. The piles would be installed in pre-drilled holes and would not require the use of impact or vibratory driving methods (Rockridge Geotechnical 2020). The Preliminary Geotechnical Investigation Report (Rockridge Geotechnical 2020) recommends that, to reduce the potential for vibration-induced settlement of the foundations, heavy equipment should not be used within 10 horizontal feet from adjacent shallow foundations and basement walls. Jumping jack or hand-operated vibratory plate compactors should be used for compacting fill within this zone.

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2 Existing Noise Environment

The proposed project is located between the Polk Gulch and the Tenderloin areas within the Downtown/Civic Center neighborhood of the City. The project site is zoned NCD (Polk Street Neighborhood Commercial District), which has a dense mixed-use character consisting largely of buildings with residential units above ground-floor commercial uses. The project area has a number of existing noise sources that influence the ambient noise environment. The dominant noise source affecting the overall area is transportation noise, primarily generated from vehicular traffic on the local roadway network. In addition, there is general community noise associated with residents and visitors of the area participating in fitness/recreation activities, dining at restaurants, and having conversations.

The existing ambient noise environment in the project area was quantified through surveys of the existing ambient noise environment and through the application of accepted noise prediction methodologies, based on industry-standard references. Separate discussions of identified major noise sources and their respective effects are provided in the following sections.

2.1 Existing Sensitive Land Uses

Sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as uses where quiet is an essential element of the intended purpose. Land uses that are used for relaxation, rest, meditation, learning, and rehabilitative care are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. The City identifies noise-sensitive receptors as residential units, transient lodging, houses of worship, schools, libraries, hospitals, and childcare facilities.

Existing land uses within the plan area consist of residential, neighborhood commercial, light industrial, and mixed-use. Sensitive land uses in the vicinity of the proposed project are primarily multifamily residences and hotel and single room occupancy dwellings located north, east, south, and west of the project site. As shown in **Table 1**, 13 of the 15 structures that are adjacent or located across the street from the project site are classified as *A—Historic Resource Present*, based on San Francisco Planning Information (San Francisco Planning Department 2021). The nearest noise and vibration sensitive land uses are provided in **Table 1** and depicted on **Figure 2**.

Table 1. Existing Noise- and Vibration-Sensitive Receptors in the Project Vicinity

Receptor		Type of Sensitive Receptor	Distance from Project Site Boundary (Feet)	Historical Classification	Representative Ambient Monitoring Location
No.	*Address/APN*				
1	1158 Sutter Street, 0669/018-032	Condos	78	C	ST-1
2	1150 Sutter Street, 0669/009	Office	65	A	ST-1
3	1151 Sutter Street, 0692/020	Condos	0	C	ST-1/LT-1
4	1136-1144 Sutter Street, 0669/008	Apartments	65	A	ST-1
5	1122 Sutter Street, 0668/007	Apartments	65	A	ST-1
6	1114 Sutter Street, 0669/006	Apartments	65	A	ST-1

Table 1. Existing Noise- and Vibration-Sensitive Receptors in the Project Vicinity

Receptor		Type of Sensitive Receptor	Distance from Project Site Boundary (Feet)	Historical Classification	Representative Ambient Monitoring Location
No.	*Address/APN*				
7	1100-1104 Sutter Street, 0669/005	Hotel	65	A	ST-1
8	1112 Larkin Street, 0279/011A	Apartments	110	A	ST-1/ ST-2
9	1038-1098 Larkin Street, 0301/016	SRO	65	A	ST-1/ ST-2
10	1030 Larkin Street, 0301/015	Apartments	65	A	ST-2
11	1010 Post Street, 0692/003	Hotel	35	A	LT-1/ST-2
12	1020 Post Street, 0692/005	Apartments	35	A	LT-1
13	1030 Post Street, 0692/007	Apartments	35	A	LT-1
14	1050 Post Street, 0692/009	Apartments	35	A	LT-1
15	1080 Post Street, 0692/011	Apartments	40	A	LT-1

Sources: San Francisco Planning Department 2021 (for Historical Classification); Dudek analysis completed for this report.
Notes: APN = Assessor's Parcel Number; ST = short-term; LT = long-term; SRO = single resident occupancy.
Historical Classification A indicates the building is a historic resource. Historical Classification C indicates the building is not a historic resource. Surrounding A classified buildings are within the Lower Nob Hill Apartment Hotel Historic District.

2.2 Existing Ambient Noise Survey

An ambient noise survey was performed by Dudek from December 21, 2020, to December 22, 2020, to document the existing noise environment in the project area. Specific consideration was given to documenting noise levels in the vicinity of nearby noise-sensitive receptors and existing transportation noise levels in the project area. Noise measurements were performed in accordance with American National Standards Institute (ANSI) and American Standards for Testing and Measurement guidelines at three locations at or adjacent to the project site, shown on **Figure 1**. Long-term (24-hour) noise monitoring was performed at one location and short-term noise monitoring was conducted at two locations to provide insight into the existing ambient noise environment in the proposed project vicinity. The measured ambient noise levels are also representative of the noise level exposure at nearby noise-sensitive receptors with similar distances to the main noise sources (i.e., traffic/roadways), as shown on **Figure 2**. Ambient noise level data cataloged at the monitoring locations is summarized in **Table 2**; complete 24-hour noise level data is provided in Appendix B.

Noise measurements were performed using Soft dB Piccolo integrating sound level meters. Field calibrations were performed on the sound level meters with acoustic calibrators before and after the measurements. All instrumentation components, including microphones, preamplifiers, and field calibrators have laboratory-certified calibrations traceable to the National Institute of Standards and Technology. The equipment used meets all pertinent specifications of ANSI for Type 2 sound level meters (ANSI S1.4-1983 [R2006]). Meteorological conditions during the monitoring periods were stable with temperatures of 44°F during the overnight period and reaching 59°F; winds ranged from 0 mph to 10 mph during the daytime, with gusts up to 20 mph at night. The sky was overcast with no precipitation occurring during the monitoring period.

The primary noise source affecting the noise monitoring locations was vehicular traffic on the local roadway network. Additional noise sources experienced during the noise-monitoring program included emergency sirens, pedestrian activity, and commercial delivery activity.

Table 2. Summary of Ambient Noise Measurements

Site	Location	Date/ Time	Average Noise Levels (dBA)								
				Daytime				*Nighttime*			
			L_{dn}	L_{eq}	L_{max}	L_{50}	L_{90}	L_{eq}	L_{max}	L_{50}	L_{90}
***Long-Term Monitoring*[1]**											
LT-1	Southern property plane adjacent to Hemlock Alley	12/21/20–12/22/20	67.7	63.3	83.0	55.3	51.5	60.8	82.5	49.1	45.5
***Short-Term Monitoring*[2]**											
ST-1	Northern property plane, adjacent to Sutter St.	12/21/20 3:40 p.m.	70.6	69.9	94.7	58.9	52.7	—	—	—	—
ST-2	Larkin Street/Hemlock Alley, at setback of eastern property plane	12/21/20 4:10 p.m.	71.9	64.9	83.5	59.9	55.3	—	—	—	—

Source: Dudek analysis completed for this report.
Notes: dBA = A-weighted decibels; L_{dn} = Day Night noise level; L_{eq} = average equivalent noise level; L_{max} = maximum noise level; L_{50} = sound level exceeded 50 percent of the period; L_{90} = sound level exceeded 90 percent of the period.
Locations of noise monitoring sites are shown on **Figure 1**.
1 Long-term monitoring is presented for 24 hours, December 21 through December 22, 2020.
2 L_{dn} at short-term monitoring locations interpolated from short-term and long-term data.

2.3 Existing Traffic Noise

Observations and cataloged noise level data collected during the ambient noise survey indicate that the noise level exposure at receptors in the area surrounding the project site is primarily attributable to vehicular traffic. Both Sutter and Larkin Streets are heavily trafficked one-way streets with three travel lanes and on-street parking lanes on both sides of the roadway. The magnitude of the noise level exposure at each receptor location would be dependent on the relative distance from nearby roadways to noise measurement locations, the volume of vehicles on the roadway, and shielding provided by nearby structures.

With the implementation of 2020–2021 shelter-in-place orders (SFDPH 2021), regional stay-at-home orders, and other precautions necessary to aid in controlling the 2019 novel coronavirus disease (COVID-19) pandemic, current traffic volumes have been reduced relative to pre-COVID-19 volumes. In order to establish traffic volumes that are more consistent with pre-COVID-19 volumes on adjacent roadways (referred to herein as adjusted 2020 volumes), traffic count data was commissioned by Dudek in December 2020 and compared to pre-COVID-19 counts.

Pre-COVID-19 counts in the project vicinity were available along Post Street (eastbound one-way street) between Gough Street and Franklin Street from January 2020 (identified as No. 4 in **Table 3**) and along Larkin Street (northbound one-way street) between Sutter Street and Bush Street from October 2016 (identified as No. 5 in **Table 3**). Traffic volumes along Larkin Street were adjusted to the year 2020 using an annual growth rate of 1.6 percent based on the annual household and employment growth over 30 years in the "Big 3 Cities" per Plan Bay Area 2040 (**Tables 4.2** and **4.3** in MTC 2017).

Counts collected in December 2020 at the same locations were compared to these 2020 pre-COVID volumes. This comparison shows that the December 2020 traffic volumes have been reduced to approximately 65 percent of pre-COVID-19 volumes (see Appendix D).

In addition, traffic volume counts were taken in December 2020 for Sutter Street, Larkin Street, and Hemlock Street adjacent to the project site (December 2020 counts). All December 2020 counts were performed during the regional stay-at-home order. The December 2020 counts were adjusted to account for the observed difference between historical traffic volumes and the December 2020 counts as described above, to provide an estimate of traffic volumes not affected by COVID-19 shelter-in-place orders (adjusted 2020 volumes). The average daily traffic volumes for both December 2020 volumes and adjusted 2020 volumes are presented in **Table 3**.

Table 3. December 2020 and Adjusted 2020 Traffic Volumes in the Project Vicinity

Roadway		Direction	ADT Volumes	
No.	***Segment***		***December 2020***	***Adjusted 2020***
Adjacent Roadways to Project Site				
1	Sutter Street, Larkin Street to Polk Street	one-way (westbound)	6,466	10,614
2	Larkin Street, Sutter Street to Hemlock Street	one-way (northbound)	5,276	8,709
3	Hemlock Street, Larkin Street to Polk Street	one-way (eastbound)	284	467
Other Roadways				
4	Post Street, Gough Street to Franklin Street	one-way (eastbound)	3,760	6,172
5	Larkin Street, Sutter Street to Bush Street	one-way (northbound)	5,999	9,903

Source: Traffic count data is presented in Appendix D.
Notes: ADT = Average Daily Traffic volumes
December 2020 ADT volumes were adjusted to account for the reduced traffic volumes resulting from Shelter-in-Place and regional stay-orders are a result of the COVID-19 pandemic.

SOURCE: Esri Clarity Basemap 2020, San Francisco County 2020

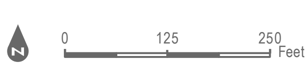

FIGURE 1

Project Vicinity and Noise Monitoring Locations

1101-1123 Sutter Street Project Noise Study

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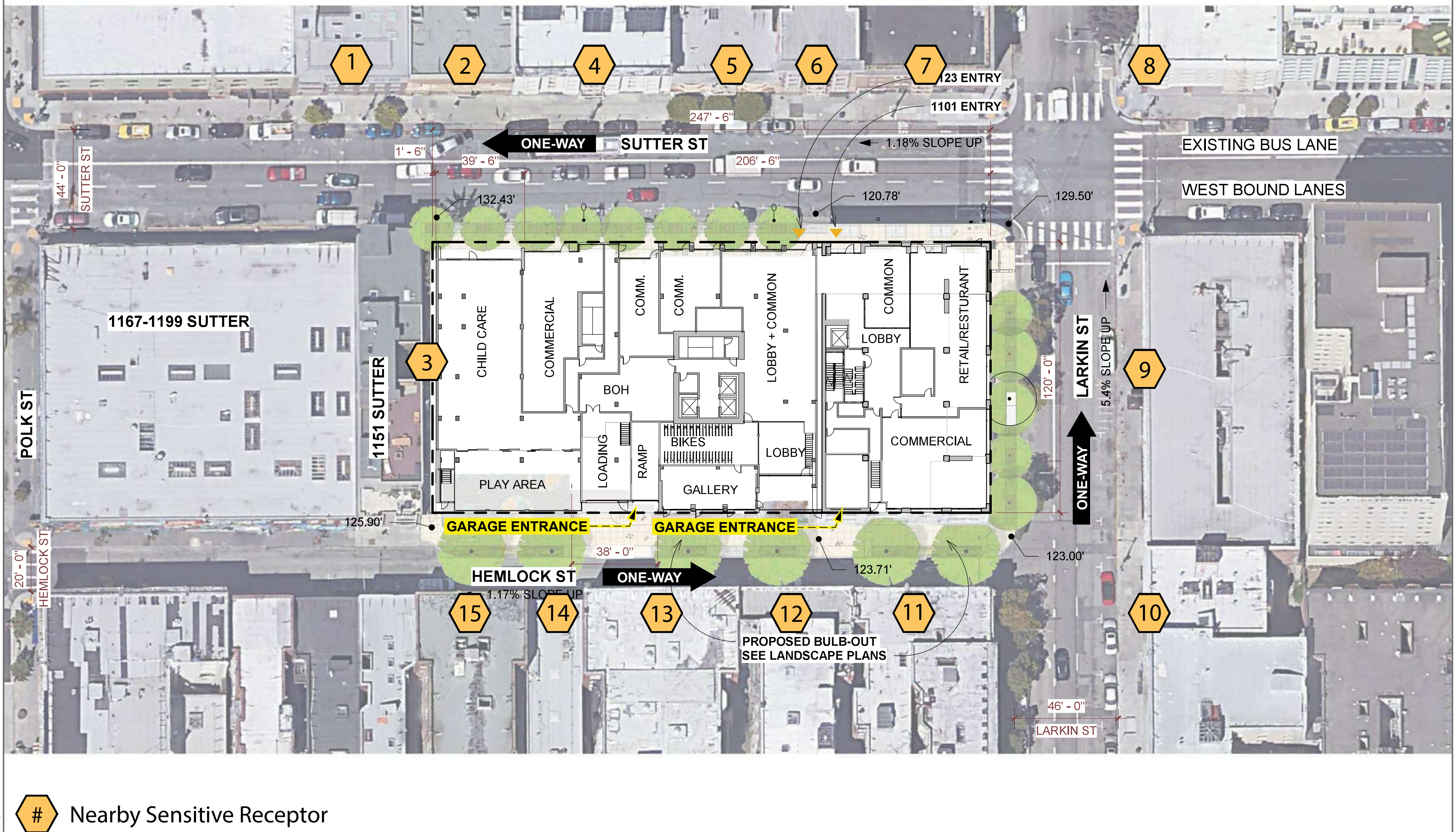

SOURCE: David Baker Architects 2020

FIGURE 2

Proposed Site Plan and Nearby Sensitive Receptors

1101-1123 Sutter Street Project Noise Study

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To determine existing traffic noise levels, the average daily traffic volumes for the roadway segments immediately adjacent to the project site were used as inputs to the Federal Highway Administration (FHWA) Traffic Noise Model (version 2.5) prediction methodologies (FHWA 1998) within the SoundPLAN modeling environment. The FHWA Traffic Noise Model incorporates sound emissions and sound propagation algorithms based on well-established theory and accepted international standards. The acoustical algorithms contained within the FHWA Traffic Noise Model have been validated with respect to carefully conducted noise measurement programs and show comparable agreement in most cases for sites with and without noise barriers. The noise modeling accounted for factors such as vehicle volume, speed, vehicle type, roadway configuration, distance to the receiver, and propagation over different types of ground (acoustically soft and hard ground).

In order to ensure that modeled existing traffic noise levels correlate with measured traffic noise levels, observations and data collected during short-term noise monitoring was used to calibrate the traffic model. Modeled average traffic noise levels were found to be reasonably consistent with traffic noise measurements conducted at the project site, only over-predicting traffic noise levels by less than 1 decibel (dB). As a 1 dB difference between measured and predicted noise levels is within the tolerances of the traffic noise prediction model and the calibration methodology provided by the California Department of Transportation (Caltrans) (Caltrans 2020a), calibration offsets were not applied to the model.

Modeled existing traffic noise levels are summarized in **Table 4**. The traffic noise levels were modeled at receivers representing the building facades of noise-sensitive receptors adjacent to the respective roadway segments. As shown in **Table 4**, existing traffic noise levels at the building facades of noise-sensitive land uses adjacent to area roadway segments were modeled to range from approximately 64 to 76 A-weighted decibels (dBA) day-night sound level (L_{dn}) under the December 2020 conditions and approximately 66 to 78 dBA L_{dn} for traffic volumes adjusted to represent adjusted 2020 conditions.

Table 4. Summary of Modeled Existing Traffic Noise Levels in the Project Vicinity

Receiver		ADT Volumes		Distance to Centerline	Modeled Traffic Noise Level, dBA Ldn	
No.	***Description***	***December 2020***	***Adjusted 2020***		***December 2020***	***Adjusted 2020***
Adjacent Roadways to Project Site						
1	Sutter Street, Larkin Street to Polk Street	6,466	10,614	27.5	75.7	77.8
2	Larkin Street, Sutter Street to Hemlock Street	5,276	8,709	33.5	73.9	76.1
3	Hemlock Street, Larkin Street to Polk Street	284	467	17	64.2	66.4
Other Roadways						
4	Post Street, Gough Street to Franklin Street	3,760	6,172	33.5	72.5	74.6
5	Larkin Street, Sutter Street to Bush Street	5,999	9,903	33.5	74.5	76.7

Source: Traffic modeling inputs and results are provided in Appendix C.
Notes: ADT = average daily traffic; dBA = A-weighted decibels; L_{dn} = average day-night noise level.
ADT volumes based on data provided by the project traffic consultant. The modeling did not account for shielding provided by natural or man-made intervening objects.

2.4 Existing Aircraft Operations

There are no operational public use airports in the vicinity of the project site. The project site is approximately 10 nautical miles north of the San Francisco International Airport and 10 nautical miles northwest of the Oakland International Airport and is not located within any currently adopted 60 or 65 dB community noise equivalent level\L_{dn} airport noise contours (San Francisco International Airport 2018; Oakland International Airport 2020). As such, noise associated with existing and future aircraft operations in the area is not a substantial contributor to the ambient noise environment.

2.5 Existing Vibration

There are no major sources of groundborne vibration in the project area. Transportation-related vibration from roadways in the vicinity of the project site is the primary source of groundborne vibration. Heavy truck traffic can generate groundborne vibration, which varies considerably depending on vehicle type, weight, and pavement conditions. However, groundborne vibration levels generated from vehicular traffic are not typically perceptible outside of the roadway right-of-way.

3 Regulatory Criteria

Various public agencies have established noise guidelines and standards to protect citizens from potential hearing damage and other adverse physiological and sociological effects associated with noise. Applicable standards and guidelines are described below.

3.1 Federal Transportation Administration

The Federal Transit Administration (FTA) has developed general assessment criteria for analyzing construction noise. This assessment analyzes a reasonable worst-case scenario based on simultaneous operation of the two noisiest pieces of equipment operating in close proximity to each other. The general assessment criteria for construction noise limits are summarized in **Table 5**.

Table 5. Federal Transit Administration General Assessment Criteria for Construction Noise

Land Use	One-Hour L_{eq} dBA	
	Day	***Night***
Residential	90	80
Commercial	100	100
Industrial	100	100

Source: FTA 2018.
Note: L_{eq} = equivalent sound level; dBA = A-weighted decibels.

In addition, the FTA construction noise criteria include an assessment of whether or not an increase in the ambient noise level greater than 10 dBA would occur with operation of the combined noise from the two noisiest pieces of equipment. A 10 dBA increase in the ambient noise level would represent a doubling of loudness.

3.2 California Department of Transportation

Caltrans provides a review of studies pertaining to the effects of groundborne noise and vibration levels associated with construction and operation of transportation infrastructure. Based on the literature review, Caltrans provides *Guideline Vibration Threshold Criteria* with respect to potential structural damage; these criteria are shown in **Table 6**.

Table 6. Guideline Vibration Damage Potential Threshold Criteria

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

Source: Caltrans 2020b.
Notes: PPV = peak particle velocity; in/sec = inches per second.

Transient sources create a single, isolated vibration event (e.g., blasting or drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

3.3 City and County of San Francisco General Plan

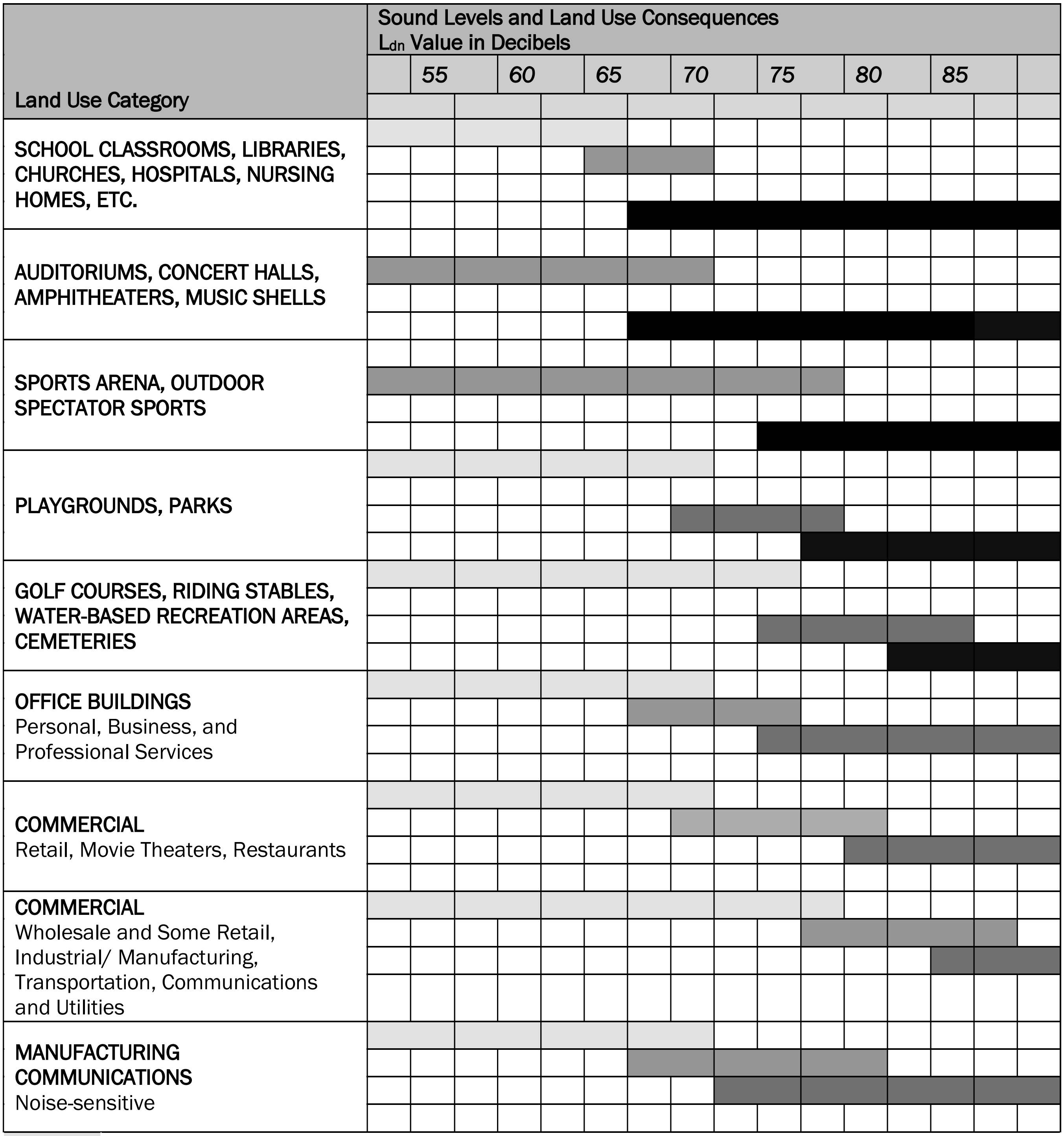
The San Francisco General Plan Environmental Protection Element contains objectives and policies for avoiding or reducing noise in the City within Objectives 9, 10, and 11. Objective 9 focuses on achieving an environment where transportation noise would not interfere with the health and welfare of the citizens of San Francisco. Objective 10 focuses on blocking the exposure to excessive noise within the City. Objective 11 focuses on promoting land uses that are compatible with noise levels within the City (see **Table 7**). The following policies presented below are applicable to the proposed project:

> **Objective 11 – Promote Land Uses That Are Compatible with Various Transportation Noise Levels.**
>
> Because transportation noise is going to remain a problem for many years to come, attention must be given to the activities close to the noise. In general, the most noise-sensitive activities or land uses should ideally be the farthest removed from the noisy transportation facilities. Conversely, those activities that are not seriously affected by high outside noise levels can be located near these facilities.
>
> **POLICY 11.1 – Discourage new uses in areas in which the noise level exceeds the noise compatibility guidelines for that use.**
>
> New development should be examined to determine whether background and/or thoroughfare noise level of the site is consistent with the guidelines for the proposed use. If the noise levels for the development site, as shown on maps 1 and 2 (which should be revised periodically to keep them current), exceed the sound level guidelines established for that use, as shown in the accompanying land use compatibility chart, then either needed noise insulation features should be incorporated in the design or else the construction or development should not be undertaken. Since the sound levels shown on the maps are estimates based on both traffic data and on a sample of sound level readings, actual sound levels for the site, determined by accepted measurement techniques, may be substituted for them.

Table 7. Land Use Compatibility Chart for Community Noise

Land Use Category	Sound Levels and Land Use Consequences L_{dn} Value in Decibels							
		55	60	65	70	75	80	85
RESIDENTIAL All Dwellings, Group Quarters								
TRANSIENT LODGING Hotels, Motels								

Table 7. Land Use Compatibility Chart for Community Noise



Satisfactory, with no special noise insulation requirements.

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features including in the design.

New construction or development should generally be discouraged. If new construction or development does not proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Table 7. Land Use Compatibility Chart for Community Noise

Land Use Category	Sound Levels and Land Use Consequences L_{dn} Value in Decibels							
		55	60	65	70	75	80	85

New construction or development should generally not be undertaken.

Source: City of San Francisco 2004.
Note: L_{dn} = day-night sound level.

3.4 City and County of San Francisco Police Code

The San Francisco Noise Control Ordinance is found in article 29, Regulation of Noise, of the San Francisco Police Code. The noise ordinance recognizes that adverse community effects can arise as a result of elevated noise levels attributable to noise sources that may include transportation, construction, mechanical equipment or devices, and entertainment venues. The noise ordinance is used to implement and enforce the City's policy to "maintain noise levels in areas with existing healthful and acceptable levels of noise and to reduce noise levels, through all practicable means" in areas where noise levels have exceeded what has been deemed acceptable.

The sections of the noise ordinance applicable to the proposed project are as follows:

> **Section 2907. Construction equipment.**
>
> (a) Except as provided for in Subsections (b), (c), and (d) hereof, it shall be unlawful for any person to operate any powered construction equipment if the operation of such equipment emits noise at a level in excess of 80 dBA when measured at a distance of 100 feet from such equipment, or an equivalent sound level at some other convenient distance.
>
> (b) The provisions of Subsections (a) of this Section shall not be applicable to impact tools and equipment, provided that such impact tools and equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation, and that pavement breakers and jackhammers shall also be equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation.
>
> (c) The provisions of Subsection (a) of this Section shall not be applicable to construction equipment used in connection with emergency work.
>
> (d) Helicopters shall not be used for construction purposes for more than two hours in any single day or more than four hours in any single week.
>
> **Section 2908. Construction Work at Night.**
>
> It shall be unlawful for any person, between the hours of 8:00 p.m. of any day and 7:00 a.m. of the following day to erect, construct, demolish, excavate for, alter or repair any building or structure if

the noise level created thereby is in excess of the ambient noise level by 5 dBA at the nearest property plane, unless a special permit therefor has been applied for and granted by the Director of Public Works or the Director of Building Inspection. In granting such special permit the Director of Public Works or the Director of Building Inspection shall consider: if construction noise in the vicinity of the proposed work site would be less objectionable at night than during daytime because of different population levels or different neighboring activities if obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during daytime; if the kind of work to be performed emits noises at such a low level as to not cause significant disturbance in the vicinity of the work site, if the neighborhood of the proposed work site is primarily residential in character wherein sleep could be disturbed: if great economic hardship would occur if the work were spread over a longer timers if the work will abate or prevent hazard to life or property; and if the proposed night work is in the general public interest. The Director of Public Works or the Director of Building Inspection shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise emissions, as required in the public interest.

The provisions of this Section shall not be applicable to emergency work.

Section 2909. Noise limits.

(a) Residential Property Noise Limits.

(1) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on residential property over which the person has ownership or control, a noise level more than five dBA above the ambient at any point outside of the property plane.

(2) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on multi-unit residential property over which the person has ownership or control, a noise level more than five dBA above the local ambient three feet from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located.

(b) Commercial and Industrial Property Noise Limits. No person shall produce or allow to be produced by any machine or device, music or entertainment or any combination of same, on commercial or industrial property over which the person has ownership or control, a noise level more than eight dBA above the local ambient at any point outside of the property plane. With respect to noise generated from a licensed Place of Entertainment, in addition to the above dBA criteria a secondary low frequency dBC criteria shall apply to the definition above. No noise or music associated with a licensed Place of Entertainment shall exceed the low frequency ambient noise level defined in Section 2901(f) by more than 8 dBC.

(c) Public Property Noise Limits. No person shall produce or allow to be produced by any machine or device, or any combination of same, on public property, a noise level more than ten dBA above the local ambient at a distance of twenty-five feet or more, unless the machine or device is being operated to serve or maintain the property or as otherwise provided in this Article.

(d) Fixed Residential Interior Noise Limits. In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

(e) Noise Caused by Activities Subject to Permits from the City and County of San Francisco. None of the noise limits set forth in this Section apply to activity for which the City and County of San Francisco has issued a permit that contains noise limit provisions that are different from those set forth in this Article.

4 Project Analysis

4.1 Construction Noise

Development of the proposed project would generate noise levels associated with the operation of heavy construction equipment and construction-related activities in the project area. Construction noise levels in the project area would fluctuate depending on the particular type, number, and duration of usage for the various pieces of equipment, as well as the relative exposure and distance between the source and receptors.

As previously discussed, the proposed project construction is anticipated to begin May 2022 and continue for approximately 30 months. The construction activities are anticipated to typically occur between 7 a.m. and 3:30 p.m., Monday through Friday, with limited work occurring during the evening hours of 3:30 p.m. to 5:30 p.m. and on Saturday during daytime hours (7 a.m. to 3:30 p.m.). Nighttime construction activities are not anticipated. As such, the analysis focuses on daytime construction activities.

Proposed project construction operations would be subject to the police code threshold of 80 dBA at 100 feet (equivalent to 86 dBA at 50 feet) and the FTA's daytime thresholds of 90 dBA equivalent sound level (L_{eq}) at the nearest noise-sensitive receptor. The proposed project construction operations would also be considered potentially significant if they would result in an increase in the ambient noise environment of more than 10 dBA. The police code threshold is evaluated based on the maximum noise level produced by construction equipment used for the project. The evaluation against the FTA threshold is based on the combined noise levels of the two loudest pieces of equipment, their anticipated location on the construction site, and the distance to the nearest noise-sensitive receptor.

The effects of construction noise depend largely on the types of construction activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment in the vicinity of the receiver. Construction generally occurs in several discrete stages, with each stage varying the equipment mix and the associated noise. These stages alter the characteristics of the noise environment generated on the project site and in the surrounding community for the duration of the construction stage.

Based on information provided by the Project sponsor, construction will occur in six stages: demolition, site preparation, grading, building construction, architectural coating and paving. The demolition, site preparation, and grading stages are typically found to generate the highest noise levels because of the construction activities and heavy equipment used. Erection of large structural elements and mechanical system installation during the building construction stage could require the use of a crane for placement and assembly tasks, which may also generate substantial noise. **Table 8** lists maximum reference noise levels typically generated by construction equipment that the project sponsor anticipates would be used for the construction of the Project.

Depending on the equipment types and operations being performed, construction equipment can be considered to operate in two modes, mobile and stationary. Mobile equipment sources move around a construction site performing tasks in a recurring manner (e.g., loaders, graders, dozers). Stationary equipment operates in a given location for an extended period of time to perform continuous or periodic operations. Thus, it is necessary to determine the location of stationary sources during specific phases and the effective acoustical center of operations for mobile equipment during various stages of the construction process. The effective acoustical center is the idealized point from which the energy sum of all construction activity noise near and far would appear to originate.

Operational characteristics of heavy construction equipment are additionally typified by short periods of full-power operation followed by periods of operation at lower power, idling, or powered-off conditions. These characteristics are accounted for within the prediction model, through the application of typical acoustical usage factors (operational percentage) to the reference maximum noise levels presented in **Table 8.**

Table 8. Noise Emission Levels from Construction Equipment

Equipment Type	Acoustical Usage Factors (%)	Maximum Noise Levels, L_{max} (dBA) at 50 feet
Air Compressor	40	80
Backhoe	40	80
Compactor	20	80
Concrete Pump Truck	20	82
Concrete Saw	20	**90**
Crane, Mobile	16	85
Dozer	40	85
Excavator	40	81
Forklift	40	85
Front-End Loader	40	80
Generator	50	82
Grader	40	85
Hoe Ram	20	**90**
Grader	40	85
Jackhammer	20	**89**
Paver	50	85
Roller	40	85
Scraper	40	85
Tractor	40	84
Trucks	40	84
Welder	40	84

Sources: DOT 2006; FHWA 2008.
Notes: L_{max} = maximum noise level; dBA = A-weighted decibels.
All equipment fitted with a properly maintained and operational noise control device, per manufacturer specifications.
Noise levels in **bold** exceed the noise ordinance section 2907(a) limit of 86 dBA at 50 feet, but some of the exceedances are from impact equipment exempt from this limit provided that the impact tools are fitted with intake and exhaust mufflers and pavement breakers and jackhammers are fitted with recommended acoustically attenuating shields or shrouds.

San Francisco Police Code

As shown in **Table 8**, reference noise levels measured at 50 feet from three individual pieces of construction equipment would exceed the 86 dBA at 50 feet (equivalent to 80 dBA at 100 feet) threshold established within police code article 29, section 2907(a). The construction operations that would exceed the police code threshold are the use of a concrete saw, hoe ram (mounted impact hammer), and jackhammer.

Impact tools and equipment, such as the hoe ram or jackhammer, are exempt from the provisions of section 2907, providing that the tools and equipment have intake and exhaust mufflers and be equipment with acoustical shields or shrouds determined to provide accomplish maximum noise attenuation for the application.

Should concrete saws be necessary, they would typically be considered intermittent or temporary as they are used for short durations at targeted locations typically shielded by on-site intervening elements (e.g., building envelope, façade elements, large on-site equipment). However, based on a standard attenuation rate of 6 dB per doubling of distance, operations involving the use of a concrete saw with direct exposure and within 125 feet of nearby noise-sensitive receptors would result in noise level exposures exceeding the thresholds in police code section 2907(a). Therefore, the proposed project would require implementation of the noise control measures presented in section 5, Recommended Noise Reduction Measures, to address construction operations involving concrete saws. With implementation of the recommend noise control measures, the proposed project would comply with police code section 2907 criteria.

Combined Construction Noise Analysis

The combined hourly average noise levels attributable to the loudest two pieces of construction equipment associated with the proposed project construction activities were calculated based on the reference noise levels, usage rates, and operational characteristics discussed above and presented in **Table 8**. Construction noise levels were predicted using reference noise emission data and operational parameters contained in the FHWA *Roadway Construction Noise Model*, the FTA guidance manual, and typical construction fleet assumptions. The noise-sensitive receptor located nearest to the acoustical center of the construction operations is along the western property plane, adjoining 1151 Sutter Street (residential condominium). The lowest daytime ambient noise level measured at the LT-1 monitoring location, which is representative of noise levels at the southwest property plane, was approximately 53 dBA. The combined construction noise level and the increase over ambient noise levels are presented by construction stage in **Table 9**.

As indicated in **Table 9**, noise levels for typical construction activities are predicted to generate noise levels ranging from approximately 73 to 78 dBA at the nearest noise-sensitive receptor at the western property plane. Therefore, daytime combined construction noise levels would comply with the FTA threshold of 90 dBA L_{eq}.

Based on the lowest measured daytime ambient noise levels at the location representative of the nearest noise-sensitive receptor and the modeled combined construction noise levels, the proposed project construction operations would exceed the existing ambient noise levels by approximately 20 to 25 dB. This would exceed the 10 dB increase above ambient noise levels by 10 to 15 dB. It should be noted that, as with existing traffic volumes (see section 2.3), the existing ambient noise levels presented in **Table 9** are lower than those that were experienced during pre-COVID-19 conditions. As such, the increases shown above the existing ambient levels are conservative, since the ambient noise levels during pre-COVID-19 conditions would be elevated due to increases in traffic volumes.

Based on the increase above ambient noise levels at nearby noise-sensitive receptors (shown on **Figure 2**), the proposed project construction activities, and the uncertainty in the difference between current conditions (December 2020) and pre-COVID measured conditions, it is recommended that the noise control measures presented in section 5 be incorporated in the project. These measures would reduce project-generated construction noise at the nearest noise-sensitive receptor that adjoins the project site to the west (1151 Sutter Street).

As shown on **Figure 2**, noise-sensitive receptors are also located across Sutter Street to the north, across Larkin Street to the east, and across Hemlock Street to the south. These noise-sensitive receptors are located farther from the project site than 1151 Sutter Street, as shown in **Table 1**, and therefore would experience lower noise levels. Consequently, the recommended noise reduction measures implemented to reduce construction noise exposure at 1151 Sutter Street would also reduce construction noise at the noise-sensitive receptors to the north, east, and south.

Construction/rehabilitation activities at 1101 Sutter Street would primarily occur within the building, resulting in lower construction noise levels than presented here, which assume demolition, grading, and building construction across the entire project site. The existing building at 1101 Sutter Street would also provide some shielding from construction activities at 1123 Sutter Street for sensitive receptors to the east of the project site. These considerations, which would further reduce noise levels beyond those presented here, are not included in the analysis and, as such, the discussion is conservative.

Table 9. Construction Noise Model Results Summary

Construction Stage	Two Loudest Pieces of Equipment	Noise Level at Nearest Receptor[1] (western property plan) dBA		
		Estimated Construction Combined Noise Levels (L_{eq})	*Existing Ambient Noise Levels*	*Increase over Ambient*
Demolition	Concrete Saw Excavator	77.5	53.2	**24.3**
Site Preparation	Grader Dozer	76.4	53.2	**23.2**
Grading	Concrete Saw Excavator	77.5	53.2	**24.3**
Building Construction	Crane Tractor	74.2	53.2	**21.0**
Architectural Coating	Compressor Generator	73.2	53.2	**20.0**
Paving	Paver Roller	75.8	53.2	**22.6**

Source: Dudek analysis completed for this report.
Notes: dBA = A-weighted decibels; L_{eq} = equivalent sound level.
Bold indicates that the modeled combined construction noise levels exceed the respective criteria; an absolute threshold of 90 dBA Leq or an increase in the ambient noise environment exceeding 10 dB.
1 Nearest receptor is 1151 Sutter Street, a residential condominium, at the western edge of the project site.

4.2 Construction Vibration

Construction activities on the project site may result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. For the potential for continuous/frequent intermittent vibration to result in damage to structures, Caltrans indicates a threshold of 0.25 inches per second (in/sec) peak particle velocity (PPV) for “historic and some old buildings” and 0.5 in/sec PPV for “new residential construction” (Caltrans 2020b).

The structure nearest the proposed project site is 1151 Sutter Street, which is non-historic and utilized modern construction techniques. The relevant threshold to protect against structural damage is Caltrans’ 0.5 in/sec PPV. 1158 Sutter Street is also classified as non-historic and subject to the 0.5 in/sec PPV threshold. These nearby receptors are represented as receptors 1 and 3 on **Figure 2**.

Other sensitive receptors to the north, east, and south are buildings that are part of the Lower Nob Hill Apartment Hotel District, the majority of which are classified as historic resources by the City of San Francisco Property Information Map (City of San Francisco 2020b). These buildings are across Sutter, Larkin, and Hemlock streets from the project site and are not immediately adjacent to the site. The relevant threshold to protect against damage would be the Caltrans threshold of 0.25 in/sec PPV. The closest of these structures are buildings to the south across Hemlock Street (1010–1080 Post Street, shown as receptors 11 through 15 on **Figure 2**); these structures are approximately 35 feet from the project's southern property plane.

Vibration impacts to structures are usually significant if construction vibration could potentially result in structural or cosmetic damage or, in the case of a historic resource, materially alter the resource pursuant to CEQA Guidelines section 15064.5. Representative groundborne vibration levels for various types of construction equipment that may be associated with the proposed project, based on construction assumptions provided by the project sponsor, are summarized below in **Table 10** at a reference distance of 25 feet (FTA 2018).

Groundborne vibration attenuates rapidly, even over short distances, with vibration levels varying depending on soil conditions, construction methods, and the equipment used. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. Based on the 25-foot reference levels, construction vibration levels were calculated based on standard Caltrans and FTA equations at distances of 5 feet to represent the immediately adjacent building to the west, 35 feet to represent the structures to the south across Hemlock Street described above, and 65 feet to represent the vibration at the nearest structures to the north and east of the project site, many of which are also part of the historic Lower Nob Hill Apartment Hotel District.

Table 10. Representative Vibration Levels for Construction Equipment

Equipment	PPV (in/sec)			
	25 feet (Reference Level)	*5 feet[1,2]*	*35 feet[1,3]*	*65 feet[1,4]*
Hydraulic Breaker/Hoe Ram	0.089	**0.995**	0.054	0.021
Large Bulldozer	0.089	**0.995**	0.054	0.021
Heavy-duty Trucks (Loaded)	0.076	**0.850**	0.046	0.018
Jackhammer	0.035	0.391	0.021	0.008
Small Bulldozer	0.003	0.034	0.002	0.001

Source: FTA 2018.
Notes: PPV = peak particle velocity; in/sec = inches per second.
Bold indicates that the estimated vibration exceeds the 0.25 in/sec PPV criteria for "historic and some old buildings" or the 0.5 in/sec PPV criteria for "new residential construction." The applicable threshold is further explained in the notes below.

1 Vibration levels can be approximated at other locations and distances using the above reference levels and the following equation: $PPVequip = PPVref (25/D)^{1.5}$ (in/sec); where "PPV ref" is the given reference value in the above table (25-feet), "D" is the distance for the equipment to the new receiver in feet.
2 Representative of the exposure of the western property plane and 1151 Sutter Street. Subject to the 0.5 in/sec PPV threshold.
3 Representative of sensitive receptors located south across Hemlock Street. Subject to the 0.25 in/sec PPV threshold.
4 Representative of sensitive receptors located north across Sutter Street and east across Larkin Street. Subject to the 0.25 in/sec PPV threshold.

Project construction activities, such as the use of mounted hydraulic breakers (hoe-rams), large bulldozers and similar equipment (e.g., tracked vehicles, compactors), caisson drilling, loaded trucks, and jackhammers may generate substantial vibration at receptors immediately adjacent to the project site at the nearest receptor (1151

Sutter Street). Some activities would potentially occur as close as approximately 5 feet, and at this distance vibration levels due to construction are calculated to reach up to approximately 1 in/sec PPV, which would exceed the applicable 0.5 in/sec PPV threshold for the potential to damage new residential structures at the western property plane. Therefore, implementation of a series of recommended construction vibration controls is discussed in section 5; these controls would avoid substantial adverse vibration effects on adjacent buildings.

Project-generated groundborne noise and vibration levels at nearby sensitive receptors that are historic structures are not predicted to exceed the Caltrans recommended damage criteria of 0.25 in/sec PPV for the potential to damage "historic and some older buildings" (Caltrans 2020b). At these locations, and in other surrounding areas where vibration would not be expected to cause cosmetic damage, vibration levels may still be perceptible. However, as with any type of construction, perceptible vibration would be anticipated. Given the intermittent and short duration of the construction stages with the highest potential of producing vibration (use of jackhammers and other high-power tools), the use of administrative controls, such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration during hours with the least potential to affect nearby sensitive receptors, would minimize annoyance due to perceptible vibration. In addition, people are generally more sensitive to vibration during nighttime hours than during daytime hours, and no nighttime construction is planned.

4.3 Traffic Noise

A permanent increase in noise levels due to project-generated traffic volumes would be considered significant if the project would result in an increase in the ambient noise environment of more than 5 dBA for ambient levels below 60 dBA L_{dn} or more than 3 dBA for ambient noise levels above 60 dBA L_{dn}. Residences near the project site are exposed to existing noise levels greater than 60 dBA L_{dn}; therefore, a significant noise increase would occur if project-generated traffic would permanently increase noise levels by 3 dBA L_{dn}. A 3 dBA L_{dn} noise increase would be expected if the project would double existing traffic volumes along a roadway. Traffic volumes for the December 2020 conditions, adjusted 2020 conditions, and project-generated trips are presented in **Table 11**, along with the relative increase in noise levels that would result from the project trips.

Table 11. Project Generated Traffic Noise Increase

Roadway		ADT Volumes			Increase in dB	
No.	***Segment***	***December 2020***	***Adjusted 2020***	***Project Trips***	***December 2020***	***Adjusted 2020***
Adjacent Roadways to Project Site						
1	Sutter Street, Larkin Street to Polk Street	6,466	10,614	132	0.1	0.1
2	Larkin Street, Sutter Street to Hemlock Street	5,276	8,709	145	0.1	0.1
3	Hemlock Street, Larkin Street to Polk Street	284	467	218	2.5	1.7

Source: Traffic count data is presented in Appendix D.
Note: ADT = Average Daily Traffic volumes; dB = decibels.

As shown in **Table 11**, the vehicle trips associated with the proposed project would not result in a doubling of traffic volumes on roadways in the project vicinity under the December 2020 condition or under the adjusted 2020 conditions. Under the more conservative December 2020 conditions with lower traffic volumes, the greatest increase associated with project-generated trips would result in an increase of 2.5 dB on Hemlock Street. Therefore, implementation and development of the project is not projected to result in an increase in traffic noise levels of 3 dB L_{dn} or more at noise-sensitive receptors along local area roadways or contribute significantly to further degradation of the ambient noise environment.

4.4 Stationary Noise Sources – Mechanical Equipment

Facility mechanical equipment associated with the operation of commercial retail and office uses generally includes HVAC equipment, backup generators, and various fans, pumps, and compressors that often can be significant noise sources. Mechanical equipment is often mounted on rooftops, partially enclosed at grade adjacent to buildings, or located within mechanical equipment rooms. Noise levels generated by the HVAC and other mechanical equipment vary significantly depending on unit size, efficiency, location, type of rotating or reciprocating components, and orientation of openings.

HVAC equipment which would serve both of the proposed project buildings would be located within the rooftop parapet and behind rooftop mechanical equipment screens at the proposed 1123 Sutter Street building. 1101 Sutter Street would be served by one 6-ton packaged roof top unit for the residential units and one 2-ton roof top unit for the corridors. 1123 Sutter Street would be served by two 17.5-ton roof top units for the residential units and one 6-ton roof top unit for the corridors. Since specific manufacturers and models have not yet been determined, sound level data for Trane packaged roof top units were used as reference sound level inputs for the noise prediction model.

A backup 800-kilowatt emergency diesel generator would serve both 1101 and 1123 Sutter Street and would be contained in an acoustic enclosure on the level 7 deck at a height of approximately 66 feet above the Sutter Street grade. Because the generator would be contained in an acoustic enclosure designed to limit noise exposure both at the level 7 deck and surrounding area and because the operation of the generator would be limited to periodic testing and for emergencies resulting from a power outage, it would not be a substantial source of noise to the surrounding community. The reference sound power levels and operational characteristics were entered into the computerized noise simulation model developed for the project and calculated at the property plane of nearest noise-sensitive receptors. Modeled noise levels associated with the proposed project's stationary mechanical equipment are presented in **Table 12.**

Table 12. Modeled Mechanical Noise Levels

Receiver Description	Noise Level, L_{eq} dBA	
	Daytime	*Nighttime*
1151 Sutter Property Plane	46.5	46.5
Property Plane North of Sutter Street	41.5	41.5
Property Plane East of Larkin Street	33.1	33.1
Property Plane south of Hemlock Street	35.2	35.2

Notes: Leq = average equivalent noise level; dBA = A-weighted decibels.

As shown in **Table 12**, stationary mechanical noise levels associated with the proposed project are calculated to range from approximately 33 to 47 dBA L_{eq} at the property plane of the nearby noise-sensitive receptors. Existing ambient noise levels measured at the LT-1 monitoring location, which is representative of noise levels at the southwestern property plane, reached approximately 51 dBA Leq during the quietest hourly period. Operation noise levels due to roof-top mechanical equipment would not exceed ambient noise conditions by 5 dBA nor produce noise levels that would exceed 45 dBA inside the nearest residences between the hours of 10 p.m. to 7 a.m. or 55 dBA between the hours of 7 a.m. to 10 p.m. with windows open.

5 Cumulative Analysis

5.1 Cumulative Construction Noise

The cumulative setting for noise impacts includes a 0.25-mile buffer around the project site. Cumulative projects proposed within this buffer were qualitatively evaluated to determine if noise levels produced by the proposed project and cumulative projects could combine and result in noticeably higher construction noise levels at nearby sensitive receptors. The cumulative projects are shown in Appendix E on **Figure E-1** and listed in **Table E-1**. The nearest cumulative project that would have the potential to contribute to the cumulative noise environment would be the 80-foot-tall mixed-use building located at 955 Post Street; which is approximately 300 feet southwest of the project site with existing structures directly between the two, including the 5-story multi-family residential building at the northeast corner of Larkin and Post Streets (1000 - 10014 Larking Street/982 984 Post Street). Other projects on the cumulative list are located too far from the project site, with a significant number of intervening structures, which would limit the ability for noise levels to combine in the cumulative environment.

Cumulative noise increases associated with construction of the proposed project and 955 Post Street could occur if this project were to be constructed at the same time and affect the sensitive receptors between the two sites. However, given the distance between the two projects, intervening structures, and existing background noise sources, construction noise levels generated by project construction would not combine to result in noise levels exceeding the noise level thresholds of 10 dBA above ambient or 90 dBA. Additionally, both projects would be required to comply with the noise ordinance. code.

5.2 Cumulative Construction Vibration

Vibration effects are highly localized, and vibration attenuates rapidly from the source. Therefore, vibration impacts attributable to vibration generating activities generally would be limited to buildings and structures adjacent to the project site. Implementation of the recommended reduction measures for the proposed project would reduce the project-related groundborne noise and vibration levels to below the Caltrans recommended damage thresholds. Due to vibration effects being highly localized and the rapid attenuation of rates, vibration levels generated by the proposed project would not combine with those of the closest cumulative projects (955 Post Street and 1033 Polk Street) to result in cumulative vibration effects that would damage nearby buildings, including at 1151 Sutter which would require vibration reduction measures to reduce vibration impacts.

5.3 Cumulative Traffic Noise

As cumulative development projects are completed, the additional vehicular trips generated by the projects would increase traffic noise levels to some degree. Cumulative projects with the potential to generate significant vehicular trips on area roadways include the mixed-use developments located at 955 Post Street, 1200 Van Ness Avenue, and 921 O'Farrell. The Transportation Study Determination Request for 955 Post Street illustrates that the Travel Demand Tool estimates a total vehicle trips of 143 associated with the project[1]. The Travel Demand Tool for 1200 Van Ness estimates a total number of 543 vehicle trips would be associated with the project. For 921 O'Farrell, the

[1] The San Francisco County Transportation Authority, Travel Demand Tool is located at: https://sftraveldemand.sfcta.org/

Travel Demand Tool estimated a total of 86 vehicle trips would be associated with 921 O'Farrell. Based on the estimated total vehicle trips associated with the cumulative projects the projects would not generate the doubling of traffic volumes that would be necessary to result in a 3 dB increase in traffic noise levels on the roadway segments adjacent to the proposed project. Additionally, with the distance between the proposed project and the other cumulative projects, vehicle trips would be distributed across the roadway network as they disperse from the origin. This distribution of trips would result in further reductions in the effect of the cumulative traffic volumes on the cumulative noise environment.

5.4 Cumulative Operational Noise

Operational/stationary noise sources associated with the cumulative projects would be required to comply with the police code, similar to the proposed project. If operational noise sources associated with cumulative projects were located in close proximity, it would be possible for the sound levels to combine and result in elevated noise levels. However, due to the distance between the proposed project and the other cumulative projects and the typical attenuation rate for operational/stationary noise sources of 6 dB per doubling of distance, sound levels generated by the proposed project would attenuate to less than background ambient noise levels and not contribute to a combined cumulative noise environment.

6 Recommended Noise and Vibration Reduction Measures

6.1 Noise Reduction

Measure–1 Construction Noise Control

Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific 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 a performance target of construction activities not resulting in a noise level greater than 90 dBA at noise-sensitive receptors and 10 dBA above the ambient noise level at noise-sensitive receptors. The property owner shall ensure that requirements of the construction noise control plan are included in contract specifications. 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. The construction noise control plan shall include the following measures to the degree feasible, or other effective measures, to reduce construction noise levels:

- Use construction equipment that is in good working order and inspect mufflers for proper functionality.
- Select quiet construction methods and equipment (e.g., improved mufflers, use of intake silencers, engine enclosures).
- Use construction equipment with lower noise emission ratings whenever possible, particularly for air compressors.
- Prohibit the idling of inactive construction equipment for more than five minutes.
- Locate stationary noise sources (such as compressors) as far from nearby noise-sensitive receptors as possible, muffle such noise sources, and construct barriers around such sources and/or the construction site.
- 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.
- 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.
- 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 is dense enough to attenuate noise.

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:

- Designation of an on-site construction noise manager for the project
- 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., pier drilling, pile driving, and

other activities that may generate noise levels greater than 90 dBA at noise sensitive receptors) about the estimated duration of the activity

- A sign posted on site describing noise complaint procedures and a complaint hotline number that shall always be answered during construction
- A procedure for notifying the planning department of any noise complaints within one week of receiving a complaint
- 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 (residences, hospitals, convalescent homes, schools, places of worship, hotels and motels, and sensitive wildlife habitat)
- 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

6.2 Noise Reduction Measure–2 Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction

Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific pre-construction survey and vibration management plan to the environmental review officer (ERO) or the ERO's designee for approval. The plan shall identify all feasible means to avoid damage to the potentially affected building at 1151 Sutter Street. The project sponsor shall ensure that the following requirements of the pre-construction survey and vibration management plan are included in contract specifications, as necessary.

Pre-Construction Survey. Prior to the start of any ground-disturbing activity, the project sponsor shall engage a consultant to undertake a pre-construction survey of the potentially affected building at 1151 Sutter Street. If potentially affected buildings and/or structures are not potentially historic, a structural engineer or other professional with similar qualifications shall document and photograph the existing conditions of the potentially affected buildings and/or structures. The project sponsor shall submit the survey to the ERO or the ERO's designee for review and approval prior to the start of vibration-generating construction activity.

Vibration Management and Monitoring Plan. The project sponsor shall undertake a vibration management and monitoring plan to avoid or reduce project-related construction vibration damage to adjacent buildings and/or structures and to ensure that any such damage is documented and repaired. The vibration management and monitoring plan shall apply to all potentially affected buildings and/or structures at 1151 Sutter Street. Prior to issuance of any demolition or building permit, the project sponsor shall submit the vibration management and monitoring plan that lays out the monitoring program to the ERO for approval.

The vibration management and monitoring plan shall include, at a minimum, the following components, as applicable:

- **Maximum Vibration Level.** Based on the anticipated construction and condition of the affected buildings and/or structures on adjacent properties, a qualified acoustical/vibration consultant in coordination with a structural engineer (or professional with similar qualifications) shall establish a maximum vibration level that shall not be exceeded at each building/structure on adjacent properties, based on existing conditions, character-defining features, soil conditions, and anticipated construction practices (a PPV of 0.5 in/sec for new residential structures and modern industrial/commercial buildings).

- **Vibration-Generating Equipment.** The plan shall identify all vibration-generating equipment to be used during construction (including, but not limited to site preparation, clearing, demolition, excavation, shoring, foundation installation, and building construction).
- **Alternative Construction Equipment and Techniques.** The plan shall identify potential alternative equipment and techniques that could be implemented if construction vibration levels are observed in excess of the established standard (e.g., 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).
- **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,
- **Vibration Monitoring.** The plan shall identify the method and equipment for vibration monitoring. To ensure that construction vibration levels do not exceed the established standard, the acoustical/vibration consultant shall monitor vibration levels at each affected building and/or structure on adjacent properties (as allowed by property owners) and prohibit vibratory construction activities that generate vibration levels in excess of the standard. Vibration monitoring shall occur at the beginning of major construction phases and during high-intensity construction activities to determine effectiveness of vibration attenuation measures and, if necessary, implement additional noise control measures.
  - Should construction vibration levels be observed in excess of the standards established in the plan, the contractor(s) shall halt construction and put alternative construction techniques identified in the plan into practice, to the extent feasible.
  - The structural engineer shall inspect each affected building and/or structure (as allowed by property owners) in the event the construction activities exceed the established standards.
  - If vibration has damaged nearby buildings and/or structures that are not historic, the structural engineer shall immediately notify the ERO and prepare a damage report documenting the features of the building and/or structure that have been damaged.
  - If no damage has occurred to nearby buildings and/or structures, then the structural engineer shall submit a report to the ERO (and preservation staff, if needed) for review. This report shall identify and summarize the vibration level exceedances and describe the actions taken to reduce vibration.
  - Following incorporation of the alternative construction techniques and/or planning department review of the damage report, vibration monitoring shall recommence to ensure that vibration levels at each affected building and/or structure on adjacent properties are not exceeded.

Periodic Inspections. The plan shall identify the intervals and parties responsible for periodic inspections. The structural engineer (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 and reporting shall occur.

Repair Damage. The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their pre-construction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site.

Vibration Monitoring Results Report. After construction is complete, the project sponsor shall submit a final report from structural engineer (for effects on historic and non-historic buildings and/or structures) to the planning department. 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 planning department shall review and approve the vibration monitoring results report.

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Appendix A

Acoustic Fundamentals and Terminology

Acoustic Fundamentals

Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise; consequently, the perception of sound is subjective in nature, and can vary substantially from person to person. Common sources of environmental noise and relative noise levels are shown in Figure A-1.

A sound wave is initiated in a medium by a vibrating object (e.g., vocal chords, the string of a guitar, the diaphragm of a radio speaker). The wave consists of minute variations in pressure, oscillating above and below the ambient atmospheric pressure. The number of pressure variation cycles occurring per second is referred to as the frequency of the sound wave and is expressed in hertz (Hz), which is equivalent to one complete cycle per second.

Directly measuring sound pressure fluctuations would require the use of a very large and cumbersome range of numbers. To avoid this and have a more useable numbering system, the decibel (dB) scale was introduced. Sound level expressed in decibels (dB) is the logarithmic ratio of two like pressure quantities, with one pressure quantity being a reference sound pressure and the second pressure being that of the sound source of concern. For sound pressure in air, the standard reference quantity is generally considered to be 20 micropascals, which directly corresponds to the threshold of human hearing. The use of the decibel is a convenient way to handle the million-fold range of sound pressures to which the human ear is sensitive. A decibel is logarithmic; it does not follow normal algebraic methods and cannot be directly added. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100-fold increase in acoustical energy.

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. The standard weighting networks are identified as A through E. There is a strong correlation between the way humans perceive sound and A-weighted sound levels (dBA). For this reason, the dBA can be used to predict community response to noise from the environment, including noise from transportation and stationary sources. Sound levels expressed as dB in this section are A-weighted sound levels, unless noted otherwise.

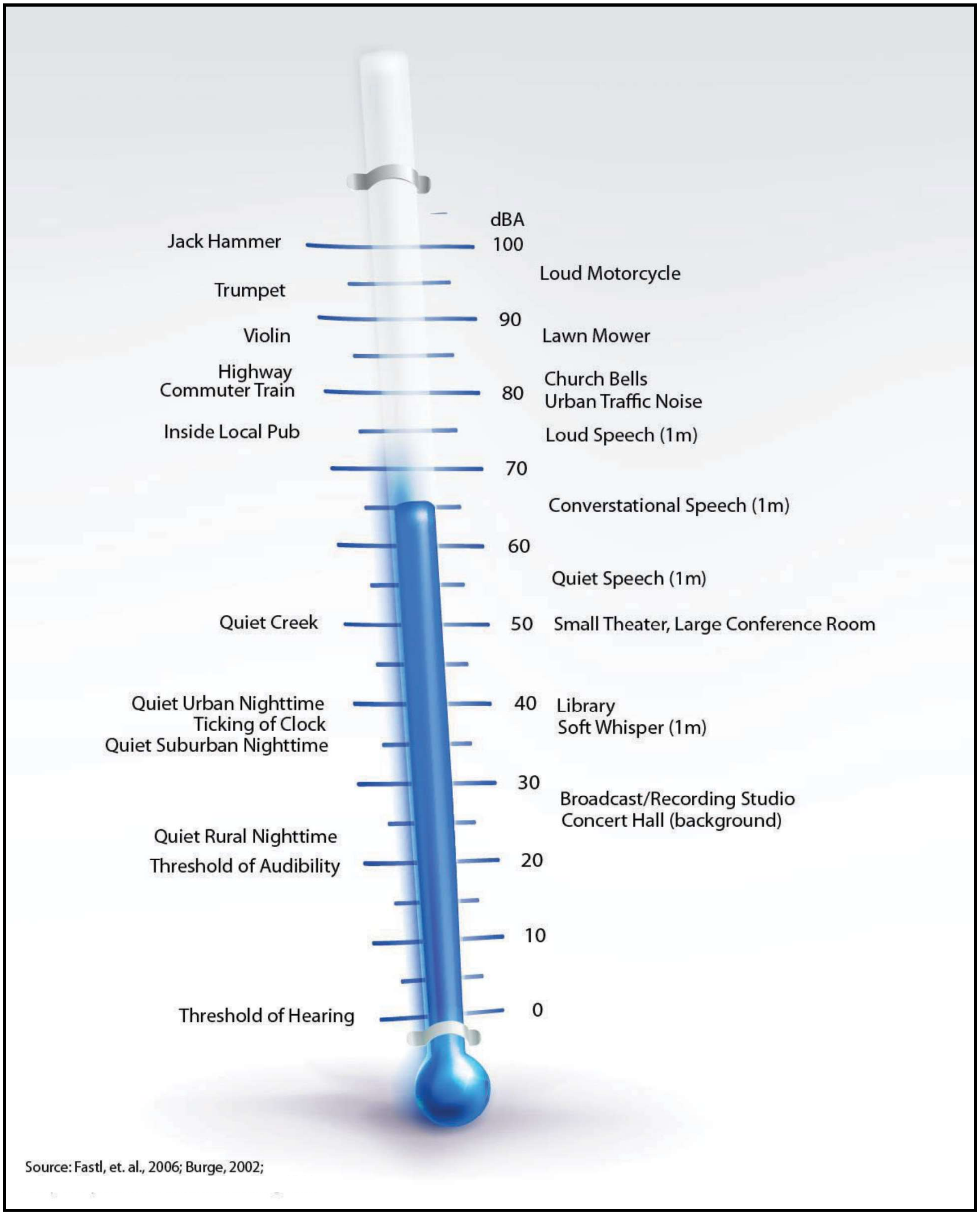


Figure A-1 -Common Noise Sources and Levels.

Noise can be generated by a number of sources, including mobile sources (transportation noise) such as automobiles, trucks, and airplanes and stationary sources (non-transportation noise) such as construction sites, machinery, and commercial and industrial operations. As acoustic energy spreads through the atmosphere from the source to the receiver, noise levels attenuate (decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers (e.g., walls, building façades, berms). Noise generated from mobile sources generally attenuate at a rate of 3dBA (typical for hard surfaces, such as asphalt) to 4.5 dBA (typical for soft surfaces, such as grasslands) per doubling of distance, depending on the intervening ground type. Stationary noise sources spread with more spherical dispersion patterns that attenuate at a rate of 6 to 7.5 dBA per doubling of distance for hard and soft sites, respectively.

Atmospheric conditions such as wind speed, turbulence, temperature gradients, and humidity may additionally alter the propagation of noise and affect levels at a receiver. Furthermore, the presence of a large object (e.g., barrier, topographic features, and intervening building façades) between the source and the receptor can provide significant attenuation of noise levels at the receiver. The amount of noise level reduction or "shielding" provided by a barrier primarily depends on the size of the barrier, the location of the barrier in relation to the source and receivers, and the frequency spectra of the noise. Natural barriers such as berms, hills, or dense woods as well as man-made features such as buildings, berms and walls may be effective barriers for the reduction of source noise levels.

Noise Level Descriptors

The intensity of environmental noise levels can fluctuate greatly over time and as such, several different descriptors of time-averaged noise levels may be used to provide the most effective means of expressing the noise levels. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment near the receptor(s). Noise descriptors most often used to describe environmental noise are defined below.

Lmin (Minimum Noise Level): The minimum noise level during a specific period of time, while accounting for the appropriate weighting curve and response setting (i.e., A-weighted, slow).

Lmax (Maximum Noise Level): The maximum instantaneous noise level during a specific period of time, while accounting for the appropriate weighting curve and response setting (i.e., A-weighted, slow).

SEL (Sound Exposure Level): The cumulative exposure to sound energy over a stated period of time.

Ln (Statistical Descriptor): The noise level exceeded "n"% of a specific period of time. For example, L50 is the median noise level, or level exceeded 50% of the time (typically equated to the noise level exceeded 30-minutes out of the hour).

Leq (Equivalent Noise Level): The energy-average noise level or exposure, from all noise events that occur in a specified period; such as one-minute, one-hour, 24-hours, etc. Leq can be used to report results of short-term noise measurements, usually ranging between 15 minutes and 1 hour, to supplement longer term measurements.

Ldn (Day-Night Average Noise Level): The 24-hour Leq with a 10-dBA "penalty" for noise events that occur during the noise-sensitive hours between 10 p.m. and 7 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The Ldn attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

CNEL (Community Noise Equivalent Level): The CNEL is similar to the Ldn described above, but with an additional 5-dBA "penalty" added to noise events that occur during the noise-sensitive hours between 7 p.m. and 10 p.m., which are typically reserved for relaxation, conversation, reading, and television. When the same 24-hour noise data are used, it is typical for the reported CNEL to be approximately 0.5 dBA higher than the Ldn.

Community noise is commonly described in terms of the ambient noise level which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent sound level (Leq)which corresponds to the steady-state A-weighted sound level containing the same total energy as the time-varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptors such as Ldn and CNEL, as defined above, and shows very good correlation with community response to noise. Use of these descriptors along with the maximum noise level occurring during a given time period provides a great deal of information about the ambient noise environment in an area.

Effect of Noise on Humans

Excessive and chronic exposure to elevated noise levels can result in auditory and non-auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance and dissatisfaction, which lead to interference with activities such as communications, sleep and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors vary depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels that are attributed to a new noise source, relative to the environment an individual has become accustomed to, the less tolerable the new noise source will be to an individual.

With respect to how humans perceive and react to changes in noise levels, a 1 dBA increase is generally imperceptible outside of a laboratory environment, a 3 dBA increase is barely perceptible, a 6 dBA increase is clearly noticeable, and a 10-dBA increase is subjectively perceived as approximately twice as loud (Egan 1988). These subjective reactions to changes in noise levels was developed on the basis of test subjects' reactions to changes in the levels of steady-state, pure tones or broad-band noise and to changes in levels of a given noise source. Perception and reaction to changes in noise levels in this manner is thought to be most applicable in the range of 50 to 70 dBA, as this is the usual range of voice and interior noise levels.

Vibration Fundamentals

Vibration is similar to noise in that it is a pressure wave traveling through an elastic medium involving a periodic oscillation relative to a reference point. Vibration is most commonly described in respect to the excitation of a structure or surface, such as in buildings or the ground. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions, impacts). Vibration levels can be depicted in terms of amplitude and frequency; relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal, or the quantity of displacement measured from peak to trough of the vibration wave. Root-mean-square is defined as the positive and negative statistical measure of the magnitude of a varying quantity. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a period of one second. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (Federal Transit Administration [FTA] 2018, California Department of Transportation [Caltrans] 2020b). PPV and RMS vibration velocity are nominally described in terms of inches per second (in/sec). However, as with airborne sound, vibration velocity can also be expressed using decibel notation as vibration decibels (VdB). The logarithmic nature of the decibel serves to compress the broad range of numbers required to describe vibration and allow for the presentation of vibration levels in familiar terms.

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. Human response to vibration has been found to correlate well to average vibration amplitude; therefore, vibration impacts on humans are evaluated in terms of RMS vibration velocity.

Typical outdoor sources of perceptible groundborne vibration include construction equipment, steel-wheeled trains, and traffic on rough roads. Although the effects of vibration may be imperceptible at low levels, effects may result in detectable vibrations and slight damage to nearby structures at moderate and high levels, respectively. At the elevated levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in damage to structural components. The range of vibration relevant to this analysis occurs from approximately 60 VdB, which is the typical background vibration-velocity level; to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings (FTA 2018).

Appendix B

Ambient Noise Monitoring Data

Appendix B-1
Long-Term 24 Hour Continuous Noise Monitoring

Project: **1101-1123 Sutter Street**
Date: December 21, 2020 to December 22, 2020
Site: LT-01

Hour	Leq	Lmax	L50	L90
17:53	56.4	76.4	54.0	50.0
18:53	54.7	73.7	52.5	49.0
19:53	56.3	82.1	51.0	48.0
20:53	54.5	70.6	51.5	47.5
21:53	53.9	73.5	50.5	46.5
22:53	54.3	79.9	50.0	47.0
23:53	54.5	78.8	48.5	45.5
0:53	65.9	84.7	47.0	44.0
1:53	50.5	69.9	46.5	44.5
2:53	63.4	87.6	47.5	44.5
3:53	58.2	87.3	46.5	43.0
4:53	61.5	84.7	52.0	44.5
5:53	59.9	86.2	53.0	48.0
6:53	63.3	90.2	56.0	52.0
7:53	67.5	92.6	58.0	54.0
8:53	62.4	88.9	57.5	53.5
9:53	59.0	79.1	56.5	53.0
10:53	62.4	86.4	56.5	53.0
11:53	65.6	92.1	57.0	53.0
12:53	67.9	88.7	57.0	52.5
13:53	61.1	80.7	55.5	51.5
14:53	60.8	84.8	56.0	52.0
15:53	67.2	91.0	56.0	51.5
16:53	59.6	83.4	55.0	51.5

Lowermost Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	54.5	76.4	54.0	50.0
Evening (7 p.m. - 10 p.m.)	50.5	70.6	51.0	47.5
Nighttime (10 p.m. - 7 a.m.)	56.4	69.9	46.5	43.0

Average Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	64.1	86.2	56.3	52.3
Evening (7 p.m. - 10 p.m.)	55.2	75.5	51.7	48.2
Nighttime (10 p.m. - 7 a.m.)	60.5	81.4	49.1	45.3

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	67.9	92.6	58.0	54.0
Evening (7 p.m. - 10 p.m.)	56.3	82.1	52.5	49.0
Nighttime (10 p.m. - 7 a.m.)	65.9	87.6	53.0	48.0

Energy Distribution

Daytime	74%
Evening	2%
Nighttime	24%

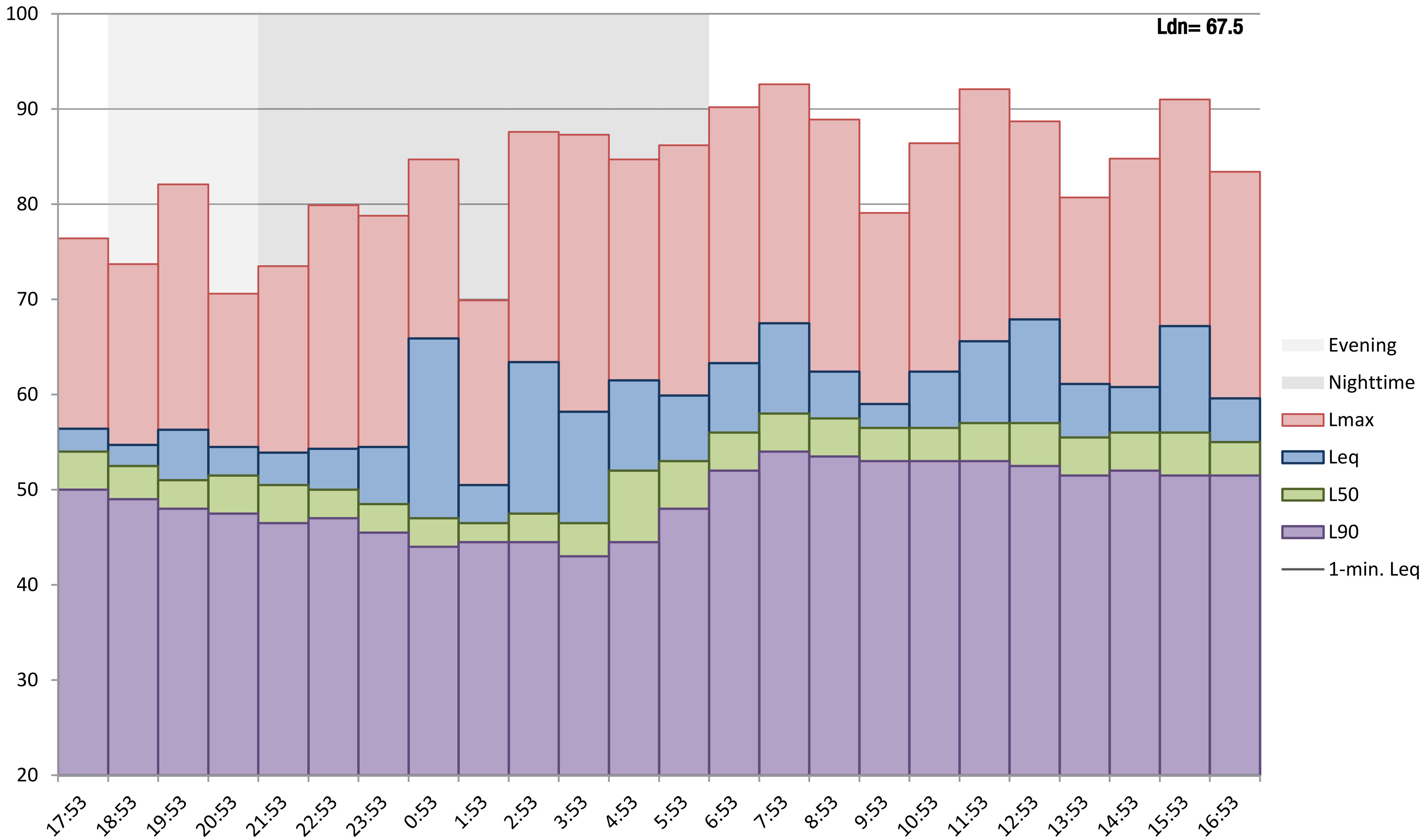
Calculated CNEL, dBA

67.5

Appendix B-1

1101-1123 Sutter Street - LT-01

December 21, 2020 to December 22, 2020



Appendix B-2
Long-Term 24 Hour Continuous Noise Monitoring

Project: **1101-1123 Sutter Street**
Date: December 22, 2020
Site: LT-02

Hour	Leq	Lmax	L50	L90
17:53	56.8	74.5	54.0	50.0
18:53	55.8	73.0	53.0	49.0
19:53	54.1	68.6	51.5	48.0
20:53	53.2	71.4	50.5	47.5
21:53	60.8	87.6	51.0	48.0
22:53	52.9	76.0	50.0	47.5
23:53	56.3	79.9	49.5	47.0
0:53	59.0	82.7	48.5	45.5
1:53	51.3	70.5	47.0	45.0
2:53	54.4	81.8	48.5	45.0
3:53	50.1	68.0	46.5	44.5
4:53	53.9	66.0	51.0	46.5
5:53	54.9	70.4	52.0	48.0
6:53	62.5	79.6	55.0	50.5
7:53	63.1	87.6	56.0	52.0
8:53	64.6	82.3	55.0	50.0

Lowermost Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	0.0	74.5	54.0	50.0
Evening (7 p.m. - 10 p.m.)	53.2	68.6	50.5	47.5
Nighttime (10 p.m. - 7 a.m.)	0.0	0.0	0.0	0.0

Average Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	57.8	81.0	55.0	50.6
Evening (7 p.m. - 10 p.m.)	54.5	71.0	51.7	48.2
Nighttime (10 p.m. - 7 a.m.)	56.1	40.2	26.1	24.5

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	64.6	87.6	56.0	52.0
Evening (7 p.m. - 10 p.m.)	55.8	73.0	53.0	49.0
Nighttime (10 p.m. - 7 a.m.)	60.8	87.6	52.0	48.0

Energy Distribution

Daytime	61%
Evening	7%
Nighttime	31%

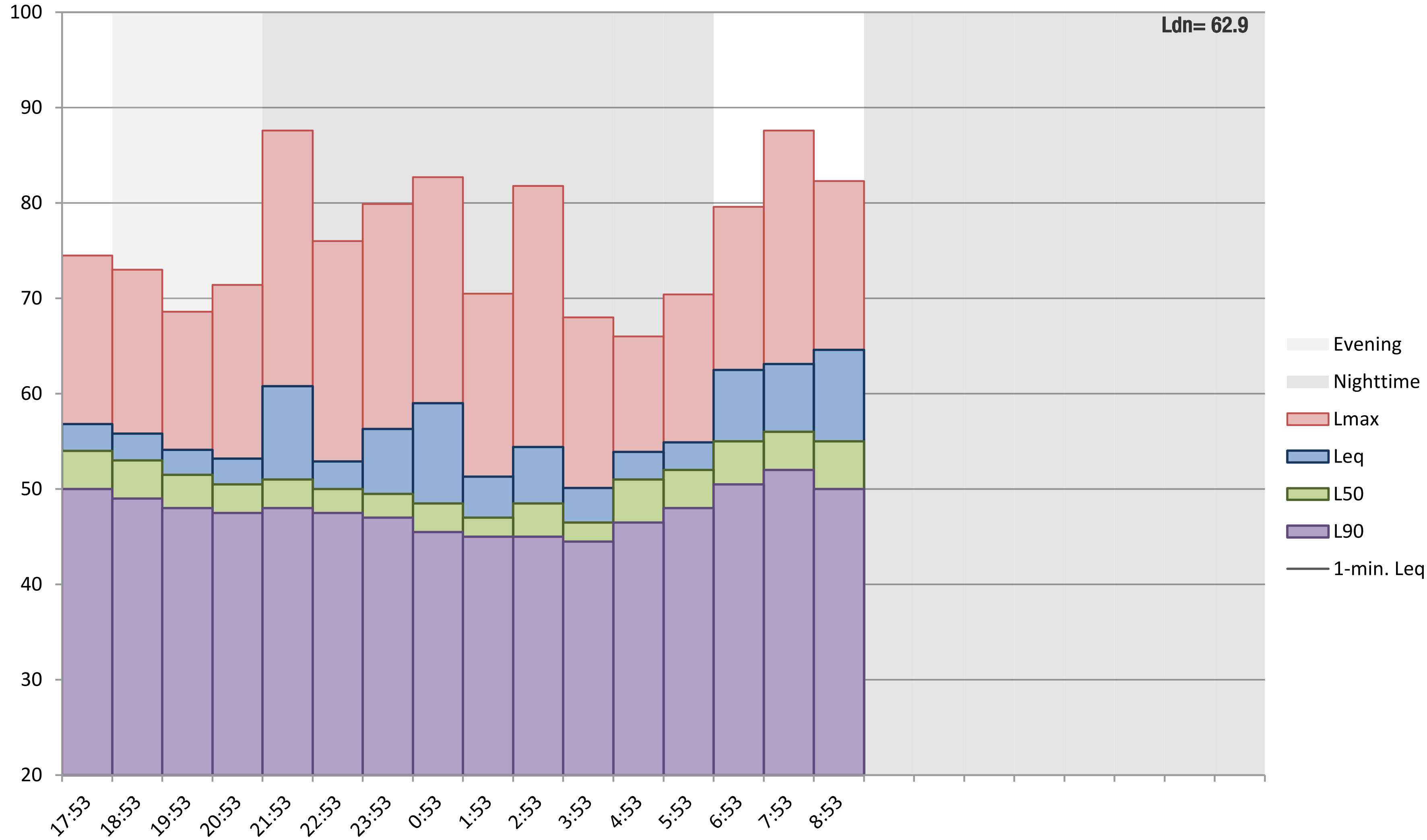
Calculated CNEL, dBA

62.9

Appendix B-2

1101-1123 Sutter Street - LT-02

December 22, 2020



Appendix C

Traffic Noise Modeling Inputs and Results

Appendix C - 1

Traffic Noise Model Calculations

Project: 12702 - 1101-1123 Sutter Street

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor: 10

Segment Description and Location				Input											Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics								Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night		Ldn, (dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Current Conditions																			
1	Hemlock Street, Larkin Street to Polk Street			284	25	17	17	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		64.2	4	14	45	142
2	Sutter Street, Larkin Street to Polk Street			6,466	25	27.5	27.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		75.7	102	322	1019	3223
3	Larkin Street, Sutter Street to Hemlock Street			5,276	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		73.9	83	263	832	2630
4	Post Street, Gough Street to Franklin Street			3,760	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		72.5	59	187	593	1874
5	Larkin Street, Sutter Street to Bush Street			5,999	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		74.5	95	299	946	2990

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix C - 2

Traffic Noise Model Calculations

Project: 12702 - 1101-1123 Sutter Street

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor: 10

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)$_3$			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)$_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Non-Covid SaH Conditions																		
1	Hemlock Street, Larkin Street to Polk Street			467	25	17	17	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%	66.4	7	23	74	233
2	Sutter Street, Larkin Street to Polk Street			10,614	25	27.5	27.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%	77.8	167	529	1673	5291
3	Larkin Street, Sutter Street to Hemlock Street			8,709	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%	76.1	137	434	1373	4341
4	Post Street, Gough Street to Franklin Street			6,172	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%	74.6	97	308	973	3077
5	Larkin Street, Sutter Street to Bush Street			9,903	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%	76.7	156	494	1561	4937

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix C

Traffic Noise Modeling Calculations - References

Citation	Reference
1	Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69

Appendix D

Traffic Count Data

Prepared by National Data & Surveying Services

VOLUME

Hemlock St Bet. Larkin St & Polk St

Day: Tuesday
Date: 11/10/2020

City: San Francisco
Project #: CA20_080151_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	284	0	284

AM Period	NB	SB	EB		WB	TOTAL	
00:00			0		0	0	
00:15			5		0	5	
00:30			1		0	1	
00:45			1	7	0	1	7
01:00			0		0	0	
01:15			3		0	3	
01:30			3		0	3	
01:45			0	6	0	0	6
02:00			2		0	2	
02:15			2		0	2	
02:30			1		0	1	
02:45			1	6	0	1	6
03:00			2		0	2	
03:15			3		0	3	
03:30			1		0	1	
03:45			3	9	0	3	9
04:00			0		0	0	
04:15			1		0	1	
04:30			0		0	0	
04:45			0	1	0	0	1
05:00			2		0	2	
05:15			1		0	1	
05:30			3		0	3	
05:45			3	9	0	3	9
06:00			1		0	1	
06:15			0		0	0	
06:30			0		0	0	
06:45			2	3	0	2	3
07:00			2		0	2	
07:15			3		0	3	
07:30			0		0	0	
07:45			2	7	0	2	7
08:00			5		0	5	
08:15			4		0	4	
08:30			3		0	3	
08:45			1	13	0	1	13
09:00			1		0	1	
09:15			1		0	1	
09:30			2		0	2	
09:45			4	8	0	4	8
10:00			3		0	3	
10:15			5		0	5	
10:30			5		0	5	
10:45			3	16	0	3	16
11:00			4		0	4	
11:15			5		0	5	
11:30			6		0	6	
11:45			5	20	0	5	20
TOTALS				105			105
SPLIT %				100.0%			37.0%

PM Period	NB	SB	EB		WB	TOTAL	
12:00			4		0	4	
12:15			6		0	6	
12:30			4		0	4	
12:45			3	17	0	3	17
13:00			1		0	1	
13:15			4		0	4	
13:30			2		0	2	
13:45			4	11	0	4	11
14:00			2		0	2	
14:15			2		0	2	
14:30			2		0	2	
14:45			3	9	0	3	9
15:00			9		0	9	
15:15			5		0	5	
15:30			2		0	2	
15:45			6	22	0	6	22
16:00			2		0	2	
16:15			8		0	8	
16:30			12		0	12	
16:45			9	31	0	9	31
17:00			15		0	15	
17:15			6		0	6	
17:30			3		0	3	
17:45			4	28	0	4	28
18:00			3		0	3	
18:15			4		0	4	
18:30			5		0	5	
18:45			6	18	0	6	18
19:00			4		0	4	
19:15			0		0	0	
19:30			4		0	4	
19:45			5	13	0	5	13
20:00			4		0	4	
20:15			1		0	1	
20:30			4		0	4	
20:45			3	12	0	3	12
21:00			1		0	1	
21:15			0		0	0	
21:30			5		0	5	
21:45			1	7	0	1	7
22:00			2		0	2	
22:15			0		0	0	
22:30			1		0	1	
22:45			2	5	0	2	5
23:00			1		0	1	
23:15			2		0	2	
23:30			0		0	0	
23:45			3	6	0	3	6
TOTALS				179			179
SPLIT %				100.0%			63.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	284	0	284

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour			11:30		11:30	PM Peak Hour			16:15		16:15
AM Pk Volume			21		21	PM Pk Volume			44		44
Pk Hr Factor			0.875		0.875	Pk Hr Factor			0.733		0.733
7 - 9 Volume	0	0	20	0	20	4 - 6 Volume	0	0	59	0	59
7 - 9 Peak Hour			07:45		07:45	4 - 6 Peak Hour			16:15		16:15
7 - 9 Pk Volume	0	0	14	0	14	4 - 6 Pk Volume	0	0	44	0	44
Pk Hr Factor	0.000	0.000	0.700	0.000	0.700	Pk Hr Factor	0.000	0.000	0.733	0.000	0.733

Prepared by National Data & Surveying Services

VOLUME

Sutter St Bet. Larkin St & Polk St

Day: Tuesday
Date: 11/10/2020

City: San Francisco
Project #: CA20_080151_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	0	6,466	6,466

AM Period	NB	SB	EB	WB		TOTAL		PM Period	NB	SB	EB	WB		TOTAL	
00:00			0	24		24		12:00			0	123		123	
00:15			0	28		28		12:15			0	121		121	
00:30			0	22		22		12:30			0	109		109	
00:45			0	16	90	16	90	12:45			0	111	464	111	464
01:00			0	19		19		13:00			0	103		103	
01:15			0	13		13		13:15			0	104		104	
01:30			0	28		28		13:30			0	116		116	
01:45			0	20	80	20	80	13:45			0	114	437	114	437
02:00			0	13		13		14:00			0	102		102	
02:15			0	11		11		14:15			0	115		115	
02:30			0	8		8		14:30			0	113		113	
02:45			0	23	55	23	55	14:45			0	111	441	111	441
03:00			0	20		20		15:00			0	115		115	
03:15			0	16		16		15:15			0	117		117	
03:30			0	12		12		15:30			0	83		83	
03:45			0	9	57	9	57	15:45			0	125	440	125	440
04:00			0	18		18		16:00			0	113		113	
04:15			0	19		19		16:15			0	105		105	
04:30			0	18		18		16:30			0	115		115	
04:45			0	10	65	10	65	16:45			0	129	462	129	462
05:00			0	14		14		17:00			0	143		143	
05:15			0	24		24		17:15			0	118		118	
05:30			0	43		43		17:30			0	115		115	
05:45			0	27	108	27	108	17:45			0	92	468	92	468
06:00			0	37		37		18:00			0	121		121	
06:15			0	42		42		18:15			0	100		100	
06:30			0	43		43		18:30			0	95		95	
06:45			0	34	156	34	156	18:45			0	76	392	76	392
07:00			0	47		47		19:00			0	83		83	
07:15			0	52		52		19:15			0	89		89	
07:30			0	64		64		19:30			0	55		55	
07:45			0	59	222	59	222	19:45			0	63	290	63	290
08:00			0	78		78		20:00			0	60		60	
08:15			0	75		75		20:15			0	55		55	
08:30			0	81		81		20:30			0	61		61	
08:45			0	94	328	94	328	20:45			0	55	231	55	231
09:00			0	110		110		21:00			0	51		51	
09:15			0	71		71		21:15			0	47		47	
09:30			0	110		110		21:30			0	53		53	
09:45			0	114	405	114	405	21:45			0	30	181	30	181
10:00			0	92		92		22:00			0	40		40	
10:15			0	122		122		22:15			0	44		44	
10:30			0	98		98		22:30			0	36		36	
10:45			0	88	400	88	400	22:45			0	33	153	33	153
11:00			0	83		83		23:00			0	38		38	
11:15			0	104		104		23:15			0	36		36	
11:30			0	96		96		23:30			0	35		35	
11:45			0	122	405	122	405	23:45			0	27	136	27	136
TOTALS					2371	**2371**		**TOTALS**					4095	**4095**	
SPLIT %					100.0%	**36.7%**		**SPLIT %**					100.0%	**63.3%**	

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	0	6,466	6,466

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour				11:45	**11:45**	**PM Peak Hour**				16:30	**16:30**
AM Pk Volume				475	**475**	**PM Pk Volume**				505	**505**
Pk Hr Factor				0.965	**0.965**	**Pk Hr Factor**				0.883	**0.883**
7 - 9 Volume	0	0	0	550	**550**	**4 - 6 Volume**	0	0	0	930	**930**
7 - 9 Peak Hour				08:00	**08:00**	**4 - 6 Peak Hour**				16:30	**16:30**
7 - 9 Pk Volume	0	0	0	328	**328**	**4 - 6 Pk Volume**	0	0	0	505	**505**
Pk Hr Factor	0.000	0.000	0.000	0.872	**0.872**	**Pk Hr Factor**	0.000	0.000	0.000	0.883	**0.883**

Prepared by National Data & Surveying Services

VOLUME

Larkin St Bet. Sutter St & Hemlock St

Day: Tuesday
Date: 11/10/2020

City: San Francisco
Project #: CA20_080151_003

DAILY TOTALS	NB	SB	EB	WB	Total
	5,276	0	0	0	5,276

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	25		0			25		12:00	54		0			54	
00:15	27		0			27		12:15	91		0			91	
00:30	31		0			31		12:30	87		0			87	
00:45	11	94	0			11	94	12:45	85	317	0			85	317
01:00	14		0			14		13:00	58		0			58	
01:15	19		0			19		13:15	78		0			78	
01:30	26		0			26		13:30	62		0			62	
01:45	23	82	0			23	82	13:45	68	266	0			68	266
02:00	12		0			12		14:00	70		0			70	
02:15	12		0			12		14:15	75		0			75	
02:30	10		0			10		14:30	64		0			64	
02:45	12	46	0			12	46	14:45	81	290	0			81	290
03:00	16		0			16		15:00	92		0			92	
03:15	14		0			14		15:15	87		0			87	
03:30	18		0			18		15:30	70		0			70	
03:45	16	64	0			16	64	15:45	90	339	0			90	339
04:00	16		0			16		16:00	79		0			79	
04:15	22		0			22		16:15	77		0			77	
04:30	18		0			18		16:30	101		0			101	
04:45	20	76	0			20	76	16:45	95	352	0			95	352
05:00	12		0			12		17:00	95		0			95	
05:15	28		0			28		17:15	69		0			69	
05:30	42		0			42		17:30	82		0			82	
05:45	32	114	0			32	114	17:45	69	315	0			69	315
06:00	45		0			45		18:00	71		0			71	
06:15	43		0			43		18:15	58		0			58	
06:30	54		0			54		18:30	58		0			58	
06:45	56	198	0			56	198	18:45	58	245	0			58	245
07:00	60		0			60		19:00	66		0			66	
07:15	60		0			60		19:15	47		0			47	
07:30	64		0			64		19:30	51		0			51	
07:45	72	256	0			72	256	19:45	70	234	0			70	234
08:00	93		0			93		20:00	57		0			57	
08:15	101		0			101		20:15	44		0			44	
08:30	80		0			80		20:30	44		0			44	
08:45	98	372	0			98	372	20:45	46	191	0			46	191
09:00	115		0			115		21:00	40		0			40	
09:15	85		0			85		21:15	38		0			38	
09:30	91		0			91		21:30	35		0			35	
09:45	100	391	0			100	391	21:45	33	146	0			33	146
10:00	85		0			85		22:00	31		0			31	
10:15	82		0			82		22:15	35		0			35	
10:30	100		0			100		22:30	30		0			30	
10:45	82	349	0			82	349	22:45	29	125	0			29	125
11:00	65		0			65		23:00	34		0			34	
11:15	68		0			68		23:15	35		0			35	
11:30	82		0			82		23:30	28		0			28	
11:45	75	290	0			75	290	23:45	27	124	0			27	124
TOTALS	2332						**2332**	**TOTALS**	2944						**2944**
SPLIT %	100.0%						**44.2%**	**SPLIT %**	100.0%						**55.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	5,276	0	0	0	5,276

AM Peak Hour	08:15				**08:15**	**PM Peak Hour**	16:15				**16:15**
AM Pk Volume	394				**394**	**PM Pk Volume**	368				**368**
Pk Hr Factor	0.857				**0.857**	**Pk Hr Factor**	0.911				**0.911**
7 - 9 Volume	628	0	0	0	**628**	**4 - 6 Volume**	667	0	0	0	**667**
7 - 9 Peak Hour	08:00				**08:00**	**4 - 6 Peak Hour**	16:15				**16:15**
7 - 9 Pk Volume	372	0	0	0	**372**	**4 - 6 Pk Volume**	368	0	0	0	**368**
Pk Hr Factor	0.921	0.000	0.000	0.000	**0.921**	**Pk Hr Factor**	0.911	0.000	0.000	0.000	**0.911**

Prepared by National Data & Surveying Services

VOLUME

Post St Bet. Gough St & Franklin St

Day: Tuesday
Date: 12/1/2020

City: San Francisco
Project #: CA20_080151_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,760	0	3,760

AM Period	NB	SB	EB		WB	TOTAL		PM Period	NB	SB	EB		WB	TOTAL	
00:00			8			8		12:00			68			68	
00:15			3			3		12:15			67			67	
00:30			4			4		12:30			75			75	
00:45			2	17		2	17	12:45			55	265		55	265
01:00			2			2		13:00			79			79	
01:15			1			1		13:15			71			71	
01:30			3			3		13:30			68			68	
01:45			3	9		3	9	13:45			75	293		75	293
02:00			4			4		14:00			89			89	
02:15			6			6		14:15			63			63	
02:30			2			2		14:30			91			91	
02:45			2	14		2	14	14:45			99	342		99	342
03:00			3			3		15:00			79			79	
03:15			6			6		15:15			70			70	
03:30			2			2		15:30			101			101	
03:45			5	16		5	16	15:45			68	318		68	318
04:00			1			1		16:00			63			63	
04:15			4			4		16:15			69			69	
04:30			5			5		16:30			80			80	
04:45			4	14		4	14	16:45			75	287		75	287
05:00			7			7		17:00			87			87	
05:15			9			9		17:15			75			75	
05:30			8			8		17:30			62			62	
05:45			16	40		16	40	17:45			67	291		67	291
06:00			16			16		18:00			50			50	
06:15			32			32		18:15			42			42	
06:30			42			42		18:30			50			50	
06:45			18	108		18	108	18:45			52	194		52	194
07:00			37			37		19:00			30			30	
07:15			34			34		19:15			33			33	
07:30			40			40		19:30			40			40	
07:45			62	173		62	173	19:45			25	128		25	128
08:00			55			55		20:00			35			35	
08:15			73			73		20:15			23			23	
08:30			71			71		20:30			24			24	
08:45			53	252		53	252	20:45			23	105		23	105
09:00			73			73		21:00			17			17	
09:15			60			60		21:15			17			17	
09:30			64			64		21:30			16			16	
09:45			62	259		62	259	21:45			15	65		15	65
10:00			39			39		22:00			12			12	
10:15			66			66		22:15			17			17	
10:30			60			60		22:30			8			8	
10:45			70	235		70	235	22:45			11	48		11	48
11:00			71			71		23:00			8			8	
11:15			55			55		23:15			13			13	
11:30			64			64		23:30			4			4	
11:45			64	254		64	254	23:45			8	33		8	33
TOTALS				1391			1391	TOTALS				2369			2369
SPLIT %				100.0%			37.0%	SPLIT %				100.0%			63.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,760	0	3,760

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour			11:45		11:45	PM Peak Hour			14:45		14:45
AM Pk Volume			274		274	PM Pk Volume			349		349
Pk Hr Factor			0.913		0.913	Pk Hr Factor			0.864		0.864
7 - 9 Volume	0	0	425	0	425	4 - 6 Volume	0	0	578	0	578
7 - 9 Peak Hour			07:45		07:45	4 - 6 Peak Hour			16:30		16:30
7 - 9 Pk Volume	0	0	261	0	261	4 - 6 Pk Volume	0	0	317	0	317
Pk Hr Factor	0.000	0.000	0.894	0.000	0.894	Pk Hr Factor	0.000	0.000	0.911	0.000	0.911

Prepared by National Data & Surveying Services

VOLUME

Larkin St Bet. Sutter St & Bush St

Day: Tuesday
Date: 11/10/2020

City: San Francisco
Project #: CA20_080151_005

DAILY TOTALS	NB	SB	EB	WB	Total
	5,999	0	0	0	5,999

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	19		0			19		12:00	81		0			81	
00:15	14		0			14		12:15	91		0			91	
00:30	19		0			19		12:30	97		0			97	
00:45	9	61	0			9	61	12:45	113	382	0			113	382
01:00	5		0			5		13:00	84		0			84	
01:15	17		0			17		13:15	88		0			88	
01:30	12		0			12		13:30	75		0			75	
01:45	21	55	0			21	55	13:45	97	344	0			97	344
02:00	13		0			13		14:00	114		0			114	
02:15	12		0			12		14:15	109		0			109	
02:30	8		0			8		14:30	88		0			88	
02:45	6	39	0			6	39	14:45	105	416	0			105	416
03:00	7		0			7		15:00	128		0			128	
03:15	7		0			7		15:15	106		0			106	
03:30	13		0			13		15:30	80		0			80	
03:45	10	37	0			10	37	15:45	106	420	0			106	420
04:00	8		0			8		16:00	107		0			107	
04:15	15		0			15		16:15	102		0			102	
04:30	13		0			13		16:30	105		0			105	
04:45	19	55	0			19	55	16:45	119	433	0			119	433
05:00	16		0			16		17:00	111		0			111	
05:15	20		0			20		17:15	96		0			96	
05:30	29		0			29		17:30	101		0			101	
05:45	28	93	0			28	93	17:45	82	390	0			82	390
06:00	34		0			34		18:00	94		0			94	
06:15	36		0			36		18:15	74		0			74	
06:30	50		0			50		18:30	62		0			62	
06:45	58	178	0			58	178	18:45	53	283	0			53	283
07:00	71		0			71		19:00	82		0			82	
07:15	70		0			70		19:15	52		0			52	
07:30	67		0			67		19:30	61		0			61	
07:45	79	287	0			79	287	19:45	76	271	0			76	271
08:00	105		0			105		20:00	63		0			63	
08:15	126		0			126		20:15	49		0			49	
08:30	119		0			119		20:30	40		0			40	
08:45	104	454	0			104	454	20:45	61	213	0			61	213
09:00	125		0			125		21:00	30		0			30	
09:15	86		0			86		21:15	39		0			39	
09:30	91		0			91		21:30	33		0			33	
09:45	103	405	0			103	405	21:45	36	138	0			36	138
10:00	108		0			108		22:00	34		0			34	
10:15	98		0			98		22:15	38		0			38	
10:30	103		0			103		22:30	34		0			34	
10:45	109	418	0			109	418	22:45	32	138	0			32	138
11:00	104		0			104		23:00	33		0			33	
11:15	93		0			93		23:15	29		0			29	
11:30	95		0			95		23:30	24		0			24	
11:45	88	380	0			88	380	23:45	23	109	0			23	109
TOTALS	2462						**2462**	**TOTALS**	3537						**3537**
SPLIT %	100.0%						**41.0%**	**SPLIT %**	100.0%						**59.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	5,999	0	0	0	5,999

AM Peak Hour	08:15				**08:15**	**PM Peak Hour**	16:15				**16:15**
AM Pk Volume	474				**474**	**PM Pk Volume**	437				**437**
Pk Hr Factor	0.940				**0.940**	**Pk Hr Factor**	0.918				**0.918**
7 - 9 Volume	741	0	0	0	**741**	**4 - 6 Volume**	823	0	0	0	**823**
7 - 9 Peak Hour	08:00				**08:00**	**4 - 6 Peak Hour**	16:15				**16:15**
7 - 9 Pk Volume	454	0	0	0	**454**	**4 - 6 Pk Volume**	437	0	0	0	**437**
Pk Hr Factor	0.901	0.000	0.000	0.000	**0.901**	**Pk Hr Factor**	0.918	0.000	0.000	0.000	**0.918**

24-HOUR ADT COUNT SUMMARY

CLIENT:
PROJECT: Historical
LOCATION: Larkin St Bet. Sutter St & Bush St

NODE:
DATE: Tuesday, October 18, 2016

DIRECTION:	NB Inside & Outside Lanes				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	14	14	10	13	51
1:00	16	14	11	9	50
2:00	15	14	9	5	43
3:00	14	8	7	8	37
4:00	8	10	11	16	45
5:00	12	19	23	44	98
6:00	49	41	42	49	181
7:00	50	59	73	85	267
8:00	81	88	70	80	319
9:00	70	70	75	73	288
10:00	74	73	65	58	270
11:00	90	76	72	68	306
12:00	68	73	60	67	268
13:00	78	67	71	67	283
14:00	69	60	65	70	264
15:00	87	74	95	96	352
16:00	84	78	78	80	320
17:00	87	104	118	115	424
18:00	75	72	55	68	270
19:00	66	81	77	62	286
20:00	59	44	46	43	192
21:00	48	43	38	44	173
22:00	41	33	33	40	147
23:00	35	26	25	24	110
				TOTAL	5044

AM PEAK HOUR	07:30
VOLUME	327
PM PEAK HOUR	17:00
VOLUME	424

DIRECTION:	NB Total Volume				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	32	33	32	39	136
1:00	26	16	22	30	94
2:00	26	19	22	11	78
3:00	23	17	16	15	71
4:00	18	22	15	31	86
5:00	28	31	57	51	167
6:00	62	78	89	93	322
7:00	83	100	117	124	424
8:00	135	114	118	109	476
9:00	112	124	113	122	471
10:00	131	127	106	124	488
11:00	97	112	126	100	435
12:00	113	119	133	106	471
13:00	140	134	132	135	541
14:00	128	124	147	155	554
15:00	156	177	149	157	639
16:00	175	165	164	151	655
17:00	174	193	169	170	706
18:00	149	174	142	142	607
19:00	144	135	147	135	561
20:00	117	117	106	122	462
21:00	101	93	88	84	366
22:00	65	76	68	66	275
23:00	55	48	63	42	208
				TOTAL	9293

AM PEAK HOUR	09:30
VOLUME	493
PM PEAK HOUR	17:00
VOLUME	706

Type of report: Tube Count - Volume Data

LOCATION: 186 - POST ST btwn FRANKLIN ST & GOUGH ST | **QC JOB #:** 151177186
SPECIFIC LOCATION: | **DIRECTION:** EB
CITY/STATE: San Francisco, CA | **DATE:** Jan 28 2020 - Jan 28 2020

Start Time	Mon	Tue 28 Jan 20	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		35				35			35	
01:00 AM		23				23			23	
02:00 AM		24				24			24	
03:00 AM		22				22			22	
04:00 AM		34				34			34	
05:00 AM		62				62			62	
06:00 AM		161				161			161	
07:00 AM		377				377			377	
08:00 AM		710				710			710	
09:00 AM		539				539			539	
10:00 AM		372				372			372	
11:00 AM		388				388			388	
12:00 PM		303				303			303	
01:00 PM		364				364			364	
02:00 PM		329				329			329	
03:00 PM		305				305			305	
04:00 PM		359				359			359	
05:00 PM		433				433			433	
06:00 PM		373				373			373	
07:00 PM		309				309			309	
08:00 PM		229				229			229	
09:00 PM		186				186			186	
10:00 PM		140				140			140	
11:00 PM		95				95			95	
Day Total		6172				6172			6172	
% Weekday Average		100%								
% Week Average		100%				100%				
AM Peak Volume		8:00 AM 710				8:00 AM 710			8:00 AM 710	
PM Peak Volume		5:00 PM 433				5:00 PM 433			5:00 PM 433	

Comments:

Report generated on 11/9/2020 3:57 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Appendix E

Cumulative Projects

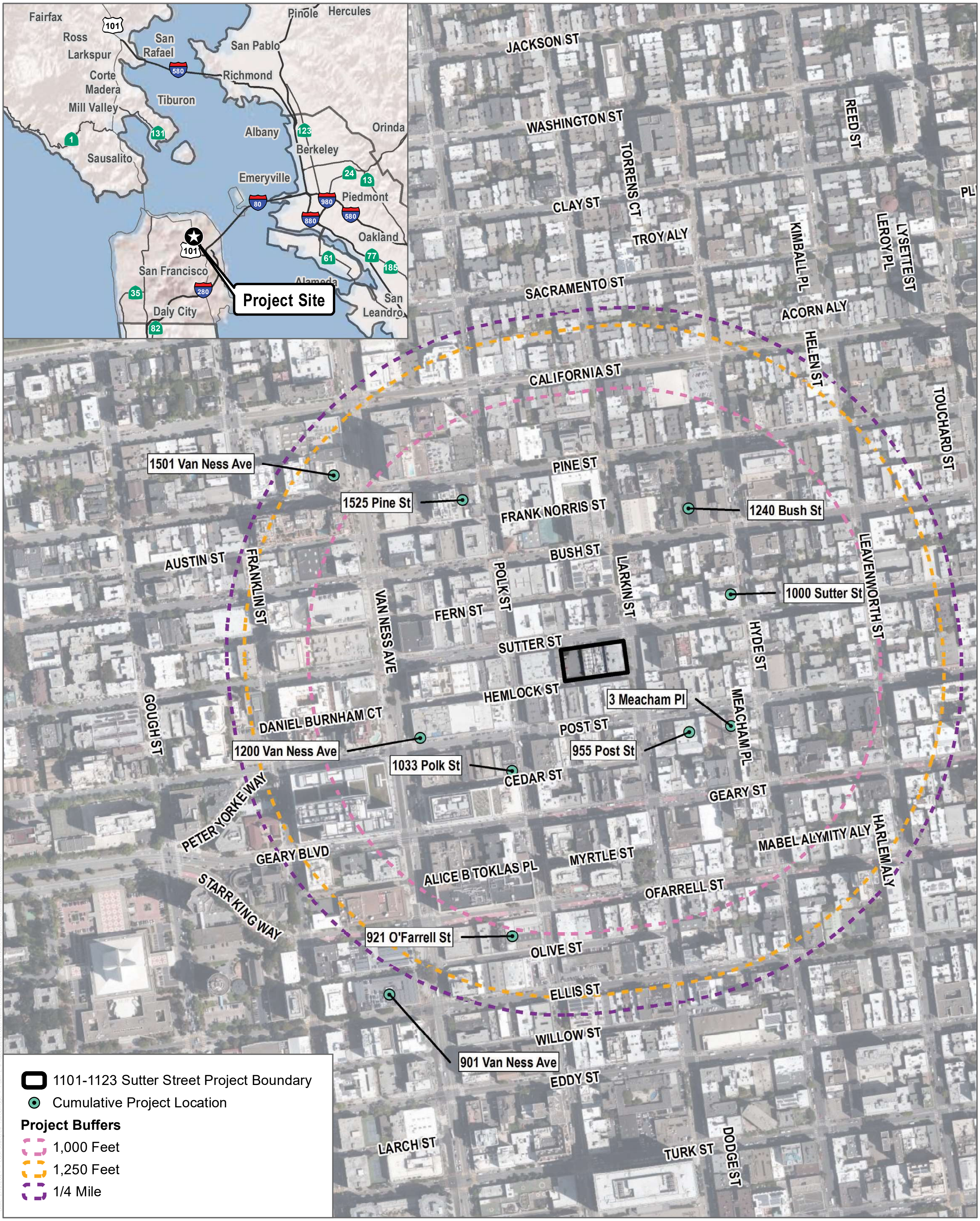
Table E-1: Cumulative Projects within 0.25 miles of Project Site

Address	Record ID	Approximate Distance from Project Site (feet)	Project Description
955 Post Street	2015-015950PRJ	340	The project would demolish the existing two-story automobile repair garage building and construct an eight-story, 80-foot-tall mixed-use residential and commercial building over a basement with 69 residential units and approximately 1,538 square feet of ground-floor retail space. The residential portion of the project would include nine three-bedroom units, 36 two-bedroom units, and 24 one-bedroom units. In addition, the project would provide approximately 4,945 total square feet of common outdoor space at the basement level. Five dwelling units on the sixth story would also include private outdoor patios.
1033 Polk Street	2014.0914	410	The project would demolish the existing building and construct an eight-story, 85-foot-tall mixed-use residential building with ground-floor retail space and residential uses above. The ground floor would contain approximately 605 gross square feet of retail space, the residential lobby, and required mechanical space. The proposed project would include a total of 19 residential units, including 18 one-bedroom units and one two-bedroom unit, above the ground-floor retail space.
3 Meacham Place	2020-007597PRJ	460	The project would change the use of the existing buildings from single-family dwelling and office to group housing (congregate residence).
1000 Sutter Street	2020-008130PRJ	460	The City and Episcopal Community Services, as co-applicants, propose to purchase the Granada Hotel and enter into an agreement with Episcopal Community Services to operate the project as permanent supportive housing for formerly homeless individuals. The Granada Hotel is located at 1000 Sutter Street, a 232-unit single-room occupancy hotel. Eighty units are currently occupied by low-income individuals, primarily reliant on short-term rental subsidy vouchers; 152 units are vacant. Episcopal Community Services and the City agree to restrict the property for at least 55 years to provide affordable housing and to serve households who are homeless, at risk of homelessness, or impacted by COVID-19. Episcopal Community Services plans to provide on-site support services that include intensive case management; individual health and wellness plans, which may include substance use disorder treatment and/or behavioral health services; financial assistance, including help with benefit programs and entitlements; and job-readiness, vocational, occupational, and educational training.
1240 Bush Street	2020-004634PRJ	580	The project would add five new accessory dwelling units to an existing 16-unit building. Exposure is non-compliant for three of the proposed dwelling units.

Table E-1: Cumulative Projects within 0.25 miles of Project Site

Address	Record ID	Approximate Distance from Project Site (feet)	Project Description
1200 Van Ness Avenue	2015-012577PRJ	610	The project would construct a 13-story, 130-foot-tall building with 259,621 gross square feet of mixed use (retail/commercial/residential) space and a parking garage for 368 cars in five below-grade levels. The project retail uses could include a grocery store, medical offices and clinics on Level 2 through Level 5, and an eight-story residential tower with 95 dwelling units (71 one bedrooms and 24 two bedrooms).
1525 Pine Street	2015-009955PRJ	700	The project would demolish the existing one-story commercial restaurant and construct a new eight-story mixed-use commercial and residential building. The project relies on State Density Bonus provisions for an additional six units over the base density of 15 units, for a total of 21 residential units.
921 O'Farrell Street	2018-014727PRJ	1,030	The project would demolish the existing two-story commercial building and construct a 14-story, 130-foot-tall residential tower with ground-floor commercial and common space.
1501 Van Ness Avenue	2020-000549PRJ	1,140	The project would demolish a sales kiosk at an existing Chevron station and construct a new, larger sales kiosk; modify the existing fueling canopy structural columns; remove four existing underground fuel storage tanks and associated piping; and install three new underground fuel storage tanks and piping.
901 Van Ness Avenue	2018-001547PRJ	1,420	The project would remodel an existing automobile sales facility. Work would include demolition of existing non-original interior partitions and existing glazing for new entrance at Olive Street; construction of new offices at Historic Showroom and new mezzanine, stairs, landing, opening and entry at Olive Street; new vestibule and opening, partitions, finishes, and architectural features associated with these areas; and exterior restoration of original conditions.

Source: San Francisco Planning Department, October 2020.



SOURCE: Esri Clarity Basemap 2020, San Francisco County 2020

0 275 550 Feet

FIGURE E-1

Cumulative Projects

1101-1123 Sutter Street Project Noise Study

APPENDIX B

Notice of Preparation of an EIR

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

PUBLIC NOTICE

NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT

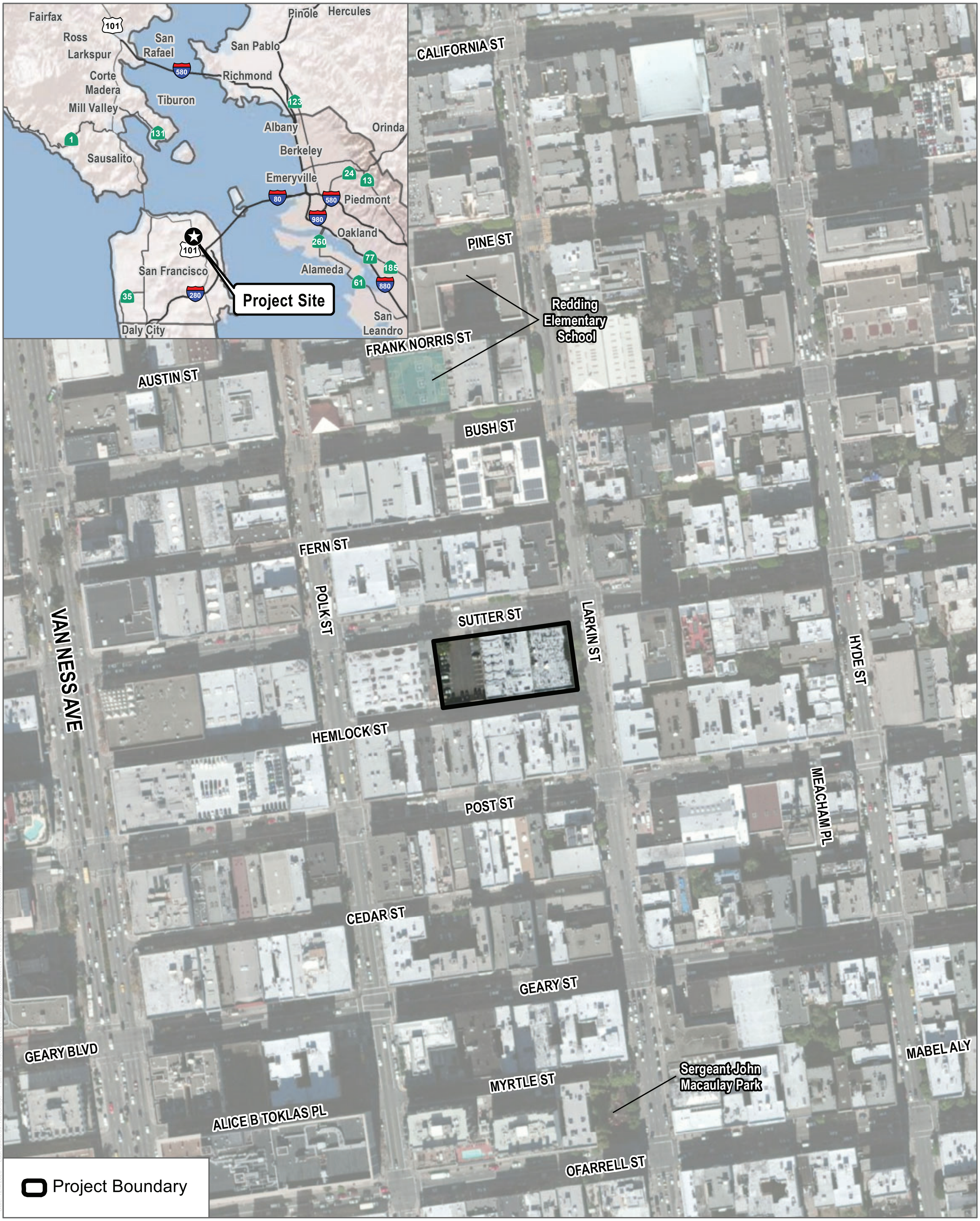
Date:	December 17, 2020
Case No.:	**2019-022850ENV**
Project Title:	**1101-1123 Sutter Street**
Zoning:	Polk Street Neighborhood Commercial (NCD) District 1101 Sutter Street – 130-E Height and Bulk District 1123 Sutter Street – 65-A Height and Bulk District
Block/Lot:	Assessor's Block 0692/Lots 001 and 019
Lot Size:	29,700 square feet
Project Sponsor:	Julie Heinzler, 1101 Sutter Affordable, LP – (415) 442-4800
Staff Contact:	David Young – (628) 652-7494 david.l.young@sfgov.org

Introduction

The San Francisco Planning Department has prepared this Notice of Preparation (NOP) of an Environmental Impact Report (EIR) in connection with the project listed above. The purpose of the EIR is to provide information about the potential significant physical environmental effects of the proposed project, to identify possible ways to minimize the project's significant adverse effects, and to describe and analyze possible alternatives to the proposed project. The San Francisco Planning Department is issuing this NOP to inform the public and responsible and interested agencies about the proposed project and the intent to prepare an EIR. This NOP is also available online at: https://sfplanning.org/environmental-review-documents.

Project Description

The project site includes 1101 and 1123 Sutter Street in San Francisco, California as shown in Figure 1. The project site is 0.68 acres (29,700 square feet) and includes two parcels, Assessor's Parcel Numbers 0692-001 and 0692-019, shown in Figure 2. The project site is composed of the eastern half of the block bounded by Larkin and Polk streets on the east and west, respectively, and Sutter and Hemlock streets on the north and south, respectively. The project site is located in the Downtown/Civic Center neighborhood. A summary of the project site characteristics is provided in Table 1.

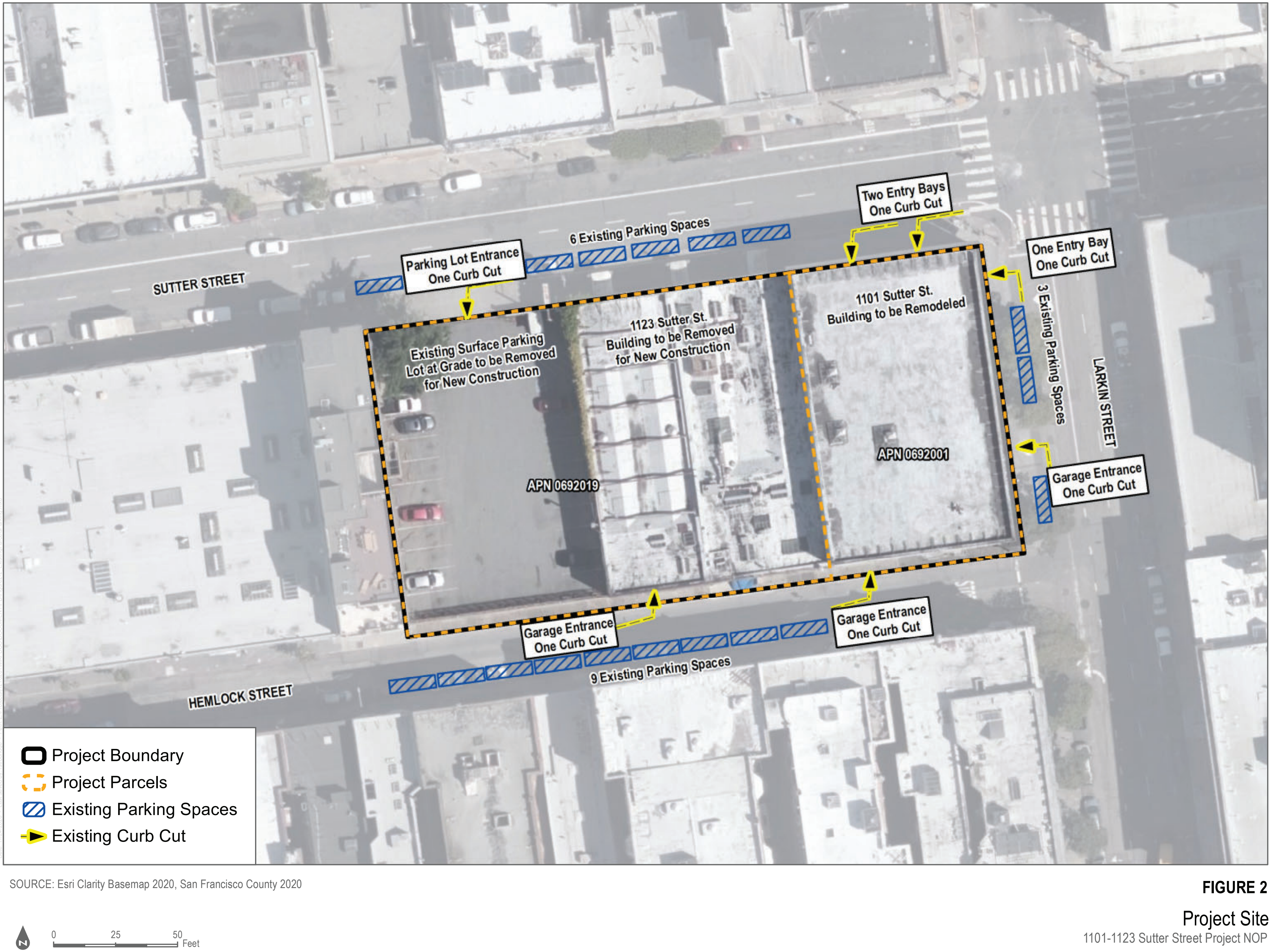


SOURCE: Esri Clarity Basemap 2020, San Francisco County 2020

FIGURE 1

Project Location

1101-1123 Sutter Street Project NOP



SOURCE: Esri Clarity Basemap 2020, San Francisco County 2020

FIGURE 2

Project Site

1101-1123 Sutter Street Project NOP

Table 1 Project Site Characteristics

	1101 Sutter Street	1123 Sutter Street	Total
Lot	**Characteristics**		
Assessor's Parcel No.	0692-001	0692-019	--
Size	9,000 square feet	20,700 square feet	29,700 square feet
Width	75 feet	172.5 feet	247.5 feet
Length	120 feet	120 feet	120 feet

Source: David Baker Architects, 2020.

The proposed project would rehabilitate the existing three-story building at 1101 Sutter Street and demolish the existing building and surface parking lot at 1123 Sutter Street and construct a new 14-story, 150-foot tall building (up to 161 feet to top of rooftop mechanical equipment). Together, the two buildings would provide 254,214 gross square feet of uses – 201 residential units (40 of which would be provided as very low income housing units); 12,621 square feet of commercial, office, and childcare uses; 13,387 square feet of open space; 61 vehicular parking spaces; and 236 bicycle spaces.[1] Figure 3 shows the proposed ground floor level plan for Sutter and Hemlock streets; Figure 4 shows the proposed street parking and loading plan; Figure 5 shows the proposed building cross sections; and Figure 6 shows a visual simulation of the proposed development.

Although the buildings would be separate structures, the design of the proposed project creates a single, cohesive development. The buildings would have shared residential lobbies, as well as shared common open spaces and residential amenities. In addition, both parking garages would be accessible to the residents and commercial users of both buildings. Mechanical equipment and service spaces, such as heating, ventilation, and air conditioning units and the electrical and fire rooms, would be located in 1123 Sutter Street and would serve both buildings. The existing uses and proposed project characteristics are summarized in Table 2.

The existing 35,876-square-foot three-story auto-repair and parking garage at 1101 Sutter Street, a National Register listed building, would be rehabilitated with new uses;[2] it would become a mixed-use residential building with approximately 4,369 square feet of ground floor commercial and office uses and 16 residential units on the second and third floors. The existing partially-below-grade garage would provide 28 vehicular parking spaces and 24 bicycle parking spaces.[3] The rehabilitation of the existing building at 1101 Sutter Street would be completed in accordance with Secretary of the Interior standards for the treatment of historic properties.

The existing 15,720-square-foot one-story plus partial mezzanine mortuary building at 1123 Sutter Street, which is eligible for listing on the California Register of Historical Resources,[4,5] would be demolished along with its surface parking lot, and an approximately 218,338-square-foot, 150-foot tall mixed-use residential building with 8,252 square feet of ground floor commercial and childcare uses and 185 residential units would be constructed.

---

1 The project as proposed includes a 35 percent increase in density as it meets the requirements of the State Density Bonus Law based on the number of affordable units and level of affordability, and would seek concessions and waivers, consistent with the law.

2 National Park Service, Historic Preservation Certification Application, State Historic Preservation Office Review & Recommendation Sheet, Significance – Part 1, Heald's Engineering and Automobile School, 1101 Sutter Street, San Francisco, CA 94109. Date Application Received by SHPO: 7/12/2019. Date of Transmittal to NPS: 8/23/2019.

3 Due to downhill slope of project site, the garage is located below grade along Sutter Street and at grade along Hemlock Street.

4 Architectural Resources Group, 1123 Sutter Street Historic Resource Evaluation, Draft, November 4, 2019.

5 San Francisco Planning Department, Historic Resource Evaluation Response, 1101-1123 Sutter Street, 2020.

The building would include approximately 33 vehicle parking spaces and a total of 208 bicycle parking spaces. The vehicle parking spaces and 96 Class 1 bicycle parking spaces[6] would be provided in a partially-below-grade parking garage.[7] An additional 88 bicycle parking spaces would be provided within the Sutter Street ground floor level of the building, accessible from the residential lobby, and 24 Class 2 bicycle parking spaces would be provided along the sidewalk on Hemlock and Sutter streets.

Table 2 Summary of Existing and Proposed Uses

	1101 Sutter Street		1123 Sutter Street		
	Existing	**Proposed**	**Existing**	**Proposed**	**Net Change**
General					
Number of Building(s)	1	1	1	1	No change
Number of Stories	Three stories plus partially-below-grade garage	Same as existing	One story with partial mezzanine plus partially-below-grade garage	14 stories plus partially-below-grade garage	Increase of 11 stories above the tallest existing building
Building Height (feet)	45 feet above Sutter Street grade	Same as existing	38 feet above Sutter Street grade	150 feet above Sutter Street grade plus 11-foot-tall rooftop equipment enclosure	Increase of 105 feet above the tallest existing building
Total (gsf)	**35,876**	**35,876**	**15,720**	**218,338**	**202,618**
Land Use					
Land Uses	Auto-repair and parking garage	Ground floor commercial with 3-story residential	Mortuary with surface parking lot	Ground floor commercial with 14-story residential	--
Number of Dwelling Units	0	16	0	185	201
Residential (gsf)	0	14,800	0	149,376	164,176
Common Amenities for Residents (gsf)	0	2,674	0	9,541	12,215
Commercial (gsf)	35,876	2,370	15,720	4,602	-44,623
Office (gsf)	0	1,999	0	0	1,999
Childcare (gsf)	0	0	0	3,650	3,650
Open Space (gsf/type)	0	0	0	13,387[1]	13,387
Garage (gsf)	--[2]	7,385	--[2]	11,145	--[2]
Parking					
Vehicle parking spaces	109	28[3]	35[4]	33[3]	-83
Bicycle parking spaces	0	24	0	208	232

Source: David Baker Architects, 2020.
Notes: gsf = gross square feet; -- = not applicable
[1] The total open space consists of 9,288 square feet of common open space and 4,099 of private open space provided on balconies.
[2] Garage space is accounted for in the commercial square footage.
[3] Located in a partially-below-grade garage.
[4] The existing parking at 1101 Stutter consists of 12 spaces in garage and 23 spaces in surface parking lot.

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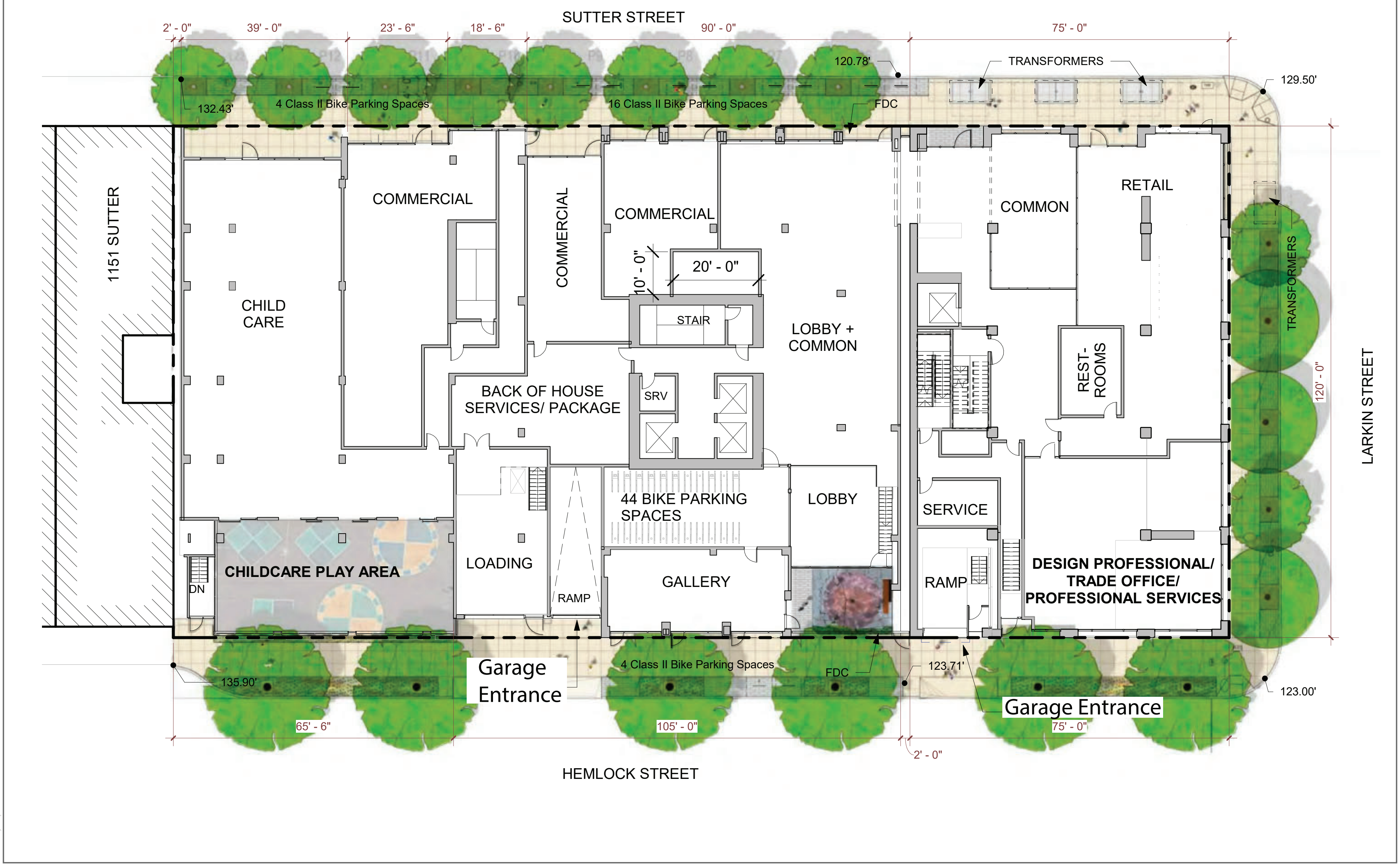
6 As defined in Planning Code section 155.1, class 1 spaces are spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, nonresidential occupants, and employees; class 2 spaces are spaces located in a publicly-accessible, highly visible location intended for transient or short-term use by visitors, guests, and patrons to the building or use.

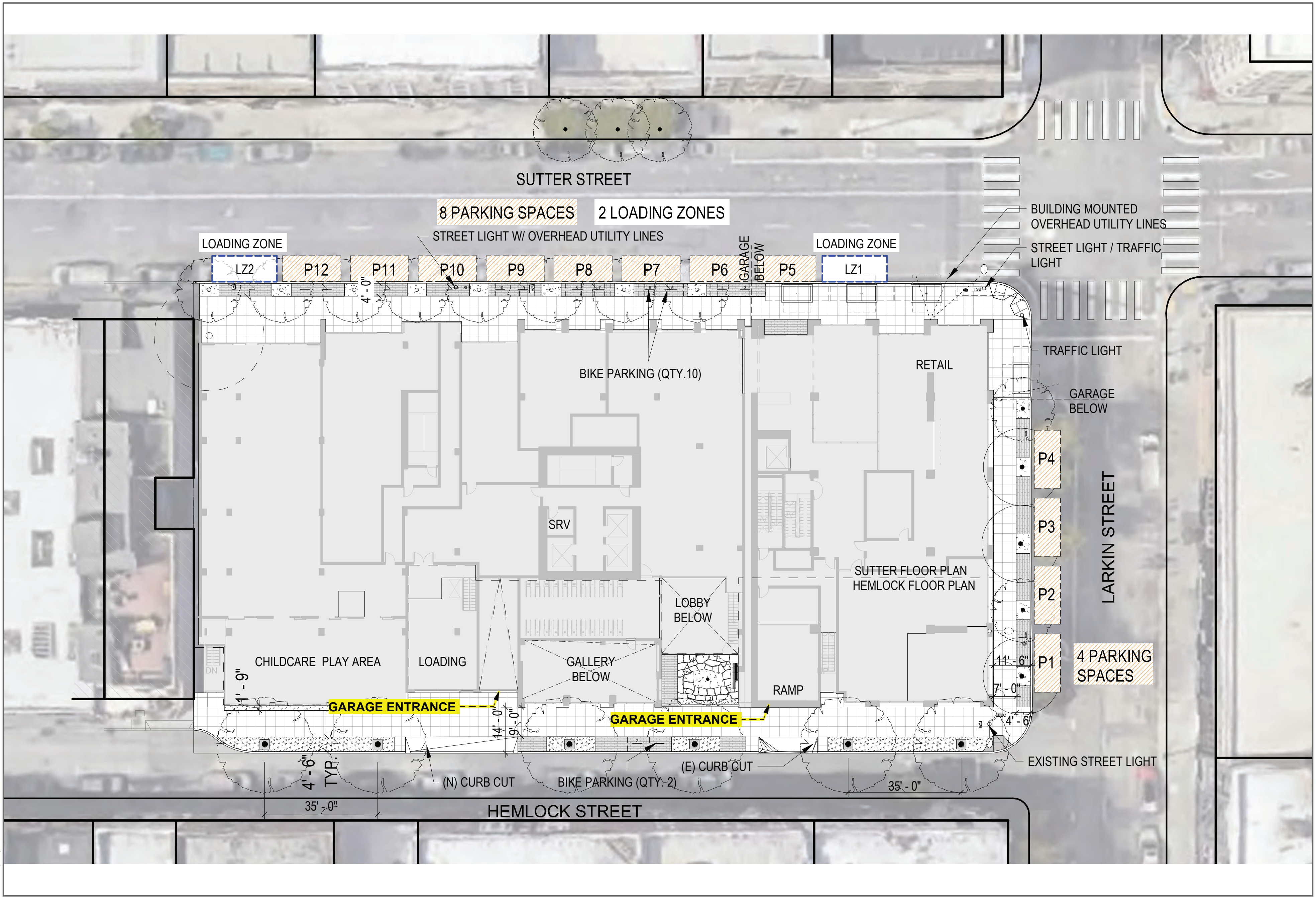
7 The Hemlock Street grade is approximately 10 feet below the Sutter Street grade. Due to downhill slope of project site, the garage is located below grade along Sutter Street and at grade along Hemlock Street.



SOURCE: David Baker Architects 2020

FIGURE 3

Proposed Sutter Street and Hemlock Street Ground Floor Level Plan

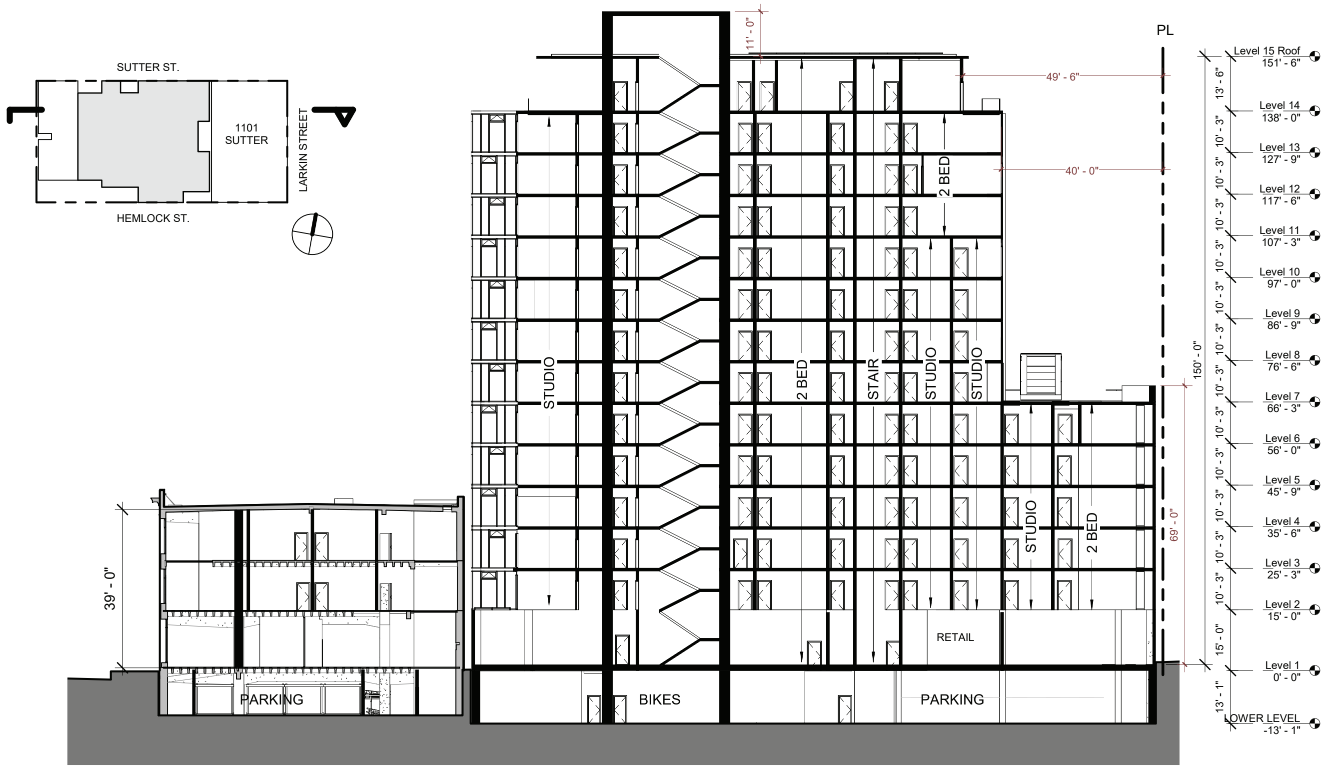


SOURCE: David Baker Architects 2020

FIGURE 4

Proposed Street Parking and Loading Plan

1101-1123 Sutter Street Project NOP



East-West Building Cross-Section

North-South Building Cross-Section

SOURCE: David Baker Architects 2020

FIGURE 5

Building Cross-Sections

SOURCE: David Baker Architects 2020

FIGURE 6

Visual Simulation - Aerial View from Northwest

1101-1123 Sutter Street Project NOP

Open Space

The proposed project would create approximately 13,387 square feet of private and common open space. All of the open space would be located within the proposed building at 1123 Sutter Street as follows: approximately 4,099 square feet of private open space would be provided in residential balconies and approximately 9,288 square feet of common open space would be provided at the outdoor entry court on Hemlock Street and rooftop decks on levels 7 and 14.[8] Residents of 1101 Sutter Street and commercial tenants of the proposed project would have access to the common open space.

Circulation

The circulation and access of the buildings would be designed such that pedestrian access to ground-floor commercial, childcare, and office uses would primarily occur from Sutter Street, although one commercial space within the 1123 Sutter Street building would be accessed from Hemlock Street. Pedestrian access to the residential units in both buildings would be provided from the main residential lobby on Sutter Street and a second residential entrance on Hemlock Street. The ground floor uses along Sutter and Hemlock streets are shown on Figure 3.

Vehicular access to the garages of both buildings would occur via curb cuts along Hemlock Street (shown on Figures 3 and 4). The two existing curb cuts along Hemlock Street would be removed and replaced by a 34-foot wide curb cut at the garage entrance to 1123 Sutter Street, and an 18-foot wide curb cut at the garage entrance to 1101 Sutter Street.

Parking and Loading

The project would reconfigure the parking along Sutter, Larkin, and Hemlock streets in the immediate vicinity of the project, resulting in a net removal of five parking spaces and construction of two new loading zones. The existing and proposed parking and loading configurations are shown in Figures 2 and 4, respectively. The project would replace six existing parking spaces along the south side of Sutter Street with eight parking spaces and two loading zones; three existing parking spaces along Larkin Street would be replaced with four parking spaces; and nine existing parking spaces on the south side of Hemlock Street across the street from the project would be eliminated to accommodate the new sidewalk on the north side of Hemlock Street.

Sidewalks and Streetscape

Sidewalk improvements and modification of parking and loading areas would occur along the project frontage on Sutter, Larkin, and Hemlock streets. The sidewalk on Hemlock Street would generally be widened from 7 feet to 14 feet to create a street tree planter strip and accommodate bicycle parking, as shown on Figures 3 and 4.

Two existing curb cuts along Sutter Street and two existing curb cuts along Larkin Street would be removed. The existing 12-foot wide sidewalks along Sutter and Larkin streets would be maintained.

The three existing street trees located along Larkin Street would remain and the existing tree in the surface parking lot at 1123 Sutter Street would be removed. In addition, 16 new street trees would be planted along Sutter, Larkin, and Hemlock streets.

---

8 Open space would not be provided within the 1101 Sutter Street building in order to rehabilitate it in accordance with Secretary of the Interior standards for the treatment of historic properties.

Project Construction

Construction is anticipated to begin in May 2022 and would occur over approximately 30 months. Construction hours would typically be from 7 a.m. to 3:30 p.m., Monday through Friday. Limited evening work (3:30 p.m. to 5:30 p.m.) and work on Saturdays (7 a.m. to 3:30 p.m.) would be required. Construction workers would park at nearby parking lots or take public transportation to the site.

Hemlock Street and its northern sidewalk adjacent to the project site would be closed for construction staging for the duration of construction. Construction activities would also require the closure of a portion of the southern parking lane on Sutter Street adjacent to the project site; this area would also be used for construction staging. The sidewalk on Sutter Street and along Larkin Street would generally remain open, though temporary closures would be required to complete proposed streetscape improvements (i.e., curb cut removal and street tree planting).

Required Project Approvals

Actions by the San Francisco Planning Commission

- Approval of a conditional use authorization for new construction on a lot greater than 2,500 square feet (Planning Code section 121.1).
- Approval of a conditional use authorization to exceed the non-residential use size limit (Planning Code section 121.2).
- Certification of the Final EIR and adoption of CEQA findings.

Actions by City Departments

- Department of Public Health – Approval of project compliance with article 22A of the Health Code (Maher Ordinance) prior to commencement of any excavation work and approval of any soil mitigation plan as may be required. Approval of a Ventilation Plan demonstrating compliance with Article 38 of the Health Code which establishes Air Pollutant Exposure Zones and requires installation of enhanced ventilation systems in buildings located within these zones. Issuance of a certification of registration for a backup diesel generator.
- Department of Building Inspection – Approval of site permit. Demolition, grading, and building permits for the demolition of the existing buildings and construction of the new building.
- Bureau of Streets and Mapping, Department of Public Works – Street and sidewalk permits for any modifications to public streets, sidewalks, protected trees, street trees, or curb cuts.
- Department of Public Works – Waiver of requirement for 27 equivalent street trees instead of required 30 street trees. Approval of street space permit. [City: please confirm that waiver is required for street trees.]
- San Francisco Municipal Transportation Agency – Approval of the proposed curb modifications, parking modifications, parking garage operations plan, and special traffic permit (including traffic control plan).
- San Francisco Public Utilities Commission – Approval of any changes to sewer laterals. Approval of an erosion and sediment control plan prior to commencing construction, and compliance with post-construction stormwater design guidelines, including a stormwater control plan; required for projects that result in ground disturbance of an area greater than 5,000 square feet.

Actions by Other Agencies

- Bay Area Air Quality Management District – Issuance of permits for installation and operation of the emergency generator.

Summary of Potential Environmental Issues

The proposed project could result in potentially significant environmental effects. As such, the San Francisco Planning Department will prepare an initial study and an EIR to evaluate the physical environmental effects of the proposed project. As required by CEQA, the EIR will further examine those issues identified in the initial study to have potentially significant effects, identify mitigation measures, and analyze whether the proposed mitigation measures would reduce the environmental effects to less-than-significant levels. The initial study will be published as an appendix to the draft EIR and will be considered part of the EIR.

The EIR and initial study will be prepared in compliance with CEQA (California Public Resources Code, sections 21000 et seq.), the CEQA Guidelines, and Chapter 31of the San Francisco Administrative Code, and will address project-specific construction and operational impacts. The EIR and initial study are informational documents for use by governmental agencies and the public to aid in the planning and decision-making process. The EIR and initial study will disclose any physical environmental effects of the proposed project and identify possible ways of reducing or avoiding their potentially significant impacts.

The EIR and initial study will evaluate the environmental impacts of the proposed project resulting from construction and operation of the proposed project, and will propose mitigation measures for impacts determined to be significant. The EIR and initial study will also identify potential cumulative impacts that consider impacts of the proposed project in combination with impacts of other past, present, and reasonably foreseeable future projects.

The EIR and initial study will address all topics in the San Francisco Planning Department's CEQA environmental checklist, including the following environmental topics:

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

It is anticipated that the EIR will include a focused assessment of impacts to historic architectural resources. Other environmental topics are anticipated to be analyzed in the Initial Study, unless significant impacts are identified that cannot be mitigated to a less-than-significant level, in which case, any such impacts analysis will be included in the EIR.

The EIR will include an analysis of the comparative environmental impacts of feasible alternatives to the proposed project that would reduce or avoid one or more of the significant impacts of the project while still meeting most of the project objectives. Alternatives anticipated to be considered include a no project alternative, which considers reasonably foreseeable conditions at the project site if the proposed project is not implemented, as well as partial and full historic preservation alternatives, which consider alternative project scenarios that would partially and/or fully preserve the historic resource that would be demolished under the proposed project. Other alternatives will be evaluated as necessary, depending on the results of the impact analyses of the various environmental topics listed above. The EIR will also include a discussion of topics required by CEQA, including the project's growth-inducing impacts, significant unavoidable impacts, significant irreversible impacts, any known controversy associated with the project and its environmental effects, and issues to be resolved by decision-makers.

Finding

This project may have a significant effect on the environment and an EIR is required. This finding is based upon the criteria of the CEQA Guidelines, sections 15064 (Determining Significant Effect) and 15065 (Mandatory Findings of Significance). The purpose of the EIR is to provide information about the potential significant physical environmental effects of the proposed project, to identify possible ways to minimize the significant effects, and to describe and analyze possible alternatives to the proposed project. Preparation of an NOP or EIR does not indicate a decision by the City to approve or disapprove the project. However, prior to making any such decision the decision makers must review and consider the information contained in the EIR.

Public Scoping Process

Written comments will be accepted until 5:00 p.m. on January 22, 2020. Written comments should be sent or emailed to David Young, San Francisco Planning Department, 49 South Van Ness Avenue, Suite 1400, San Francisco, CA 94103, or david.l.young@sfgov.org, and should reference the project title and case number on the front of this notice.

State Agencies: If you work for an agency that is a Responsible or Trustee Agency, we need to know the views of your agency regarding the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for this project. Please include the name of a contact person in your agency. If you have questions concerning the environmental review of the proposed project, please contact David Young at (628) 652-7494 or david.l.young@sfgov.org.

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

December 17, 2020
Date

for
Lisa Gibson
Environmental Review Officer

Environmental Noise and Vibration Assessment for the 1101–1123 Sutter Street Project (Case No. 2019-022850ENV) City of San Francisco, California

Prepared for:

San Francisco Planning Department, Environmental Planning Division

City and County of San Francisco
49 South Van Ness Avenue, Suite 1400
San Francisco, California 94103

Prepared by:

DUDEK
1630 San Pablo Avenue, Suite 300
Oakland, California 94612
Contact: Michael Carr, INCE

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APPENDICES

FIGURES

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ANSI	American National Standards Institute
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
dB	decibel
dBA	A-weighted decibel
ERO	environmental review officer
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	heating, ventilation, and air conditioning
in/sec	inches per second
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
PPV	peak particle velocity

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1 Introduction

This report reviews applicable noise standards and criteria, evaluates the existing noise environment, and describes modeling assumptions and methodologies used to predict noise impacts and effects associated with the proposed 1101–1123 Sutter Street Project (project). The report assesses the potential for project-generated noise levels to result in noise impacts on nearby noise-sensitive receptors and the compatibility of the proposed project with existing and future noise levels in the area. Measures are recommended to avoid the effects of temporary construction noise and vibration. Appendix A provides a discussion of acoustical fundamentals and terminology used in this memorandum. Appendix B presents the ambient noise data collected at the project site. Appendices C and D present the traffic noise modeling and traffic count data. Appendix E presents the cumulative projects considered in this analysis.

1.1 Noise Analysis Study Area

1101 Sutter Affordable LP proposes to develop the proposed project, which would rehabilitate the existing building at 1101 Sutter Street and demolish the existing building and surface parking lot at 1123 Sutter Street and construct a new 14-story, 150-foot-tall building (up to 161 feet to top of rooftop mechanical equipment) in the City and County of San Francisco (City), California. The site is bounded by Sutter Street to the north, Larkin Street to the east, and Hemlock Street to the south. The project location is shown on **Figure 1**.

The 1101 Sutter Street building was determined eligible for the National Register of Historic Places and the California Register of Historical Resources, and it is considered a historic resource under the California Environmental Quality Act (CEQA) (NPS 2019). The 1123 Sutter Street building was determined eligible for the California register and is also considered a historic resource under CEQA (Architectural Resources Group 2019).

With the exception of the adjacent building immediately west of the site (1151 Sutter Street), which is condominium built in 2009 with office space on the ground floor, the buildings adjacent to and across the street from the project site were constructed in the early 1900s (DOI 1991). Many of the buildings to the north, east, and south of the project site are contributors to the Lower Nob Hill Apartment Hotel Historic District, which is listed in the national register. However, the existing buildings on the project site are not contributors to this district, nor are other buildings on the block, west of the project site (DOI 1991).

1.2 Project Description

The proposed project would rehabilitate the existing building at 1101 Sutter Street and demolish the existing building and surface parking lot at 1123 Sutter Street and construct a new 14-story building. The two buildings would provide 201 residential units, approximately 13,000 square feet of commercial space, and approximately 13,000 square feet of open space. Each building would include a partial-below-grade-garage with access from Hemlock Street. Together, the two garages would provide 61 vehicle parking spaces. The proposed project would also provide 232 bicycle spaces, located inside of the garages and outside along Hemlock Street and Sutter Street. The site plan is shown in **Figure 2**.

The commercial space is anticipated to include three ground-floor retail spaces with frontages along Sutter Street, approximately 1,000 square feet of general commercial space with a frontage along Hemlock Street, and approximately 2,000 square feet of office space accessed from the main building entrance on Sutter Street. Additionally, 3,650 square feet are intended for use as a childcare facility with an outdoor childcare play area facing Hemlock Street.

The 1101 Sutter Street building is currently used as a parking garage and automobile repair facility (assessor land use: Garages(Commercial)) and would be rehabilitated with new uses within the existing building envelope. Minor rehabilitation and improvements would be necessary to facilitate the new proposed uses. The 1101 Sutter Street building would become a mixed-use residential building with approximately 4,369 square feet of ground floor commercial and office uses, and 16 residential units that would be located on the second and third floors. The existing partially-below-grade portion of the garage would remain as a garage, providing 28 vehicular parking spaces and 24 bicycle parking spaces.

The 1123 Sutter Street building would incorporate heating, ventilation, and air conditioning (HVAC) mechanical equipment and solar panels on the rooftop of 1123 Sutter Street, at an elevation of 150 feet above the Sutter Street grade, which would provide service to both 1101 and 1123 Sutter Street. The HVAC equipment would be shielded by a rooftop parapet and equipment enclosures that would reach up to 161 feet above the Sutter Street grade. In addition, a backup 800-kilowatt emergency diesel generator would serve both buildings and would be contained in an acoustic enclosure on the level seven deck, at a height of approximately 66 feet above the Sutter Street grade.

Each building associated with the proposed project would incorporate a separate parking garage. Both the vehicle parking and bicycle parking areas would be accessible from Hemlock Street. The garage for each building would serve as the primary collection location for garbage generated by the buildings; maintenance staff would move the garbage from both buildings for pickup at the curb along Hemlock Street. The parking garage at 1123 Sutter Street would contain an electrical room and fire room that would serve both buildings.

The project would reconfigure the on-street parking along Sutter, Larkin, and Hemlock streets in the immediate vicinity of the project, resulting in a net removal of six parking spaces and construction of two white-curb passenger loading zones. The six existing parking spaces adjacent to the project site along the south side of Sutter Street would be replaced with two loading zones and eight parking spaces (a net increase of two parking spaces). The three existing parking spaces adjacent to the project site along the west side of Larkin Street would be replaced with four parking spaces (a net increase of one parking space). The nine existing parking spaces adjacent to the project site on the south side of Hemlock Street would be eliminated to provide space for the sidewalk widening along Hemlock Street (a net reduction of nine parking spaces).

Construction of the proposed project is anticipated to begin in May 2022 and would occur over approximately 30 months. More specifically, it is anticipated that demolition and construction at 1123 Sutter Street would occur over approximately 30 months, while rehabilitation of 1101 Sutter Street would occur concurrently over a 22-month duration within the same 30-month period as construction of 1123 Sutter Street.

Construction activities at 1123 Sutter Street would generally entail the following phases: (1) site preparation and demolition, (2) excavation and shoring, (3) foundation and below-grade construction, (4) construction of the building, and (5) finishing of interiors. Construction activities at 1101 Sutter Street would generally include the following phases: (1) abatement and demolition, (2) excavation and structural upgrades, (3) construction of the interior components of the building, and (4) finishing of interiors and rehabilitation of the exterior.

At the 1123 Sutter Street lot, excavation would be required to approximately 18 feet below the Sutter Street grade (approximately 8 feet below the Hemlock Street grade) and an additional 5 feet at two locations for elevator pits. The foundation for 1123 Sutter Street is anticipated to be a mat slab foundation. At the 1101 Sutter Street lot, excavation would be required approximately 1 foot below the basement slab of the existing building (to approximately 13 feet below the Sutter Street grade and 3 feet below the Hemlock Street grade) to provide the necessary headroom between the top surface of the basement slab and the structure above, and an additional 3.5 to 5 feet at some locations for new footings and an elevator pit, respectively. Limited permeation grouting of the sand beneath the footings may be required to meet the bearing capacity recommendations for the building. A total of 9,320 cubic yards of soil would be off-hauled from the site.

Construction hours would typically be from 7 a.m. to 3:30 p.m., Monday through Friday. Limited evening work (3:30 p.m. to 5:30 p.m.) and work on Saturdays (7 a.m. to 3:30 p.m.) would be required. Pile driving would not be required for the construction activities at either 1101 or 1123 Sutter Street, although a shoring system involving soldier pile installation around the perimeter of the construction excavation area at 1123 Sutter Street may be required. The piles would be installed in pre-drilled holes and would not require the use of impact or vibratory driving methods (Rockridge Geotechnical 2020). The Preliminary Geotechnical Investigation Report (Rockridge Geotechnical 2020) recommends that, to reduce the potential for vibration-induced settlement of the foundations, heavy equipment should not be used within 10 horizontal feet from adjacent shallow foundations and basement walls. Jumping jack or hand-operated vibratory plate compactors should be used for compacting fill within this zone.

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2 Existing Noise Environment

The proposed project is located between the Polk Gulch and the Tenderloin areas within the Downtown/Civic Center neighborhood of the City. The project site is zoned NCD (Polk Street Neighborhood Commercial District), which has a dense mixed-use character consisting largely of buildings with residential units above ground-floor commercial uses. The project area has a number of existing noise sources that influence the ambient noise environment. The dominant noise source affecting the overall area is transportation noise, primarily generated from vehicular traffic on the local roadway network. In addition, there is general community noise associated with residents and visitors of the area participating in fitness/recreation activities, dining at restaurants, and having conversations.

The existing ambient noise environment in the project area was quantified through surveys of the existing ambient noise environment and through the application of accepted noise prediction methodologies, based on industry-standard references. Separate discussions of identified major noise sources and their respective effects are provided in the following sections.

2.1 Existing Sensitive Land Uses

Sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as uses where quiet is an essential element of the intended purpose. Land uses that are used for relaxation, rest, meditation, learning, and rehabilitative care are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. The City identifies noise-sensitive receptors as residential units, transient lodging, houses of worship, schools, libraries, hospitals, and childcare facilities.

Existing land uses within the plan area consist of residential, neighborhood commercial, light industrial, and mixed-use. Sensitive land uses in the vicinity of the proposed project are primarily multifamily residences and hotel and single room occupancy dwellings located north, east, south, and west of the project site. As shown in **Table 1**, 13 of the 15 structures that are adjacent or located across the street from the project site are classified as *A—Historic Resource Present*, based on San Francisco Planning Information (San Francisco Planning Department 2021). The nearest noise and vibration sensitive land uses are provided in **Table 1** and depicted on **Figure 2**.

Table 1. Existing Noise- and Vibration-Sensitive Receptors in the Project Vicinity

Receptor		Type of Sensitive Receptor	Distance from Project Site Boundary (Feet)	Historical Classification	Representative Ambient Monitoring Location
No.	*Address/APN*				
1	1158 Sutter Street, 0669/018-032	Condos	78	C	ST-1
2	1150 Sutter Street, 0669/009	Office	65	A	ST-1
3	1151 Sutter Street, 0692/020	Condos	0	C	ST-1/LT-1
4	1136-1144 Sutter Street, 0669/008	Apartments	65	A	ST-1
5	1122 Sutter Street, 0668/007	Apartments	65	A	ST-1
6	1114 Sutter Street, 0669/006	Apartments	65	A	ST-1

Table 1. Existing Noise- and Vibration-Sensitive Receptors in the Project Vicinity

Receptor		Type of Sensitive Receptor	Distance from Project Site Boundary (Feet)	Historical Classification	Representative Ambient Monitoring Location
No.	*Address/APN*				
7	1100-1104 Sutter Street, 0669/005	Hotel	65	A	ST-1
8	1112 Larkin Street, 0279/011A	Apartments	110	A	ST-1/ ST-2
9	1038-1098 Larkin Street, 0301/016	SRO	65	A	ST-1/ ST-2
10	1030 Larkin Street, 0301/015	Apartments	65	A	ST-2
11	1010 Post Street, 0692/003	Hotel	35	A	LT-1/ST-2
12	1020 Post Street, 0692/005	Apartments	35	A	LT-1
13	1030 Post Street, 0692/007	Apartments	35	A	LT-1
14	1050 Post Street, 0692/009	Apartments	35	A	LT-1
15	1080 Post Street, 0692/011	Apartments	40	A	LT-1

Sources: San Francisco Planning Department 2021 (for Historical Classification); Dudek analysis completed for this report.
Notes: APN = Assessor's Parcel Number; ST = short-term; LT = long-term; SRO = single resident occupancy.
Historical Classification A indicates the building is a historic resource. Historical Classification C indicates the building is not a historic resource. Surrounding A classified buildings are within the Lower Nob Hill Apartment Hotel Historic District.

2.2 Existing Ambient Noise Survey

An ambient noise survey was performed by Dudek from December 21, 2020, to December 22, 2020, to document the existing noise environment in the project area. Specific consideration was given to documenting noise levels in the vicinity of nearby noise-sensitive receptors and existing transportation noise levels in the project area. Noise measurements were performed in accordance with American National Standards Institute (ANSI) and American Standards for Testing and Measurement guidelines at three locations at or adjacent to the project site, shown on **Figure 1**. Long-term (24-hour) noise monitoring was performed at one location and short-term noise monitoring was conducted at two locations to provide insight into the existing ambient noise environment in the proposed project vicinity. The measured ambient noise levels are also representative of the noise level exposure at nearby noise-sensitive receptors with similar distances to the main noise sources (i.e., traffic/roadways), as shown on **Figure 2**. Ambient noise level data cataloged at the monitoring locations is summarized in **Table 2**; complete 24-hour noise level data is provided in Appendix B.

Noise measurements were performed using Soft dB Piccolo integrating sound level meters. Field calibrations were performed on the sound level meters with acoustic calibrators before and after the measurements. All instrumentation components, including microphones, preamplifiers, and field calibrators have laboratory-certified calibrations traceable to the National Institute of Standards and Technology. The equipment used meets all pertinent specifications of ANSI for Type 2 sound level meters (ANSI S1.4-1983 [R2006]). Meteorological conditions during the monitoring periods were stable with temperatures of 44°F during the overnight period and reaching 59°F; winds ranged from 0 mph to 10 mph during the daytime, with gusts up to 20 mph at night. The sky was overcast with no precipitation occurring during the monitoring period.

The primary noise source affecting the noise monitoring locations was vehicular traffic on the local roadway network. Additional noise sources experienced during the noise-monitoring program included emergency sirens, pedestrian activity, and commercial delivery activity.

Table 2. Summary of Ambient Noise Measurements

Site	Location	Date/ Time	Average Noise Levels (dBA)								
				Daytime				*Nighttime*			
			L_{dn}	L_{eq}	L_{max}	L_{50}	L_{90}	L_{eq}	L_{max}	L_{50}	L_{90}
Long-Term Monitoring[1]											
LT-1	Southern property plane adjacent to Hemlock Alley	12/21/20–12/22/20	67.7	63.3	83.0	55.3	51.5	60.8	82.5	49.1	45.5
Short-Term Monitoring[2]											
ST-1	Northern property plane, adjacent to Sutter St.	12/21/20 3:40 p.m.	70.6	69.9	94.7	58.9	52.7	—	—	—	—
ST-2	Larkin Street/Hemlock Alley, at setback of eastern property plane	12/21/20 4:10 p.m.	71.9	64.9	83.5	59.9	55.3	—	—	—	—

Source: Dudek analysis completed for this report.
Notes: dBA = A-weighted decibels; L_{dn} = Day Night noise level; L_{eq} = average equivalent noise level; L_{max} = maximum noise level; L_{50} = sound level exceeded 50 percent of the period; L_{90} = sound level exceeded 90 percent of the period.
Locations of noise monitoring sites are shown on **Figure 1**.
1 Long-term monitoring is presented for 24 hours, December 21 through December 22, 2020.
2 L_{dn} at short-term monitoring locations interpolated from short-term and long-term data.

2.3 Existing Traffic Noise

Observations and cataloged noise level data collected during the ambient noise survey indicate that the noise level exposure at receptors in the area surrounding the project site is primarily attributable to vehicular traffic. Both Sutter and Larkin Streets are heavily trafficked one-way streets with three travel lanes and on-street parking lanes on both sides of the roadway. The magnitude of the noise level exposure at each receptor location would be dependent on the relative distance from nearby roadways to noise measurement locations, the volume of vehicles on the roadway, and shielding provided by nearby structures.

With the implementation of 2020–2021 shelter-in-place orders (SFDPH 2021), regional stay-at-home orders, and other precautions necessary to aid in controlling the 2019 novel coronavirus disease (COVID-19) pandemic, current traffic volumes have been reduced relative to pre-COVID-19 volumes. In order to establish traffic volumes that are more consistent with pre-COVID-19 volumes on adjacent roadways (referred to herein as adjusted 2020 volumes), traffic count data was commissioned by Dudek in December 2020 and compared to pre-COVID-19 counts.

Pre-COVID-19 counts in the project vicinity were available along Post Street (eastbound one-way street) between Gough Street and Franklin Street from January 2020 (identified as No. 4 in **Table 3**) and along Larkin Street (northbound one-way street) between Sutter Street and Bush Street from October 2016 (identified as No. 5 in **Table 3**). Traffic volumes along Larkin Street were adjusted to the year 2020 using an annual growth rate of 1.6 percent based on the annual household and employment growth over 30 years in the "Big 3 Cities" per Plan Bay Area 2040 (**Tables 4.2** and **4.3** in MTC 2017).

Counts collected in December 2020 at the same locations were compared to these 2020 pre-COVID volumes. This comparison shows that the December 2020 traffic volumes have been reduced to approximately 65 percent of pre-COVID-19 volumes (see Appendix D).

In addition, traffic volume counts were taken in December 2020 for Sutter Street, Larkin Street, and Hemlock Street adjacent to the project site (December 2020 counts). All December 2020 counts were performed during the regional stay-at-home order. The December 2020 counts were adjusted to account for the observed difference between historical traffic volumes and the December 2020 counts as described above, to provide an estimate of traffic volumes not affected by COVID-19 shelter-in-place orders (adjusted 2020 volumes). The average daily traffic volumes for both December 2020 volumes and adjusted 2020 volumes are presented in **Table 3**.

Table 3. December 2020 and Adjusted 2020 Traffic Volumes in the Project Vicinity

Roadway		Direction	ADT Volumes	
No.	***Segment***		***December 2020***	***Adjusted 2020***
Adjacent Roadways to Project Site				
1	Sutter Street, Larkin Street to Polk Street	one-way (westbound)	6,466	10,614
2	Larkin Street, Sutter Street to Hemlock Street	one-way (northbound)	5,276	8,709
3	Hemlock Street, Larkin Street to Polk Street	one-way (eastbound)	284	467
Other Roadways				
4	Post Street, Gough Street to Franklin Street	one-way (eastbound)	3,760	6,172
5	Larkin Street, Sutter Street to Bush Street	one-way (northbound)	5,999	9,903

Source: Traffic count data is presented in Appendix D.
Notes: ADT = Average Daily Traffic volumes
December 2020 ADT volumes were adjusted to account for the reduced traffic volumes resulting from Shelter-in-Place and regional stay-orders are a result of the COVID-19 pandemic.

SOURCE: Esri Clarity Basemap 2020, San Francisco County 2020

0 125 250 Feet

FIGURE 1

Project Vicinity and Noise Monitoring Locations

1101-1123 Sutter Street Project Noise Study

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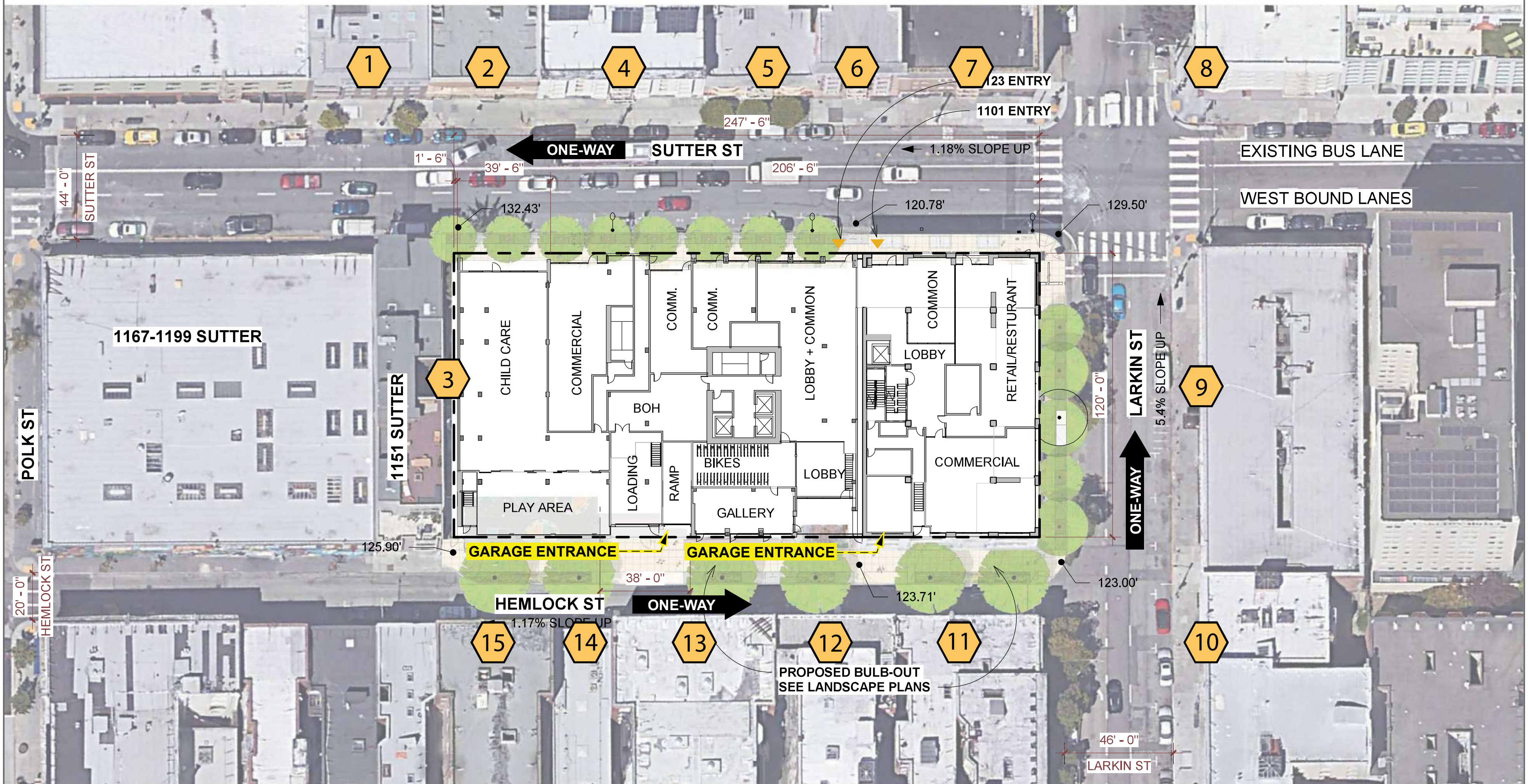

#

Nearby Sensitive Receptor

SOURCE: David Baker Architects 2020

FIGURE 2

Proposed Site Plan and Nearby Sensitive Receptors

1101-1123 Sutter Street Project Noise Study

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To determine existing traffic noise levels, the average daily traffic volumes for the roadway segments immediately adjacent to the project site were used as inputs to the Federal Highway Administration (FHWA) Traffic Noise Model (version 2.5) prediction methodologies (FHWA 1998) within the SoundPLAN modeling environment. The FHWA Traffic Noise Model incorporates sound emissions and sound propagation algorithms based on well-established theory and accepted international standards. The acoustical algorithms contained within the FHWA Traffic Noise Model have been validated with respect to carefully conducted noise measurement programs and show comparable agreement in most cases for sites with and without noise barriers. The noise modeling accounted for factors such as vehicle volume, speed, vehicle type, roadway configuration, distance to the receiver, and propagation over different types of ground (acoustically soft and hard ground).

In order to ensure that modeled existing traffic noise levels correlate with measured traffic noise levels, observations and data collected during short-term noise monitoring was used to calibrate the traffic model. Modeled average traffic noise levels were found to be reasonably consistent with traffic noise measurements conducted at the project site, only over-predicting traffic noise levels by less than 1 decibel (dB). As a 1 dB difference between measured and predicted noise levels is within the tolerances of the traffic noise prediction model and the calibration methodology provided by the California Department of Transportation (Caltrans) (Caltrans 2020a), calibration offsets were not applied to the model.

Modeled existing traffic noise levels are summarized in **Table 4**. The traffic noise levels were modeled at receivers representing the building facades of noise-sensitive receptors adjacent to the respective roadway segments. As shown in **Table 4**, existing traffic noise levels at the building facades of noise-sensitive land uses adjacent to area roadway segments were modeled to range from approximately 64 to 76 A-weighted decibels (dBA) day-night sound level (L_{dn}) under the December 2020 conditions and approximately 66 to 78 dBA L_{dn} for traffic volumes adjusted to represent adjusted 2020 conditions.

Table 4. Summary of Modeled Existing Traffic Noise Levels in the Project Vicinity

Receiver		**ADT Volumes**			**Modeled Traffic Noise Level, dBA Ldn**	
No.	**Description**	***December 2020***	***Adjusted 2020***	**Distance to Centerline**	***December 2020***	***Adjusted 2020***
Adjacent Roadways to Project Site						
1	Sutter Street, Larkin Street to Polk Street	6,466	10,614	27.5	75.7	77.8
2	Larkin Street, Sutter Street to Hemlock Street	5,276	8,709	33.5	73.9	76.1
3	Hemlock Street, Larkin Street to Polk Street	284	467	17	64.2	66.4
Other Roadways						
4	Post Street, Gough Street to Franklin Street	3,760	6,172	33.5	72.5	74.6
5	Larkin Street, Sutter Street to Bush Street	5,999	9,903	33.5	74.5	76.7

Source: Traffic modeling inputs and results are provided in Appendix C.
Notes: ADT = average daily traffic; dBA = A-weighted decibels; L_{dn} = average day-night noise level.
ADT volumes based on data provided by the project traffic consultant. The modeling did not account for shielding provided by natural or man-made intervening objects.

2.4 Existing Aircraft Operations

There are no operational public use airports in the vicinity of the project site. The project site is approximately 10 nautical miles north of the San Francisco International Airport and 10 nautical miles northwest of the Oakland International Airport and is not located within any currently adopted 60 or 65 dB community noise equivalent level\\L_{dn} airport noise contours (San Francisco International Airport 2018; Oakland International Airport 2020). As such, noise associated with existing and future aircraft operations in the area is not a substantial contributor to the ambient noise environment.

2.5 Existing Vibration

There are no major sources of groundborne vibration in the project area. Transportation-related vibration from roadways in the vicinity of the project site is the primary source of groundborne vibration. Heavy truck traffic can generate groundborne vibration, which varies considerably depending on vehicle type, weight, and pavement conditions. However, groundborne vibration levels generated from vehicular traffic are not typically perceptible outside of the roadway right-of-way.

3 Regulatory Criteria

Various public agencies have established noise guidelines and standards to protect citizens from potential hearing damage and other adverse physiological and sociological effects associated with noise. Applicable standards and guidelines are described below.

3.1 Federal Transportation Administration

The Federal Transit Administration (FTA) has developed general assessment criteria for analyzing construction noise. This assessment analyzes a reasonable worst-case scenario based on simultaneous operation of the two noisiest pieces of equipment operating in close proximity to each other. The general assessment criteria for construction noise limits are summarized in **Table 5**.

Table 5. Federal Transit Administration General Assessment Criteria for Construction Noise

Land Use	One-Hour L_{eq} dBA	
	Day	*Night*
Residential	90	80
Commercial	100	100
Industrial	100	100

Source: FTA 2018.
Note: L_{eq} = equivalent sound level; dBA = A-weighted decibels.

In addition, the FTA construction noise criteria include an assessment of whether or not an increase in the ambient noise level greater than 10 dBA would occur with operation of the combined noise from the two noisiest pieces of equipment. A 10 dBA increase in the ambient noise level would represent a doubling of loudness.

3.2 California Department of Transportation

Caltrans provides a review of studies pertaining to the effects of groundborne noise and vibration levels associated with construction and operation of transportation infrastructure. Based on the literature review, Caltrans provides *Guideline Vibration Threshold Criteria* with respect to potential structural damage; these criteria are shown in **Table 6**.

Table 6. Guideline Vibration Damage Potential Threshold Criteria

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

Source: Caltrans 2020b.
Notes: PPV = peak particle velocity; in/sec = inches per second.

Transient sources create a single, isolated vibration event (e.g., blasting or drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

3.3 City and County of San Francisco General Plan

The San Francisco General Plan Environmental Protection Element contains objectives and policies for avoiding or reducing noise in the City within Objectives 9, 10, and 11. Objective 9 focuses on achieving an environment where transportation noise would not interfere with the health and welfare of the citizens of San Francisco. Objective 10 focuses on blocking the exposure to excessive noise within the City. Objective 11 focuses on promoting land uses that are compatible with noise levels within the City (see **Table 7**). The following policies presented below are applicable to the proposed project:

> **Objective 11 – Promote Land Uses That Are Compatible with Various Transportation Noise Levels.**
>
> Because transportation noise is going to remain a problem for many years to come, attention must be given to the activities close to the noise. In general, the most noise-sensitive activities or land uses should ideally be the farthest removed from the noisy transportation facilities. Conversely, those activities that are not seriously affected by high outside noise levels can be located near these facilities.
>
> **POLICY 11.1 – Discourage new uses in areas in which the noise level exceeds the noise compatibility guidelines for that use.**
>
> New development should be examined to determine whether background and/or thoroughfare noise level of the site is consistent with the guidelines for the proposed use. If the noise levels for the development site, as shown on maps 1 and 2 (which should be revised periodically to keep them current), exceed the sound level guidelines established for that use, as shown in the accompanying land use compatibility chart, then either needed noise insulation features should be incorporated in the design or else the construction or development should not be undertaken. Since the sound levels shown on the maps are estimates based on both traffic data and on a sample of sound level readings, actual sound levels for the site, determined by accepted measurement techniques, may be substituted for them.

Table 7. Land Use Compatibility Chart for Community Noise

Land Use Category	Sound Levels and Land Use Consequences L_{dn} Value in Decibels							
	55	60	65	70	75	80	85	
RESIDENTIAL All Dwellings, Group Quarters								
TRANSIENT LODGING Hotels, Motels								

Table 7. Land Use Compatibility Chart for Community Noise

Land Use Category	Sound Levels and Land Use Consequences L_{dn} Value in Decibels							
		55	60	65	70	75	80	85
SCHOOL CLASSROOMS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES, ETC.								
AUDITORIUMS, CONCERT HALLS, AMPHITHEATERS, MUSIC SHELLS								
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS								
PLAYGROUNDS, PARKS								
GOLF COURSES, RIDING STABLES, WATER-BASED RECREATION AREAS, CEMETERIES								
OFFICE BUILDINGS Personal, Business, and Professional Services								
COMMERCIAL Retail, Movie Theaters, Restaurants								
COMMERCIAL Wholesale and Some Retail, Industrial/ Manufacturing, Transportation, Communications and Utilities								
MANUFACTURING COMMUNICATIONS Noise-sensitive								

Satisfactory, with no special noise insulation requirements.

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features including in the design.

New construction or development should generally be discouraged. If new construction or development does not proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Table 7. Land Use Compatibility Chart for Community Noise

Land Use Category	Sound Levels and Land Use Consequences L_{dn} Value in Decibels							
		55	60	65	70	75	80	85

New construction or development should generally not be undertaken.

Source: City of San Francisco 2004.
Note: L_{dn} = day-night sound level.

3.4 City and County of San Francisco Police Code

The San Francisco Noise Control Ordinance is found in article 29, Regulation of Noise, of the San Francisco Police Code. The noise ordinance recognizes that adverse community effects can arise as a result of elevated noise levels attributable to noise sources that may include transportation, construction, mechanical equipment or devices, and entertainment venues. The noise ordinance is used to implement and enforce the City's policy to "maintain noise levels in areas with existing healthful and acceptable levels of noise and to reduce noise levels, through all practicable means" in areas where noise levels have exceeded what has been deemed acceptable.

The sections of the noise ordinance applicable to the proposed project are as follows:

Section 2907. Construction equipment.

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

(b) The provisions of Subsections (a) of this Section shall not be applicable to impact tools and equipment, provided that such impact tools and equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation, and that pavement breakers and jackhammers shall also be equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation.

(c) The provisions of Subsection (a) of this Section shall not be applicable to construction equipment used in connection with emergency work.

(d) Helicopters shall not be used for construction purposes for more than two hours in any single day or more than four hours in any single week.

Section 2908. Construction Work at Night.

It shall be unlawful for any person, between the hours of 8:00 p.m. of any day and 7:00 a.m. of the following day to erect, construct, demolish, excavate for, alter or repair any building or structure if the noise level created thereby is in excess of the ambient noise level by 5 dBA at the nearest property plane, unless a special permit therefor has been applied for and granted by the Director of Public Works or the Director of Building Inspection. In granting such special permit the Director of Public Works or the Director of Building Inspection shall consider: if construction noise in the vicinity of the proposed work site would be less objectionable at night than during daytime because of different population levels or different neighboring activities if obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during daytime; if the kind of work to be performed emits noises at such a low level as to not cause significant disturbance in the vicinity of the work site, if the neighborhood of the proposed work site is primarily residential in character wherein sleep could be disturbed: if great economic hardship would occur if the work were spread over a longer timers if the work will abate or prevent hazard to life or property; and if the proposed night work is in the general public interest. The Director of Public Works or the Director of Building Inspection shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise emissions, as required in the public interest.

The provisions of this Section shall not be applicable to emergency work.

Section 2909. Noise limits.

(a) Residential Property Noise Limits.

> (1) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on residential property over which the person has ownership or control, a noise level more than five dBA above the ambient at any point outside of the property plane.
>
> (2) No person shall produce or allow to be produced by any machine, or device, music or entertainment or any combination of same, on multi-unit residential property over which the person has ownership or control, a noise level more than five dBA above the local ambient three feet from any wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed, except within the dwelling unit in which the noise source or sources may be located.

(b) Commercial and Industrial Property Noise Limits. No person shall produce or allow to be produced by any machine or device, music or entertainment or any combination of same, on commercial or industrial property over which the person has ownership or control, a noise level more than eight dBA above the local ambient at any point outside of the property plane. With respect to noise generated from a licensed Place of Entertainment, in addition to the above dBA criteria a secondary low frequency dBC criteria shall apply to the definition above. No noise or music associated with a licensed Place of Entertainment shall exceed the low frequency ambient noise level defined in Section 2901(f) by more than 8 dBC.

(c) Public Property Noise Limits. No person shall produce or allow to be produced by any machine or device, or any combination of same, on public property, a noise level more than ten dBA above the local ambient at a distance of twenty-five feet or more, unless the machine or device is being operated to serve or maintain the property or as otherwise provided in this Article.

(d) Fixed Residential Interior Noise Limits. In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

(e) Noise Caused by Activities Subject to Permits from the City and County of San Francisco. None of the noise limits set forth in this Section apply to activity for which the City and County of San Francisco has issued a permit that contains noise limit provisions that are different from those set forth in this Article.

4 Project Analysis

4.1 Construction Noise

Development of the proposed project would generate noise levels associated with the operation of heavy construction equipment and construction-related activities in the project area. Construction noise levels in the project area would fluctuate depending on the particular type, number, and duration of usage for the various pieces of equipment, as well as the relative exposure and distance between the source and receptors.

As previously discussed, the proposed project construction is anticipated to begin May 2022 and continue for approximately 30 months. The construction activities are anticipated to typically occur between 7 a.m. and 3:30 p.m., Monday through Friday, with limited work occurring during the evening hours of 3:30 p.m. to 5:30 p.m. and on Saturday during daytime hours (7 a.m. to 3:30 p.m.). Nighttime construction activities are not anticipated. As such, the analysis focuses on daytime construction activities.

Proposed project construction operations would be subject to the police code threshold of 80 dBA at 100 feet (equivalent to 86 dBA at 50 feet) and the FTA's daytime thresholds of 90 dBA equivalent sound level (L_{eq}) at the nearest noise-sensitive receptor. The proposed project construction operations would also be considered potentially significant if they would result in an increase in the ambient noise environment of more than 10 dBA. The police code threshold is evaluated based on the maximum noise level produced by construction equipment used for the project. The evaluation against the FTA threshold is based on the combined noise levels of the two loudest pieces of equipment, their anticipated location on the construction site, and the distance to the nearest noise-sensitive receptor.

The effects of construction noise depend largely on the types of construction activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment in the vicinity of the receiver. Construction generally occurs in several discrete stages, with each stage varying the equipment mix and the associated noise. These stages alter the characteristics of the noise environment generated on the project site and in the surrounding community for the duration of the construction stage.

Based on information provided by the Project sponsor, construction will occur in six stages: demolition, site preparation, grading, building construction, architectural coating and paving. The demolition, site preparation, and grading stages are typically found to generate the highest noise levels because of the construction activities and heavy equipment used. Erection of large structural elements and mechanical system installation during the building construction stage could require the use of a crane for placement and assembly tasks, which may also generate substantial noise. **Table 8** lists maximum reference noise levels typically generated by construction equipment that the project sponsor anticipates would be used for the construction of the Project.

Depending on the equipment types and operations being performed, construction equipment can be considered to operate in two modes, mobile and stationary. Mobile equipment sources move around a construction site performing tasks in a recurring manner (e.g., loaders, graders, dozers). Stationary equipment operates in a given location for an extended period of time to perform continuous or periodic operations. Thus, it is necessary to determine the location of stationary sources during specific phases and the effective acoustical center of operations for mobile equipment during various stages of the construction process. The effective acoustical center is the idealized point from which the energy sum of all construction activity noise near and far would appear to originate.

Operational characteristics of heavy construction equipment are additionally typified by short periods of full-power operation followed by periods of operation at lower power, idling, or powered-off conditions. These characteristics are accounted for within the prediction model, through the application of typical acoustical usage factors (operational percentage) to the reference maximum noise levels presented in **Table 8.**

Table 8. Noise Emission Levels from Construction Equipment

Equipment Type	Acoustical Usage Factors (%)	Maximum Noise Levels, L_{max} (dBA) at 50 feet
Air Compressor	40	80
Backhoe	40	80
Compactor	20	80
Concrete Pump Truck	20	82
Concrete Saw	20	**90**
Crane, Mobile	16	85
Dozer	40	85
Excavator	40	81
Forklift	40	85
Front-End Loader	40	80
Generator	50	82
Grader	40	85
Hoe Ram	20	**90**
Grader	40	85
Jackhammer	20	**89**
Paver	50	85
Roller	40	85
Scraper	40	85
Tractor	40	84
Trucks	40	84
Welder	40	84

Sources: DOT 2006; FHWA 2008.
Notes: L_{max} = maximum noise level; dBA = A-weighted decibels.
All equipment fitted with a properly maintained and operational noise control device, per manufacturer specifications.
Noise levels in **bold** exceed the noise ordinance section 2907(a) limit of 86 dBA at 50 feet, but some of the exceedances are from impact equipment exempt from this limit provided that the impact tools are fitted with intake and exhaust mufflers and pavement breakers and jackhammers are fitted with recommended acoustically attenuating shields or shrouds.

San Francisco Police Code

As shown in **Table 8**, reference noise levels measured at 50 feet from three individual pieces of construction equipment would exceed the 86 dBA at 50 feet (equivalent to 80 dBA at 100 feet) threshold established within police code article 29, section 2907(a). The construction operations that would exceed the police code threshold are the use of a concrete saw, hoe ram (mounted impact hammer), and jackhammer.

Impact tools and equipment, such as the hoe ram or jackhammer, are exempt from the provisions of section 2907, providing that the tools and equipment have intake and exhaust mufflers and be equipment with acoustical shields or shrouds determined to provide accomplish maximum noise attenuation for the application.

Should concrete saws be necessary, they would typically be considered intermittent or temporary as they are used for short durations at targeted locations typically shielded by on-site intervening elements (e.g., building envelope, façade elements, large on-site equipment). However, based on a standard attenuation rate of 6 dB per doubling of distance, operations involving the use of a concrete saw with direct exposure and within 125 feet of nearby noise-sensitive receptors would result in noise level exposures exceeding the thresholds in police code section 2907(a). Therefore, the proposed project would require implementation of the noise control measures presented in section 5, Recommended Noise Reduction Measures, to address construction operations involving concrete saws. With implementation of the recommend noise control measures, the proposed project would comply with police code section 2907 criteria.

Combined Construction Noise Analysis

The combined hourly average noise levels attributable to the loudest two pieces of construction equipment associated with the proposed project construction activities were calculated based on the reference noise levels, usage rates, and operational characteristics discussed above and presented in **Table 8**. Construction noise levels were predicted using reference noise emission data and operational parameters contained in the FHWA *Roadway Construction Noise Model*, the FTA guidance manual, and typical construction fleet assumptions. The noise-sensitive receptor located nearest to the acoustical center of the construction operations is along the western property plane, adjoining 1151 Sutter Street (residential condominium). The lowest daytime ambient noise level measured at the LT-1 monitoring location, which is representative of noise levels at the southwest property plane, was approximately 53 dBA. The combined construction noise level and the increase over ambient noise levels are presented by construction stage in **Table 9**.

As indicated in **Table 9**, noise levels for typical construction activities are predicted to generate noise levels ranging from approximately 73 to 78 dBA at the nearest noise-sensitive receptor at the western property plane. Therefore, daytime combined construction noise levels would comply with the FTA threshold of 90 dBA L_{eq}.

Based on the lowest measured daytime ambient noise levels at the location representative of the nearest noise-sensitive receptor and the modeled combined construction noise levels, the proposed project construction operations would exceed the existing ambient noise levels by approximately 20 to 25 dB. This would exceed the 10 dB increase above ambient noise levels by 10 to 15 dB. It should be noted that, as with existing traffic volumes (see section 2.3), the existing ambient noise levels presented in **Table 9** are lower than those that were experienced during pre-COVID-19 conditions. As such, the increases shown above the existing ambient levels are conservative, since the ambient noise levels during pre-COVID-19 conditions would be elevated due to increases in traffic volumes.

Based on the increase above ambient noise levels at nearby noise-sensitive receptors (shown on **Figure 2**), the proposed project construction activities, and the uncertainty in the difference between current conditions (December 2020) and pre-COVID measured conditions, it is recommended that the noise control measures presented in section 5 be incorporated in the project. These measures would reduce project-generated construction noise at the nearest noise-sensitive receptor that adjoins the project site to the west (1151 Sutter Street).

As shown on **Figure 2**, noise-sensitive receptors are also located across Sutter Street to the north, across Larkin Street to the east, and across Hemlock Street to the south. These noise-sensitive receptors are located farther from the project site than 1151 Sutter Street, as shown in **Table 1**, and therefore would experience lower noise levels. Consequently, the recommended noise reduction measures implemented to reduce construction noise exposure at 1151 Sutter Street would also reduce construction noise at the noise-sensitive receptors to the north, east, and south.

Construction/rehabilitation activities at 1101 Sutter Street would primarily occur within the building, resulting in lower construction noise levels than presented here, which assume demolition, grading, and building construction across the entire project site. The existing building at 1101 Sutter Street would also provide some shielding from construction activities at 1123 Sutter Street for sensitive receptors to the east of the project site. These considerations, which would further reduce noise levels beyond those presented here, are not included in the analysis and, as such, the discussion is conservative.

Table 9. Construction Noise Model Results Summary

Construction Stage	Two Loudest Pieces of Equipment	Noise Level at Nearest Receptor[1] (western property plan) dBA		
		Estimated Construction Combined Noise Levels (L_{eq})	*Existing Ambient Noise Levels*	*Increase over Ambient*
Demolition	Concrete Saw Excavator	77.5	53.2	**24.3**
Site Preparation	Grader Dozer	76.4	53.2	**23.2**
Grading	Concrete Saw Excavator	77.5	53.2	**24.3**
Building Construction	Crane Tractor	74.2	53.2	**21.0**
Architectural Coating	Compressor Generator	73.2	53.2	**20.0**
Paving	Paver Roller	75.8	53.2	**22.6**

Source: Dudek analysis completed for this report.
Notes: dBA = A-weighted decibels; L_{eq} = equivalent sound level.
Bold indicates that the modeled combined construction noise levels exceed the respective criteria; an absolute threshold of 90 dBA Leq or an increase in the ambient noise environment exceeding 10 dB.
1 Nearest receptor is 1151 Sutter Street, a residential condominium, at the western edge of the project site.

4.2 Construction Vibration

Construction activities on the project site may result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. For the potential for continuous/frequent intermittent vibration to result in damage to structures, Caltrans indicates a threshold of 0.25 inches per second (in/sec) peak particle velocity (PPV) for “historic and some old buildings” and 0.5 in/sec PPV for “new residential construction” (Caltrans 2020b).

The structure nearest the proposed project site is 1151 Sutter Street, which is non-historic and utilized modern construction techniques. The relevant threshold to protect against structural damage is Caltrans’ 0.5 in/sec PPV. 1158 Sutter Street is also classified as non-historic and subject to the 0.5 in/sec PPV threshold. These nearby receptors are represented as receptors 1 and 3 on **Figure 2**.

Other sensitive receptors to the north, east, and south are buildings that are part of the Lower Nob Hill Apartment Hotel District, the majority of which are classified as historic resources by the City of San Francisco Property Information Map (City of San Francisco 2020b). These buildings are across Sutter, Larkin, and Hemlock streets from the project site and are not immediately adjacent to the site. The relevant threshold to protect against damage would be the Caltrans threshold of 0.25 in/sec PPV. The closest of these structures are buildings to the south across Hemlock Street (1010–1080 Post Street, shown as receptors 11 through 15 on **Figure 2**); these structures are approximately 35 feet from the project's southern property plane.

Vibration impacts to structures are usually significant if construction vibration could potentially result in structural or cosmetic damage or, in the case of a historic resource, materially alter the resource pursuant to CEQA Guidelines section 15064.5. Representative groundborne vibration levels for various types of construction equipment that may be associated with the proposed project, based on construction assumptions provided by the project sponsor, are summarized below in **Table 10** at a reference distance of 25 feet (FTA 2018).

Groundborne vibration attenuates rapidly, even over short distances, with vibration levels varying depending on soil conditions, construction methods, and the equipment used. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. Based on the 25-foot reference levels, construction vibration levels were calculated based on standard Caltrans and FTA equations at distances of 5 feet to represent the immediately adjacent building to the west, 35 feet to represent the structures to the south across Hemlock Street described above, and 65 feet to represent the vibration at the nearest structures to the north and east of the project site, many of which are also part of the historic Lower Nob Hill Apartment Hotel District.

Table 10. Representative Vibration Levels for Construction Equipment

Equipment	PPV (in/sec)			
	25 feet (Reference Level)	*5 feet[1,2]*	*35 feet[1,3]*	*65 feet[1,4]*
Hydraulic Breaker/Hoe Ram	0.089	**0.995**	0.054	0.021
Large Bulldozer	0.089	**0.995**	0.054	0.021
Heavy-duty Trucks (Loaded)	0.076	**0.850**	0.046	0.018
Jackhammer	0.035	0.391	0.021	0.008
Small Bulldozer	0.003	0.034	0.002	0.001

Source: FTA 2018.
Notes: PPV = peak particle velocity; in/sec = inches per second.
Bold indicates that the estimated vibration exceeds the 0.25 in/sec PPV criteria for "historic and some old buildings" or the 0.5 in/sec PPV criteria for "new residential construction." The applicable threshold is further explained in the notes below.

1 Vibration levels can be approximated at other locations and distances using the above reference levels and the following equation: $PPV_{equip} = PPV_{ref} (25/D)^{1.5}$ (in/sec); where "PPV ref" is the given reference value in the above table (25-feet), "D" is the distance for the equipment to the new receiver in feet.
2 Representative of the exposure of the western property plane and 1151 Sutter Street. Subject to the 0.5 in/sec PPV threshold.
3 Representative of sensitive receptors located south across Hemlock Street. Subject to the 0.25 in/sec PPV threshold.
4 Representative of sensitive receptors located north across Sutter Street and east across Larkin Street. Subject to the 0.25 in/sec PPV threshold.

Project construction activities, such as the use of mounted hydraulic breakers (hoe-rams), large bulldozers and similar equipment (e.g., tracked vehicles, compactors), caisson drilling, loaded trucks, and jackhammers may generate substantial vibration at receptors immediately adjacent to the project site at the nearest receptor (1151

Sutter Street). Some activities would potentially occur as close as approximately 5 feet, and at this distance vibration levels due to construction are calculated to reach up to approximately 1 in/sec PPV, which would exceed the applicable 0.5 in/sec PPV threshold for the potential to damage new residential structures at the western property plane. Therefore, implementation of a series of recommended construction vibration controls is discussed in section 5; these controls would avoid substantial adverse vibration effects on adjacent buildings.

Project-generated groundborne noise and vibration levels at nearby sensitive receptors that are historic structures are not predicted to exceed the Caltrans recommended damage criteria of 0.25 in/sec PPV for the potential to damage “historic and some older buildings” (Caltrans 2020b). At these locations, and in other surrounding areas where vibration would not be expected to cause cosmetic damage, vibration levels may still be perceptible. However, as with any type of construction, perceptible vibration would be anticipated. Given the intermittent and short duration of the construction stages with the highest potential of producing vibration (use of jackhammers and other high-power tools), the use of administrative controls, such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration during hours with the least potential to affect nearby sensitive receptors, would minimize annoyance due to perceptible vibration. In addition, people are generally more sensitive to vibration during nighttime hours than during daytime hours, and no nighttime construction is planned.

4.3 Traffic Noise

A permanent increase in noise levels due to project-generated traffic volumes would be considered significant if the project would result in an increase in the ambient noise environment of more than 5 dBA for ambient levels below 60 dBA L_{dn} or more than 3 dBA for ambient noise levels above 60 dBA L_{dn}. Residences near the project site are exposed to existing noise levels greater than 60 dBA L_{dn}; therefore, a significant noise increase would occur if project-generated traffic would permanently increase noise levels by 3 dBA L_{dn}. A 3 dBA L_{dn} noise increase would be expected if the project would double existing traffic volumes along a roadway. Traffic volumes for the December 2020 conditions, adjusted 2020 conditions, and project-generated trips are presented in **Table 11**, along with the relative increase in noise levels that would result from the project trips.

Table 11. Project Generated Traffic Noise Increase

Roadway		ADT Volumes			Increase in dB	
No.	***Segment***	***December 2020***	***Adjusted 2020***	***Project Trips***	***December 2020***	***Adjusted 2020***
Adjacent Roadways to Project Site						
1	Sutter Street, Larkin Street to Polk Street	6,466	10,614	132	0.1	0.1
2	Larkin Street, Sutter Street to Hemlock Street	5,276	8,709	145	0.1	0.1
3	Hemlock Street, Larkin Street to Polk Street	284	467	218	2.5	1.7

Source: Traffic count data is presented in Appendix D.
Note: ADT = Average Daily Traffic volumes; dB = decibels.

As shown in **Table 11**, the vehicle trips associated with the proposed project would not result in a doubling of traffic volumes on roadways in the project vicinity under the December 2020 condition or under the adjusted 2020 conditions. Under the more conservative December 2020 conditions with lower traffic volumes, the greatest increase associated with project-generated trips would result in an increase of 2.5 dB on Hemlock Street. Therefore, implementation and development of the project is not projected to result in an increase in traffic noise levels of 3 dB L_{dn} or more at noise-sensitive receptors along local area roadways or contribute significantly to further degradation of the ambient noise environment.

4.4 Stationary Noise Sources – Mechanical Equipment

Facility mechanical equipment associated with the operation of commercial retail and office uses generally includes HVAC equipment, backup generators, and various fans, pumps, and compressors that often can be significant noise sources. Mechanical equipment is often mounted on rooftops, partially enclosed at grade adjacent to buildings, or located within mechanical equipment rooms. Noise levels generated by the HVAC and other mechanical equipment vary significantly depending on unit size, efficiency, location, type of rotating or reciprocating components, and orientation of openings.

HVAC equipment which would serve both of the proposed project buildings would be located within the rooftop parapet and behind rooftop mechanical equipment screens at the proposed 1123 Sutter Street building. 1101 Sutter Street would be served by one 6-ton packaged roof top unit for the residential units and one 2-ton roof top unit for the corridors. 1123 Sutter Street would be served by two 17.5-ton roof top units for the residential units and one 6-ton roof top unit for the corridors. Since specific manufacturers and models have not yet been determined, sound level data for Trane packaged roof top units were used as reference sound level inputs for the noise prediction model.

A backup 800-kilowatt emergency diesel generator would serve both 1101 and 1123 Sutter Street and would be contained in an acoustic enclosure on the level 7 deck at a height of approximately 66 feet above the Sutter Street grade. Because the generator would be contained in an acoustic enclosure designed to limit noise exposure both at the level 7 deck and surrounding area and because the operation of the generator would be limited to periodic testing and for emergencies resulting from a power outage, it would not be a substantial source of noise to the surrounding community. The reference sound power levels and operational characteristics were entered into the computerized noise simulation model developed for the project and calculated at the property plane of nearest noise-sensitive receptors. Modeled noise levels associated with the proposed project's stationary mechanical equipment are presented in **Table 12.**

Table 12. Modeled Mechanical Noise Levels

Receiver Description	Noise Level, L_{eq} dBA	
	Daytime	*Nighttime*
1151 Sutter Property Plane	46.5	46.5
Property Plane North of Sutter Street	41.5	41.5
Property Plane East of Larkin Street	33.1	33.1
Property Plane south of Hemlock Street	35.2	35.2

Notes: Leq = average equivalent noise level; dBA = A-weighted decibels.

As shown in **Table 12**, stationary mechanical noise levels associated with the proposed project are calculated to range from approximately 33 to 47 dBA L_{eq} at the property plane of the nearby noise-sensitive receptors. Existing ambient noise levels measured at the LT-1 monitoring location, which is representative of noise levels at the southwestern property plane, reached approximately 51 dBA Leq during the quietest hourly period. Operation noise levels due to roof-top mechanical equipment would not exceed ambient noise conditions by 5 dBA nor produce noise levels that would exceed 45 dBA inside the nearest residences between the hours of 10 p.m. to 7 a.m. or 55 dBA between the hours of 7 a.m. to 10 p.m. with windows open.

5 Cumulative Analysis

5.1 Cumulative Construction Noise

The cumulative setting for noise impacts includes a 0.25-mile buffer around the project site. Cumulative projects proposed within this buffer were qualitatively evaluated to determine if noise levels produced by the proposed project and cumulative projects could combine and result in noticeably higher construction noise levels at nearby sensitive receptors. The cumulative projects are shown in Appendix E on **Figure E-1** and listed in **Table E-1**. The nearest cumulative project that would have the potential to contribute to the cumulative noise environment would be the 80-foot-tall mixed-use building located at 955 Post Street; which is approximately 300 feet southwest of the project site with existing structures directly between the two, including the 5-story multi-family residential building at the northeast corner of Larkin and Post Streets (1000 - 10014 Larking Street/982 984 Post Street). Other projects on the cumulative list are located too far from the project site, with a significant number of intervening structures, which would limit the ability for noise levels to combine in the cumulative environment.

Cumulative noise increases associated with construction of the proposed project and 955 Post Street could occur if this project were to be constructed at the same time and affect the sensitive receptors between the two sites. However, given the distance between the two projects, intervening structures, and existing background noise sources, construction noise levels generated by project construction would not combine to result in noise levels exceeding the noise level thresholds of 10 dBA above ambient or 90 dBA. Additionally, both projects would be required to comply with the noise ordinance. code.

5.2 Cumulative Construction Vibration

Vibration effects are highly localized, and vibration attenuates rapidly from the source. Therefore, vibration impacts attributable to vibration generating activities generally would be limited to buildings and structures adjacent to the project site. Implementation of the recommended reduction measures for the proposed project would reduce the project-related groundborne noise and vibration levels to below the Caltrans recommended damage thresholds. Due to vibration effects being highly localized and the rapid attenuation of rates, vibration levels generated by the proposed project would not combine with those of the closest cumulative projects (955 Post Street and 1033 Polk Street) to result in cumulative vibration effects that would damage nearby buildings, including at 1151 Sutter which would require vibration reduction measures to reduce vibration impacts.

5.3 Cumulative Traffic Noise

As cumulative development projects are completed, the additional vehicular trips generated by the projects would increase traffic noise levels to some degree. Cumulative projects with the potential to generate significant vehicular trips on area roadways include the mixed-use developments located at 955 Post Street, 1200 Van Ness Avenue, and 921 O'Farrell. The Transportation Study Determination Request for 955 Post Street illustrates that the Travel Demand Tool estimates a total vehicle trips of 143 associated with the project[1]. The Travel Demand Tool for 1200 Van Ness estimates a total number of 543 vehicle trips would be associated with the project. For 921 O'Farrell, the

[1] The San Francisco County Transportation Authority, Travel Demand Tool is located at: https://sftraveldemand.sfcta.org/

Travel Demand Tool estimated a total of 86 vehicle trips would be associated with 921 O'Farrell. Based on the estimated total vehicle trips associated with the cumulative projects the projects would not generate the doubling of traffic volumes that would be necessary to result in a 3 dB increase in traffic noise levels on the roadway segments adjacent to the proposed project. Additionally, with the distance between the proposed project and the other cumulative projects, vehicle trips would be distributed across the roadway network as they disperse from the origin. This distribution of trips would result in further reductions in the effect of the cumulative traffic volumes on the cumulative noise environment.

5.4 Cumulative Operational Noise

Operational/stationary noise sources associated with the cumulative projects would be required to comply with the police code, similar to the proposed project. If operational noise sources associated with cumulative projects were located in close proximity, it would be possible for the sound levels to combine and result in elevated noise levels. However, due to the distance between the proposed project and the other cumulative projects and the typical attenuation rate for operational/stationary noise sources of 6 dB per doubling of distance, sound levels generated by the proposed project would attenuate to less than background ambient noise levels and not contribute to a combined cumulative noise environment.

6 Recommended Noise and Vibration Reduction Measures

6.1 Noise Reduction

Measure–1 Construction Noise Control

Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific 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 a performance target of construction activities not resulting in a noise level greater than 90 dBA at noise-sensitive receptors and 10 dBA above the ambient noise level at noise-sensitive receptors. The property owner shall ensure that requirements of the construction noise control plan are included in contract specifications. 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. The construction noise control plan shall include the following measures to the degree feasible, or other effective measures, to reduce construction noise levels:

- Use construction equipment that is in good working order and inspect mufflers for proper functionality.
- Select quiet construction methods and equipment (e.g., improved mufflers, use of intake silencers, engine enclosures).
- Use construction equipment with lower noise emission ratings whenever possible, particularly for air compressors.
- Prohibit the idling of inactive construction equipment for more than five minutes.
- Locate stationary noise sources (such as compressors) as far from nearby noise-sensitive receptors as possible, muffle such noise sources, and construct barriers around such sources and/or the construction site.
- 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.
- 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.
- 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 is dense enough to attenuate noise.

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:

- Designation of an on-site construction noise manager for the project
- 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., pier drilling, pile driving, and

other activities that may generate noise levels greater than 90 dBA at noise sensitive receptors) about the estimated duration of the activity

- A sign posted on site describing noise complaint procedures and a complaint hotline number that shall always be answered during construction
- A procedure for notifying the planning department of any noise complaints within one week of receiving a complaint
- 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 (residences, hospitals, convalescent homes, schools, places of worship, hotels and motels, and sensitive wildlife habitat)
- 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

6.2 Noise Reduction Measure–2 Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction

Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific pre-construction survey and vibration management plan to the environmental review officer (ERO) or the ERO's designee for approval. The plan shall identify all feasible means to avoid damage to the potentially affected building at 1151 Sutter Street. The project sponsor shall ensure that the following requirements of the pre-construction survey and vibration management plan are included in contract specifications, as necessary.

Pre-Construction Survey. Prior to the start of any ground-disturbing activity, the project sponsor shall engage a consultant to undertake a pre-construction survey of the potentially affected building at 1151 Sutter Street. If potentially affected buildings and/or structures are not potentially historic, a structural engineer or other professional with similar qualifications shall document and photograph the existing conditions of the potentially affected buildings and/or structures. The project sponsor shall submit the survey to the ERO or the ERO's designee for review and approval prior to the start of vibration-generating construction activity.

Vibration Management and Monitoring Plan. The project sponsor shall undertake a vibration management and monitoring plan to avoid or reduce project-related construction vibration damage to adjacent buildings and/or structures and to ensure that any such damage is documented and repaired. The vibration management and monitoring plan shall apply to all potentially affected buildings and/or structures at 1151 Sutter Street. Prior to issuance of any demolition or building permit, the project sponsor shall submit the vibration management and monitoring plan that lays out the monitoring program to the ERO for approval.

The vibration management and monitoring plan shall include, at a minimum, the following components, as applicable:

- **Maximum Vibration Level.** Based on the anticipated construction and condition of the affected buildings and/or structures on adjacent properties, a qualified acoustical/vibration consultant in coordination with a structural engineer (or professional with similar qualifications) shall establish a maximum vibration level that shall not be exceeded at each building/structure on adjacent properties, based on existing conditions, character-defining features, soil conditions, and anticipated construction practices (a PPV of 0.5 in/sec for new residential structures and modern industrial/commercial buildings).

- **Vibration-Generating Equipment.** The plan shall identify all vibration-generating equipment to be used during construction (including, but not limited to site preparation, clearing, demolition, excavation, shoring, foundation installation, and building construction).
- **Alternative Construction Equipment and Techniques.** The plan shall identify potential alternative equipment and techniques that could be implemented if construction vibration levels are observed in excess of the established standard (e.g., 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).
- **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,
- **Vibration Monitoring.** The plan shall identify the method and equipment for vibration monitoring. To ensure that construction vibration levels do not exceed the established standard, the acoustical/vibration consultant shall monitor vibration levels at each affected building and/or structure on adjacent properties (as allowed by property owners) and prohibit vibratory construction activities that generate vibration levels in excess of the standard. Vibration monitoring shall occur at the beginning of major construction phases and during high-intensity construction activities to determine effectiveness of vibration attenuation measures and, if necessary, implement additional noise control measures.
  - Should construction vibration levels be observed in excess of the standards established in the plan, the contractor(s) shall halt construction and put alternative construction techniques identified in the plan into practice, to the extent feasible.
  - The structural engineer shall inspect each affected building and/or structure (as allowed by property owners) in the event the construction activities exceed the established standards.
  - If vibration has damaged nearby buildings and/or structures that are not historic, the structural engineer shall immediately notify the ERO and prepare a damage report documenting the features of the building and/or structure that have been damaged.
  - If no damage has occurred to nearby buildings and/or structures, then the structural engineer shall submit a report to the ERO (and preservation staff, if needed) for review. This report shall identify and summarize the vibration level exceedances and describe the actions taken to reduce vibration.
  - Following incorporation of the alternative construction techniques and/or planning department review of the damage report, vibration monitoring shall recommence to ensure that vibration levels at each affected building and/or structure on adjacent properties are not exceeded.

Periodic Inspections. The plan shall identify the intervals and parties responsible for periodic inspections. The structural engineer (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 and reporting shall occur.

Repair Damage. The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their pre-construction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site.

Vibration Monitoring Results Report. After construction is complete, the project sponsor shall submit a final report from structural engineer (for effects on historic and non-historic buildings and/or structures) to the planning department. 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 planning department shall review and approve the vibration monitoring results report.

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Appendix A

Acoustic Fundamentals and Terminology

Acoustic Fundamentals

Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise; consequently, the perception of sound is subjective in nature, and can vary substantially from person to person. Common sources of environmental noise and relative noise levels are shown in Figure A-1.

A sound wave is initiated in a medium by a vibrating object (e.g., vocal chords, the string of a guitar, the diaphragm of a radio speaker). The wave consists of minute variations in pressure, oscillating above and below the ambient atmospheric pressure. The number of pressure variation cycles occurring per second is referred to as the frequency of the sound wave and is expressed in hertz (Hz), which is equivalent to one complete cycle per second.

Directly measuring sound pressure fluctuations would require the use of a very large and cumbersome range of numbers. To avoid this and have a more useable numbering system, the decibel (dB) scale was introduced. Sound level expressed in decibels (dB) is the logarithmic ratio of two like pressure quantities, with one pressure quantity being a reference sound pressure and the second pressure being that of the sound source of concern. For sound pressure in air, the standard reference quantity is generally considered to be 20 micropascals, which directly corresponds to the threshold of human hearing. The use of the decibel is a convenient way to handle the million-fold range of sound pressures to which the human ear is sensitive. A decibel is logarithmic; it does not follow normal algebraic methods and cannot be directly added. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100-fold increase in acoustical energy.

The loudness of sound perceived by the human ear depends primarily on the overall sound pressure level and frequency content of the sound source. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. The standard weighting networks are identified as A through E. There is a strong correlation between the way humans perceive sound and A-weighted sound levels (dBA). For this reason, the dBA can be used to predict community response to noise from the environment, including noise from transportation and stationary sources. Sound levels expressed as dB in this section are A-weighted sound levels, unless noted otherwise.

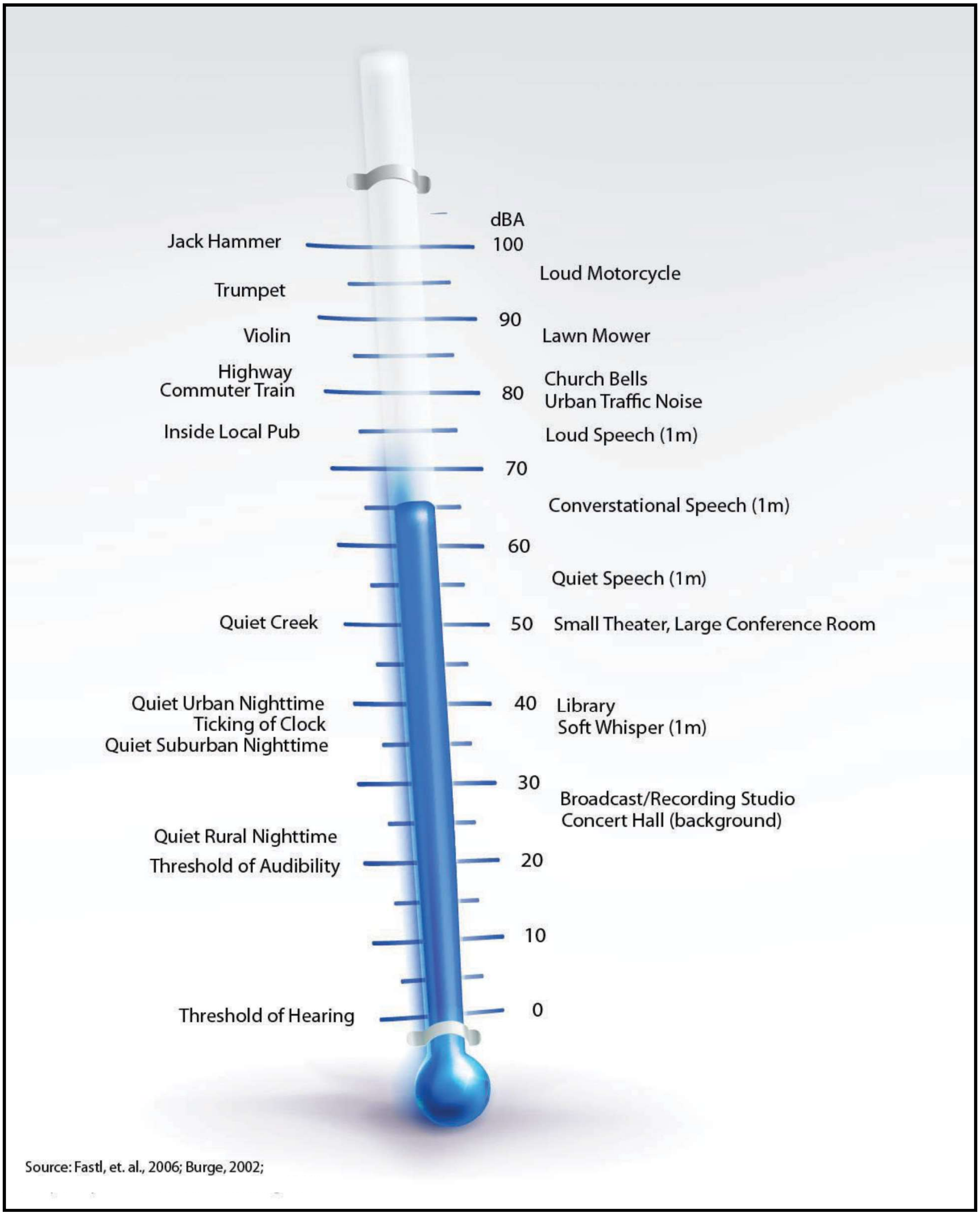


Figure A-1 -Common Noise Sources and Levels.

Noise can be generated by a number of sources, including mobile sources (transportation noise) such as automobiles, trucks, and airplanes and stationary sources (non-transportation noise) such as construction sites, machinery, and commercial and industrial operations. As acoustic energy spreads through the atmosphere from the source to the receiver, noise levels attenuate (decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers (e.g., walls, building façades, berms). Noise generated from mobile sources generally attenuate at a rate of 3dBA (typical for hard surfaces, such as asphalt) to 4.5 dBA (typical for soft surfaces, such as grasslands) per doubling of distance, depending on the intervening ground type. Stationary noise sources spread with more spherical dispersion patterns that attenuate at a rate of 6 to 7.5 dBA per doubling of distance for hard and soft sites, respectively.

Atmospheric conditions such as wind speed, turbulence, temperature gradients, and humidity may additionally alter the propagation of noise and affect levels at a receiver. Furthermore, the presence of a large object (e.g., barrier, topographic features, and intervening building façades) between the source and the receptor can provide significant attenuation of noise levels at the receiver. The amount of noise level reduction or "shielding" provided by a barrier primarily depends on the size of the barrier, the location of the barrier in relation to the source and receivers, and the frequency spectra of the noise. Natural barriers such as berms, hills, or dense woods as well as man-made features such as buildings, berms and walls may be effective barriers for the reduction of source noise levels.

Noise Level Descriptors

The intensity of environmental noise levels can fluctuate greatly over time and as such, several different descriptors of time-averaged noise levels may be used to provide the most effective means of expressing the noise levels. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment near the receptor(s). Noise descriptors most often used to describe environmental noise are defined below.

Lmin (Minimum Noise Level): The minimum noise level during a specific period of time, while accounting for the appropriate weighting curve and response setting (i.e., A-weighted, slow).

Lmax (Maximum Noise Level): The maximum instantaneous noise level during a specific period of time, while accounting for the appropriate weighting curve and response setting (i.e., A-weighted, slow).

SEL (Sound Exposure Level): The cumulative exposure to sound energy over a stated period of time.

Ln (Statistical Descriptor): The noise level exceeded "n"% of a specific period of time. For example, L50 is the median noise level, or level exceeded 50% of the time (typically equated to the noise level exceeded 30-minutes out of the hour).

Leq (Equivalent Noise Level): The energy-average noise level or exposure, from all noise events that occur in a specified period; such as one-minute, one-hour, 24-hours, etc. Leq can be used to report results of short-term noise measurements, usually ranging between 15 minutes and 1 hour, to supplement longer term measurements.

Ldn (Day-Night Average Noise Level): The 24-hour Leq with a 10-dBA "penalty" for noise events that occur during the noise-sensitive hours between 10 p.m. and 7 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The Ldn attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

CNEL (Community Noise Equivalent Level): The CNEL is similar to the Ldn described above, but with an additional 5-dBA "penalty" added to noise events that occur during the noise-sensitive hours between 7 p.m. and 10 p.m., which are typically reserved for relaxation, conversation, reading, and television. When the same 24-hour noise data are used, it is typical for the reported CNEL to be approximately 0.5 dBA higher than the Ldn.

Community noise is commonly described in terms of the ambient noise level which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent sound level (Leq)which corresponds to the steady-state A-weighted sound level containing the same total energy as the time-varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptors such as Ldn and CNEL, as defined above, and shows very good correlation with community response to noise. Use of these descriptors along with the maximum noise level occurring during a given time period provides a great deal of information about the ambient noise environment in an area.

Effect of Noise on Humans

Excessive and chronic exposure to elevated noise levels can result in auditory and non-auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans are associated primarily with the subjective effects of annoyance, nuisance and dissatisfaction, which lead to interference with activities such as communications, sleep and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors vary depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels that are attributed to a new noise source, relative to the environment an individual has become accustomed to, the less tolerable the new noise source will be to an individual.

With respect to how humans perceive and react to changes in noise levels, a 1 dBA increase is generally imperceptible outside of a laboratory environment, a 3 dBA increase is barely perceptible, a 6 dBA increase is clearly noticeable, and a 10-dBA increase is subjectively perceived as approximately twice as loud (Egan 1988). These subjective reactions to changes in noise levels was developed on the basis of test subjects' reactions to changes in the levels of steady-state, pure tones or broad-band noise and to changes in levels of a given noise source. Perception and reaction to changes in noise levels in this manner is thought to be most applicable in the range of 50 to 70 dBA, as this is the usual range of voice and interior noise levels.

Vibration Fundamentals

Vibration is similar to noise in that it is a pressure wave traveling through an elastic medium involving a periodic oscillation relative to a reference point. Vibration is most commonly described in respect to the excitation of a structure or surface, such as in buildings or the ground. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions, impacts). Vibration levels can be depicted in terms of amplitude and frequency; relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal, or the quantity of displacement measured from peak to trough of the vibration wave. Root-mean-square is defined as the positive and negative statistical measure of the magnitude of a varying quantity. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a period of one second. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (Federal Transit Administration [FTA] 2018, California Department of Transportation [Caltrans] 2020b). PPV and RMS vibration velocity are nominally described in terms of inches per second (in/sec). However, as with airborne sound, vibration velocity can also be expressed using decibel notation as vibration decibels (VdB). The logarithmic nature of the decibel serves to compress the broad range of numbers required to describe vibration and allow for the presentation of vibration levels in familiar terms.

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. Human response to vibration has been found to correlate well to average vibration amplitude; therefore, vibration impacts on humans are evaluated in terms of RMS vibration velocity.

Typical outdoor sources of perceptible groundborne vibration include construction equipment, steel-wheeled trains, and traffic on rough roads. Although the effects of vibration may be imperceptible at low levels, effects may result in detectable vibrations and slight damage to nearby structures at moderate and high levels, respectively. At the elevated levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in damage to structural components. The range of vibration relevant to this analysis occurs from approximately 60 VdB, which is the typical background vibration-velocity level; to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings (FTA 2018).

Appendix B

Ambient Noise Monitoring Data

Appendix B-1
Long-Term 24 Hour Continuous Noise Monitoring

Project: **1101-1123 Sutter Street**
Date: December 21, 2020 to December 22, 2020
Site: LT-01

Hour	Leq	Lmax	L50	L90
17:53	56.4	76.4	54.0	50.0
18:53	54.7	73.7	52.5	49.0
19:53	56.3	82.1	51.0	48.0
20:53	54.5	70.6	51.5	47.5
21:53	53.9	73.5	50.5	46.5
22:53	54.3	79.9	50.0	47.0
23:53	54.5	78.8	48.5	45.5
0:53	65.9	84.7	47.0	44.0
1:53	50.5	69.9	46.5	44.5
2:53	63.4	87.6	47.5	44.5
3:53	58.2	87.3	46.5	43.0
4:53	61.5	84.7	52.0	44.5
5:53	59.9	86.2	53.0	48.0
6:53	63.3	90.2	56.0	52.0
7:53	67.5	92.6	58.0	54.0
8:53	62.4	88.9	57.5	53.5
9:53	59.0	79.1	56.5	53.0
10:53	62.4	86.4	56.5	53.0
11:53	65.6	92.1	57.0	53.0
12:53	67.9	88.7	57.0	52.5
13:53	61.1	80.7	55.5	51.5
14:53	60.8	84.8	56.0	52.0
15:53	67.2	91.0	56.0	51.5
16:53	59.6	83.4	55.0	51.5

Lowermost Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	54.5	76.4	54.0	50.0
Evening (7 p.m. - 10 p.m.)	50.5	70.6	51.0	47.5
Nighttime (10 p.m. - 7 a.m.)	56.4	69.9	46.5	43.0

Average Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	64.1	86.2	56.3	52.3
Evening (7 p.m. - 10 p.m.)	55.2	75.5	51.7	48.2
Nighttime (10 p.m. - 7 a.m.)	60.5	81.4	49.1	45.3

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	67.9	92.6	58.0	54.0
Evening (7 p.m. - 10 p.m.)	56.3	82.1	52.5	49.0
Nighttime (10 p.m. - 7 a.m.)	65.9	87.6	53.0	48.0

Energy Distribution

Daytime	74%
Evening	2%
Nighttime	24%

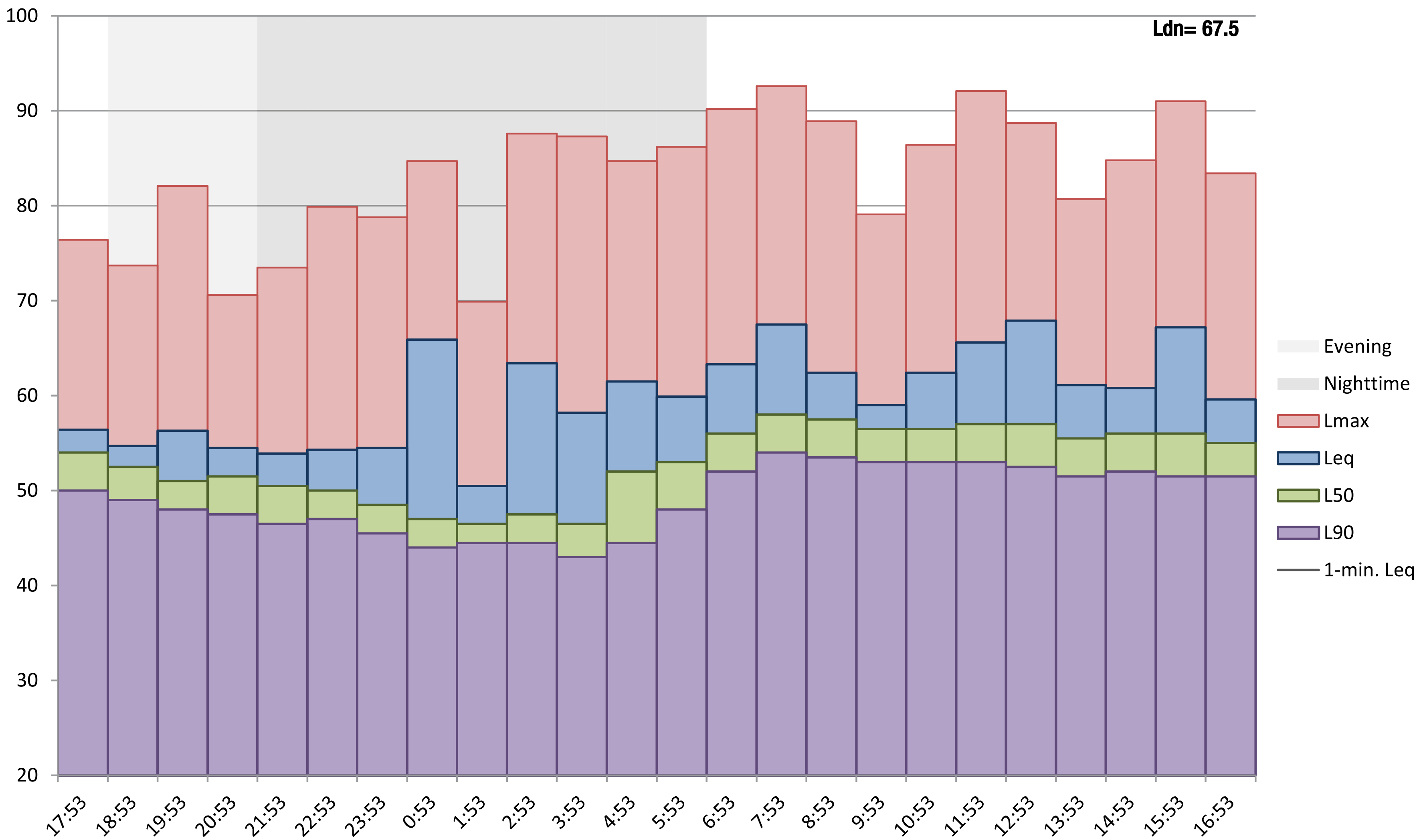
Calculated CNEL, dBA

67.5

Appendix B-1

1101-1123 Sutter Street - LT-01

December 21, 2020 to December 22, 2020



Appendix B-2
Long-Term 24 Hour Continuous Noise Monitoring

Project: **1101-1123 Sutter Street**
Date: December 22, 2020
Site: LT-02

Hour	Leq	Lmax	L50	L90
17:53	56.8	74.5	54.0	50.0
18:53	55.8	73.0	53.0	49.0
19:53	54.1	68.6	51.5	48.0
20:53	53.2	71.4	50.5	47.5
21:53	60.8	87.6	51.0	48.0
22:53	52.9	76.0	50.0	47.5
23:53	56.3	79.9	49.5	47.0
0:53	59.0	82.7	48.5	45.5
1:53	51.3	70.5	47.0	45.0
2:53	54.4	81.8	48.5	45.0
3:53	50.1	68.0	46.5	44.5
4:53	53.9	66.0	51.0	46.5
5:53	54.9	70.4	52.0	48.0
6:53	62.5	79.6	55.0	50.5
7:53	63.1	87.6	56.0	52.0
8:53	64.6	82.3	55.0	50.0

Lowermost Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	0.0	74.5	54.0	50.0
Evening (7 p.m. - 10 p.m.)	53.2	68.6	50.5	47.5
Nighttime (10 p.m. - 7 a.m.)	0.0	0.0	0.0	0.0

Average Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	57.8	81.0	55.0	50.6
Evening (7 p.m. - 10 p.m.)	54.5	71.0	51.7	48.2
Nighttime (10 p.m. - 7 a.m.)	56.1	40.2	26.1	24.5

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	64.6	87.6	56.0	52.0
Evening (7 p.m. - 10 p.m.)	55.8	73.0	53.0	49.0
Nighttime (10 p.m. - 7 a.m.)	60.8	87.6	52.0	48.0

Energy Distribution

Daytime	61%
Evening	7%
Nighttime	31%

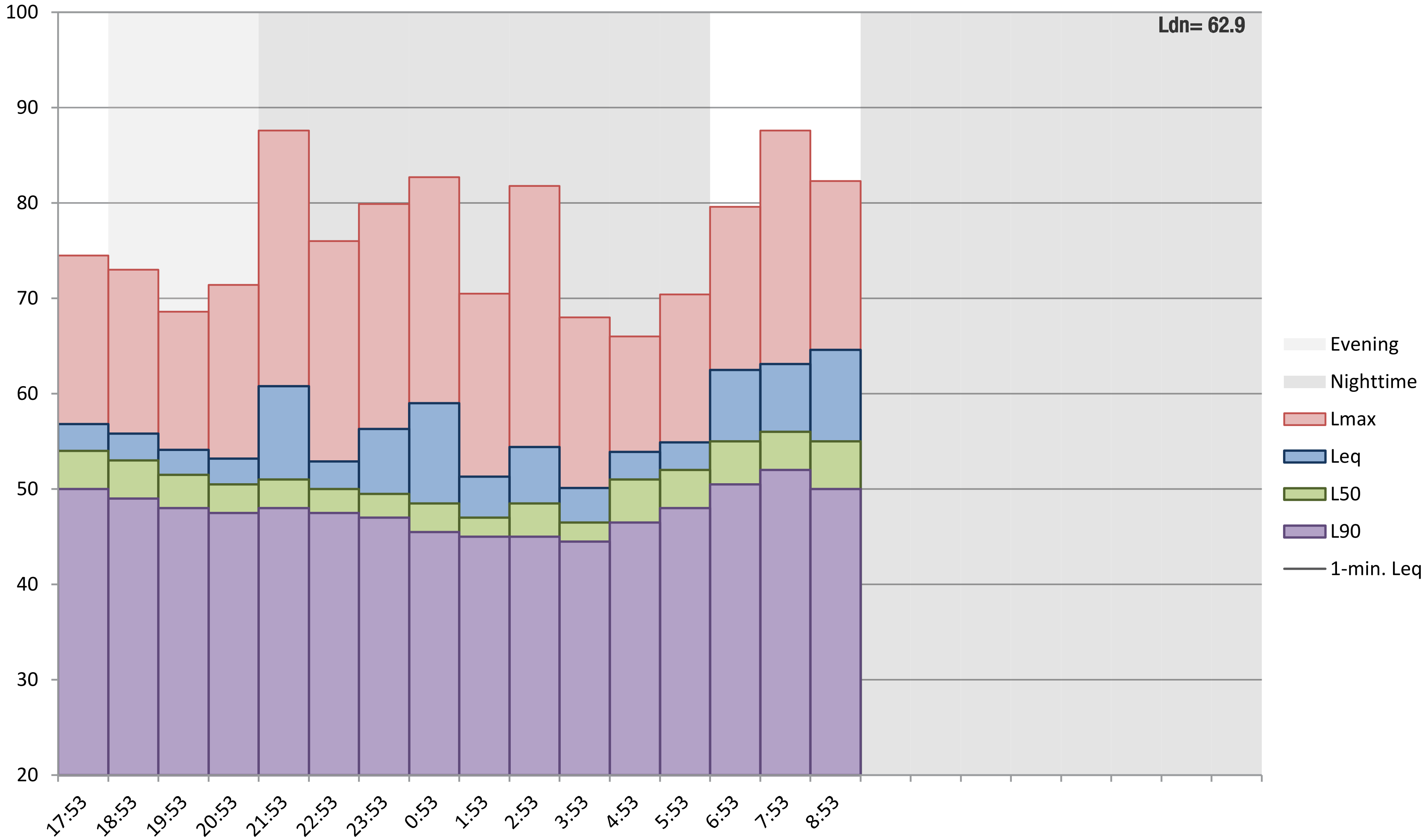
Calculated CNEL, dBA

62.9

Appendix B-2

1101-1123 Sutter Street - LT-02

December 22, 2020



Appendix C

Traffic Noise Modeling Inputs and Results

Appendix C - 1

Traffic Noise Model Calculations

Project: 12702 - 1101-1123 Sutter Street

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input											Output				
					Speed	Distance to Directional Centerline, (feet)4		Traffic Distribution Characteristics							Ldn,	Distance to Contour, (feet)3			
Number	Name	From	To	ADT	(mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night		(dBA)5,6,7	70 dBA	65 dBA	60 dBA	55 dBA
Current Conditions																			
1	Hemlock Street, Larkin Street to Polk Street			284	25	17	17	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		64.2	4	14	45	142
2	Sutter Street, Larkin Street to Polk Street			6,466	25	27.5	27.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		75.7	102	322	1019	3223
3	Larkin Street, Sutter Street to Hemlock Street			5,276	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		73.9	83	263	832	2630
4	Post Street, Gough Street to Franklin Street			3,760	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		72.5	59	187	593	1874
5	Larkin Street, Sutter Street to Bush Street			5,999	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		74.5	95	299	946	2990

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix C - 2

Traffic Noise Model Calculations

Project: 12702 - 1101-1123 Sutter Street

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor: 10

Segment Description and Location				Input											Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night		(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Non-Covid SaH Conditions																			
1	Hemlock Street, Larkin Street to Polk Street			467	25	17	17	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		66.4	7	23	74	233
2	Sutter Street, Larkin Street to Polk Street			10,614	25	27.5	27.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		77.8	167	529	1673	5291
3	Larkin Street, Sutter Street to Hemlock Street			8,709	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		76.1	137	434	1373	4341
4	Post Street, Gough Street to Franklin Street			6,172	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		74.6	97	308	973	3077
5	Larkin Street, Sutter Street to Bush Street			9,903	25	33.5	33.5	48.0%	2.0%	50.0%	74.0%	2.0%	24.0%		76.7	156	494	1561	4937

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix C

Traffic Noise Modeling Calculations - References

Citation	Reference
1	Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69

Appendix D

Traffic Count Data

Prepared by National Data & Surveying Services

VOLUME

Hemlock St Bet. Larkin St & Polk St

Day: Tuesday
Date: 11/10/2020

City: San Francisco
Project #: CA20_080151_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	284	0	284

AM Period	NB	SB	EB		WB	TOTAL		PM Period	NB	SB	EB		WB	TOTAL	
00:00			0		0	0		12:00			4		0	4	
00:15			5		0	5		12:15			6		0	6	
00:30			1		0	1		12:30			4		0	4	
00:45			1	7	0	1	7	12:45			3	17	0	3	17
01:00			0		0	0		13:00			1		0	1	
01:15			3		0	3		13:15			4		0	4	
01:30			3		0	3		13:30			2		0	2	
01:45			0	6	0	0	6	13:45			4	11	0	4	11
02:00			2		0	2		14:00			2		0	2	
02:15			2		0	2		14:15			2		0	2	
02:30			1		0	1		14:30			2		0	2	
02:45			1	6	0	1	6	14:45			3	9	0	3	9
03:00			2		0	2		15:00			9		0	9	
03:15			3		0	3		15:15			5		0	5	
03:30			1		0	1		15:30			2		0	2	
03:45			3	9	0	3	9	15:45			6	22	0	6	22
04:00			0		0	0		16:00			2		0	2	
04:15			1		0	1		16:15			8		0	8	
04:30			0		0	0		16:30			12		0	12	
04:45			0	1	0	0	1	16:45			9	31	0	9	31
05:00			2		0	2		17:00			15		0	15	
05:15			1		0	1		17:15			6		0	6	
05:30			3		0	3		17:30			3		0	3	
05:45			3	9	0	3	9	17:45			4	28	0	4	28
06:00			1		0	1		18:00			3		0	3	
06:15			0		0	0		18:15			4		0	4	
06:30			0		0	0		18:30			5		0	5	
06:45			2	3	0	2	3	18:45			6	18	0	6	18
07:00			2		0	2		19:00			4		0	4	
07:15			3		0	3		19:15			0		0	0	
07:30			0		0	0		19:30			4		0	4	
07:45			2	7	0	2	7	19:45			5	13	0	5	13
08:00			5		0	5		20:00			4		0	4	
08:15			4		0	4		20:15			1		0	1	
08:30			3		0	3		20:30			4		0	4	
08:45			1	13	0	1	13	20:45			3	12	0	3	12
09:00			1		0	1		21:00			1		0	1	
09:15			1		0	1		21:15			0		0	0	
09:30			2		0	2		21:30			5		0	5	
09:45			4	8	0	4	8	21:45			1	7	0	1	7
10:00			3		0	3		22:00			2		0	2	
10:15			5		0	5		22:15			0		0	0	
10:30			5		0	5		22:30			1		0	1	
10:45			3	16	0	3	16	22:45			2	5	0	2	5
11:00			4		0	4		23:00			1		0	1	
11:15			5		0	5		23:15			2		0	2	
11:30			6		0	6		23:30			0		0	0	
11:45			5	20	0	5	20	23:45			3	6	0	3	6
TOTALS				105			**105**	**TOTALS**				179			**179**
SPLIT %				100.0%			**37.0%**	**SPLIT %**				100.0%			**63.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	284	0	284

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour			11:30		**11:30**	**PM Peak Hour**			16:15		**16:15**
AM Pk Volume			21		**21**	**PM Pk Volume**			44		**44**
Pk Hr Factor			0.875		**0.875**	**Pk Hr Factor**			0.733		**0.733**
7 - 9 Volume	0	0	20	0	**20**	**4 - 6 Volume**	0	0	59	0	**59**
7 - 9 Peak Hour			07:45		**07:45**	**4 - 6 Peak Hour**			16:15		**16:15**
7 - 9 Pk Volume	0	0	14	0	**14**	**4 - 6 Pk Volume**	0	0	44	0	**44**
Pk Hr Factor	0.000	0.000	0.700	0.000	**0.700**	**Pk Hr Factor**	0.000	0.000	0.733	0.000	**0.733**

Prepared by National Data & Surveying Services

VOLUME

Sutter St Bet. Larkin St & Polk St

Day: Tuesday
Date: 11/10/2020

City: San Francisco
Project #: CA20_080151_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	0	6,466	6,466

AM Period	NB	SB	EB	WB		TOTAL	
00:00			0	24		24	
00:15			0	28		28	
00:30			0	22		22	
00:45			0	16	90	16	90
01:00			0	19		19	
01:15			0	13		13	
01:30			0	28		28	
01:45			0	20	80	20	80
02:00			0	13		13	
02:15			0	11		11	
02:30			0	8		8	
02:45			0	23	55	23	55
03:00			0	20		20	
03:15			0	16		16	
03:30			0	12		12	
03:45			0	9	57	9	57
04:00			0	18		18	
04:15			0	19		19	
04:30			0	18		18	
04:45			0	10	65	10	65
05:00			0	14		14	
05:15			0	24		24	
05:30			0	43		43	
05:45			0	27	108	27	108
06:00			0	37		37	
06:15			0	42		42	
06:30			0	43		43	
06:45			0	34	156	34	156
07:00			0	47		47	
07:15			0	52		52	
07:30			0	64		64	
07:45			0	59	222	59	222
08:00			0	78		78	
08:15			0	75		75	
08:30			0	81		81	
08:45			0	94	328	94	328
09:00			0	110		110	
09:15			0	71		71	
09:30			0	110		110	
09:45			0	114	405	114	405
10:00			0	92		92	
10:15			0	122		122	
10:30			0	98		98	
10:45			0	88	400	88	400
11:00			0	83		83	
11:15			0	104		104	
11:30			0	96		96	
11:45			0	122	405	122	405
TOTALS					2371		2371
SPLIT %					100.0%		36.7%

PM Period	NB	SB	EB	WB		TOTAL	
12:00			0	123		123	
12:15			0	121		121	
12:30			0	109		109	
12:45			0	111	464	111	464
13:00			0	103		103	
13:15			0	104		104	
13:30			0	116		116	
13:45			0	114	437	114	437
14:00			0	102		102	
14:15			0	115		115	
14:30			0	113		113	
14:45			0	111	441	111	441
15:00			0	115		115	
15:15			0	117		117	
15:30			0	83		83	
15:45			0	125	440	125	440
16:00			0	113		113	
16:15			0	105		105	
16:30			0	115		115	
16:45			0	129	462	129	462
17:00			0	143		143	
17:15			0	118		118	
17:30			0	115		115	
17:45			0	92	468	92	468
18:00			0	121		121	
18:15			0	100		100	
18:30			0	95		95	
18:45			0	76	392	76	392
19:00			0	83		83	
19:15			0	89		89	
19:30			0	55		55	
19:45			0	63	290	63	290
20:00			0	60		60	
20:15			0	55		55	
20:30			0	61		61	
20:45			0	55	231	55	231
21:00			0	51		51	
21:15			0	47		47	
21:30			0	53		53	
21:45			0	30	181	30	181
22:00			0	40		40	
22:15			0	44		44	
22:30			0	36		36	
22:45			0	33	153	33	153
23:00			0	38		38	
23:15			0	36		36	
23:30			0	35		35	
23:45			0	27	136	27	136
TOTALS					4095		4095
SPLIT %					100.0%		63.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	0	6,466	6,466

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour				11:45	11:45	PM Peak Hour				16:30	16:30
AM Pk Volume				475	475	PM Pk Volume				505	505
Pk Hr Factor				0.965	0.965	Pk Hr Factor				0.883	0.883
7 - 9 Volume	0	0	0	550	550	4 - 6 Volume	0	0	0	930	930
7 - 9 Peak Hour				08:00	08:00	4 - 6 Peak Hour				16:30	16:30
7 - 9 Pk Volume	0	0	0	328	328	4 - 6 Pk Volume	0	0	0	505	505
Pk Hr Factor	0.000	0.000	0.000	0.872	0.872	Pk Hr Factor	0.000	0.000	0.000	0.883	0.883

Prepared by National Data & Surveying Services

VOLUME

Larkin St Bet. Sutter St & Hemlock St

Day: Tuesday
Date: 11/10/2020

City: San Francisco
Project #: CA20_080151_003

DAILY TOTALS	NB	SB	EB	WB	Total
	5,276	0	0	0	5,276

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	25		0			25		12:00	54		0			54	
00:15	27		0			27		12:15	91		0			91	
00:30	31		0			31		12:30	87		0			87	
00:45	11	94	0			11	94	12:45	85	317	0			85	317
01:00	14		0			14		13:00	58		0			58	
01:15	19		0			19		13:15	78		0			78	
01:30	26		0			26		13:30	62		0			62	
01:45	23	82	0			23	82	13:45	68	266	0			68	266
02:00	12		0			12		14:00	70		0			70	
02:15	12		0			12		14:15	75		0			75	
02:30	10		0			10		14:30	64		0			64	
02:45	12	46	0			12	46	14:45	81	290	0			81	290
03:00	16		0			16		15:00	92		0			92	
03:15	14		0			14		15:15	87		0			87	
03:30	18		0			18		15:30	70		0			70	
03:45	16	64	0			16	64	15:45	90	339	0			90	339
04:00	16		0			16		16:00	79		0			79	
04:15	22		0			22		16:15	77		0			77	
04:30	18		0			18		16:30	101		0			101	
04:45	20	76	0			20	76	16:45	95	352	0			95	352
05:00	12		0			12		17:00	95		0			95	
05:15	28		0			28		17:15	69		0			69	
05:30	42		0			42		17:30	82		0			82	
05:45	32	114	0			32	114	17:45	69	315	0			69	315
06:00	45		0			45		18:00	71		0			71	
06:15	43		0			43		18:15	58		0			58	
06:30	54		0			54		18:30	58		0			58	
06:45	56	198	0			56	198	18:45	58	245	0			58	245
07:00	60		0			60		19:00	66		0			66	
07:15	60		0			60		19:15	47		0			47	
07:30	64		0			64		19:30	51		0			51	
07:45	72	256	0			72	256	19:45	70	234	0			70	234
08:00	93		0			93		20:00	57		0			57	
08:15	101		0			101		20:15	44		0			44	
08:30	80		0			80		20:30	44		0			44	
08:45	98	372	0			98	372	20:45	46	191	0			46	191
09:00	115		0			115		21:00	40		0			40	
09:15	85		0			85		21:15	38		0			38	
09:30	91		0			91		21:30	35		0			35	
09:45	100	391	0			100	391	21:45	33	146	0			33	146
10:00	85		0			85		22:00	31		0			31	
10:15	82		0			82		22:15	35		0			35	
10:30	100		0			100		22:30	30		0			30	
10:45	82	349	0			82	349	22:45	29	125	0			29	125
11:00	65		0			65		23:00	34		0			34	
11:15	68		0			68		23:15	35		0			35	
11:30	82		0			82		23:30	28		0			28	
11:45	75	290	0			75	290	23:45	27	124	0			27	124
TOTALS	2332					**2332**		**TOTALS**	2944					**2944**	
SPLIT %	100.0%					**44.2%**		**SPLIT %**	100.0%					**55.8%**	

DAILY TOTALS	NB	SB	EB	WB	Total
	5,276	0	0	0	5,276

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	08:15				**08:15**	**PM Peak Hour**	16:15				**16:15**
AM Pk Volume	394				**394**	**PM Pk Volume**	368				**368**
Pk Hr Factor	0.857				**0.857**	**Pk Hr Factor**	0.911				**0.911**
7 - 9 Volume	628	0	0	0	**628**	**4 - 6 Volume**	667	0	0	0	**667**
7 - 9 Peak Hour	08:00				**08:00**	**4 - 6 Peak Hour**	16:15				**16:15**
7 - 9 Pk Volume	372	0	0	0	**372**	**4 - 6 Pk Volume**	368	0	0	0	**368**
Pk Hr Factor	0.921	0.000	0.000	0.000	**0.921**	**Pk Hr Factor**	0.911	0.000	0.000	0.000	**0.911**

Prepared by National Data & Surveying Services

VOLUME

Post St Bet. Gough St & Franklin St

Day: Tuesday
Date: 12/1/2020

City: San Francisco
Project #: CA20_080151_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,760	0	3,760

AM Period	NB	SB	EB		WB	TOTAL		PM Period	NB	SB	EB		WB	TOTAL	
00:00			8			8		12:00			68			68	
00:15			3			3		12:15			67			67	
00:30			4			4		12:30			75			75	
00:45			2	17		2	17	12:45			55	265		55	265
01:00			2			2		13:00			79			79	
01:15			1			1		13:15			71			71	
01:30			3			3		13:30			68			68	
01:45			3	9		3	9	13:45			75	293		75	293
02:00			4			4		14:00			89			89	
02:15			6			6		14:15			63			63	
02:30			2			2		14:30			91			91	
02:45			2	14		2	14	14:45			99	342		99	342
03:00			3			3		15:00			79			79	
03:15			6			6		15:15			70			70	
03:30			2			2		15:30			101			101	
03:45			5	16		5	16	15:45			68	318		68	318
04:00			1			1		16:00			63			63	
04:15			4			4		16:15			69			69	
04:30			5			5		16:30			80			80	
04:45			4	14		4	14	16:45			75	287		75	287
05:00			7			7		17:00			87			87	
05:15			9			9		17:15			75			75	
05:30			8			8		17:30			62			62	
05:45			16	40		16	40	17:45			67	291		67	291
06:00			16			16		18:00			50			50	
06:15			32			32		18:15			42			42	
06:30			42			42		18:30			50			50	
06:45			18	108		18	108	18:45			52	194		52	194
07:00			37			37		19:00			30			30	
07:15			34			34		19:15			33			33	
07:30			40			40		19:30			40			40	
07:45			62	173		62	173	19:45			25	128		25	128
08:00			55			55		20:00			35			35	
08:15			73			73		20:15			23			23	
08:30			71			71		20:30			24			24	
08:45			53	252		53	252	20:45			23	105		23	105
09:00			73			73		21:00			17			17	
09:15			60			60		21:15			17			17	
09:30			64			64		21:30			16			16	
09:45			62	259		62	259	21:45			15	65		15	65
10:00			39			39		22:00			12			12	
10:15			66			66		22:15			17			17	
10:30			60			60		22:30			8			8	
10:45			70	235		70	235	22:45			11	48		11	48
11:00			71			71		23:00			8			8	
11:15			55			55		23:15			13			13	
11:30			64			64		23:30			4			4	
11:45			64	254		64	254	23:45			8	33		8	33
TOTALS				1391			**1391**	**TOTALS**				2369			**2369**
SPLIT %				100.0%			**37.0%**	**SPLIT %**				100.0%			**63.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,760	0	3,760

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour			11:45		**11:45**	**PM Peak Hour**			14:45		**14:45**
AM Pk Volume			274		**274**	**PM Pk Volume**			349		**349**
Pk Hr Factor			0.913		**0.913**	**Pk Hr Factor**			0.864		**0.864**
7 - 9 Volume	0	0	425	0	**425**	**4 - 6 Volume**	0	0	578	0	**578**
7 - 9 Peak Hour			07:45		**07:45**	**4 - 6 Peak Hour**			16:30		**16:30**
7 - 9 Pk Volume	0	0	261	0	**261**	**4 - 6 Pk Volume**	0	0	317	0	**317**
Pk Hr Factor	0.000	0.000	0.894	0.000	**0.894**	**Pk Hr Factor**	0.000	0.000	0.911	0.000	**0.911**

Prepared by National Data & Surveying Services

VOLUME

Larkin St Bet. Sutter St & Bush St

Day: Tuesday
Date: 11/10/2020

City: San Francisco
Project #: CA20_080151_005

DAILY TOTALS	NB	SB	EB	WB	Total
	5,999	0	0	0	5,999

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	19		0			19		12:00	81		0			81	
00:15	14		0			14		12:15	91		0			91	
00:30	19		0			19		12:30	97		0			97	
00:45	9	61	0			9	61	12:45	113	382	0			113	382
01:00	5		0			5		13:00	84		0			84	
01:15	17		0			17		13:15	88		0			88	
01:30	12		0			12		13:30	75		0			75	
01:45	21	55	0			21	55	13:45	97	344	0			97	344
02:00	13		0			13		14:00	114		0			114	
02:15	12		0			12		14:15	109		0			109	
02:30	8		0			8		14:30	88		0			88	
02:45	6	39	0			6	39	14:45	105	416	0			105	416
03:00	7		0			7		15:00	128		0			128	
03:15	7		0			7		15:15	106		0			106	
03:30	13		0			13		15:30	80		0			80	
03:45	10	37	0			10	37	15:45	106	420	0			106	420
04:00	8		0			8		16:00	107		0			107	
04:15	15		0			15		16:15	102		0			102	
04:30	13		0			13		16:30	105		0			105	
04:45	19	55	0			19	55	16:45	119	433	0			119	433
05:00	16		0			16		17:00	111		0			111	
05:15	20		0			20		17:15	96		0			96	
05:30	29		0			29		17:30	101		0			101	
05:45	28	93	0			28	93	17:45	82	390	0			82	390
06:00	34		0			34		18:00	94		0			94	
06:15	36		0			36		18:15	74		0			74	
06:30	50		0			50		18:30	62		0			62	
06:45	58	178	0			58	178	18:45	53	283	0			53	283
07:00	71		0			71		19:00	82		0			82	
07:15	70		0			70		19:15	52		0			52	
07:30	67		0			67		19:30	61		0			61	
07:45	79	287	0			79	287	19:45	76	271	0			76	271
08:00	105		0			105		20:00	63		0			63	
08:15	126		0			126		20:15	49		0			49	
08:30	119		0			119		20:30	40		0			40	
08:45	104	454	0			104	454	20:45	61	213	0			61	213
09:00	125		0			125		21:00	30		0			30	
09:15	86		0			86		21:15	39		0			39	
09:30	91		0			91		21:30	33		0			33	
09:45	103	405	0			103	405	21:45	36	138	0			36	138
10:00	108		0			108		22:00	34		0			34	
10:15	98		0			98		22:15	38		0			38	
10:30	103		0			103		22:30	34		0			34	
10:45	109	418	0			109	418	22:45	32	138	0			32	138
11:00	104		0			104		23:00	33		0			33	
11:15	93		0			93		23:15	29		0			29	
11:30	95		0			95		23:30	24		0			24	
11:45	88	380	0			88	380	23:45	23	109	0			23	109
TOTALS	2462						**2462**	**TOTALS**	3537						**3537**
SPLIT %	100.0%						**41.0%**	**SPLIT %**	100.0%						**59.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	5,999	0	0	0	5,999

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	08:15				**08:15**	**PM Peak Hour**	16:15				**16:15**
AM Pk Volume	474				**474**	**PM Pk Volume**	437				**437**
Pk Hr Factor	0.940				**0.940**	**Pk Hr Factor**	0.918				**0.918**
7 - 9 Volume	741	0	0	0	**741**	**4 - 6 Volume**	823	0	0	0	**823**
7 - 9 Peak Hour	08:00				**08:00**	**4 - 6 Peak Hour**	16:15				**16:15**
7 - 9 Pk Volume	454	0	0	0	**454**	**4 - 6 Pk Volume**	437	0	0	0	**437**
Pk Hr Factor	0.901	0.000	0.000	0.000	**0.901**	**Pk Hr Factor**	0.918	0.000	0.000	0.000	**0.918**

24-HOUR ADT COUNT SUMMARY

CLIENT:
PROJECT: Historical
LOCATION: Larkin St Bet. Sutter St & Bush St

NODE:
DATE: Tuesday, October 18, 2016

DIRECTION:	NB Inside & Outside Lanes				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	14	14	10	13	51
1:00	16	14	11	9	50
2:00	15	14	9	5	43
3:00	14	8	7	8	37
4:00	8	10	11	16	45
5:00	12	19	23	44	98
6:00	49	41	42	49	181
7:00	50	59	73	85	267
8:00	81	88	70	80	319
9:00	70	70	75	73	288
10:00	74	73	65	58	270
11:00	90	76	72	68	306
12:00	68	73	60	67	268
13:00	78	67	71	67	283
14:00	69	60	65	70	264
15:00	87	74	95	96	352
16:00	84	78	78	80	320
17:00	87	104	118	115	424
18:00	75	72	55	68	270
19:00	66	81	77	62	286
20:00	59	44	46	43	192
21:00	48	43	38	44	173
22:00	41	33	33	40	147
23:00	35	26	25	24	110
				TOTAL	5044

AM PEAK HOUR	07:30
VOLUME	327
PM PEAK HOUR	17:00
VOLUME	424

DIRECTION:	NB Total Volume				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	32	33	32	39	136
1:00	26	16	22	30	94
2:00	26	19	22	11	78
3:00	23	17	16	15	71
4:00	18	22	15	31	86
5:00	28	31	57	51	167
6:00	62	78	89	93	322
7:00	83	100	117	124	424
8:00	135	114	118	109	476
9:00	112	124	113	122	471
10:00	131	127	106	124	488
11:00	97	112	126	100	435
12:00	113	119	133	106	471
13:00	140	134	132	135	541
14:00	128	124	147	155	554
15:00	156	177	149	157	639
16:00	175	165	164	151	655
17:00	174	193	169	170	706
18:00	149	174	142	142	607
19:00	144	135	147	135	561
20:00	117	117	106	122	462
21:00	101	93	88	84	366
22:00	65	76	68	66	275
23:00	55	48	63	42	208
				TOTAL	9293

AM PEAK HOUR	09:30
VOLUME	493
PM PEAK HOUR	17:00
VOLUME	706

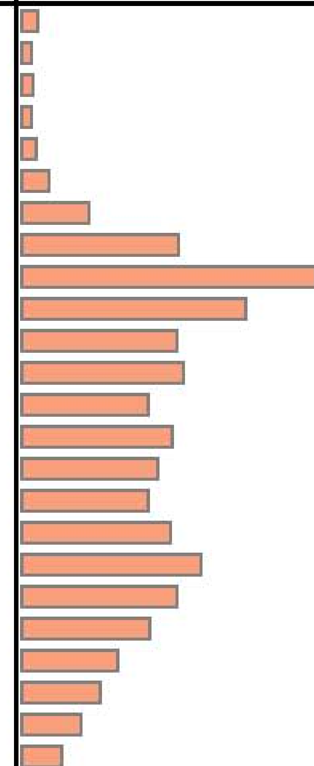
Type of report: Tube Count - Volume Data

LOCATION: 186 - POST ST btwn FRANKLIN ST & GOUGH ST | QC JOB #: 151177186

SPECIFIC LOCATION: | DIRECTION: EB

CITY/STATE: San Francisco, CA | DATE: Jan 28 2020 - Jan 28 2020

Start Time	Mon	Tue 28 Jan 20	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		35				35			35	
01:00 AM		23				23			23	
02:00 AM		24				24			24	
03:00 AM		22				22			22	
04:00 AM		34				34			34	
05:00 AM		62				62			62	
06:00 AM		161				161			161	
07:00 AM		377				377			377	
08:00 AM		710				710			710	
09:00 AM		539				539			539	
10:00 AM		372				372			372	
11:00 AM		388				388			388	
12:00 PM		303				303			303	
01:00 PM		364				364			364	
02:00 PM		329				329			329	
03:00 PM		305				305			305	
04:00 PM		359				359			359	
05:00 PM		433				433			433	
06:00 PM		373				373			373	
07:00 PM		309				309			309	
08:00 PM		229				229			229	
09:00 PM		186				186			186	
10:00 PM		140				140			140	
11:00 PM		95				95			95	
Day Total		6172				6172			6172	
% Weekday Average		100%								
% Week Average		100%				100%				
AM Peak Volume		8:00 AM 710				8:00 AM 710			8:00 AM 710	
PM Peak Volume		5:00 PM 433				5:00 PM 433			5:00 PM 433	



Comments:

Report generated on 11/9/2020 3:57 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Appendix E

Cumulative Projects

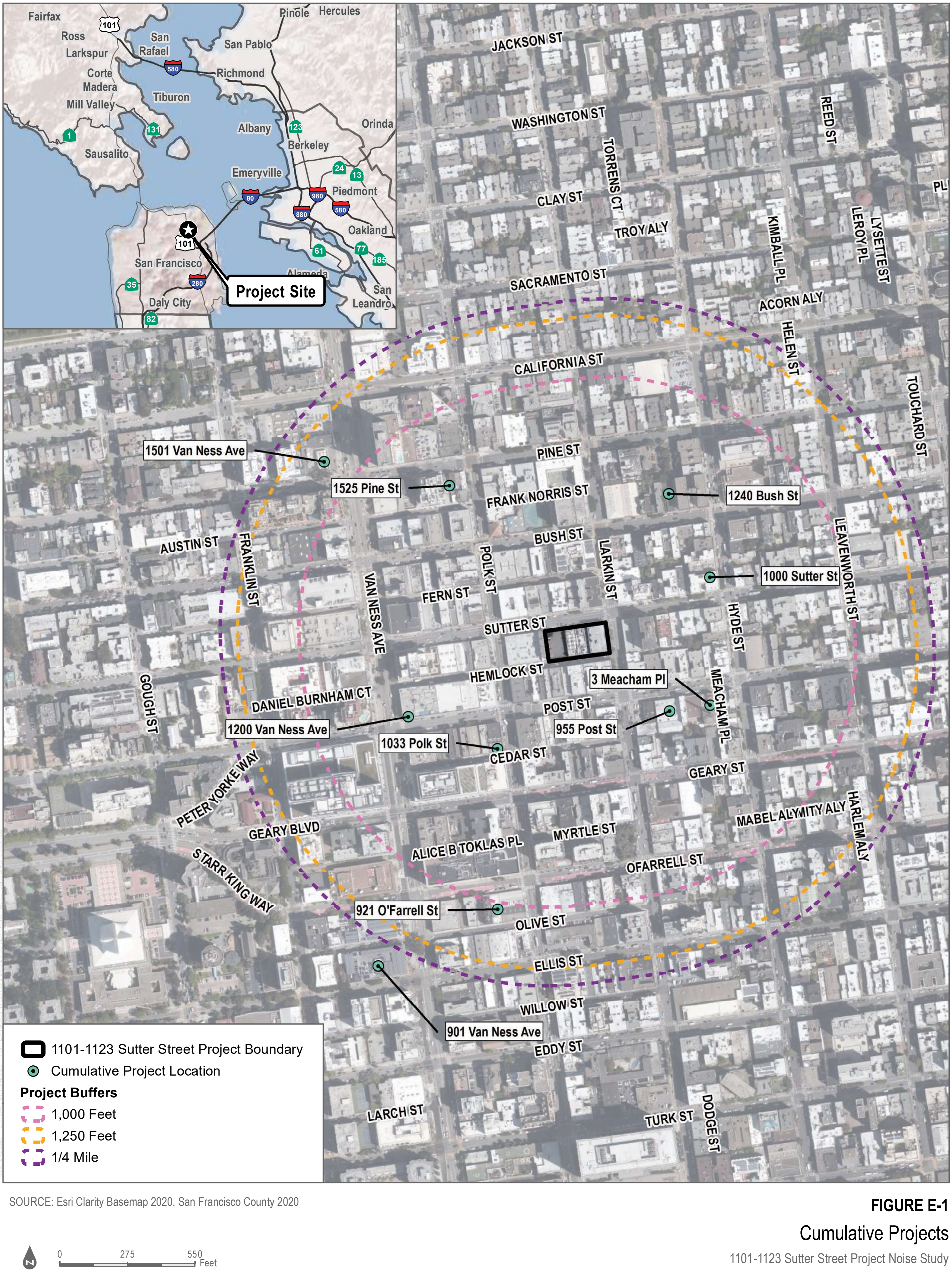
Table E-1: Cumulative Projects within 0.25 miles of Project Site

Address	Record ID	Approximate Distance from Project Site (feet)	Project Description
955 Post Street	2015-015950PRJ	340	The project would demolish the existing two-story automobile repair garage building and construct an eight-story, 80-foot-tall mixed-use residential and commercial building over a basement with 69 residential units and approximately 1,538 square feet of ground-floor retail space. The residential portion of the project would include nine three-bedroom units, 36 two-bedroom units, and 24 one-bedroom units. In addition, the project would provide approximately 4,945 total square feet of common outdoor space at the basement level. Five dwelling units on the sixth story would also include private outdoor patios.
1033 Polk Street	2014.0914	410	The project would demolish the existing building and construct an eight-story, 85-foot-tall mixed-use residential building with ground-floor retail space and residential uses above. The ground floor would contain approximately 605 gross square feet of retail space, the residential lobby, and required mechanical space. The proposed project would include a total of 19 residential units, including 18 one-bedroom units and one two-bedroom unit, above the ground-floor retail space.
3 Meacham Place	2020-007597PRJ	460	The project would change the use of the existing buildings from single-family dwelling and office to group housing (congregate residence).
1000 Sutter Street	2020-008130PRJ	460	The City and Episcopal Community Services, as co-applicants, propose to purchase the Granada Hotel and enter into an agreement with Episcopal Community Services to operate the project as permanent supportive housing for formerly homeless individuals. The Granada Hotel is located at 1000 Sutter Street, a 232-unit single-room occupancy hotel. Eighty units are currently occupied by low-income individuals, primarily reliant on short-term rental subsidy vouchers; 152 units are vacant. Episcopal Community Services and the City agree to restrict the property for at least 55 years to provide affordable housing and to serve households who are homeless, at risk of homelessness, or impacted by COVID-19. Episcopal Community Services plans to provide on-site support services that include intensive case management; individual health and wellness plans, which may include substance use disorder treatment and/or behavioral health services; financial assistance, including help with benefit programs and entitlements; and job-readiness, vocational, occupational, and educational training.
1240 Bush Street	2020-004634PRJ	580	The project would add five new accessory dwelling units to an existing 16-unit building. Exposure is non-compliant for three of the proposed dwelling units.

Table E-1: Cumulative Projects within 0.25 miles of Project Site

Address	Record ID	Approximate Distance from Project Site (feet)	Project Description
1200 Van Ness Avenue	2015-012577PRJ	610	The project would construct a 13-story, 130-foot-tall building with 259,621 gross square feet of mixed use (retail/commercial/residential) space and a parking garage for 368 cars in five below-grade levels. The project retail uses could include a grocery store, medical offices and clinics on Level 2 through Level 5, and an eight-story residential tower with 95 dwelling units (71 one bedrooms and 24 two bedrooms).
1525 Pine Street	2015-009955PRJ	700	The project would demolish the existing one-story commercial restaurant and construct a new eight-story mixed-use commercial and residential building. The project relies on State Density Bonus provisions for an additional six units over the base density of 15 units, for a total of 21 residential units.
921 O'Farrell Street	2018-014727PRJ	1,030	The project would demolish the existing two-story commercial building and construct a 14-story, 130-foot-tall residential tower with ground-floor commercial and common space.
1501 Van Ness Avenue	2020-000549PRJ	1,140	The project would demolish a sales kiosk at an existing Chevron station and construct a new, larger sales kiosk; modify the existing fueling canopy structural columns; remove four existing underground fuel storage tanks and associated piping; and install three new underground fuel storage tanks and piping.
901 Van Ness Avenue	2018-001547PRJ	1,420	The project would remodel an existing automobile sales facility. Work would include demolition of existing non-original interior partitions and existing glazing for new entrance at Olive Street; construction of new offices at Historic Showroom and new mezzanine, stairs, landing, opening and entry at Olive Street; new vestibule and opening, partitions, finishes, and architectural features associated with these areas; and exterior restoration of original conditions.

Source: San Francisco Planning Department, October 2020.



SOURCE: Esri Clarity Basemap 2020, San Francisco County 2020

FIGURE E-1

Cumulative Projects

1101-1123 Sutter Street Project Noise Study

APPENDIX C

National Park Service Historic Preservation Certification Application

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

OMB Approved
No. 1024-0009
Form 10-168
Rev. 2014

HISTORIC PRESERVATION CERTIFICATION APPLICATION
PART 1 – EVALUATION OF SIGNIFICANCE

NPS Project Number

Instructions: This page must bear the applicant's original signature and must be dated. The National Park Service certification decision is based on the descriptions in this application form. In the event of any discrepancy between the application form and other, supplementary material submitted with it (such as architectural plans, drawings and specifications), the application form takes precedence. A copy of this form will be provided to the Internal Revenue Service.

1. Property Name Heald's Engineering and Automobile School

Street 1101 Sutter Street

City San Francisco County San Francisco State CA Zip 94109-5604

Name of Historic District N/A

☐ National Register district ☐ certified state or local district ☐ potential district

2. Nature of request (check only one box)

☐ certification that the building contributes to the significance of the above-named historic district or National Register property for rehabilitation purposes.
☐ certification that the building contributes to the significance of the above-named historic district for a charitable contribution for conservation purposes.
☐ certification that the building does not contribute to the significance of the above-named district.
☒ preliminary determination for individual listing in the National Register.
☐ preliminary determination that a building located within a potential historic district contributes to the significance of the district.
☐ preliminary determination that a building outside the period or area of significance contributes to the significance of the district.

3. Project Contact (if different from applicant)

Name Christopher VerPlanck Company VerPlanck Historic Preservation Csltg.

Street 57 Post Street, Suite 810 City San Francisco State CA

Zip 94104-5020 Telephone (415) 391-7486 Email Address chris@verplanckconsulting.com

4. Applicant

I hereby attest that the information I have provided is, to the best of my knowledge, correct. I further attest that [check one or both boxes, as applicable] (1) ☐ I am the owner of the above-described property within the meaning of "owner" set forth in 36 CFR § 67.2 (2011), and/or (2) ☒ if I am not the fee simple owner of the above-described property, the fee simple owner is aware of the action I am taking relative to this application and has no objection, as noted in a written statement from the owner, a copy of which (i) either is attached to this application form and incorporated herein, or has been previously submitted, and (ii) meets the requirements of 36 CFR § 67.3(a)(1) (2011). For purposes of this attestation, the singular shall include the plural wherever appropriate. I understand that knowing and willful falsification of factual representations in this application may subject me to fines and imprisonment under 18 U.S.C. § 1001, which, under certain circumstances, provides for imprisonment of up to 8 years.

Name Patrick McNerney Signature ______ Date ______

Applicant Entity 1101 Sutter Affordable, LP SSN ______ or TIN ______

Street 66 Mint Street, First Floor City San Francisco State CA

Zip 94103 Telephone (415) 348-4600 Email Address pmcnerney@martinbuilding.com

NPS Official Use Only

The National Park Service has reviewed the Historic Preservation Certification Application – Part 1 for the above-named property and has determined that the property:

☐ contributes to the significance of the above-named district or National Register property and is a "certified historic structure" for rehabilitation purposes.
☐ contributes to the significance of the above-named district and is a "certified historic structure" for a charitable contribution for conservation purposes.
☐ does not contribute to the significance of the above-named district.

Preliminary Determinations:

☐ appears to meet the National Register Criteria for Evaluation and will likely be listed in the National Register of Historic Places if nominated by the State Historic Preservation Officer according to the procedures set forth in 36 CFR Part 60.
☐ does not appear to meet the National Register Criteria for Evaluation and will likely not be listed in the National Register.
☐ appears to contribute to the significance of a potential historic district, which will likely be listed in the National Register of Historic Places if nominated by the State Historic Preservation Officer.
☐ appears to contribute to the significance of a registered historic district if the period or area of significance as documented in the National Register nomination or district documentation on file with the NPS is expanded by the State Historic Preservation Officer.
☐ does not appear to qualify as a certified historic structure.

Date ______ National Park Service Authorized Signature ______

☐ NPS comments attached

HISTORIC PRESERVATION CERTIFICATION APPLICATION
PART 1 – EVALUATION OF SIGNIFICANCE

Property name Heald's Engineering and Automobile School NPS Project Number

Property address 1101 Sutter Street San Francisco San Francisco CA 94109-5604

5. Description of physical appearance

A. Context

The former Heald's Engineering and Automobile School occupies a rectangular parcel bounded by Sutter Street to the north, Larkin Street to the east, and Hemlock Street to the south. The 75' x 120' parcel is located at the far eastern edge of the Western Addition, the first major expansion of San Francisco following the Gold Rush. Although surveyed in 1855 part of the Van Ness Survey, the subject property is located two blocks east of Van Ness Avenue, which in popular imagination marks the eastern boundary of the Western Addition. The San Francisco Planning Department considers the subject property to be part of Downtown/Civic Center, although most local residents would say that the area is either part of Lower Nob Hill or Polk Gulch. In this part of the Western Addition, most blocks are divided in half by a mid-block alley running east-west, which in the case of Assessor Block 692 is Hemlock Street. The subject block is generally level, although the surrounding terrain slopes steeply uphill toward the north and east and slightly downhill toward the south. The neighborhood is intensively urban, with narrow sidewalks and a relatively scant urban "forest" consisting primarily of ficus, eucalyptus, and London planes.

The surrounding neighborhood is developed with a mixture of commercial, residential, and mixed-use buildings ranging from two to nine stories in height. Located within a part of the city where wood-frame structures have been forbidden since 1906, nearly all of the subject property's neighbors are of masonry construction, including reinforced-concrete, brick, or a combination of the two materials. More recent buildings are typically of steel-frame construction and clad in metal, glass, or other fire-resistant materials. The surrounding Polk Gulch and Lower Nob Hill neighborhoods were utterly destroyed in 1906, so nearly all of the buildings were built during the post-quake reconstruction era of 1906 to 1915, with additional infill construction occurring during the post-World War I period and the 1920s-era building boom. By the onset of the Depression in 1930, the neighborhood was essentially built-out. Because the surrounding neighborhood was developed within such a short period of time, it is stylistically quite cohesive, with most buildings designed in the Classical/Renaissance Revival, Spanish/Mediterranean, Gothic/Period Revival, and Art Deco styles.

Buildings adjoining the subject property include, to the east, the Halsted & Co. mortuary at 1123 Sutter Street (Photo 1). Comprising two older commercial buildings erected after the 1906 Earthquake, the two structures were joined together in 1926 and remodeled in the Classical Revival style. To the west of the mortuary is a surface parking lot that belongs to Halsted & Co. Below the parking lot is a subterranean garage accessed from Hemlock Street. Adjoining the Halsted property to the west is 1151 Sutter Street, a nine-unit condominium complex built in 2009, making it one of the newest buildings in the neighborhood (Photo 2). The westernmost building on the block is 1167-69 Sutter Street, a two-story former market hall constructed in 1910 (Photo 3). This building, which also has frontage on Polk Street, is designed in the Mission Revival style, although some of its original ornament has been stripped.

The north side of the 1100 block of Sutter Street presents a substantial row of early twentieth-century residential hotels and apartment buildings, many of which are contributors to the adjoining Lower Nob Hill Apartment Hotel Historic District, including, at the corner of Sutter and Larkin Streets, Hotel Harcourt at 1105 Larkin Street. Built in 1906, the Renaissance Revival-style residential hotel is five stories with ground-floor retail (Photo 4). Located next-door to it and across the street from the subject property is 1114 Sutter Street, also known as Yerba Buena Apartments. Built in 1908, the six-story apartment building is designed in the Renaissance Revival style with Art Nouveau detailing (Photo 5). To the west is 1136 Sutter Street, an unnamed apartment building built in 1911. This impressive three-story building with ground-floor commercial is designed in the Renaissance Revival style with bold Italian-inspired ornament (Photo 6). Adjoining it to the west is the sprawling Glen Arm Apartments at 1140 Sutter Street. Built in 1911, the five-story apartment building is designed in the Renaissance Revival style (Photo 7). At 1150-52 Sutter Street is Lorin Apartments, a three-story apartment building with ground-floor commercial. Built in 1907, it is also designed in the Renaissance Revival style (Photo 8). The last two buildings on the north side of the 1100 block of Sutter Street are not district contributors, including 1158 Sutter Street, a mixed-use building constructed in 2008, and 1214 Polk Street, a heavily altered, mixed-use building constructed in 1906 (See Photo 8).

East of Larkin Street, the 1000 block of Sutter Street slopes steeply uphill toward downtown. At the northeast corner of Sutter and Larkin Streets is Marble Court Apartments, a six-story, Renaissance Revival-style apartment building constructed in 1923 at 1112 Larkin Street (Photo 9). Adjoining it to the east is 1080 Sutter Street, a contemporary condominium building built in 2014 (See Photo 9). At the southeast corner of Sutter and Larkin Streets (1038-98 Larkin) is Portola Apartments, a two-story, mixed-use building built in 1907. Like most of its neighbors it is designed in the Renaissance Revival style (Photo 10). Adjoining Portola Apartments to the east is Hotel Carlton, a nine-story, Renaissance Revival-style tourist hotel constructed in 1923 at 1075 Sutter Street (Photo 11). Adjoining Portola Apartments to the south is a pair of Renaissance Revival-style apartment buildings at 1030 Larkin Street (built 1919) and 982-90 Post Street (built 1907) (Photos 12-13).

Hemlock Street borders the subject street to the south. It is lined by the utilitarian rear facades of several buildings facing Post and Larkin Streets (Photo 14). At the southwest corner of Larkin and Hemlock Streets is 1010 Post Street, an L-shaped residential hotel built in 1907, and 1005 Larkin Street, a five-story apartment building also constructed in 1907 (Photo 15). Both buildings are designed in the Renaissance Revival style.

B. Exterior Description

The former Heald's Engineering and Automobile School is a three-story-over-basement, reinforced-concrete frame (with brick infill), commercial garage finished in stucco on the three street-facing elevations (Photo 16). Constructed in 1920 as an auto mechanics trade school, the otherwise utilitarian building is embellished by a modest amount of Classical Revival ornament. Although all three of the street-facing facades are finished in stucco, only the north and east facades, which face Sutter and Larkin Streets respectively, are ornamented. The stucco on these two facades is scored to imitate stone masonry construction. In contrast, the windowless west elevation, which is mostly concealed behind the adjoining mortuary building at 1123 Sutter Street, is painted brick without any ornament or fenestration. The subject property has a flat roof concealed behind a raised parapet.

The north and east facades of 1101 Sutter Street are both quite similar, although the north facade is only four bays wide and the east facade five bays long. The north facade, which is where the primary entrance is located, is the primary facade of the building (Photo 17). At street level, the first floor consists of two double-width, open-air vehicular bays. Created after 1935, these bays provide access to a small surface parking lot in the left bay (formerly a gas station) and a ramp up to the second and third floors in the right bay. Visible at the rear of the left bay is a corrugated-metal roll-up door and a pedestrian door protected behind a metal security gate (Photo 18). To the right of the pedestrian entrance is a small business office that projects into the parking lot area; it is clad in T-111 siding and has no fenestration. A narrow band of scored stucco separates the first and second floors on the north facade. The second and third floor levels are identical, consisting of four rectangular window openings on each floor level. Each opening contains a multi-lite wood window divided into three sections by vertical mullions. The narrow corner sections of each window contain operable pivot sashes divided into six lites each. The wider central section of each window is fixed and divided into 15 lites. A horizontal mullion runs along the top of the windows, forming a transom. Separating the second and third floor levels is a row of recessed spandrels ornamented with plaster urns. The north facade is capped by a narrow plaster molding, a frieze embellished with roundels, a molded sheet-metal cornice, and a raised parapet. There is a 1960s-era backlit blade sign attached to the northeast corner of the building that reads "PARK."

The east facade of 1101 Sutter Street is very similar to the north facade except that it is one bay longer (Photo 19). In addition, because the terrain slopes downhill toward the south, a portion of the basement is daylighted at the south (left) end of the building (Photo 20). The first floor level contains two vehicular entrances, including one in the second bay which accesses the basement and an open-air entrance at the right which accesses the previously described parking lot at the front of the building. The basement entrance contains a non-historic metal roll-up door with a hollow-core metal pedestrian door to the right. Above it is a band of plywood paneling that encloses an original window. The entrance to the parking lot contains no fenestration. The remaining three bays at the first floor level contain multi-lite wood windows matching those previously described on the north facade except that they are higher. Metal security bars are attached in front of the windows in the third and fourth bays. There is also a daylight window illuminating the basement level in the first bay. Above the first floor, the second and third floor levels are finished and detailed exactly like the north facade, including the windows, spandrels, and cornice (Photo 21).

The south facade of the subject property facades Hemlock Street, a narrow mid-block alley connecting Polk and Larkin Streets (Photo 22). Similar to the north facade, the south facade is four bays wide and finished in stucco, but the stucco is not scored aside from a narrow return adjoining Larkin Street. More of the basement level is exposed at this elevation than along Larkin Street. At the left side of the south facade is a vehicular entrance that accesses the basement. It contains a non-historic, corrugated-metal roll-up door. Daylight windows are located in the remaining three bays. The first floor level contains three large windows. The window in the left bay was modified in the early 1990s when the roll-up door was installed, and it now contains a non-historic anodized-aluminum window. the remaining three bays contain multi-lite wood windows that match those on the north and east facades. The second and third floor levels are identical, each containing four multi-lite wood windows. There is no ornament on the south facade and it terminates with a blank frieze and raised parapet.

The west facade of the subject property faces the interior of the block. It is windowless and made of painted brick without any ornament (Photo 23).

C. Interior Description

The interior of 1101 Sutter Street consists of four floor levels, including the basement. The basement occupies the full footprint of the building as well as the vaulted areas below the sidewalks along Sutter and Larkin Streets. Similar to the rest of the interior, the basement is utilitarian, with concrete slab floors and painted concrete walls, ceilings, and structural members, including posts, beams, and joists (Photos 24-25). The basement has two vehicular ramps, including one that goes up to Larkin Street and another to Hemlock Street. Pedestrian circulation is provided by a wood stair at the east wall that goes up to the first floor level. The basement is open with the exception of small washroom on the south wall and two rooms along the north side of the building beneath the sidewalk. These rooms are demarcated by partitions made of metal lath and gypsum board and they appear to have been installed in the 1990s.

The first floor level of 1101 Sutter Street occupies the entire footprint of the building. As originally designed, the first floor consisted of a central shop/classroom flanked by smaller offices, shop/classrooms, and toilet rooms. A ramp on the west side of the building provides vehicular and pedestrian access to the second floor level. Historically, there was also a pedestrian stair at the east side of the building that led from the basement to the third floor. Over time, the stair and all of the original partitions were removed except for the one enclusing the auto ramp. In the 1990s, a previous tenant installed several new metal-stud/gypsum board partitions to create a pair of offices, a waiting room, a service and parts department, and a toilet room at the southwest corner. There is another small office framed in wood along the east wall that was built in 1950. The first floor level retains all of its original industrial finishes, including its concrete slab floor, painted brick and concrete and brick walls, and painted concrete framing (Photos 26-27).

A concrete ramp leads from the first floor to the second floor along the west wall of the building (Photo 28). The second floor occupies the entire footprint of the building. Used exclusively for parking, the second floor has no partitioned spaces aside for a small, freestanding attendant's hut near the ramp to the third. The second floor is entirely unfinished, consisted of concrete slab flooring, painted concrete and brick walls, and painted concrete framing (Photo 29).

A ramp at the east side of the second floor slopes up to the third floor. Similar to the second floor, the third floor level occupies the entire footprint of the building. Unlike the second floor, the third floor is partially finished in lath and plaster (Photo 30). At the southeast corner of the third floor is a small storage room enclosed within hollow-clay tile partitions. The third floor level is illuminated by three roof-mounted skylights.

Date(s) of building(s) Date(s) of alteration(s)

Has building been moved? ☒ no ☐ yes, specify date

6. Statement of significance

A. Historical Context: Polk Gulch

The former Heald's Engineering and Automobile School is located at the intersection of three well-known San Francisco neighborhoods: Nob Hill, the Tenderloin, and the Western Addition. For many years this part of the city has been known as "Polk Gulch." From the 1960s until the early 1990s, this linear, mixed-use neighborhood was one of San Francisco's best-known Gay communities. Although the name Polk Gulch is gradually dying out as San Francisco continues to gentrify, its boundaries generally encompass the area between Van Ness Avenue and Larkin Street, from Broadway on the north to Market Street on the south.

Technically speaking, Polk Gulch is part of the Western Addition, a huge subdivision platted in 1856 as the first major expansion of San Francisco. As a legal entity, the Western Addition encompasses dozens of neighborhoods, including Hayes Valley, Alamo Square, Japantown, the Haight-Ashbury, Pacific Heights, and Polk Gulch. Van Ness Avenue, located two blocks west of the subject property, was laid out along with the rest of the Western Addition by City Surveyor John T. Huff under the auspices of city alderman, and soon-to-be mayor, James Van Ness. Measuring 125 feet wide, Van Ness Avenue is twice the width of most streets in the sprawling Western Addition. Huff decided to make Van Ness Avenue the main street of the Western Addition because it followed the floor of a valley between Nob Hill and Russian Hill to the east and Pacific Heights to the west, making it an ideal candidate for a north-south boulevard connecting the Northern Waterfront to Market Street.

During the 1870s and 1880s, Van Ness Avenue became a landscaped boulevard lined by mansions belonging to prominent San Franciscans, mainline churches like St. Luke's Episcopal and the Cathedral of St. Mary, prestigious social organizations such as the Concordia Club, hotels, and prominent organizations like the Mercantile Library. Meanwhile, one block to the east, Polk Street became the primary commercial district for the wealthy residents of Van Ness Avenue and the working-class residents of the nearby Tenderloin, with its saloons, shops, restaurants, offices, and livery stables catering to all social classes. In terms of its physical fabric, Victorian Polk Street consisted of a mixture of two and three-story, wood-frame buildings, including houses, flats, and mixed-use buildings with commercial space on the ground floor and flats above.

The 1906 Earthquake and Fire destroyed nearly all of San Francisco east of Van Ness Avenue. As the fires surged inexorably westward from the city center, soldiers dynamited the surviving buildings along the east side of Van Ness Avenue to create a firebreak, which ultimately spared many of the neighborhoods to the west of Van Ness. These same firestorms destroyed everything along Polk Street from Greenwich Street to Market Street. After the earthquake, some of the surviving mansions along Van Ness Avenue were converted into temporary quarters for retail businesses displaced from Union Square. Meanwhile, entrepreneurs constructed several dozen temporary retail blocks. Although most retail businesses eventually returned to Union Square and Market Street, the affluent residential character of Van Ness Avenue and its environs was gone forever. Eventually, most of the surviving mansions were demolished and replaced by apartment buildings or auto showrooms, garages, and other buildings associated with San Francisco's burgeoning "Auto Row."

After the 1906 Earthquake, Polk Street was rebuilt as a mixed-use district, as it had been before the disaster. However, its reconstruction, especially the stretch between California and Market Streets, took longer than many other fire-damaged parts of the city, in part due to uncertainty over whether wood-frame buildings would be allowed. Prior to the catastrophe, San Francisco's "fire limits," the area in which only "fireproof" masonry buildings were permitted, was confined to the Market Street corridor, Union Square, the Financial District, Chinatown, and a few parts of the Northern Waterfront. Following the disaster, city authorities wanted to expand the fire limits to include the South of Market area, the Tenderloin, and the Van Ness Avenue/Polk Street corridor. Authorities faced stiff opposition from landowners who did not want the added expense of rebuilding in masonry. Nonetheless, the Tenderloin and adjoining Van Ness Corridor were ultimately included within the expanded fire limits, including the subject property. Landowners who either could not afford to rebuild in masonry were thereby compelled to sell out to those who could, and many did so. While properties changed hands, many new owners took the opportunity to consolidate smaller lots into larger landholdings suitable for bigger buildings.

Prepared some seven years after the 1906 Earthquake, the 1913 Sanborn maps illustrate how large three, four, and five-story, mixed-use buildings built of concrete and brick had become the norm along Polk and Larkin Streets. Similar to the adjoining Tenderloin and Nob Hill neighborhoods, many of these new buildings were residential hotels or apartment buildings, some with ground-floor commercial units. In addition, there were a few tourist hotels, garages, utility substations, and specialized commercial buildings. Nonetheless, the pace of reconstruction remained slow, with a handful of vacant lots remaining into the late 1920s.

The Polk-Van Ness-Larkin District Merchants' Association coined the name "Polk Gulch" in the mid-1930s because its members wanted a more memorable name, using the name in 1937 for its first annual Polk Gulch Fiesta, a western-themed street fair. In part due to the fiesta, Polk Gulch became well-defined in the popular imagination as a lively working-class neighborhood sandwiched between the poorer Tenderloin and higher-end Van Ness Avenue Corridor. During the 1930s and 1940s, Polk Gulch was inhabited primarily by single, blue collar men who rented rooms in the neighborhood’s many single-room-occupancy (SRO) residential hotels, as well as a handful of families and couples who lived in slightly higher-end apartment buildings. The ground floor level of many neighborhood buildings housed a range of businesses needed by local residents, including cafés and lunch counters, used clothing stores, second-hand furniture stores, banks, and saloons and bars.

By the 1960s, the demographic makeup of Polk Gulch had begun to change. Gay men had been moving to San Francisco in large numbers since World War II, and many were attracted to Polk Gulch by its central location, cheap rents, and thriving bar scene. By the 1960s, “Polkstrasse” had gained a reputation as the epicenter of San Francisco’s Gay “underworld,” a territory populated in popular imagination by transvestites, hustlers, and various other transgressive queer subcultures. The term Polk Gulch, which had fallen into disuse after World War II, was revived in the early 1970s to describe a neighborhood that was increasingly upheld as a gritty counterpoint to the more middle-class and well-scrubbed residents of the Castro District.

Polk Gulch remained a vital center of Gay culture in San Francisco well into the 1980s. Nevertheless, by the end of the decade, a combination of factors, including the catastrophic effects of the AIDS crisis, gentrification, and the declining appeal of “cruising” in response to the Internet, had led to the disintegration of Gay nightlife in Polk Gulch. One by one, most of the Gay bars along Polk Street either closed or became straight bars during the 1990s, including the Giraffe (later the Hemlock), Kemo’s, Lush Lounge, Polk Gulch Saloon, and many others. Re-branded by local business owners and real estate agents as “Polk Village,” Polk Street continues its reinvention as a high-end entertainment district for affluent twenty-somethings. As more highly paid tech "bros" arrive in San Francisco, developers have constructed dozens of new luxury condominium projects along Van Ness Avenue, Polk Street, and cross streets, transforming the traditional working-class neighborhood into a much more upscale environment.

B. History of 1101 Sutter Street

According to the 1899 Sanborn Maps, what is now 1101 Sutter Street was occupied by four mixed-use buildings, all of which were of wood-frame construction with ground-floor commercial spaces and residential units on the upper floors. In 1906, the entire block, as well as all of the surrounding neighborhood, was destroyed in the earthquake and fire. Seven years later, the 1913 Sanborn Maps indicate that the subject property, which had been assembled from at least four smaller lots, remained vacant. The parcel remained under the control of investors for another seven years, until February 24, 1920, when Thomas E. and Freda O. Shumate sold it to John D. Wilson and William F. Dunn.

On August 11, 1920, William F. Dunn, a 37-year-old real estate investor, applied for a building permit to erect a three-story-over-basement, concrete-frame, brick building costing $110,000. According to the original building permit application, the 75' x 120' building was to be used as an auto school. According to the contract announcement in the October 2, 1920 edition of Building & Engineering News, the architect was Samuel S. Heiman and the primary building contractor was Monson

Brothers. Construction began in September 1920 and the core and shell were completed by November of that year. Over the next few months, the exterior of the building was finished in stucco scored to resemble masonry and the interior was also finished, including the installation of electrical and plumbing fixtures, wood partitions, and machinery required for the building's use as a trade school for budding auto mechanics.

In the spring of 1921, Heald's Business College's Engineering and Automobile School moved into 1101 Sutter Street. The school had previously been located at 1220 Post Street, near the heart of Van Ness Auto Row. The school had leased the building because it was much larger than its previous facilities, and enrollment was growing.

On August 15, 1921, John D. and Esther M. Wilson and William F. Dunn sold the almost-new building to a consortium of several individuals, including James K., William A., Josephine, Helen M., Agnes M., and Isabelle O'Brien; Kathleen A. Holbrook; and Mary Pierce. Members of this consortium owned 1101 Sutter Street for 26 years. During this time, they leased the building to various tenants, including to Heald's College from 1921 to 1935.

Heald's Business College was founded in San Francisco in 1863 by Edward P. Heald as a business college and trade school for working-class and lower middle-class San Franciscans. The college, which offered courses in accounting, typewriting, mercantile law, banking, mechanical drawing, business English, and many other subjects, was the first "business college" in the western United States. Until the 1906 Earthquake and Fire, Heald's Business College was located at 24 Post Street near Market Street. After the disaster, Heald's College relocated to the Van Ness Avenue corridor, building a new campus at 425 McAllister Street. At the same time, Heald's Business College opened a new auto engineering school in the same building to cater to the growing demand for auto mechanics. In 1912, the City and County of San Francisco condemned Heald's campus to build the San Francisco Civic Center. Heald's Business College then moved to a new building at the northwest corner of Van Ness Avenue and Post Street, with the auto engineering program relocating to 1220 Post Street.

Heald's Engineering and Auto School remained at 1101 Sutter Street from 1921 until 1935, when it moved to 915 North Point Street. That same year, a man named Roy B. Court leased the building from the owners and applied for several permits to convert it into a commercial parking garage. The permit applications included one to install a neon blade sign in September 1935, one to build a new office and toilet room on the first floor in February 1937, and another to install a flue later that month. In addition to parking, Roy Court's Sutter-Larkin Garage offered ancillary services like lubrication and other light maintenance and repairs, washing and polishing, and sales of gasoline and oil.

In December 1942, Roy Court applied for a permit to install an apartment on the third floor of 1101 Sutter Street. It is not known for whom the apartment was built, but it was likely for an on-site manager or night watchman. By the end of World War II, Court had left the day-to-day management of the Sutter-Larkin Garage to others as he concentrated on his growing real estate investment business.

On May 9, 1947, Agnes M. O'Brien, the last member of the consortium that had purchased 1101 Sutter Street in 1921, sold the property to two couples, including Lester P. and Norma H. Lobe and Jeffrey and Florence Gross. The new owners owned 1101 Sutter Street for only four years, selling it to architect Gardner Dailey on January 10, 1951. During the time that they owned the property, the Lobe and Gross families leased 1101 Sutter Street to B.E. Campbell, who continued to operate the Sutter-Larkin Garage. In July 1947, Campbell installed a new neon sign advertising the business. In early 1950, a new lessee named Leonard D. Salzberg took over Sutter-Larkin Garage, and in March of that year he applied for a permit to complete $700 work of improvements, including building an office above the ramp to the basement along Larkin Street. Like most other garage proprietors, Salzberg accepted hourly, daily, and monthly tenants and he offered a range of services, including washing and polishing, gasoline and oil sales, and light repairs.

Gardner Dailey, a well-known Bay Area architect, purchased 1101 Sutter Street as an investment property. He continued leasing it to Salzberg for a decade. In 1962, Gardner Dailey leased 1101 Sutter Street to Halsted & Co., the funeral home located next-door at 1123 Sutter Street. In April of that year, Halsted applied for a permit to complete $3,000 worth of interior improvements, including building several new metal lath and gypsum board partitions at the first floor level and installing several vehicle lifts, shelving, and gas pumps. Halsted & Co. used the building to maintain and park its hearses, as well as to provide parking for its clients. Halsted & Co. did not occupy the entire building; city directories from the mid-1960s indicate that Botta's Foreign Car Repair was also a tenant. The building also housed a small gas station operated at various times by Atlantic Richfield and Standard Oil Co. The gas station was located within the two open bays on the Sutter Street facade, which were presumably opened so that customers could simply drive into the building to fill up their tanks. In May 1962, Standard Oil installed a double-faced, plastic blade sign at the northeast corner of the building emblazoned with the words "PARK" and the Standard Oil/ Chevron logo below. The upper part of this sign still exists.

Gardner Daily died in October 1967. His widow Lucille Dailey held onto 1101 Sutter Street for five more years, until January 7, 1972, when she sold it to Halsted & Co. Halsted has owned the property ever since. According to the 1973 San Francisco City Directory, Halsted & Co. still used a portion of the building for parking and storage and leased the rest to three separate auto service businesses, including Botta's Foreign Car Repair, AVR Porsche & BMW Service, and Pacific Engineering Co. Four years later, a similar roster occupied the building, although AVR had been replaced by Service Electronic Co., an auto stereo business; and Pacific Engineering had been replaced by Presidio Heights Garage. In 1981, when city directories ceased publication, occupants of the building included Halsted & Co., Botta's Auto Body, Shinazy Enterprises Inc., Service Electronic Co., and Pacific Motors.

By 1987, a portion of 1101 Sutter Street was again being used as a public parking garage known as Daily Park Garage. In 1990, City Park took over the parking operations. In 1992, a new tenant called Windshields America leased a portion of 1101 Sutter Street from Halsted & Co. According to a permit application filed in July 1992, Windshields America took over the basement and the first floor of the building to operate a windshield repair business. The business replaced the garage doors on the exterior and modified the windows surrounding these entrances. Later that year, Windshields America applied for a permit to install new signage on the exterior of the building. City Park continued to operate the second and third floors as a parking garage. By this point, Halsted & Co. had relocated all of its public parking to a surface parking lot next to its mortuary and its hearse storage and maintenance facilities to a garage beneath the parking lot. In October 1992, Halsted & Co. applied for a permit to brace the parapet in compliance with San Francisco's post-Loma Prieta parapet strengthening ordinance. This is the most recent permit application on file for the property.

In 1998, Windshields America moved out of 1101 Sutter Street. Since then, several auto repair businesses have occupied the basement and first floor levels of the building, while public parking has continued at the second and third floor levels. Most recently, the tenants have included Aldo's Performance Motors (basement), Golden Gate Jeep (first floor), and Direcpark, LLC (second and third floors). The subject property, as well as the adjoining Halsted & Co. mortuary at 1123 Sutter Street, have recently changed hands, with Martin Building Co. purchasing both properties in the summer of 2019.

C. Alterations

The former Heald's Engineering and Automobile School at 1101 Sutter Street has undergone relatively few alterations in its almost a century of existence. On the exterior, the most notable alteration was the removal of the fenestration at the first floor level of the Sutter Street facade to install a small gas station in the early 1950s. More recently, in the early 1990s, Windshields America modified two vehicular entrances on Larkin and Hemlock Streets, including installing two new roll-up doors and modifying the fenestration in these bays. Likely around the same time, metal security bars were installed in front of three windows along Larkin Street. However, this change is entirely reversible. Over time, the building's signage program has been changed many times as different businesses have come and gone. The existing metal and plastic blade sign at the northeast corner of the building was installed in 1962 when Standard Oil moved into the first floor level. The rest of the signage, which consists for the most part of painted panels or small, flush-mounted plastic or metal signs, is all of recent origin and easily removable. The interior of 1101 Sutter Street has undergone more changes than the exterior, including the incremental removal and/or reconfiguration of all original partitions. Nonetheless, the original partitions were few in number, insubstantial, and designed to be reconfigured when necessary. Otherwise, the interior retains its original utilitarian character and open volume.

D. Samuel S. Heiman

Samuel S. Heiman was born June 3, 1884 in San Francisco to a German immigrant brewery worker father and an English mother. Samuel Heiman appears to have been a largely self-taught architect, although it is possible that he also took evening classes or interned with an experienced designer. Little is known of his early career, although he was in business from 1914 to 1919 with a man named Mel I. Schwartz. The firm mainly designed small commercial buildings and single-family homes for suburban merchant developers. According to the April 16, 1920 San Francisco Chronicle, Heiman was arrested at his office at 57 Post Street for practicing architecture without a license. Samuel Heiman subsequently earned his license and began taking on larger and more complex projects, including a pair of good-sized industrial buildings: Heald's Engineering and Automobile School at 1101 Sutter Street (1921) and the Alcone Knitting Mills at 1663 Mission Street (1925).

By the mid-1920s, Samuel Heiman had become active in Marin County, where he had moved with his wife Dorothy and two young sons, Warren and Lawrence. Several of Heiman's eye-catching Spanish Colonial Revival and Mediterranean-style commercial buildings continue to grace Sir Francis Drake Boulevard in the communities of San Anselmo, San Rafael, and Larkspur. His largest commission in Marin County was Red Hill School at 1000 Sir Francis Drake Boulevard in San Anselmo. Throughout the late 1920s and early 1930s, Heiman earned most of his income from designing custom and spec homes for residential developers active in several of the Bay Area's most affluent neighborhoods, including Sea Cliff in San Francisco and San Mateo's Baywood/Aragon tract. In 1931, Heiman designed his most famous work, the San Francisco Department of Public Health Building at 101 Grove Street in the Civic Center. This building, with its Classical Revival facade, is extremely prominent because it sits directly opposite San Francisco City Hall.

Samuel Heiman was a World War I veteran and a member of the Masonic Order. In the 1940s, he began teaching architectural drafting to inmates at San Quentin Prison in Marin County. Toward the end of his life, Samuel Heiman lived with Dorothy in Ross, in Marin County, where he died on April 6, 1947.

E. Commercial Garages

Although the former Heald's Engineering and Automobile School was originally designed and built as a teaching facility, functionally it is best described as a commercial garage, which it has been used for from 1935 to the present. Indeed, the building embodies several characteristics of the type, including its concrete-frame construction, large open floorplates connected by concrete ramps, vehicular entrances, symmetrical fenestration pattern consisting of large multi-lite windows, and traditional architectural ornamentation.

Public, or commercial, garages, as they were called, were the twentieth century’s answer to the livery stable. After the 1906 Earthquake, very few residences in San Francisco had their own garage because few people owned cars. After the disaster, the demand for automobiles soared. Eventually, many older single-family dwellings were remodeled to include garages and by 1920, most new houses and some new apartment buildings were built with them. However, commercial garages remained a necessity in many of San Francisco's more urban neighborhoods. First off, residential hotels and apartment buildings were difficult and expensive to retrofit to provide off-street parking. In densely populated neighborhoods like the Tenderloin and North Beach, which also had dozens of restaurants, bars, and theaters catering to people from outside the neighborhood, street parking was especially difficult. Compounding the problem was the fact that most early automobiles had delicate fabric tops that were vulnerable to rain, vandalism, and theft. Reacting to the growing demand for safe and convenient off-street parking, entrepreneurs began building dozens of multi-story, masonry garages in San Francisco during the 1910s and 1920s. By the onset of the Depression in 1929, there were 236 commercial garages in the city, most of which were located in the northeast quadrant of the city, in neighborhoods like the Tenderloin, Nob Hill, North Beach, Union Square, Polk Gulch, and the Van Ness Corridor.

To gain an advantage over their rivals, some commercial garages offered additional services to their customers, who typically had the option of renting a parking space by the hour, day, week, or month. These services included gasoline and oil sales; auto washing and polishing; sales of supplies like batteries, windshield wipers, and tires; and light service, including lubrication and tire repair. Most full-service commercial garages had at least two floors, with the first floor used for short-term parking, administration, fuel sales, and washing; and the upper floors for service and longer-term parking. Car elevators or ramps were used to move vehicles between floors. Most garages were built on lots that were at least 50’ wide to allow for sufficient turning radius inside the building. Many were also built on corner parcels and/or on alleys so they had multiple access points. Some were L-shaped in plan, with frontage on intersecting streets to allow for the entrance to be on one street and the exit on the other. People who did not own autos also patronized garages because they could often either rent a car or call for a cab from a dedicated telephone line.

Commercial garages built during the immediate post-quake era in San Francisco often resembled nineteenth-century livery stables, with their simple brick construction, gable-roofed massing, and one-story interiors accessed from the street by a single vehicular entrance. By the end of World War I, most commercial garages had evolved into much more complex structures with multiple floors to accommodate as many vehicles as possible on a small footprint. Built of reinforced concrete finished in stucco (sometimes with brick infill or cladding), the new generation of commercial garage shared much in common with the contemporary light industrial loft building, with their cubic massing, open floorplates, ample fenestration to admit natural light, and multiple floor levels supported by thick concrete columns with mushroom capitals. Their interior spaces were typically utilitarian, with exposed concrete framing and narrow, sloping ramps winding up along the inside of the perimeter walls. The only finished interior spaces would be the business office and possibly a room where patrons could wait while their cars were being serviced or retrieved.

On the other hand, the exteriors of 1920s-era commercial garages were often quite architecturally elaborate. This was in large part to attract customers with eye-catching designs in a highly competitive business sector. The traditional exteriors of 1920s-era garages were also meant to blend in with their residential and commercial neighbors in order to minimize opposition to their presence. This meant that the architectural styles used for most garages were the same as the adjoining apartment buildings and commercial buildings, including the Classical/Renaissance Revival, Gothic/Period Revival, Spanish/Mediterranean, and later the Art Deco styles. This approach resulted in architectural cohesiveness within neighborhoods like the Tenderloin, Nob Hill, etc., with garages distinguished from their neighbors only by their larger windows and shorter stature.

E. Eligibility

The former Heald's Engineering and Automobile School appears eligible for the National Register under Criterion C (Design/Construction) as an excellent and well-preserved example of a commercial garage dating to the 1920s. Although originally built as an automotive trade school, its architect, Samuel S. Heiman, designed 1101 Sutter Street similar to a contemporary commercial garage. Like most other garages built during this era, 1101 Sutter Street has a reinforced-concrete frame with stuccoed exterior. The interior is unfinished and consists of four (including the basement) levels connected by interior ramps. The structural system of posts and beams is entirely exposed and the interior is naturally illuminated by large multi-lite windows and roof-mounted skylights. In contrast, the building's exterior is architecturally embellished with stucco walls scored to resemble stone, recessed spandrel panels embellished by plaster urns, a roundel-studded frieze, and a molded sheet metal cornice.

Modestly and tastefully appointed, 1101 Sutter Street is an excellent example of a building type (commercial garage), era (post-World War I/1920s-era building boom), and method of construction (reinforced concrete). It is also quite well-preserved; the only notable alterations included the opening of the first-floor bays on Sutter Street in the 1950s to insert a small gas station, the replacement of two original wood vehicular doors with overhead roll-up doors in the 1990s, and the installation of metal security bars in front of several of the first-floor windows around the same time. Signage on the exterior has been changed periodically since 1935, but it is all easily reversible/removable.

1101 Sutter Street is also significant under Criterion A (Events) for its association with Heald's Business College, a local Bay Area institution that lasted for over 150 years. Established in 1863, Heald's Business College, later known as Heald College, was the first, and for many years the only, private business college in California. Heald College's original downtown campus was destroyed in the 1906 Earthquake and Fire and its second campus was demolished in 1912 to build the new San Francisco Civic Center. Its third campus was located at the southwest corner of Post Street and Van

Ness Avenue in the midst of San Francisco's Auto Row. This third campus was eventually demolished, making the subject property the oldest building associated with Heald's Business College in San Francisco. Heald College remained an important part of the post-secondary educational landscape of the Bay Area until 2009 when it was purchased by Corinthian Colleges, which abruptly closed all of its campuses in 2015.

The former Heald's Engineering and Automobile School is located across the street from the National Register-listed Lower Nob Hill Apartment Hotel Historic District. Listed in 1991, the historic district contains approximately 296 contributing and 35 non-contributing properties within an area bounded by Polk Street to the west, Pine Street to the north, Taylor Street to the east, and Geary Street to the south. The subject property is surrounded by the Lower Nob Hill Apartment Hotel Historic District on three sides, with district contributors facing it along Sutter, Larkin, and Hemlock Streets. It is not known why the subject block was left out of the historic district boundaries, but it seems quite likely that it was because the subject block contains no residential hotels or apartment buildings. Although commercial garages were not categorically excluded from the Lower Nob Hill Apartment Hotel Historic District nomination, they were clearly not the author's focus, and most are categorized as non-contributors. In contrast, the nearby National Register-listed Uptown/Tenderloin Historic District (listed in 2009) calls out commercial garages as an important resource type. Several commercial garages are contributors to the Uptown/Tenderloin Historic District, which adjoins the Nob Hill Apartment Hotel Historic District to the south. If the boundaries of the latter district were to be extended to the west to encompass all or part of the subject block, it seems clear that 1101 Sutter Street would be a contributor.

7. Photographs and maps. Send photographs and map with application.

NPS Form 10-168a (Rev. 2019)
National Park Service
OMB Control No. 1024-0009

HISTORIC PRESERVATION CERTIFICATION APPLICATION
PART 2 – DESCRIPTION OF REHABILITATION

Instructions: This page must bear the applicant's original signature and must be dated. The National Park Service certification decision is based on the descriptions in this application form. In the event of any discrepancy between the application form and other, supplementary material submitted with it (such as architectural plans, drawings and specifications), the application form takes precedence. A copy of this form will be provided to the Internal Revenue Service.	**NPS Project Number**

1. Historic Property Name Heald's Engineering and Automobile School

Street 1101 Sutter Street

City San Francisco County San Francisco State CA Zip 94109-5604

Name of Historic District or National Register property N/A

☐ Listed individually in the National Register of Historic Places; date of listing ______

☐ Located in a Registered Historic District; name of district ______

☒ Part 1 – Evaluation of Significance submitted? Date submitted July 12, 2019 Date of certification August 23, 2019

2. Project Data (for phased projects, data entered in this section must be totals for entire project)

Date of building 01/01/1920

Estimated total rehabilitation costs (QRE) $15,000,000

Number of buildings in project 1

Floor area before / after rehabilitation 28,489 / 28,489 sq ft

Start date (estimated) 05/01/2022

Use(s) before / after rehabilitation Parking / Housing

Completion date (estimated) 05/01/2024

Number of housing units before / after rehabilitation 0 / 16

Application includes phase(s) 1 of 1 phases

Number of low-moderate income housing units before / after rehabilitation 0 / 0

☐ Intend to elect IRS 60-month phased rehabilitation

3. Project Contact (if different from applicant)

Name Christopher VerPlanck Company VerPlanck Historic Preservation Cnsltg.

Street 530 Rockdale Drive City San Francisco State CA

Zip 94127 Telephone (415) 606-0920 Email Address chris@verplanckconsulting.com

4. Applicant

I hereby attest that the information I have provided is, to the best of my knowledge, correct. I further attest that [check one or both boxes, as applicable]:

☒ I am the owner of the above-described property within the meaning of "owner" set forth in 36 CFR § 67.2 (2011), and/or

☐ if I am not the fee simple owner of the above described property, the fee simple owner is aware of the action I am taking relative to this application and has no objection, as noted in a written statement from the owner, a copy of which (i) either is attached to this application form and incorporated herein, or has been previously submitted, and (ii) meets the requirements of 36 CFR § 67.3(a)(1) (2011).

For purposes of this attestation, the singular shall include the plural wherever appropriate. I understand that knowing and willful falsification of factual representations in this application may subject me to fines and imprisonment under 18 U.S.C. § 1001, which, under certain circumstances, provides for imprisonment of up to 8 years.

Name Patrick McNerney Signature (Sign in ink) ______ Date ______

Applicant Entity 1101 Sutter Affordable LP SSN ______ or TIN ______

Street 1101 Sutter Street, First Floor City San Francisco State CA

Zip 94109 Telephone (415) 384-4644 Email Address pmcnerney@martinbuilding.com

☐ Applicant, SSN, or TIN has changed since previously submitted application.

NPS Official Use Only

The National Park Service has reviewed the Historic Preservation Certification Application – Part 2 for the above-named property and has determined that:

☐ the rehabilitation described herein is consistent with the historic character of the property and, where applicable, with the district in which it is located and that the project meets the Secretary of the Interior's Standards for Rehabilitation. This letter is a preliminary determination only, since a formal certification of rehabilitation can be issued only to the owner of a "certified historic structure" after rehabilitation work is complete.

☐ the rehabilitation or proposed rehabilitation will meet the Secretary of the Interior's Standards for Rehabilitation if the attached conditions are met.

☐ the rehabilitation described herein is not consistent with the historic character of the property or the district in which it is located and that the project does not meet the Secretary of the Interior's Standards for Rehabilitation.

Date National Park Service Authorized Signature (Sign in ink)

☐ NPS conditions or comments attached

HISTORIC PRESERVATION CERTIFICATION APPLICATION
PART 2 – DESCRIPTION OF REHABILITATION

Historic Property Name Heald's Engineering and Automobile School NPS Project Number

Property Address 1101 Sutter Street, San Francisco, CA

5. Detailed Description of Rehabilitation Work. Use this page to describe all work or create a comparable format with this information. Number items consecutively to describe all work, including building exterior and interior, additions, site work, landscaping, and new construction.

Number 1 **Feature** Exterior: Sutter Street Facade **Date of Feature** 1920

Describe existing feature and its condition

The Heald's Engineering and Automobile Building (1101 Sutter) has three street-facing facades, although only two are finished: Larkin and Sutter streets. The Sutter Street facade is the primary facade because it is where the main entrance has always been located. Otherwise, there are few formal differences between it and the Larkin Street facade, which is finished exactly the same.

The Sutter Street facade is four bays wide and three stories in height, or 74' 9" wide by 44' 8" high. Similar to Larkin Street, it is finished in stucco scored to resemble stone masonry. The first-floor level originally had three windows and an entrance at street level. Ca. 1960, the first-floor level was remodeled to accommodate a gas station. The work entailed removing both storefronts and the main entrance, as well as two piers, to create two double-wide, open-air bays. The bays remain unenclosed, although today they are used as a parking lot, with the internal vehicular ramp to the second floor at the west (right) side. A band of stucco and a cast plaster lug sill divide the first and second-floor levels. The second and third-floor levels are unchanged from the original design, consisting of a grid of slightly recessed windows demarcated by piers set flush with the rest of the facade, and slightly recessed spandrel panels embellished by cast plaster urns. The divided-lite windows are made of wood and divided into three sections by thick wood mullions. A horizontal transom bar separates the lower part of each window from the divided-lite transom above. The Sutter Street facade is capped, in sequence, by a narrow plaster molding, a frieze embellished by five roundels, and a painted sheet metal cornice. All of these features are discussed in more depth below in their own sections. There is also a backlit metal and plastic blade side at the corner of Sutter and Larkin streets that was installed in 1962.

The Sutter Street facade is generally in good condition. Although speckled with soot and delaminating paint, the stucco is quite intact, with no visible cracks or spalling. In addition, none of the cast plaster ornament is missing or damaged. The sheet metal cornice also appears to be in good condition, with what appears to be a very limited amount of surface corrosion. The wood windows are also in fairly good condition, although they suffer from paint delamination and inexpert window repairs that have spread glazing compound onto the adjoining muntins.

Photo Numbers 1-6 Drawing Numbers GH011, PA200, PA610

Describe work to feature

The proposed project will install four new custom-fabricated, painted aluminum storefronts in the two open-air bays at the first-floor level (identified as Storefronts A-D on accompanying plans). Storefronts A and C will have pedestrian entrances flanked by display windows defined by matching aluminum mullions and a transom bar. Storefronts B and D will consist of tripartite display windows with inoperable transoms above. Each storefront will be slightly recessed, as they were historically. They will also have bulkheads and transoms similar to what originally existed in these bays. Two new concrete piers will be fabricated and installed between Storefronts A and B and also between C and D. These piers will be finished in scored stucco to match the wall above and what existed historically.

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The stucco and cast plaster ornament at the second and third-floor levels will be cleaned, delaminated paint removed, and repainted in a period-appropriate color scheme. Similarly, the sheet metal cornice will be cleaned, delaminated paint removed, repaired where necessary, and repainted.

The wood windows at the second and third-floor levels will be repaired where necessary, delaminated paint removed, broken and missing panes of glass replaced, and repainted.

The flush-mounted signage will be removed from the wall above the storefronts but the backlit sign at the corner of Sutter and Larkin will be retained and reused.

Number 2 **Feature** Exterior: Larkin Street Facade **Date of Feature** 1920

Describe existing feature and its condition

As mentioned, the Larkin Street facade is identical to the Sutter Street facade in terms of its finishes and its ornament, including scored stucco with cast plaster ornament, wood divided-lite windows, and a painted sheet metal cornice. However, it is one bay wider, for a total of five bays, measuring 120 feet long. Due to the change in grade between Sutter and Hemlock streets, it is also somewhat higher at the south end, measuring 52' from foundation to parapet at Hemlock Street and 44' 7" at Sutter Street. Modifications to the Larkin Street elevation including the removal of the fenestration from the right bay to accommodate a gas station Ca. 1960, and the insertion of a vehicular entrance in the second bay from the left Ca. 1950. Security bars have also been mounted in front of the windows at the first-floor level. Otherwise, the Larkin Street facade is unchanged from the original design.

In spite of deferred maintenance, the Larkin Street facade is in surprisingly good condition. The most substantial issues include delaminating paint, soot and biological growth, graffiti, and inexpert window repair. In addition, there are several areas of corrosion visible on the soffit of the sheet metal cornice.

Photo Numbers 7-12 Drawing Numbers GH011, PA201, PA610

Describe work to feature

The treatment of the Larkin Street facade will be very similar to the Sutter Street facade in the proposed project. The non-historic garage entrance in the second bay will be infilled to match historic conditions, including a new water table and a new wood, divided-lite window. The existing non-historic open bay at the north (right) side of the elevation will be infilled with a new wood window and water table to match historic conditions. Finally, all non-historic security bars and pigeon spikes will be removed from the first-floor windows.

Above the first-floor level, the work will be the same as on the Sutter Street facade. The scored stucco and cast plaster ornament will be cleaned, repaired where necessary, and repainted in a period-appropriate paint scheme. The sheet metal cornice will require minor repairs where corrosion is present. The condition of the underlying cornice brackets is unknown, but there are several areas of corrosion on the underside of the cornice soffit. These will be hand-sanded to bare metal and repainted. Any holes will be

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patched with new sheet metal and painted to match.

The existing historic wood windows at the first, second, and third-floor levels will all be retained and repaired where necessary. All delaminated paint will be removed by hand, broken and missing panes of glass replaced, broken and damaged muntins repaired or replaced, and finally, the windows will be reglazed and repainted.

Number 3 **Feature** Exterior: Hemlock Street Facade **Date of Feature** 1920

Describe existing feature and its condition

The south facade faces Hemlock Street, a narrow, mid-block alley. It is 75 feet wide and measures 52 feet from the sidewalk to the top of the parapet. Due to grade changes on the site, the Hemlock Street facade is the highest of the three street elevations. However, unlike Sutter and Larkin streets, the Hemlock Street facade is entirely utilitarian in appearance apart from the easternmost pier, which has a scored stucco finish and a cornice return matching the adjoining Larkin Street facade. The rest of the Hemlock Street facade is finished in painted stucco with a smooth texture. Similar to the two other street elevations, the Hemlock Street facade is divided into a grid of window openings defined by a network of piers and recessed spandrels. A portion of the basement is exposed on this side of the building. It is expressed as a prominent water table punctuated by three narrow "daylight" windows protected behind security bars. These windows are wood and made of small divided lites. At the far left (west) side of the Hemlock Street facade is an original garage entrance containing a non-historic, roll-up metal door capped by an original wood, divided-lite window. The rest of the windows retain their original divided-lite wood sashes. Mounted to the center of the Hemlock Street facade is an iron fire escape.

The south (Hemlock) Street facade is in fair-to-poor condition. In addition to extensive paint delamination, the south facade has long been a target of vandalism, including graffiti and window-breaking. Many of the wood windows are consequently in poor condition, including missing and broken muntins, missing and broken window panes, and missing glazing. In addition, due to their south-facing aspect, the wood windows have suffered from ultraviolet damage.

Photo Numbers 13-14 Drawing Numbers PA200, PA610

Describe work to feature

At the first-floor level, the second bay in from the left will be modified to include a new pedestrian entrance with a custom aluminum storefront in the same bay to the right. In addition, the non-historic, 1990s-era garage door in the bay to the left will be replaced.

At the second and third-floor levels, the proposed project will treat the Hemlock Street similarly to the two other street facades. In addition to removing delaminating paint, graffiti, and soot from the south facade, the project will repair any cracks and/or spalled areas in the stucco, and repaint the entire Hemlock street facade in a period-appropriate paint scheme. The small section of cornice that wraps around onto the south facade from Larkin Street will be cleaned and repaired as needed and repainted. The existing metal fire escape will be cleaned and repaired as needed and repainted.

In contrast to the Sutter and Larkin Street facades, all of the wood, divided-lite windows on the Hemlock Street facade will be replaced in-kind with new wood windows to

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match the existing/historic window sashes because the existing windows are not salvageable.

Number 4 **Feature** Exterior: West Facade **Date of Feature** 1920

Describe existing feature and its condition

The west facade of 1101 Sutter Street adjoins the property line shared with 1123 Sutter Street. Never meant to be seen because it was assumed that a taller building would eventually be built on the adjoining site, the west facade is made of painted common brick and has no windows or ornament.

The visible, upper portion of the west facade appears to be in fair condition. The primary issues include missing and damaged mortar, accumulated soot, and biological growth. The lower part currently obscured by the adjoining building were not surveyed.

Photo Numbers 15 Drawing Numbers N/A

Describe work to feature

The entire west facade will be concealed behind the proposed new mid-rise building at 1123 Sutter Street. Prior to being concealed by the new building, the west facade will be cleaned, repointed, and waterproofed. The only change to the west facade will be the creation of a new internal opening at the first floor level to connect the lobbies of 1101 and 1123 Sutter Street.

Number 5 **Feature** Exterior: Roof **Date of Feature** 1920

Describe existing feature and its condition

1101 Sutter Street has a very shallow-pitched gable roof that is almost flat. The roof, which is made of wood and covered in built-up materials, is concealed from view behind parapets on all four sides. The roof is punctuated by three hipped-roof, metal-frame skylights that appear to be original. Steel braces added in 1992 in compliance with San Francisco's parapet strengthening ordinance line the perimeter of the roof.

The roof and all of its appurtenances appear to be in good condition.

Photo Numbers 16 Drawing Numbers PA140

Describe work to feature

The proposed project will remove the existing three skylights, patch the openings, install a new roof access hatch, build a low elevator overrun along the west parapet, install a mechanical unit toward the center, install new roofing materials, and install solar panels on approximately 15 percent of the roof. None of this work will be visible from any public rights-of-way upon completion of the project.

Number 6 **Feature** Exterior: Stucco Repair & Cleaning **Date of Feature** 1920

Describe existing feature and its condition

As described above, three exterior walls of 1101 Sutter Street are clad in stucco, including the Sutter, Larkin, and Hemlock Street elevations. On Sutter and Larkin streets, the stucco is scored to imitate stone masonry. These two elevations are embellished with cast plaster ornament, including a row of urns between the second and third-floor levels and a row of roundels in the frieze. Aside from the easternmost pier

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at the right-hand side, the Hemlock Street facade is finished in smooth stucco and unembellished with any ornament.

As mentioned, in spite of deferred maintenance, the stucco finishes and cast plaster ornament appear to be in good condition with no visible spalling and few significant cracks. The primary issue is paint delamination, which left untreated, would eventually cause the stucco to disintegrate.

Photo Numbers 17-19 Drawing Numbers PA200, PA201,

Describe work to feature

The stucco exterior finishes of 1101 Sutter Street will be retained, preserved, and repaired, where necessary, according to the National Park Service (NPS) Preservation Brief 22: "The Preservation and Repair of Historic Stucco." As mentioned, no spalling and no substantial cracks were observed on the building's exterior, but as delaminated paint is removed, some cracks and small areas of spalling may be discovered. The composition of the stucco is likely Portland Cement-based, which likely accounts for the lack of cracks over time. Thin hairline cracks may be sealed with a think slurry coat, or if they are very thin, covered with paint. If any more serious cracks or areas of spalling are discovered, the following method will be used:

First, the loose stucco will be removed down to the substrate (in this case, brick or concrete). The areas to be patched will be cleaned of all debris with a bristle brush, and all biological growth, dirt, loose paint, and oil or grease will be cleaned. To obtain a neat repair, the area to be patched will be squared off with a butt joint, using sharp tools, such as a chisel or a diamond-blade saw. A stucco mix compatible with the the historic stucco's composition will be selected after analyzing the original materials. The scratch coat will be crosshatched with a comb to provide a key to hold the second, and third coats. Each coat will be allowed to dry 24 to 72 hours. The final coat will be troweled smooth and scored to match the adjoining stucco on the Larkin and Sutter Street facades and simple troweled smooth for application to the Hemlock Street facade. When the exterior of the building is painted, the patches will not be discernable.

Several areas of exterior wall that are missing will be reconstructed as part of the project, including two new piers on Sutter Street and two new bulkheads on Larkin Street. The piers will be made of concrete and they will be clad in stucco scored to match the adjoining wall surfaces. The bulkheads, in contrast, will not be scored.

Number 7 **Feature** Exterior: Brick Repair & Cleaning **Date of Feature** 1920

Describe existing feature and its condition

Only a small amount of brick is visible on the west (property line) facade. Because it was assumed that it would eventually be concealed by a taller building, this elevation has remained windowless and unornamented since the building was constructed in 1920.

From the ground, the brick on the visible, upper part of the west facade appears to be in fair condition, with deteriorated mortar joints and build-up of soot and biological growth.

Photo Numbers 20 Drawing Numbers N/A

Historic Property Name Heald's Engineering and Automobile School NPS Project Number

Property Address 1101 Sutter Street, San Francisco, CA

Describe work to feature

The west facade will eventually be entirely concealed behind a new building that will be constructed next-door at 1123 Sutter Street. 1101 and 1123 Sutter will have one internal connection at the first-floor level. Prior to building 1123 Sutter Street, the west facade of 1101 Sutter Street will be cleaned, repointed, and waterproofed.

Number 8 **Feature** Exterior: Windows **Date of Feature** 1920

Describe existing feature and its condition

As mentioned previously, the three street-facing facades of 1101 Sutter Street are fenestrated in a grid pattern with wood, divided-lite windows. The windows are divided by thick mullions and thinner muntins into individual lites. The windows on Sutter and Hemlock streets are divided into 32 lites, whereas those facing Larkin Street have 48 lites each. The side facets, which contain six lites on Sutter and Hemlock and nine lites on Larkin, are operable pivot sashes, whereas the central 12-lite windows on Sutter and Hemlock and the 18-lite windows on Larkin are fixed, as well as all of the transoms.

Conditions of the windows vary, with the windows facing Sutter and Larkin streets being in fair-to-good condition, whereas the windows facing Hemlock Street are in generally poor condition. In addition to facing south, exposing them to significant ultraviolet damage over the years, the Hemlock Street windows have been extensively vandalized. Many are broken with plywood used to fill in empty panes. Many muntins are missing as well; some are broken and others have been removed to install fans and other equipment. Elsewhere, inexpert repair jobs have resulted in muntins inexpertly slathered in glazing putty.

Photo Numbers 21-23 Drawing Numbers PA200, PA201, PA610

Describe work to feature

The proposed project will retain and preserve all of the existing, historic wood windows on the two primary facades facing Sutter and Larkin streets. As mentioned, these windows are in good condition and repairable. These windows will be cleaned, reglazed, and repainted. The operable pivot sashes will be reconfigured as casements to comply with life-safety codes. In contrast, the windows facing Hemlock Street are in poor condition due to ongoing vandalism and long-term ultraviolet damage. As a result, the project will result in their replacement with new, custom, divided-lite wood windows that match the existing in regard to size, shape, lite pattern, and profiles of rails, stiles, mullions, and muntins. In addition, new wood windows will be installed in two locations on Larkin Street where windows have been modified after the period of significance, including an open-air bay at the right-hand side of this elevation, as well as a non-historic, roll-up door in the second bay in from the left. The new windows will match historic conditions.

Number 9 **Feature** Exterior: Doors and Storefronts **Date of Feature** Varied

Describe existing feature and its condition

1101 Sutter Street does not retain any of its original doors or storefronts. The original storefronts facing Sutter Street were removed Ca. 1960 when the gas station was installed within the northernmost part of the first-floor level. The vehicular entrance facing Larkin Street was installed Ca. 1950 where a window had been; it contains a 1990s-era

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roll-up door with a steel pedestrian door cut into it. The Hemlock Street facade contains an original vehicular entrance, but the roll-up door in this entrance dates to the 1990s. The vehicular ramp on Sutter Street is not original; nor are the steel roll-up doors to the left. There is also a 1960s-era, single-panel, glazed aluminum door on this elevation.

Photo Numbers 24-25 Drawing Numbers PA200, PA201, PA610

Describe work to feature

The existing, non-historic roll-up vehicular doors, as well as the aluminum and glass, and metal pedestrian doors will all be removed and replaced as part of the proposed project. The two open-air bays facing Sutter Street will be infilled with four new painted aluminum storefronts. Two of the storefronts will consist of tripartite display windows capped by a row of transom lites; the other two will consist of smaller display windows encompassing pedestrian doors, including a glazed metal door accessing the lobby and a wood door to access the retail space facing Sutter Street. There will no longer be any vehicular or pedestrian entrances on Larkin Street, reflecting original conditions. On Hemlock Street, the historic vehicular entrance will receive a new garage door. In the bay to the right, a new pedestrian entrance and painted aluminum storefront will be installed. The storefront will be detailed to match those on Sutter Street.

Number 10 **Feature** Exterior: Cornice Repair & Clean'g **Date of Feature** 1920

Describe existing feature and its condition

1101 Sutter Street has a modest sheet metal cornice that wraps around the Sutter and Larkin Street facades, as well as a few feet of the Hemlock Street facade. The cornice consists of a cantilevered entablature with a paneled soffit. Each panel is embellished with a small rosette.

The cornice appears to be in fair condition. Similar to the rest of the exterior, it suffers from paint delamination. In addition, water has gotten into the cornice, causing surface corrosion and several small holes, especially toward the south end of the building on Larkin Street.

Photo Numbers 26-27 Drawing Numbers PA200, PA201

Describe work to feature

The proposed project will comply with NPS Preservation Tech Notes: "Metal Number 2 - Restoring Metal Roof Cornices." Prior to construction, the cornice will be carefully inspected, and opened from the top to determine how water is getting in. The inside will be cleaned of debris and the attachments to the wall be inspected and repaired where necessary. Delaminated paint will then be removed from the outside of the cornice using the gentlest means possible, such as pressure washing and hand tools (scrapers and sanding blocks). Surface corrosion will be removed hand sanding. Heavily damaged areas will be trimmed back to solid metal and then patched using new sheet metal. The cornice will then be properly waterproofed to ensure that water will not get in. Small weep holes may be introduced within the soffit to assist in removing water. The restored cornice will then be painted in a period-appropriate paint scheme.

Number 11 **Feature** Exterior: Blade Sign **Date of Feature** 1962

Describe existing feature and its condition

Located the the northeast corner of 1101 Sutter Street is a backlit metal-frame and plastic blade sign attached to the building. Installed in 1962, the upper part spells

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"PARK." The lower part originally featured the Standard Oil/Chevron logo. The sign, although not an original, character-defining feature of the building, has a retro-1960s character that some find appealing.

The blade sign appears to be in good condition.

Photo Numbers 28 Drawing Numbers PA200, PA201

Describe work to feature

The blade sign will be retained and preserved as part of the proposed project.

Number 12 **Feature** Interior: Basement Level **Date of Feature**

Describe existing feature and its condition

The basement level of 1101 Sutter Street is currently a large volume used for parking, mechanical equipment, and storage. There is a mechanical/storage vault beneath the sidewalk along Sutter Street and a non-historic toilet room enclosure on the south wall. A non-historic vehicular ramp leads down from Larkin Street. The ramp leading into the basement garage from Hemlock Street is original. The basement is finished almost entirely in unadorned concrete, including a concrete floor, concrete (foundation) walls, and a concrete post and beam frame with exposed concrete joists supporting the first-floor level above. The vault and the toilet room are enclosed in stud-frame and gypsum board partitions. A non-historic wood stair leads up from the basement to the first-floor level. Located above the ramp from Larkin Street is a wood-framed office built in 1950.

The basement level appears to be in good condition. Although not consistently maintained, the basement is finished in durable, utilitarian materials that require little maintenance.

Photo Numbers 29-31 Drawing Numbers

Describe work to feature

The proposed project will retain the basement level's historical uses of parking and mechanical equipment. The non-historic Larkin Street ramp will be removed but the original Hemlock ramp will be retained. Parking for 28 vehicles will be provided in two-level stackers. Storage for bicycles will also be provided. The concrete post and beam framing will remain exposed, as well as the concrete joists of the ceiling. New partitioned spaces will include an entrance lobby/stair on Hemlock, stair and elevator enclosures along the west wall, as well as a storage room north of the elevator shaft. The existing vault beneath the Sutter Street sidewalk will continue to house mechanical equipment. Two small shear walls will be inserted in the space.

Number 13 **Feature** Interior: First-floor Level **Date of Feature** 1920 w/ alterations

Describe existing feature and its condition

The first-floor level of 1101 Sutter Street is largely devoted to vehicle storage with a small suite of offices and ancillary spaces along the west wall. Similar to the basement, the first-floor level is utilitarian in appearance, with exposed concrete flooring,

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concrete post and beam framing, and concrete floor joists, as well as brick perimeter walls and later gypsum board partition walls inside. The northernmost part of the first-floor level was originally indoor space, but it became outdoor space when a gas station was inserted into the space Ca. 1960. A series of non-historic partition walls and overhead metal doors separate this space from the rest of the interior. A non-historic concrete ramp at the west end of this space leads up to the second-floor level. The rest of the first-floor level comprises a large, mainly unpartitioned area used for parking. This space has a concrete floor, painted brick perimeter walls, and an exposed concrete post and beam system. Midway along the east wall is a wood-framed office clad in wood tongue-and-groove paneling. It was built in 1950. On the west side are several 1990s-era offices, a toilet room, and a break room. These spaces are framed in metal lath and gypsum board and they contain aluminum windows, hollow-core metal doors, and roll-up service windows. The first-floor level is illuminated by large, divided-lite windows lining three walls of the space as well as fluorescent strip fixtures.

The first-floor level, which was in use recently as an automotive repair facility, is well-maintained and in good condition. The exception includes several of the windows on the south (Hemlock Street) facade, many of which are broken.

Photo Numbers 32-35 Drawing Numbers PA110, PA111

Describe work to feature

The proposed project will convert the first-floor level from parking to commercial, retail, and circulation. The currently open-air section at the north end will be reincorporated into the building's interior, including a new concrete slab floor, new piers, and new storefronts and windows. The non-historic ramp to the second floor will be demolished and a lobby inserted into the space. An opening in the west wall will communicate with the proposed new building at 1123 Sutter Street. Behind this opening, also along the west wall, will be an elevator, stairs, and electrical and service closets. The rest of the first-floor level will be two commercial spaces. As much as possible, the historic concrete and brick materials will remain exposed. Many of the partition walls will be glass, allowing views through the space. The concrete ceiling framing will remain visible as well. Two small shear walls will be inserted in the space.

Number 14 **Feature** Interior: Second-Floor Level **Date of Feature** 1920 w/alterations

Describe existing feature and its condition

The second-floor level of 1101 Sutter Street is accessed by the auto ramp from the first-floor level. It contains one space used for parking. Similar to the first-floor level, it has an exposed concrete floor slab, concrete post and beam framing, and concrete ceiling joists. The walls are painted brick and the space is illuminated by windows along three sides of the building and contemporary fluorescent strip fixtures attached to the ceiling. A low concrete wall borders the ramp leading up from the first-floor level. A ramp to the third-floor level is located at the northeast corner of the space. Unlike the ramp to the first floor, the ramp to the third-floor appears to be original.

The second-floor level appears to be in good condition. The only exception are the windows on the south (Hemlock Street) wall, many of which are missing or broken.

Photo Numbers 36-38 Drawing Numbers PA120, PA121

Describe work to feature

The proposed project will convert the second-floor level to residential use. The ramps will be demolished and the concrete floor slabs patched in-kind. New partition walls will

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reconfigure the currently open volume into eight residential units, including four two-bedroom units and four one-bedroom units. The rest of the floor will consist of vertical circulation (stairs and elevator) and service closets. Two small shear walls will be inserted in the space. The brick perimeter walls and concrete columns and roof framing will be retained and exposed inside the units.

Number 15 **Feature** Interior: Third-floor Level **Date of Feature**

Describe existing feature and its condition

The third-floor level of 1101 Sutter Street is reached from the second floor by the ramp at the northeast side of the building. Similar to the second-floor level, the third floor is used for parking. The entire floor is one open volume apart from a hollow clay tile enclosure at the southeast corner. This is almost certainly the apartment built for an on-site employee in 1942. Otherwise, the third floor is virtually identical to the second floor, with concrete flooring and framing, and brick perimeter walls punctuated by divided-lite windows. The only difference is that the concrete framing and brick walls are finished in white-painted stucco. It is not known when or why this material was applied, but it gives the third floor level a much brighter and cleaner feel than the other floors.

The third-floor level appears to be in good condition. The only exception are the windows on the south (Hemlock Street) wall, many of which are missing or broken.

Photo Numbers 39-41 Drawing Numbers PA130, PA131

Describe work to feature

Similar to the second-floor level, the third floor will be converted to residential use. The ramp will be demolished and the concrete floor slab patched in-kind. New partition walls will reconfigure the currently open volume into eight residential units, including four two-bedroom units and four one-bedroom units. The rest of the floor will consist of vertical circulation (stairs and elevator) and service closets. Two small shear walls will be inserted in the space. The brick perimeter walls and concrete columns and roof framing will be retained and exposed inside the units.

HISTORIC PRESERVATION CERTIFICTION APPLICATION
PART 2 – DESCRIPTION OF REHABILITATION

NOTICES

Privacy Act Statement

Authority: 26 U.S. Code § 47 - Rehabilitation credit; 26 U.S. Code § 170 - Charitable, etc., contributions and gifts.

Purpose: To enable the Secretary of the Interior to evaluate the historic significance of structures and whether the rehabilitation of such structures preserves their historic character. The primary use of this information by the Secretary of the Interior will be to certify to the Secretary of the Treasury that the applicant is eligible for Federal tax incentives for historic preservation. This application is used by the Internal Revenue Service to confirm that applicants for the tax incentives have obtained the certification concerning historic structures and historic rehabilitations that are required by law.

Routine uses: The information will be used by the National Park Service and the State Historic Preservation Offices and disclosed to the Internal Revenue Service to determine if the applicant is eligible for Federal tax incentives.

Disclosure: Voluntary, however, failure to provide the requested information may prevent or impede you from receiving consideration for the requested benefit.

Information Regarding Disclosure of Your Social Security Number Under Public Law 93-579 Section 7(b): Your Social Security Number (SSN) is needed to identify records unique to you. Applicants are required to provide their social security or taxpayer identification number for activities subject to collection of fees and charges by the National Park Service. Failure to disclose your SSN may prevent or delay the processing of your application. The authority for soliciting your SSN is 31 U.S.C. 7701. The information gathered through the use of the SSN will be used only as necessary for processing this application and collecting and reporting any delinquent financial obligations. Use of the SSN will be carried out in accordance with established regulations and published notices of system of records.

Paperwork Reduction Act Statement

We are collecting this information subject to the Paperwork Reduction Act (44 U.S.C. 3501) through the State Historic Preservation Officer in order to enable the Secretary of the Interior to gain the benefit of the State review of applications for Federal tax incentives for historic preservation by owners of historic properties. Information collected on this form, including names and all written comments, is subject to disclosure. All applicable parts of the form must be completed in order to receive consideration for the requested benefit. A Federal agency may not conduct or sponsor, and a person is not required to respond a collection of information unless it displays a currently valid OMB control number. OMB has approved this collection and assigned it control number 1024-0009.

Estimated Burden Statement

Public reporting burden for this form is estimated to average 51 hours per response including the time it takes to read, gather and maintain data, review instructions and complete the form. Direct comments regarding these burden estimates, or any aspects of this form, to the Information Collection Clearance Officer, National Park Service, 12201 Sunrise Valley Drive, Mail Stop 242, Reston, VA 20192. Please do not send your form to this address.

Records Retention Statement

Permanent. Transfer all permanent records to NARA 15 years after closure. (NPS Records Schedule, Resource Management and Lands (Item 1.A.2) (N1-79-08-1))

FOR APPLICANT RECORDS ONLY – THIS PAGE DOES NOT NEED TO BE PRINTED FOR APPLICATION

APPENDIX D

Historic Preservation Alternatives Evaluation

Architectural
Resources Group

Pier 9, The Embarcadero, Suite 107
San Francisco, California 94111

argsf.com

Memorandum

To: Justin Greving, (CPC) justin.greving@sfgov.org

Cc: Christine Kronenberg, ckronenberg@dudek.com

Cc: Julie Heinzler, julie@martinbuilding.com

Project: 1101-1123 Suter St. Preservation Alternatives

ARG Project No.: 190801

Date: May 4, 2021

Via: email

1. Introduction

1.1 Project Background

This Preservation Alternatives Memo has been prepared at the request of the San Francisco Planning Department for the proposed project at 1101 Sutter Street (Assessor's Block 0692, Lot 001) and 1123 Sutter Street (Assessor's Block 0692, Lot 019) **(Figure 1).** The approximately 29,700-square-foot rectangular project site is located at the southwest corner of the intersection of Sutter and Larkin streets in the Downtown/Civic Center neighborhood. 1101 Sutter Street is a three-story building constructed in 1920 to serve as Heald's Engineering and Automobile College **(Figure 2)**. 1123 Sutter Street is a one-story-with-mezzanine building constructed shortly after 1906 and redesigned in 1926 by August Nordin to serve as Halstead & Co. funeral home, and an adjacent parking lot **(Figure 3)**.

Figure 1. Aerial view of 1101-1123 Sutter Street, parcels outlined in red (Google Earth, amended by author).

Figure 2. 1101 Sutter Street, view southwest (Loopnet.com).

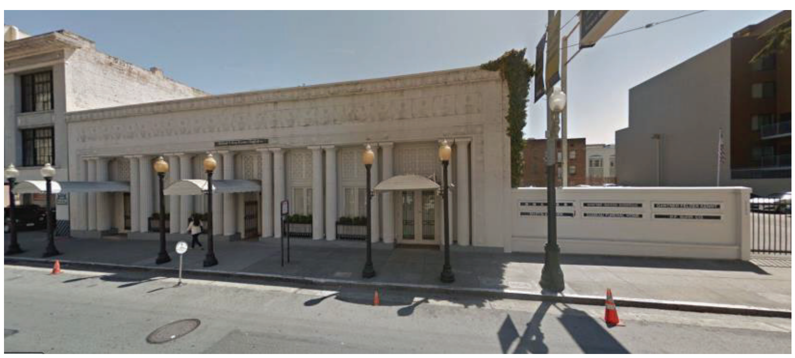


Figure 3. 1123 Sutter Street, view south (Google Earth).

Historian William Kostura evaluated 1101 Sutter Street in 2009 as part of the Van Ness Auto Row historic resource survey and assigned the property a status code of 3CS, indicating that it is individually eligible for listing in the California Register of Historical Places (California Register). This finding was reaffirmed and expanded to include National Register of Historic Places (National Register) eligibility in a recently-completed Historic Preservation Certification Part 1, which was approved by the California State Historic Preservation Officer (SHPO), and concurred with by the San Francisco Planning Department (Planning Department) in a Part II Historic Resource Evaluation Response (Part II HRER, Record No. 2019-022850ENV) dated November 23, 2020. Architectural Resources Group (ARG) evaluated 1123 Sutter Street in November 2019 in a Historic Resource Evaluation Part 1 (HRE Part 1) and found the property individually eligible for listing in the California Register; the Planning Department confirmed the findings of the HRE Part 1 in a

Historic Resource Evaluation Response (HRER) dated July 17, 2020. Thus 1101 and 1123 Sutter Street are both considered historic resources for the purposes of review under the California Environmental Quality Act (CEQA).

The proposed project as designed by David Baker Architects involves retention and rehabilitation of 1101 Sutter Street for commercial and residential use, and demolition of 1123 Sutter Street and associated surface parking lot and construction of a 14-story building for residential and commercial use. The preservation alternatives analyzed in this report include a Full Preservation Alternative and two Partial Preservation Alternatives.

1.2 Methodology

This memorandum was produced based on guidance provided by "Historic Preservation Commission Resolution No. 0746" and consultation with Preservation Staff at the Planning Department to provide the Historic Preservation Commission with information to confirm, further develop, and/or analyze the preservation alternatives described herein. The first few sections of this memorandum summarize the property's significance, character-defining features, and proposed project description. The memorandum then describes a No Project Alternative, Full Preservation Alternative, and two Partial Preservation Alternatives to review impacts on identified character-defining features of 1101 and 1123 Sutter Street.

Under Record No. 2019-022850ENV, ARG primarily referred to the State of California DPR A and B forms completed by William Kostura for 1101 Sutter Street in 2009; the Historic Preservation Certification Application Part 1 – Evaluation of Significance for 1101 Sutter Street completed by Christopher VerPlank in 2019; the HRE Part 1 completed by ARG for 1123 Sutter Street in 2019; the HRER completed by the Planning Department in 2020; and the HRER Part II completed by the Planning Department in 2020. ARG also consulted the "Notice of Preparation of an Environmental Impact Report" (NOP), prepared by the Planning Department and issued December 17, 2020.

2. Summary of Historic Significance

2.1 Historic Significance

1101 Sutter Street

1101 Sutter Street was designed by architect Samuel S. Heiman and constructed in 1920 to serve as the newly established Heald's Engineering and Automobile College. The three-story building fills its 75-foot by 120-foot lot at the southwest corner of Sutter and Larkin streets. Stucco cladding has been lightly scored to resemble masonry, and the building is organized into four visual bays along Sutter Street and five along Larkin. Two large vehicle entry bays span the street level at Sutter Street, and two of the five bays on Larkin Street are also open for vehicle entry. All windows are filled with industrial wood sash, with mullions and transom bars. The west elevation is blind, and the building is capped with a flat roof.

The property was evaluated in 2009 by William Kostura as part of the Van Ness Auto Row historic resource survey and found significant under California Register Criterion 1 (Association with Significant Events) for its use as an automobile engineering school, with a period of significance of 1920-1935, and for its overall auto-related use as a school and garage, with a period of significance of 1920-1961. The property was assigned a status code of 3CS, indicating that it is individually eligible for listing in the California Register of Historical Places (California Register).

The property was reevaluated in 2019 by Christopher VerPlank for National Register eligibility, using a Historic Preservation Certification Part 1. This reevaluation found the property eligible for the National Register under Criterion A (Events) as the oldest remaining building associated with Heald's Business College, an important part of the post-secondary educational landscape of the Bay Area; and under Criterion C (Design/Construction) as an excellent and well-preserved example of a commercial garage dating to the 1920s. The State Historic Preservation Office (SHPO) completed review of the Historic Preservation Certification Part 1 in August 2019 and confirmed that the property appears eligible for the National Register: SHPO noted that the presumed period of significance for the property was 1920, the year it was constructed.

The Planning Department issued a draft Part II HRER on October 27, 2020 confirming agreement with the previous evaluations and finding 1101 Sutter Street individually eligible for listing in the California Register under Criterion 1 (Association with Significant Events) and 3 (Architectural Significance), with a period of significance extending from the building's construction in 1920 up until its last use as a public parking garage in 1961.

1123 Sutter Street

1123 Sutter Street was originally constructed shortly after 1906 as two one-story commercial buildings and was remodeled in 1926 by architect August Nordin to serve as a funeral home for Halstead & Co. Undertakers. The building is one-story-over-basement with a partial mezzanine and occupies the east half of its parcel, the remainder of which is paved parking. The primary façade at Sutter Street is organized into seven visual bays with recessed fenestration and a variety of Classical Revival ornament including embellished frieze and cornice/fascia, Greek key moldings, circular medallions, and fluted Doric columns, all in terra cotta or cast concrete. Additional facades are largely utilitarian. The building is capped with several flat and gabled-roof sections concealed behind a raised parapet. Interior arrangement includes three floor levels: basement, first floor, and mezzanine. Publicly accessible rooms on the first floor include a reception area, two chapels, three suites of bereavement rooms, and several toilet rooms.

ARG completed an HRE for the property in 2019 and found it significant under California Register Criterion 1 (Association with Significant Events) as the site of Halsted & Co., one of the last remaining traditional mortuary buildings operating in San Francisco; Criterion 2 (Association with Significant Persons) for its association with William A. Halsted, who was recognized as a prominent representative of the undertaking profession; and Criterion 3 (Architectural Significance) as an early twentieth century mortuary that represents the shift to custom-designed funeral parlors; for its use of Classical Revival design to evoke a sense of stability and longevity; as the work of mater architect August Nordin; and, at the interior, reflecting a shift away from church-based services to more non-denominational ceremonies through the incorporation of number of chapels. The HRE assigned a period of significance starting in 1926, when the subject property was rehabilitated for use as a mortuary by Halsted & Co. and ending in 1930, with the death of William A. Halsted, the firm's founder.

The Planning Department confirmed the findings of the HRE in an HRER dated July 17, 2020. Both the HRE and the HRER consider whether or not the property would be a potential contributor to the Lower Nob Hill Apartment Hotel Historic District , the boundaries of which include the north side of the 1100 block of Sutter Street, and conclude the property is not representative of the characteristics of the district and would not contribute to the district.

2.2 Character-Defining Features

Character-defining features are the essential physical features that enable a property to convey its historic identity. To be eligible for national or state designation, a property must clearly retain a sufficient concentration of its character-defining features to be considered a true representative of a particular type, period, or method of construction, and these features must also retain a sufficient degree of integrity. Characteristics can be expressed in terms of form, proportion, structure, plan, style, or materials.

Character-defining features of 1101 Sutter Street include:

- the building's three-story height and massing
- concrete and brick masonry construction
- stucco finish scored to resemble stone masonry
- molded cement plaster ornament, including spandrel panels and urns
- sheet metal cornice
- grid-like fenestration pattern
- divided-lite "industrial" wood sash windows
-

Character-defining features of 1123 Sutter Street include:

- One-story-with-mezzanine height;
- Simple rectangular form and massing
- Primary façade, including:
    - Seven bay symmetrical arrangement of two side entrances and one center entrance separated by two fenestration bays
    - Recessed fenestration and entryways
    - Custom, cast iron street light fixtures at each entrance along Sutter Street
    - Pairs of wood casement windows and plantar boxes
- Classical Revival style primary façade, including:

- Eight pairs of Doric columns
- Plaster ornament in swag motif and circular medallions with geometric Greek key molding
- Metal clathri screens

- First floor interior spaces including:
  - Reception area including rotunda and main corridor
  - West and east chapels
  - three suites of interconnected bereavement rooms

Henceforth, the use of “historic” or “original” to describe an element indicates that the element is considered a character-defining feature as defined above; alternatively, the use of “non-historic,” “not historic,” “non-original,” or “not original” indicates that the element is not considered a significant or character-defining feature. Additionally, the use of “historic resource” or “historic property” refers to the collection of historic elements at 1101 and/or 1123 Sutter Street

3. Project Objectives

1101 Sutter Affordable, LP (the “Project Sponsor”) is undertaking the proposed project at 1101-1123 Sutter Street. As discussed in HRER Part II, the Planning Department found that the proposed project involving the demolition of the funeral home at 1123 Sutter Street would result in a significant and unavoidable impact to a historic resource.

The Project Sponsor seeks to achieve the following objectives by undertaking the proposed project:

1. Develop a well-designed, financially feasible mixed-use project with residential housing units that contributes the following services to support the well-being of the community: new retail, restaurant, and commercial spaces for the benefit of neighborhood residents and businesses; and a child care center for the benefit of both the project’s and neighborhood’s residents

2. Increase the city’s supply of housing, including affordable housing, in an area designated for higher density due to its proximity to downtown and accessibility to local and regional transit. Maximize housing on a site that currently has no housing and incorporate on-site affordable units.

3. Create a more attractive, interesting and engaging street-level experience for pedestrians, transit users, and future residents

4. Construct a single, cohesive development occupying the project site consisting of high-quality, contemporary urban design.

5. Retain historic resources where it is economically and structurally feasible to rehabilitate the building’s interior space for new commercial and residential uses.

4. Project Description

4.1 Proposed Project Description

David Baker Architects provided the following summary description of the proposed project on December 18, 2020 (edited by ARG):

> This new mixed-use development is located on a site currently occupied by two structures; an auto repair shop with public parking garage at 1101 Sutter Street, and a mortuary with at-grade parking lot at 1123 Sutter Street. At the corner of Sutter and Larkin streets, the three-level concrete auto repair shop with public parking garage at 1101 Sutter Street, built in 1920 and designated an A-status Historic Resource, will be adaptively reused and updated into a mixed-use residential structure. The rehabilitation of 1101 Sutter Street will be completed in accordance with Secretary of the Interior's Standards for the Treatment of Historic Properties. The exterior stucco of the building will be repaired and painted. The historic windows will be repaired when possible or rebuilt in kind. The garage entrance along Larkin Street will be opened up and continue the window pattern along Larkin Street. Along Sutter Street at the ground level, the existing open bays will be filled in with storefront framing to complement the existing warehouse style glazing. At the interior, the ground floor will feature commercial space, a residential lobby, and an interior connection with the adjacent new residential high-rise. The second and third levels will accommodate residential units, and the structure will undergo improvements to the partially below-grade garage to provide building parking.
>
> At the west side of the site, the mortuary and at-grade parking lot at 1123 Sutter Street will be removed for new construction of a 14-story high-rise tower. This high-density development will utilize the Individually Requested State Density Bonus Program to increase the number of code-permitted units. The 14-story, ~150' tower will offer rental apartments over an active, pedestrian-friendly commercial ground floor. Oriented toward Sutter Street, the dynamic street level incorporates a mix of uses, including the primary residential lobby, common amenities for residents, commercial and retail spaces and a childcare center. At Hemlock Street to the south, the ground level will include an outdoor entry court that serves a second residential lobby entrance and a flex gallery space. The building is set back from Hemlock Street at various distances to accommodate the entry court, an outdoor area for the childcare center, private balconies and access to the garage and loading entries. Midway up the tower, on the 7th floor, the building steps back about 40' on the west side, to provide a shared landscaped area at this setback. At the 14th floor, the building steps back on all sides to allow common view decks at each aspect. This top floor provides shared view points as well as building services and community rooms.
>
> The submitted/proposed project design will consist of two architectural strategies which will be applied to the different massing delineations depending upon location. The first design strategy is a woven tower, applied to the building facade at the project's prominent locations; at the corner adjacent to the historic building at 1101 Sutter Street, and on Hemlock Street where the building massing meets the property line. This weaving facade strategy creates an iconic corner tower, with vertically grouped window bays that span from the street level through the common roof deck

level. The weaving bays are created through light colored GFRC panels which incorporate the bay frames, glazing and ventilation. At the roof deck level, the GFRC bays open up and create an intimate open space for residents.

The second design strategy is a subtle panelized system, consisting of alternating vertical panels offset from the levels above and below. This system creates a varying textured design between the painted metal and glass window panels. This strategy covers most of the project but is applied in a unique manner depending on the orientation of the facade to the sun. For example, along Hemlock Street, the alternating panels are broken up by columns of balconies. The balconies provide open space for units while also acting as a shading device for the south facing facade. The balconies are extensions of the concrete slab which fold-up to create a canted concrete railing flanked by glass guard rails.

The architectural language, strategy and fenestration of the submitted project would also apply to the Full Preservation Alternative and Partial Preservation Alternative 1. At Partial Preservation Alternative 2, the architectural language, strategy and fenestration of the submitted project is applied to areas of new construction at the west side of the parcel and the addition atop 1123 Sutter Street, while the design of the 10-story addition atop 1101 Sutter Street employs regularly arranged floor plates and fenestration bays that respond to the arrangement of the existing historic building. **Table 1: Project Characteristics** summarizes the proposed project's dimensions, massing, and uses.

Table 1: Project Characteristics

Proposed Project	
1101 Sutter	45 ft (no change in height), ground floor commercial with 3-story residential
1123 Sutter	Existing building demolished, 150 feet plus 11-foot-tall rooftop equipment new construction, ground floor commercial with residential above (14 stories plus partially-below-grade garage)
Massing	
No. of Buildings	2
Number of dwelling units	201

Proposed Project	
Residential (gsf)	164,176
Common Amenities for Residents (gsf)	12,215
Commercial (gsf)	6,972
Office (gsf)	1,999
Childcare (gsf)	3,650
Open Space (gsf/type)	13,387
Garage (gsf)	18,530
Total gsf	254,214
Vehicle parking spaces	61
Bicycle parking spaces	232
Sutter Street ground level uses	Primary residential lobby, childcare, office, and commercial
Hemlock Street ground level uses	Vehicle parking garage, commercial, second resdidential lobby

5. Development of Preservation Alternatives

This section provides an overview of the process that the San Francisco Planning Department staff; Project Sponsor; David Baker Architects; and ARG, Inc. undertook to develop the preservation alternatives for the proposed project at 1101-1123 Sutter Street.

5.1 Considered But Rejected Alternatives

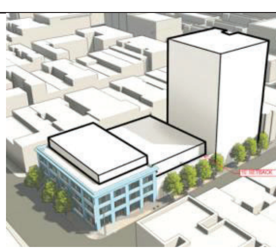
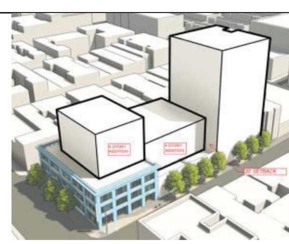
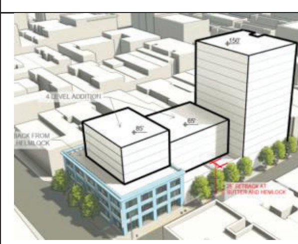
Key issues and considerations in the development of the alternatives were as follows.

The process of developing preservation alternatives consisted of developing a range of scenarios that would achieve either full or partial preservation of the historic resources on the project site. The schemes have differing building heights and massing for the additions proposed to be constructed above the 1101 and 1123 Sutter street buildings. In addition, a tower with varying heights was proposed to be constructed on the surface parking lot of 1123 Sutter Street. In addition, the setbacks of the proposed additions above 1101 and 1123 Sutter Street were adjusted throughout the alternatives development process, with setbacks up to 25 feet, to enable the historic buildings to retain their character-defining features related to height and massing.

In addition to historic preservation, a primary objective in the development of alternatives was to maximize the number of residential units on the site while avoiding potentially significant environmental impacts related to the increased building heights on the site, primarily pertaining to wind and shadow. In order to maximize the number of residential units, the development of the alternatives took into account the height and bulk restrictions for each parcel. 1101 Sutter Street is the in 130-E district which permits heights up to 130 feet. 1123 Sutter Street is in the 65-A height and bulk district, which permits heights up to 65 feet. However, per State Density Bonus Law, the proposed project would exceed the 65-foot height limit with a tower up to 150 feet on 1123 Sutter Street. Therefore, the initial alternatives included some towers and additions with maximum heights of up to 150 feet, similar to the maximum height of the proposed project. After several initial schemes within this framework, taller alternatives were developed that further increased the building heights in order to maximize housing. The heights were ultimately limited by the potential for wind and shadow impacts.

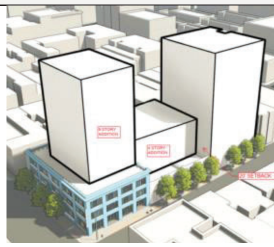
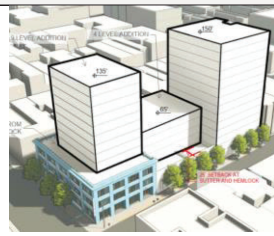
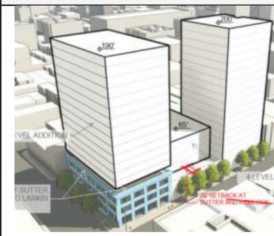
Overall, building heights for the alternatives considered but rejected were as follows: on the 1101 Sutter Street parcel, the schemes prepared had heights ranging from 55 feet (one-story addition) to 190 feet (15-story addition); on the 1123 Sutter Street building, the schemes had heights ranging from 35 feet (one-story addition) to 65 feet (4-story addition); and on the surface parking lot on 1123 Sutter, the schemes had heights ranging from 150 feet (14-story tower) to 200 feet (19-story tower). **Table 2: Summary of Rejected Historic Preservation Alternatives** summarizes the development, consideration, and reasons for rejected preservation alternatives.

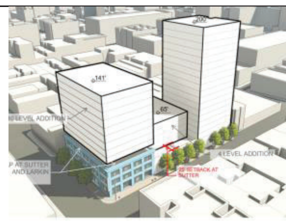
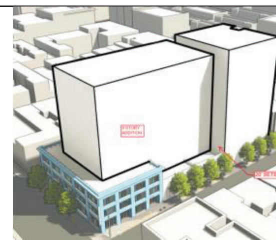
Table 2: Summary of Rejected Historic Preservation Alternatives

Parcels	Full Preservation Alternative V1	Full Preservation Alternative V2	Partial Preservation Alternative 1 V1	Partial Preservation Alternative 1 V2
1101 Sutter	Single-story addition (55 ft total height)	Two-story addition (65 ft total height)	Four-story addition (85 ft total height)	Four-story addition (85 ft total height)
1123 Sutter, east side of parcel	Single-story addition (35 ft total height)	Two-story addition (45 ft total height)	Four-story addition (65 ft total height)	Four-story addition (65 ft total height)
1123 Sutter, west side of parcel	150 ft tower (14 stories)	150 ft tower (14 stories)	150 ft tower (14 stories)	150 ft tower (14 stories)
Massing				
Dwelling units	109	98[a]	140	121[b]

Parcels	Full Preservation Alternative V1	Full Preservation Alternative V2	Partial Preservation Alternative 1 V1	Partial Preservation Alternative 1 V2
Reason Rejected	Single-story additions did not maximize the residential units on the site. The lack of a setback along Hemlock Street, and the 15-foot setbacks along Larkin Street and Sutter Street did not sufficiently preserve the character defining features of the historic buildings.	The 150 ft tower did not maximize residential units on the site. The two-story addition to 1101 Sutter Street could not be supported without extensive structural renovations that would make the cost of adding only a few residential units prohibitive.	The 20-foot setbacks along Sutter, Larkin, and Hemlock streets did not sufficiently preserve the character defining features of the historic buildings.	The 150-foot tower did not maximize residential units on the site. The setback at Hemlock Street did not maximize the number of residential units. The most important character defining features of the buildings are located along Larkin and Sutter Street, therefore it was determined that the setback at Hemlock Street could be removed without substantially impairing the character defining features of the historic buildings.

Parcels	Partial Preservation Alternative 2 V1	Partial Preservation Alternative 2 V2	Partial Preservation Alternative 2 V3	Partial Preservation Alternative 2 V4
1101 Sutter	Nine-story addition (135 ft total height)	Nine-story addition (135 ft total height)	15-story addition (190 ft total height)	15-story addition (190 ft total height)
1123 Sutter, east side of parcel	Four-story addition (65 ft total height)	Four-story addition (65 ft total height)	Four-story addition (65 ft total height)	Four-story addition (65 ft total height)
1123 Sutter, west side of parcel	150 ft tower (14 stories)	150 ft tower (14 stories)	200 ft tower (18 stories)	200 ft tower (18 stories)

Parcels	**Partial Preservation Alternative 2 V1**	**Partial Preservation Alternative 2 V2**	**Partial Preservation Alternative 2 V3**	**Partial Preservation Alternative 2 V4**
Massing				
Dwelling units	188	142	201	201
Reason Rejected	The 20-foot setbacks along Sutter, Larkin, and Hemlock streets did not sufficiently preserve the character defining features of the historic buildings.	The 150 ft tower and 135 ft addition on 1101 Sutter did not maximize residential units on the site. The setback at Hemlock Street did not maximize the number of residential units. The most important character defining features of the buildings are located along Larkin and Sutter Street, therefore it was determined that the setback at Hemlock Street could be removed without substantially impairing the character defining features of the historic buildings.	The addition to 1101 Sutter Street did not sufficiently retain the character defining features of the 1101 Sutter Street building. An alternative approach of (1) treating the building as a base for the addition by removing setbacks and (2) incoproating some sort of hyphen between the existing building and upper level addition, was explored as an option that better retains the character defining features of the building. 190-foot tower at 1101 Sutter potentially created shading impacts to Redding Elementary School playground.	The shadow fan diagram for this alternative found that the 190-foot tower would cast a shadow on the Redding Elementary School athletic field. The shadow fan analysis was run for heights of 161, 151, 141 feet, and determined that a height of 141 feet would avoid casting a shadow on the athletic field.

Parcels	Partial Preservation Alternative V5 (formerly presented as Preservation Alternative 2B)	Partial Preservation Alternative "Bulky"
1101 Sutter	Ten-story addition (141 ft total height)	Nine-story addition
1123 Sutter, east side	Four-story addition (65 ft total height)	Nine-story addition
1123 Sutter, west side	200 ft tower (18 stories)	150 ft tower (14 stories)
Massing		
Number units	181	204
Reason Rejected	This preservation alternative was presented to the HPC on February 3, 2021, and the commissioners viewed it as generally unsuccessful and requested a revised design that highlighted retained elements and interior spaces at 1123 Sutter Street.	The bulky appearance of the additions poorly preserved the character defining features of the historic buildings

Notes: All heights indicated from Sutter Street grade. Hemlock Street grade is approximately 10 feet lower than Sutter Street grade. The ground floor and garage uses for each alternative would be the same as for the proposed project.

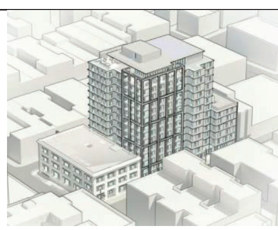
a = fewer number of units than V1 because, although the additions were increased to two stories, the setbacks were deepened on all sides.

b = fewer number of units than V1 because the setbacks were deepened on all sides

6. Preservation Alternatives

Three preservation alternatives have been developed and illustrated to include one full preservation alternative and two partial preservation alternatives as summarized in **Table 3: Summary Comparison of Proposed Project and Preservation Alternatives** and described in greater detail the following sections.

Table 3: Summary Comparison of Proposed Project and Preservation Alternatives

Parcels	Proposed Project	Full Preservation Alternative	Partial Preservation Alternative 1	Partial Preservation Alternative 2
1101 Sutter	Existing building remains, 45 ft (no change in height), ground floor commercial with 3-story residential	Existing building remains, 45 ft (no change in height),	Existing building remains, 4 level addition (with setback along Sutter and Larkin), total 85 ft (7 stories plus garage)	Existing building remains, 45 ft (no change in height), ground floor commercial with 3-story residential
1123 Sutter	Existing building demolished, new construction of 150 ft (plus 11-foot-tall rooftop equipment), ground floor commercial with residential above	Existing building retained, 2 level addition to 45 ft height (with 25 ft setback along Sutter and Hemlock), new 200 ft building (18 stories)	Existing building retained, 4 level addition to 65 ft height (with 25 ft setback along Sutter), new 200 ft building (18 stories)	Existing building retained, 12 level addition to total 150 ft height with horizontal hyphen above historic building and no setback, new 150 ft building (14 stories)
Massing				
Number of Buildings	2	3	3	3
Number of dwelling units	201	115	151	182
Residential (gsf)	164,176	110,736	133,227	168, 153
Common Amenities for Residents (gsf)	12,215	3,378	3,378	3,378

Parcels	Proposed Project	Full Preservation Alternative	Partial Preservation Alternative 1	Partial Preservation Alternative 2
Commercial (gsf)	6,972	Same as project	Same as project	Same as project
Office (gsf)	1,999	Same as project	Same as project	Same as project
Childcare (gsf)	3,650	Same as project	Same as project	Same as project
Open Space (gsf/type)	13,387	1,607	2,903	1,607
Garage (gsf)	18,530	Same as project	Same as project	Same as project
Vehicle parking spaces	61	Same as project	Same as project	Same as project
Bicycle parking spaces	232	Same as project	Same as project	Same as project
Sutter Street ground level uses	Primary residential lobby, childcare, office, and commercial	Same as project	Same as project	Same as project
Hemlock Street ground level uses	Vehicle parking garage, commercial, second resdidential lobby	Same as project	Same as project	Same as project

Notes: All heights indicated from Sutter Street grade. Hemlock Street grade is approximately 10 feet lower than Sutter Street grade.

6.1 No Project Alternative

Under the No Project Alternative, no modifications to the existing historic resources would be completed. The historic character-defining features of the parking garage at 1101 Sutter Street and the funeral home at 1123 Sutter Street would be retained; no modifications, repairs, or restoration activities would be conducted. No residential, retail, and/or additional commercial units would be added.

6.2 Full Preservation Alternative

The Full Preservation Alternative would construct a 18-story, 200’ tall tower at the site of the at-grade parking lot at the western edge of the project site, with architectural design details, material palate, and fenestration pattern the same or similar to those of the proposed project. 1101 Sutter Street would remain as described above at the exterior, with no additions or major changes to the building’s design.

1123 Sutter Street would remain as described above at the exterior, and modified with construction of a two-story addition. The addition would be set back 25’ from both the north façade at Sutter Street and the south façade at Hemlock Street, with a maximum height of 45’, and its architectural design details, material palate, and fenestration pattern would be the same or similar to those of the proposed project. The Full Preservation Alternative minimally alters the façades, height and massing of the existing buildings at the project site by locating the majority of new construction at the at-grade parking lot.

Character-Defining Feature	Retained	Part. Retained	Not Retained
1101 Sutter Street:			
Three-story height and massing	x		
Concrete and brick masonry construction	x		
Stucco finish scored to resemble stone masonry	x		
Molded cement plaster ornament, with spandrel panels & urns	x		
Sheet metal cornice	x		
Grid-like fenestration pattern	x		
Divided-lite “industrial” wood sash windows	x		
1123 Sutter Street:			
One-story-with-mezzanine height		x	
Simple rectangular form and massing		x	
Primary façade element: seven bay symmetrical arrangement; two side entrances and one center entrance separated by two fenestration bays	x		
Primary façade element: recessed fenestration and entryways	x		
Primary façade element: custom, cast iron street light fixtures at each entrance along Sutter Street	x		
Primary façade element: pairs of wood casement windows and plantar boxes	x		
Classical Revival style element: eight pairs of Doric columns	x		

Character-Defining Feature	Retained	Part. Retained	Not Retained
Classical Revival style element: Plaster ornament in swag motif and circular medallions with geometric Greek key molding	x		
Metal clathri screens	x		
First floor interior element: reception area including rotunda and main corridor			x
First floor interior element: west and east chapels			x
First floor interior element: three suites of interconnected bereavement rooms			x

The Full Preservation Alternative would construct 115 dwelling units for a total of 110,736 residential square feet; 6,972 square feet of retail space; 61 parking spaces; and 20 new stories (two on top of 1123 Sutter Street and a new 18-story building). Approximately 46,714 square feet at the two historic buildings would be retained for adaptive reuse.

1101 Sutter Street

The Full Preservation Alternative would maintain the three street-facing facades of 1101 Sutter Street at Sutter, Larkin, and Hemlock streets. As such, all of the character-defining features associated with fenestration, cladding, and façade details would be fully retained. The Full Preservation Alternative would fully retain the height and massing of 1101 Sutter Street. 1101 Sutter Street does not have any interior character-defining features.

1123 Sutter Street

The Full Preservation Alternative would maintain the primary (north) and rear (south) facades of 1123 Sutter Street. As such, all of the character-defining features associated with fenestration, cladding, and façade details would be fully retained.

The Full Preservation Alternative would construct a rectangular-plan addition atop 1123 Sutter Street that would be set back 25’ from the north façade at Sutter Street and the south façade at Hemlock Street, and as such would partially retain the character-defining features of that building relating to height and massing.

At 1123 Sutter Street, interior demolition and new construction for adaptive reuse would not retain the interior character-defining features of the building.

6.3 Partial Preservation Alternative 1

The Partial Preservation Alternative 1 would construct a 18-story, 200’ tall tower at the site of the at-grade parking lot at the western edge of the project site, with architectural design details, material palate, and fenestration pattern the same or similar to those of the proposed project. 1101 Sutter Street would remain as described above at the exterior, and modified with the construction of a four-level addition that would be set back 25’ from both Sutter and Larkin Streets, with a maximum height of 85’. 1123 Sutter Street would remain as described above at the exterior, and modified with the construction of a four-level addition that would be set back 25’ from Sutter Street, with a maximum height of 65’. The architectural design of both additions would have architectural details, material palate, and fenestration materials generally similar to those of the proposed project but modified to reflect the color palate and pattern of fenestration of the primary façade of the existing historic building at 1123 Sutter Street. The Partial Preservation Alternative 1 minimally alters the façades of the existing buildings at the project site, and alters the height and massing of both existing buildings with vertical additions, while in-filling the former at-grade parking lot.

Character-Defining Feature	Retained	Part. Retained	Not Retained
1101 Sutter Street:			
Three-story height and massing		x	
Concrete and brick masonry construction	x		
Stucco finish scored to resemble stone masonry	x		
Molded cement plaster ornament, with spandrel panels & urns	x		
Sheet metal cornice	x		
Grid-like fenestration pattern	x		
Divided-lite “industrial” wood sash windows	x		
1123 Sutter Street:			
One-story-with-mezzanine height		x	
Simple rectangular form and massing		x	
Primary façade element: seven bay symmetrical arrangement; two side entrances and one center entrance separated by two fenestration bays	x		
Primary façade element: recessed fenestration and entryways	x		
Primary façade element: custom, cast iron street light fixtures at each entrance along Sutter Street	x		
Primary façade element: pairs of wood casement windows and plantar boxes	x		

Character-Defining Feature	Retained	Part. Retained	Not Retained
Classical Revival style element: eight pairs of Doric columns	x		
Classical Revival style element: Plaster ornament in swag motif and circular medallions with geometric Greek key molding	x		
Metal clathri screens	x		
First floor interior element: reception area including rotunda and main corridor			x
First floor interior element: west and east chapels			x
First floor interior element: three suites of interconnected bereavement rooms			x

The Partial Preservation Alternative 1 would construct 151 dwelling units for a total of 133,227 residential square feet; 6,972 square feet of retail space; 61 parking spaces; and 26 new stories (four on top of both 101 and 1123 Sutter Street and a new 18-story building). Approximately 46,714 square feet at the two historic buildings would be retained for adaptive reuse.

1101 Sutter Street

The Partial Preservation Alternative 1 would maintain the three street-facing facades of 1101 Sutter Street at Sutter, Larkin, and Hemlock streets, and as such, all of the character-defining features associated with fenestration, cladding, and façade details would be fully retained.

The Partial Preservation Alternative 1 would construct a rectangular-plan four-story addition atop 1101 Sutter Street that would be set back 25’ from the north façade at Sutter Street and the east façade at Larkin Street, and as such would partially retain the character-defining features relating to height and massing. 1101 Sutter Street does not have any interior character-defining features.

1123 Sutter Street

The Partial Preservation Alternative 1 would maintain the primary (north) and rear (south) facades of 1123 Sutter Street, and as such, all of the character-defining features associated with fenestration, cladding, and façade details would be fully retained.

The Partial Preservation Alternative 1 would construct a rectangular-plan four-story addition atop 1123 Sutter Street that would be set back 25’ from the north façade at Sutter Street, and as such would partially retain the character-defining features of both buildings relating to height and massing.

At 1123 Sutter Street, interior demolition and new construction for adaptive reuse would not retain the interior character-defining features of the building.

6.4 Partial Preservation Alternative 2

The Partial Preservation Alternative 2 would construct a 14-story, 150' tower at the site of the at-grade parking lot at the western edge of the project site, with architectural design details, material palate and fenestration pattern the same or similar to those of the proposed project. 1101 Sutter Street would remain as described above at the exterior, with no additions or major changes to the building's design. 1123 Sutter Street would remain as described above at the exterior and modified with construction of a 12-story vertical addition. A three-story, shallowly recessed horizontal hyphen consisting of mostly glass would separate the existing facade from the new tower above, which does not include a setback. The architectural design of the vertical addition would have architectural details, material palate, and fenestration materials generally similar to those of the proposed project but modified to reflect the color palate and pattern of fenestration of the primary façade of 1123 Sutter Street. At the primary façade, the existing openings would be reutilized in some way, and interior spaces including the lobby/waiting room and rotunda/main entry would be partially retained and rehabilitated to a sufficient degree to provide a transition between the portion of the building that would be retained and new spaces behind. The Partial Preservation Alternative 2 minimally alters the façades of the existing buildings at the project site, and alters the height and massing of 1123 Sutter Street with a vertical addition, while in-filling the former at-grade parking lot.

Character-Defining Feature	Retained	Part. Retained	Not Retained
1101 Sutter Street:			
Three-story height and massing	x		
Concrete and brick masonry construction	x		
Stucco finish scored to resemble stone masonry	x		
Molded cement plaster ornament, with spandrel panels & urns	x		
Sheet metal cornice	x		
Grid-like fenestration pattern	x		
Divided-lite "industrial" wood sash windows	x		
1123 Sutter Street:			
One-story-with-mezzanine height			x
Simple rectangular form and massing			x
Primary façade element: seven bay symmetrical arrangement; two side entrances and one center entrance separated by two fenestration bays	x		
Primary façade element: recessed fenestration and entryways	x		

Character-Defining Feature	Retained	Part. Retained	Not Retained
Primary façade element: custom, cast iron street light fixtures at each entrance along Sutter Street	x		
Primary façade element: pairs of wood casement windows and plantar boxes	x		
Classical Revival style element: eight pairs of Doric columns	x		
Classical Revival style element: Plaster ornament in swag motif and circular medallions with geometric Greek key molding	x		
Metal clathri screens	x		
First floor interior element: reception area including rotunda and main corridor		x	
First floor interior element: west and east chapels			x
First floor interior element: three suites of interconnected bereavement rooms		x	

The Partial Preservation Alternative 2 would construct 182 dwelling units for a total of 168,153 residential square feet; 6,972 square feet of retail space; 61 parking spaces; and 26 new stories (12 on top of 1123 Sutter Street, and a new 14-story building). Approximately 46,714 square feet at the two historic buildings would be retained for adaptive reuse.

1101 Sutter Street

The Partial Preservation Alternative 2 would maintain the three street-facing facades of 1101 Sutter Street at Sutter, Larkin, and Hemlock streets. As such, all of the character-defining features associated with fenestration, cladding, and façade details would be fully retained. The Full Preservation Alternative would fully retain the height and massing of 1101 Sutter Street. 1101 Sutter Street does not have any interior character-defining features.

1123 Sutter Street

The Partial Preservation Alternative 2 would maintain the primary (north) and rear (south) facades of 1123 Sutter Street, and as such, all of the character-defining features associated with fenestration, cladding, and façade details would be fully retained.

The Partial Preservation Alternative 2 would construct a 12-story vertical addition at 1123 Sutter, comprising a three-story, shallowly recessed horizontal hyphen consisting mostly of glass, and a nine-story volume above the hyphen with no setback. As such, the Partial Preservation Alternative 2 does not retain the character-defining features of height and massing at 1123 Sutter Street.

At 1123 Sutter Street, some interior character-defining features of the building including the lobby/waiting room and rotunda/main entry would be partially retained and rehabilitated to a sufficient degree to provide a transition between the portion of the building that would be retained and new spaces behind. The west and east chapels, which are also interior character-defining features, would not be retained.

7. Conclusion

The purpose of this memorandum is to provide the Historic Preservation Commission with information to confirm, further develop, and/or analyze the preservation alternatives described herein, and is based on guidance provided by "Historic Preservation Commission Resolution No. 0746" and consultation with Preservation Staff at the Planning Department.

The Full Preservation Alternative would fully retain all of the character-defining features at 1101 Sutter Street, and, at 1123 Sutter Street, would fully retain the character-defining features that relate to fenestration, cladding, and façade details; partially-retain the character-defining features that relate to height and massing; and would not retain the interior character-defining features.

The Partial Preservation Alternative 1 would fully retain the character-defining features at 1101 Sutter Street that relate to fenestration, cladding, and façade details, and partially retain the character-defining features that relate to height and massing; and, at 1123 Sutter Street, would fully retain the character-defining features that relate to fenestration, cladding, and façade details; would partially retain the character-defining features that relate to height and massing; and would not retain the interior character-defining features.

The Partial Preservation Alternative 2 would fully retain all character-defining features at 1101 Sutter Street; and, at 1123 Sutter Street, would fully retain the character-defining features that relate to fenestration, cladding, and façade details; would partially retain some character-defining interior spaces; and would not retain character-defining features that relate to height and massing and some interior character-defining features.

The ability of the preservation alternatives to meet the project objectives is summarized in **Table 4**: **Ability of Preservation Alternatives to Meet Project Objectives**, below.

Table 4: **Ability of Preservation Alternatives to Meet Project Objectives**

Objective/Alternative	**Proposed Project**	**No Project**	**Full Preservation**	**Partial Preservation Alternative 1**	**Partial Preservation Alternative 2**
Develop a well-designed, financially feasible mixed-use project with residential housing units that contributes the following services to support the well-	Meets	Does not meet	Partially meets. Would contribute services to the well-being of the community.	Partially meets. Would contribute services to the well-being of the community. However, the 25%	Partially meets. Would contribute services to the well-being of the community. While the alternative only represents a 10%

Objective/Alternative	Proposed Project	No Project	Full Preservation	Partial Preservation Alternative 1	Partial Preservation Alternative 2
being of the community: new retail, restaurant, and commercial spaces for the benefit of neighborhood residents and businesses; and a child care center for the benefit of both the project's and neighborhood's residents.			However, the 43% reduction in unit count from the proposed project would not make the new, high-rise construction feasible.	reduction in unit count from the proposed project, in addition to the cost of rehabilitating the existing buildings to structurally support vertical addition would not make the new construction feasible.	reduction in unit count from the proposed project, it would not achieve this objective to the same extent as the proposed project, since its feasibility would be more vulnerable to changed market conditions or construction costs.
Increase the city's supply of housing, including affordable housing, in an area designated for higher density due to its proximity to downtown and accessibility to local and regional transit. Maximize housing on a site that currently has no housing and incorporate on-site affordable units.	Meets	Does not meet	Partially meets – 86 fewer units than proposed project	Partially meets -50 fewer units than proposed project	Partially meets. – 20 fewer units than proposed project
Create a more attractive, interesting and engaging street-level experience for pedestrians, transit users, and future residents.	Meets	Does not meet	Meets	Meets	Meets
Construct a single, cohesive development occupying the project site consisting of high-quality, contemporary urban design.	Meets	Does not meet	Meets	Meets	Meets

Objective/Alternative	Proposed Project	No Project	Full Preservation	Partial Preservation Alternative 1	Partial Preservation Alternative 2
Retain historic resources where it is economically and structurally feasible to rehabilitate the building's interior space for new commercial and residential uses.	Partially Meets (fully preserves 1101 Sutter)	Does not meet	Partially meets (retains the majority of character-defining features at both 1101 and 1123 Sutter, but not economically feasible)	Partially meets (retains façade-related character-defining features at both 1101 and 1123 Sutter, but 4-story additions at both buildings only partially retain height- and massing-related character-defining features, and is not economically feasible)	Partially meets (retains façade-related character-defining features at both 1101 and 1123 Sutter, but 10-story tower on top of 1101 Sutter does not retain height- and massing-related character-defining features, and 4-story addition on top of 1123 Sutter only partially retains height- and massing-related character-defining features, and is less economically feasible)

APPENDIX E

Screening-Level Wind Analysis for Partial Preservation Alternative 2

REPORT

1101-1123 SUTTER STREET

SAN FRANCISCO, CA

SCREENING-LEVEL WIND ANALYSIS: PRESERVATION ALTERNATIVE

PROJECT #200220

APRIL 16, 2021

SUBMITTED TO

Julie Heinzler, AIA
Director of Architecture
Julie@martinbuilding.com

David Young
San Francisco Planning Department
49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103

1101 Sutter Affordable, LP.

SUBMITTED BY

Timothy Wiechers, M.Sc.
Technical Coordinator
Tim.Wiechers@rwdi.com

Frank Kriksic, BES, CET, LEED AP, C. DIR
Microclimate Consultant / Principal
Frank.Kriksic@rwdi.com

Raisa Lalui, M.Eng., P.Eng.
Project Manager
Raisa.Lalui@rwdi.com

Rowan William Davies & Irwin Inc. (RWDI)
600 Southgate Drive,
Guelph, ON, Canada N1G 4P6
T: 519.823.1311
F: 519.823.1316

1. INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) was retained to assess the pedestrian wind conditions for the proposed 1101-1123 Sutter Street development in San Francisco, CA (site shown in Image 1). A qualitative screening level wind analysis based on the original design was issued on December 4, 2020 which provided discussion regarding the wind conditions with the proposed development in place. Since the initial assessment, the design team has proposed a new preservation alternative scheme with revised building massing (Image 2). This report addresses the wind impacts associated with the new alternative scheme and compares the findings to the original analysis conducted for the development.

This qualitative assessment is based on the following:

- a review of the regional long-term meteorological data for San Francisco;
- design drawings and documents received by RWDI on December 18, 2020;
- wind-tunnel studies and desktop assessments undertaken by RWDI for similar and nearby projects in San Francisco;
- our engineering judgement and knowledge of wind flows around buildings[1-3]; and,
- use of 3D software developed by RWDI (Windestimator[2]) for estimating the potential wind conditions around generalized building forms.

This qualitative approach provides a screening-level estimation of potential wind conditions for each of the alternatives being considered. To quantify these conditions or refine any conceptual wind control measures, physical scale model tests in a boundary-layer wind tunnel would typically be required.

Note that other wind issues such as those relating to cladding and structural wind loads, stack effect, door operability, air quality, etc. are not part of the scope of this assessment.

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1. H. Wu and F. Kriksic (2012). "Designing for Pedestrian Comfort in Response to Local Climate", *Journal of Wind Engineering and Industrial Aerodynamics*, vol.104-106, pp.397-407.
2. H. Wu, C.J. Williams, H.A. Baker and W.F. Waechter (2004), "Knowledge-based Desk-Top Analysis of Pedestrian Wind Conditions", *ASCE Structure Congress 2004,* Nashville, Tennessee.
3. C.J. Williams, H. Wu, W.F. Waechter and H.A. Baker (1999), "Experience with Remedial Solutions to Control Pedestrian Wind Problems", *10th International Conference on Wind Engineering*, Copenhagen, Denmark.

2. BUILDING AND SITE INFORMATION

The proposed development is located between Sutter Street to the north, Hemlock Street to the south and Larkin Street to the east (see aerial view of site in Image 1). The current site is immediately surrounded by dense mid- to high-rise buildings in all directions with the Financial District located to the east.

The massing of the new preservation alternative scheme is shown in Image 2. The scheme is very similar to the original design and includes a 150 ft tower on the west side of the site. The primary difference between the original design and the new preservation alternative scheme is that the setback for the level-7 terrace has been removed.

Key pedestrian areas on and around the site and assessed in this report include the primary pedestrian entrances, rooftop terrace, and sidewalks and walkways adjacent to the site.

Image 1: Aerial View of Site And Surroundings (Credit: Google™ Earth))

Image 2: Preservation Alternative Scheme 2

3. PEDESTRIAN WIND CONDITIONS

3.1 Discussion of Proposed Wind Conditions

The following sections address the wind impacts associated with the new preservation alternative scheme for the key pedestrian areas assessed. These findings are also compared to the original analysis conducted for the development.

3.1.1 Building Entrances

Based on the original screening-level analysis, the primary pedestrian entrances to the development are marked by red triangles in Image 3. It is RWDI's assumption that these entrance locations would remain the same for the preservation alternative scheme.

In comparison to the original design, wind activity at the entrances assessed are expected to be slightly more severe. This is due to the fact that the setback for level-7 terrace has been removed and the entrances will be more exposed to downwashing winds.

It is anticipated that wind speeds at most of the entrances will comply with the 7 mph comfort criterion which is appropriate for entrances; however, select entrances may exceed this and meet the 11 mph criterion. The wind hazard criterion is expected to be met at all building entrances.

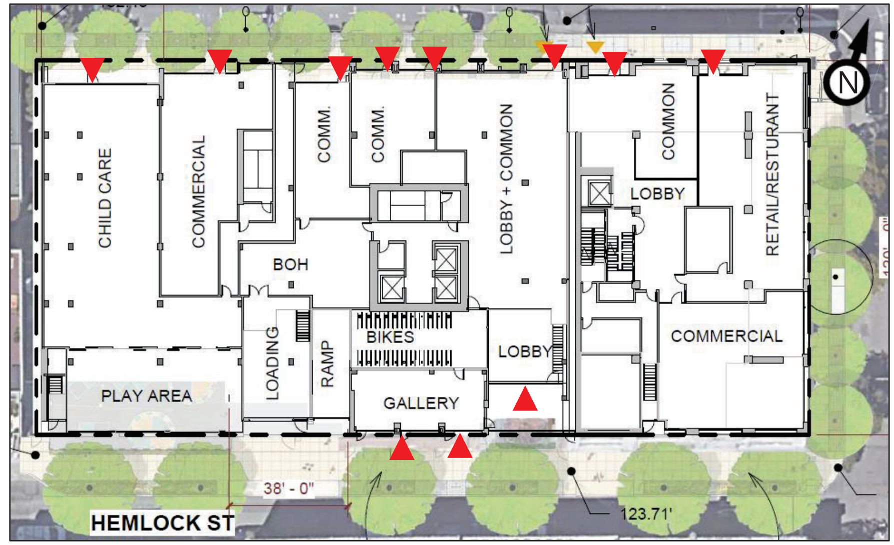

Image 3: Plan Identifying the Primary Entrances

3. PEDESTRIAN WIND CONDITIONS

3.1 Discussion of Proposed Wind Conditions

3.1.2 Sidewalks and Walkways

With the new preservation alternative scheme in place, wind speeds along the perimeter sidewalks of Sutter St and Hemlock St are expected to be slightly more severe than the original design but remain appropriate for the intended use.

The highest wind activity is still predicted to occur at the corner of Sutter St and Larkin St where conditions may exceed the 11 mph criterion; however, are not expected to exceed the wind hazard criterion.

3.1.3 Above-Grade Terraces

As RWDI understands, the design team plans to incorporate a pedestrian accessible terrace on the top of the 150 ft tall west tower. Positively, it appears the design team has implemented a solid glass guardrail around the perimeter of the terrace which will help reduce the exposure of this area to prevailing westerly winds. As the dimension of the guardrail is not provided at this time, it should be noted that the guardrail should be at least 5 ft tall. Additionally, due to the size of the terrace, there is the potential for winds to recirculate over the guardrail further downwind on the terrace resulting in wind speeds higher than desired for passive recreational uses. For this reason, it is recommended to add dispersed planters or moveable wind screens placed upwind (west) of designated seating areas, similar to what was proposed in the original design. Examples of these strategies is provided in Image 4.

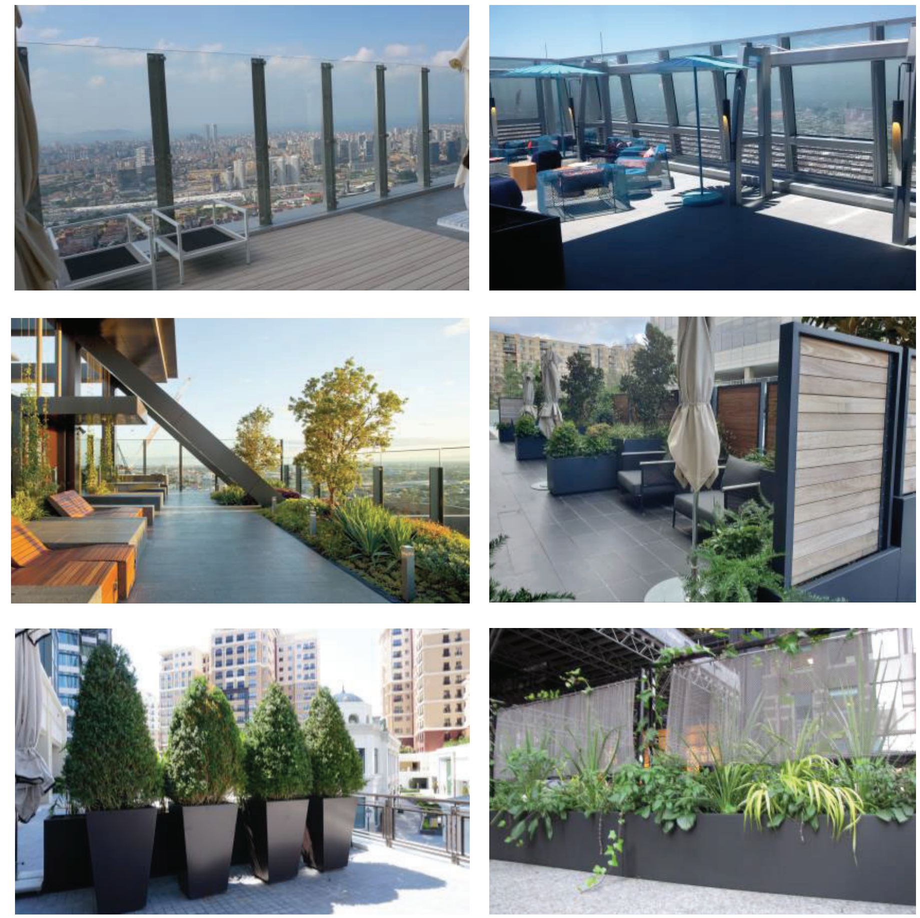

Image 4: Example Photographs of Localized Wind Reduction Strategies

4. SUMMARY

- This report provides an overview of the predicted wind conditions for the new preservation alternative scheme and compares these findings to the original design of the development.
- As the setback for the level-7 terrace has been removed, wind conditions at grade-level are expected to be slightly more severe than the original design. Nevertheless, wind conditions at most pedestrian areas are expected to be suitable for the intended uses and all areas are expected to comply with the wind hazard criterion.
- Table 1 provides a summary of the potential wind impacts for the new preservation alternative design in comparison to the original design.
- Example wind reduction strategies have been provided for the rooftop terrace. These strategies are for reference purposes only and the measures may be tailored to fit the design intent of the building accordingly.

Table 1: Summary of the Potential Wind Impacts for Each Alternative Design

Alternative	Building Entrances	Potential Exceedance[1]	Sidewalks & Walkways	Potential Exceedance[1]	Above-Grade Terraces	Potential Exceedance[1]
Preservation Alternative Scheme	Slightly more severe	No	Slightly more severe	No	Slightly more severe	No

1 – According to the hazard criteria in Planning Code Section 148. These results would also apply to the comfort criteria.

5. APPLICABILITY OF RESULTS

The assessment presented in this report are for the proposed 1101-1123 Sutter Street development in San Francisco, CA. The drawings and information listed below were received from Martin Building Company and were used for our assessment.

File Name	File Type	Date Received (dd/mm/yyyy)
21914_20210311 1101 Sutter EIR alt 2 FINAL	.pdf	06/04/2021

In the event of any significant changes to the design, construction or operation of the building or addition of surroundings in the future, RWDI could provide an assessment of their impact on the pedestrian wind conditions discussed in this report. It is the responsibility of others to contact RWDI to initiate this process.