

ATTACHMENT 1 to CARB Executive Order G-18-101

CARB Staff Evaluation of AB 900 Application for
3333 California Street Mixed-Use Project

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January 30, 2019

I. Introduction

Laurel Heights Partners, LLC (the Applicant) proposes to redevelop the 10.25 acre property located at 3333 California Street in the Laurel Heights/Jordan Park neighborhood in the City and County of San Francisco. The proposed project would redevelop existing office and parking uses and shift the uses to primarily residential, with a mix of office, retail, and childcare.

The proposed project would include development of 558 residential units, approximately 54,000 square feet of retail, 50,000 square feet of office, 14,700 square feet of childcare uses, 895 parking spaces, and 5.42 acres of open space. The applicant is also considering a project variant that would include more residential units (744 units total) in lieu of any office space, and a reduced retail footprint.

The proposed project would result in the demolition and adaptive reuse of the existing 364,500 square-foot office building, 11,500 square foot childcare center, and surface and subsurface parking. The Applicant is seeking certification for the project under Assembly Bill 900 (AB 900), the Jobs and Economic Improvement through Environmental Leadership Act.

AB 900 provides for streamlined judicial review under the California Environmental Quality Act (CEQA) if certain conditions are met. One condition is that the proposed project does not result in any net additional greenhouse gas (GHG) emissions as determined by the California Air Resources Board (CARB). This is the only condition that involves a determination by CARB. CARB staff prepared this technical evaluation of the GHG emissions from the proposed project as part of its determination.

This evaluation includes an executive summary, an overview of the AB 900 zero net additional GHG emissions requirement, a brief description of the proposed project, a technical review and assessment of GHG emissions information provided by the Applicant in its AB 900 application, and CARB staff's recommendation on the AB 900 GHG emissions determination for the proposed project.

II. Executive Summary

CARB staff reviewed the projected GHG emissions provided by the Applicant and confirmed that the GHG emission factors used to estimate construction and operational emissions are reasonable. Staff concurs with the GHG emissions quantification in the Applicant's proposal (Attachment 2).

Based on an evaluation of the documentation provided by the Applicant, CARB staff concludes that, with commitments to implement feasible GHG emissions reduction measures and/or purchase voluntary carbon credits documented in Attachment 2, the proposed project would not result in any net additional GHG emissions relative to the baseline as summarized in Tables 1 and 2 below. CARB staff confirms that the proposed project would meet the GHG emissions requirements of the Jobs and Economic Improvement through Environmental Leadership Act. (Pub. Resources Code, §21178 et seq.) A detailed description of emissions by source is reviewed in subsequent sections.

Table 1 shows project GHG emissions generated by construction activities from the proposed project, which would be similar to the project variant because either would be constructed in four overlapping phases. Project construction is expected to be completed in as little as seven years, but could take up to 15 years, with demolition activities beginning in 2020. Table 1 reflects a seven-year construction period, which represents a more intensive, and thereby conservative, emissions profile than a longer construction period, which would include periods of dormancy.

The Applicant has committed to offset the GHG emissions generated during project construction prior to issuance of grading permits for construction of each phase of the project by purchasing carbon offsets issued by an accredited carbon registry in an amount sufficient to offset the net increase in construction-related GHG emissions attributable to that phase.

Table 1: Project Construction-Generated GHG Emissions¹

Construction Year	GHG Emissions (MT CO ₂ e/year)
2020	541
2021	733
2022	732
2023	752
2024	564
2025	664

2026	277
2027	8
Total	4,273
GHG Offsets Required²	4,273

Notes:

GHG = greenhouse gas; MT CO₂e = Metric tons carbon dioxide equivalent;

¹ Source: as documented in Attachment 2, and confirmed by CARB staff.

² Prior to issuance of grading permits for construction of each phase of the project, the Applicant or its successor shall enter into one of more contracts to purchase carbon offsets issued by an accredited carbon registry in an amount sufficient to offset the net increase in construction-related GHG emissions attributable to that phase.

Table 2 summarizes the net increase in project operation-related GHG emissions through the lifetime of the proposed project (defined as 30 years). The continued operation of the existing land uses that would be demolished under the proposed project serves as the reference point for defining a baseline, and excludes the mobile-source GHG emissions from existing University of California-San Francisco (UCSF) Laurel Heights campus-related activities, which would be relocated to other existing UCSF campuses as a result of the project.

The Applicant has committed to explore feasible GHG emissions reduction measures according to the following prioritization: (1) project design feature/on-site reduction measures; (2) off-site local reductions; (3) off-site regional reductions, and (4) purchase of voluntary carbon offsets issued by an accredited carbon registry in an amount sufficient to offset the net increase in operation-related GHG emissions. The Applicant has committed to execute contracts to offset the net increase in GHG emissions generated during project operation for any phase of the project prior to issuance of the final Certificate of Occupancy for the first building constructed during that project phase. Enforcement of compliance will be outlined in the terms of the Development Agreement between the lead agency and the Applicant.

Table 2: Comparison of Baseline and Project Operation-Related GHG Emissions¹

Year ²	GHG Emissions (MT CO ₂ e/year)				
	Baseline ³	Proposed Project	Difference (GHG Offsets Required) ⁴	Project Variant	Difference (GHG Offsets Required) ⁴
2022	2,946	340	-	331	-
2023	2,972	1,235	-	1,201	-
2024	2,996	1,733	-	1,678	-
2025	3,021	1,858	-	1,832	-
2026	3,042	4,481	1,439	4,669	1,627
2027	3,062	4,496	1,434	4,674	1,612
2028	3,080	4,410	1,330	4,585	1,505
2029	3,097	4,326	1,229	4,498	1,401
2030	3,111	4,251	1,140	4,421	1,310
2031	3,123	4,184	1,061	4,352	1,229
2032	3,134	4,123	989	4,290	1,156

2033	3,144	4,069	925	4,235	1,091
2034	3,152	4,021	869	4,184	1,032
2035	3,159	3,977	818	4,139	980
2036	3,165	3,937	772	4,098	933
2037	3,170	3,901	731	4,060	890
2038	3,175	3,868	693	4,026	851
2039	3,178	3,839	661	3,995	817
2040	3,182	3,812	630	3,967	785
2041	3,184	3,787	603	3,941	757
2042	3,186	3,764	578	3,917	731
2043	3,188	3,742	554	3,894	706
2044	3,190	3,722	532	3,872	682
2045	3,191	3,702	511	3,852	661
2046	3,192	3,683	491	3,832	640
2047	3,193	3,677	484	3,824	631
2048	3,194	3,658	464	3,805	611
2049	3,195	3,641	446	3,786	591
2050	3,196	3,625	429	3,769	573
2051	3,196	3,625	429	3,769	573
2052	3,196	3,625	429	3,769	573
2053	3,196	3,625	429	3,769	573
2054	3,196	3,625	429	3,769	573
2055	3,196	3,625	429	3,769	573
2056	3,196	3,625	429	3,769	573
2057	3,196	3,625	429	3,769	573
Total			22,816		27,813
Notes: GHG = greenhouse gas; MT CO _{2e} = Metric tons carbon dioxide equivalent.					
¹ Source: as documented in Attachment 2, and confirmed by CARB staff.					
² Applicant estimates a useful life of project of 30 years with first year of occupancy for initial project phases as early as 2022. The first year of full project operation would be as early as 2028.					
³ Baseline emissions represent the continued operation of the existing land uses on the project site that would be demolished as part of the project, less the mobile-source GHG emissions associated with the existing UCSF Laurel Heights campus-related activities that would be relocated to other existing UCSF campuses as a result of the project.					
⁴ Applicant commits to explore feasible GHG emissions reduction measures according to the following prioritization: (1) project design feature/on-site reduction measures; (2) off-site local reductions; (3) off-site regional reductions, and (4) purchase carbon offsets issued by an accredited carbon registry in an amount sufficient to offset net increase in operation-related GHG emissions.					

III. Overview of AB 900

AB 900, as amended by Senate Bill (SB) 743 (2013), SB 734 (2016), and AB 246 (2017) provides streamlined judicial review for development projects if, among other conditions, the “project does not result in any net additional emissions of greenhouse gases, including greenhouse gas emissions from employee transportation, as determined by the State Air Resources Board pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.” (Pub. Resources Code, §21183, subd. (c).)

The Governor's Guidelines for AB 900 applications require applicants to submit a proposed methodology for quantifying the project's GHG emissions and documentation that the project will not result in any net additional GHG emissions. The documentation must quantify direct and indirect GHG emissions associated with the project's construction and operation, including GHG emissions from employee transportation, and the net emissions of the project after accounting for any mitigation measures. The project's net emissions, after mitigation, must be monitored and enforced consistent with Public Resources Code section 21183, subdivision (e).

The role of CARB in reviewing AB 900 applications for purposes of the Governor's certification is limited to an evaluation of the quantification methods and documentation submitted by the Applicant to determine whether the project would result in no net additional emissions of GHG emissions. CARB staff evaluated the technical elements of the project application, including existing emissions in the absence of the project (i.e., baseline), input data and assumptions used for emissions and mitigation calculations, quantification methods, and an estimate of the project's net GHG emissions after any mitigation.

IV. Existing Conditions

The proposed project site is located at 3333 California Street, also bounded by Masonic Avenue, Presidio Avenue, Euclid Avenue, and Laurel Street/Mayfair Drive, in the City and County of San Francisco. The site is currently occupied by a four-story office building, an annex building, and surface and subsurface parking, which houses the UCSF Laurel Heights Campus, including an existing daycare center. The site currently includes one diesel-powered emergency generator permitted to operate up to 20 hours per year.

V. Proposed Project Description

The proposed project would involve relocation of the existing UCSF campus uses and daycare center to other existing UCSF locations, and the demolition and adaptive reuse of the existing structures and parking on the site. The proposed project would include development of 558 residential units, approximately 54,000 square feet of retail, 50,000 square feet of office, 14,700 square feet of childcare uses, 895 parking spaces, and 5.42 acres of open space. The Applicant is also considering a project variant that would include more residential units (744 units total) in lieu of any office space, and a reduced retail footprint. The proposed project and project variant would include 693 and 890 bicycle parking spaces, respectively.

The baseline and proposed land uses are summarized in Table 3.

Table 3: Baseline and Proposed Land Uses

Land Use Type	Baseline	Proposed Project	Project Variant
Office	364,500 sf	49,999 sf	-
Childcare Center	11,500 sf	14,690 sf	14,650 sf
Residential (Apartments)	-	558 du	744 du
Retail	-	54,117 sf	48,593 sf
Parking Garage	212 spaces	895 spaces	971 spaces
Parking Lot	331 spaces	-	-
Open Space	3.79 acres	5.42 acres	5.42 acres
Bicycle Parking	15 spaces	693 spaces	890 spaces
Notes: du = dwelling units, sf = square feet Source: as documented in Attachment 2.			

One diesel-powered emergency generator would be installed as part of the project.

The proposed project would be required to comply with San Francisco Planning Code Section 169, Transportation Demand Management Program (added by Ordinance 34-17, approved February 2017), and would seek Leadership in Energy and Environmental Design (LEED) Gold certification or better, which includes measures applicable to both construction and operation phases.

VI. Technical Review and Assessment

Ramboll, on behalf of the Applicant, prepared a GHG emissions assessment for the proposed project to demonstrate that the requirements of AB 900 can be met. A full copy of this proposal can be found in Attachment 2.

The Applicant relied upon a variety of sources for activity data and emission factors to quantify GHG emissions. This CARB staff evaluation is focused on reviewing the data sources, emission factors, emissions calculations, and assumptions used for the application, and determining whether these sources and assumptions are reasonable.

The Applicant relied upon Version 2016.3.2 of the California Emissions Estimator Model (CalEEMod), a widely-used emissions quantification tool developed in coordination with local air districts to quantify criteria pollutant and GHG emissions from land use development projects in California. CalEEMod uses widely-accepted sources for emissions estimates combined with appropriate default data that can be used if site-

specific information is not available. CalEEMod is populated with data from the United States Environmental Protection Agency AP-42 emission factors, CARB's on-road and off-road equipment emissions models such as the Emission Factor 2014 model (EMFAC2014), and the Off-road Emissions Inventory Program model (OFFROAD). The Applicant used the latest CalEEMod version, in combination with project-specific data, correction factors to reflect future renewable electricity standards, and CARB's EMFAC 2017 mobile-source emission factors, to calculate GHG emissions from project construction and operation.

VII. Project Construction Emissions

Construction-related GHG emissions are one-time, direct emissions and would occur over an approximately seven-year construction period. The Applicant estimated GHG emissions associated with project construction by using the CalEEMod tool. With some exceptions, the Applicant used CalEEMod default settings to generate construction-related GHG emissions. The Applicant estimates a total of 4,273 metric tons carbon dioxide equivalent (MT CO_{2e}) over the project construction period, as shown in Table 1. Construction-related GHG emissions reflect the types of equipment expected and the number of hours of operation anticipated over the construction schedule. This includes heavy-duty equipment, such as refuse hauling trucks, excavators, cranes, and conventional work vehicles.

CARB staff concluded that the methodology and estimated GHG emissions provided by the Applicant for construction are appropriate.

VIII. Baseline Operational Emissions

Operational emissions from land uses at the existing project site that would be demolished and removed as part of the project, minus mobile-source-related GHG emissions associated with existing UCSF Laurel Heights campus operations that would be relocated to other existing UCSF campuses as a result of the project, represent baseline conditions. Operational emissions in year 2020 serve as the baseline for purposes of this analysis, which represent existing conditions at the time project construction would begin. GHG emissions were quantified for mobile, electricity, natural gas, area, stationary, solid waste, water, and wastewater-related sources. Ongoing mobile-source GHG emissions associated with the relocated vehicle trips from UCSF-related land uses were quantified separately in Attachment 2. As summarized in Attachment 2, the GHG emissions associated with existing land uses in 2020 are estimated as 3,873 MT CO_{2e}. The relocated mobile-source emissions were subtracted from the emissions from existing land uses to calculate the baseline emissions, and are summarized in Table 2 above.

CARB staff evaluated the Applicant's GHG emission estimations, demand factors, and assumptions used in the Applicant's baseline calculations. CARB staff concluded that the methodology and estimated baseline GHG emissions provided by the Applicant are appropriate.

IX. Proposed Project Operational Emissions

Operational GHG emissions sources from the proposed project and project variant would include mobile, electricity, natural gas, area, stationary, solid waste, water, wastewater, and vegetation sources. Operational GHG emissions from the proposed project and project variant were assumed to begin in 2022.

The proposed project or variant is seeking LEED Gold certification or better. At the time of this analysis, the exact LEED credits and project features that would be selected to achieve LEED Gold Certification have not yet been determined. The Applicant is proposing to include elements of low-impact development, transportation demand management, energy efficiency, water conservation, and other green building practices that would contribute to achieving the LEED Gold Certification.

The Applicant used GHG emission factors for electricity from Pacific Gas and Electric (PG&E). Mobile-source emission factors from CARB's EMFAC 2017 model were used and assume declining GHG emissions from vehicles over the project's lifetime, which reflect additional improvements in fleet fuel economy due to CARB's Advanced Clean Cars regulations. CalEEMod default emission factors and calculation methods were also used to estimate GHG emissions from natural gas, solid waste disposal, water consumption, and area sources. The Applicant conservatively assumed up to 50 hours per year for operations and testing of the emergency generator.

The Applicant's assumptions and inputs are reasonably conservative, and represent an upper-bound for the net increase in GHG emissions that could occur. CARB staff evaluated the proposed project's emissions calculations, demand factors, and assumptions used to estimate operational GHG emissions and concluded that the methodology and estimated operational GHG emissions provided by the Applicant are appropriate.

Based on the Applicant's proposal, annual project operational emissions would exceed baseline throughout the lifetime of the project, as summarized in Table 2.

X. Method to Offset Emissions

Under the GHG quantification methodology used by the Applicant, the proposed project would result in a one-time net GHG emissions increase of 4,273 MT CO₂e during project construction, and an estimated net increase of 1,439 MT CO₂e during the first year of full project operation (2026) for the proposed project, or 1,627 MT CO₂e for the project variant.

Operational emissions would be ongoing for the project analysis horizon (defined as 30 years), and would be expected to decline over the life of the project as emission factors decline associated with adoption of lower-GHG-emitting vehicle technologies and renewable sources of electricity. The Applicant has agreed to meet the requirement set forth in California Public Resources Code section 21183, subdivision (c) to demonstrate that the proposed project or project variant, whichever is adopted, would result in no net additional GHG emissions through adoption of feasible GHG emissions reduction measures according to the following prioritization: (1) project design feature/on-site reduction measures; (2) off-site local reductions; (3) off-site regional reductions, and (4) offset credits issued by a recognized and reputable carbon registry, consistent with policy recommendations included in CARB's 2017 Climate Change Scoping Plan Update.¹ To the extent carbon offsets are used to mitigate GHG emissions from the project, the Applicant will purchase voluntary carbon credits issued by an accredited carbon registry for the net increase in operational emissions prior to issuance of the final Certificate of Occupancy for the first building constructed in each phase of the project.

Prior to issuance of grading permits for construction of each phase of the project, the project sponsor or its successor shall enter into one or more contracts to purchase carbon credits issued by an accredited carbon registry for the construction emissions attributable to that phase.

Any identified project design features/on-site reduction measures, off-site local or regional GHG emissions reduction measures used to mitigate GHG emissions and any commitments to enter into contracts to offset net additional GHG emissions will be incorporated as conditions of project approval under Public Resources Code Section 21183(e), which shall be binding and enforceable by the lead agency. Prior to building occupancy, documentation shall be submitted and approved by the City and County of San Francisco that corroborates any equivalent reductions achieved through project design features, such as solar photovoltaic output, that was not available at the time the

¹ https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

AB 900 application was submitted. Enforcement of compliance will be outlined in the terms of the Development Agreement between the City and County of San Francisco and the Applicant.

XI. Conclusions and Recommendations

Based on an evaluation of the documentation provided by the Applicant and its commitment to explore additional direct GHG emissions reduction measures and/or purchase voluntary carbon credits issued by an accredited carbon registry, CARB staff concludes that the proposed project will not result in any net additional GHG emissions relative to the baseline.