

DRAFT

**70–74 Liberty Ship Way Project
Initial Study/Mitigated Negative Declaration
ADR17-285**

Prepared for:

City of Sausalito

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Table of Contents

<u>SECTION</u>	<u>PAGE NO.</u>
ACRONYMS AND ABBREVIATIONS.....	III
1 INTRODUCTION.....	1
1.1 Project Overview	1
1.2 Background.....	1
1.3 California Environmental Quality Act Compliance	1
1.4 Public Review Process	1
1.5 Entitlements and Required Approvals.....	2
2 PROJECT DESCRIPTION	3
2.1 Project Location	3
2.2 Surrounding Land Uses.....	3
2.3 Existing Conditions	3
2.4 Planning Context	3
2.5 Proposed Project	4
3 INITIAL STUDY CHECKLIST	17
3.1 Aesthetics	20
3.2 Agriculture and Forestry Resources	27
3.3 Air Quality.....	29
3.4 Biological Resources	36
3.5 Cultural Resources	49
3.6 Energy	51
3.7 Geology and Soils	52
3.8 Greenhouse Gas Emissions.....	57
3.9 Hazards and Hazardous Materials	62
3.10 Hydrology and Water Quality.....	66
3.11 Land Use and Planning	75
3.12 Mineral Resources	76
3.13 Noise	77
3.14 Population and Housing.....	83
3.15 Public Services	84
3.16 Recreation.....	85
3.17 Transportation	86
3.18 Tribal Cultural Resources.....	96
3.19 Utilities and Service Systems.....	97
3.20 Wildfire	100
3.21 Mandatory Findings of Significance	102

4	REFERENCES AND PREPARERS.....	105
4.1	References.....	105
4.2	List of Preparers	110

APPENDICES

A	CalEEMod Output
B	Biological Resources
C	Cultural Resources Report
D	Traffic Impact Analysis

FIGURES

1	Project Location	7
2	Project Vicinity	9
3	Proposed Project Visual Simulation	11
4	Overall Site Plan	13
5	Section Site Plan	15
6	Marinship Specific Plan View Corridors	23
7	Proposed Project Visual Simulation from Galilee Harbor	25
8	Biological Resources.....	45
9	Impacts to Biological Resources.....	47
10	Flood Hazard Map.....	73

TABLES

3.3-1	Thresholds of Significance for Air Quality	30
3.3-2	Average Daily Unmitigated Construction Emissions	32
3.3-3	Daily Unmitigated Operational Emissions	34
3.4-1	Vegetation Communities and Land Covers within the Project Site.....	38
3.8-1	Estimated Annual Operational Greenhouse Gas Emissions	60
3.13-1	Typical Construction Equipment Maximum Noise Levels.....	78
3.13-2	Construction Noise Modeling Summary Results.....	79
3.13-3	Predicted Construction Vibration Propagation	81
3.17-1	Project Trip Generation.....	87
3.17-2	Opening Year 2023 plus Project Queuing Summary	94
3.17-3	2040 plus Project Queuing Summary.....	95

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CalEEMod	California Emissions Estimator Model
CalRecycle	California Department of Resource Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH ₄	methane
City	City of Sausalito
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CRPR	California Rare Plant Rank
dB	decibel
dBA	A-weighted decibel
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHCA	Galilee Harbor Community Association
GHG	greenhouse gas
HVAC	heating, ventilating, and air-conditioning
IS	Initial Study
L _{dn}	day-night noise level
L _{eq}	equivalent continuous sound level
MM	Mitigation Measure
MMWD	Marin Municipal Water District
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MT	metric ton
NAHC	Native American Heritage Commission
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NWIC	Northwest Information Center
O ₃	ozone
PM _{2.5}	particulate matter with an aerodynamic diameter of 2.5 micrometers or less
PM ₁₀	particulate matter with an aerodynamic diameter of 10 micrometers or less
project	70–74 Liberty Ship Way Project
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board

Acronym/Abbreviation	Definition
SB	Senate Bill
SFBCDC	San Francisco Bay Conservation and Development Commission
SMCSD	Sausalito-Marin City Sanitary District
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
USFWS	U.S. Fish and Wildlife Service

1 Introduction

1.1 Project Overview

The proposed 70–74 Liberty Ship Way Project (project) would redevelop a 3.9-acre site and construct three two-story buildings within the Marinship Specific Plan area. These proposed uses would be consistent with the Industrial and Waterfront zoning districts and may include marine, industrial, storage, and other related uses. The project site is currently developed with dry boat storage and containerized storage. The project would add 108 parking spaces and include pedestrian access improvements to the San Francisco Bay Trail (Bay Trail).

1.2 Background

In 2008, the City of Sausalito (City) prepared a draft Initial Study (IS) and Mitigated Negative Declaration (MND) for a project on this site that included construction of four industrial buildings totaling 57,075 square feet. The MND was not adopted and the project was not approved.

The currently proposed project has taken into account both public comments and input from agencies received regarding the 2008 project.

1.3 California Environmental Quality Act Compliance

The City is the California Environmental Quality Act (CEQA) lead agency responsible for the review and approval of the proposed project. Based on the findings of the IS for the project, the City has determined that an MND is the appropriate environmental document to prepare in compliance with CEQA (California Public Resources Code Section 21000 et seq.). As stated in CEQA Section 21064.5, an MND may be prepared for a project subject to CEQA when an IS has identified no potentially significant effects on the environment.

This MND has been prepared for the City and complies with Section 15070(a) of the CEQA Guidelines (14 CCR 15000 et seq.). The purpose of the MND and the Initial Study Checklist (see Chapter 3 of this MND) is to determine any potentially significant impacts associated with the proposed project and to incorporate mitigation measures, as necessary, to reduce or eliminate the significant or potentially significant effects of the project.

1.4 Public Review Process

In accordance with CEQA, a good-faith effort has been made during the preparation of this MND to contact affected agencies, organizations, and persons who may have an interest in this project.

In reviewing the MND, public agencies and the interested public should focus on the sufficiency of the document in identifying and analyzing the project's possible impacts on the environment. A copy of the draft MND and related documents are available to view or download from the City's website: <https://www.sausalito.gov/departments/community-development/planning-division/current-planning/public-notice>.

Comments on the MND may be mailed, submitted in person or via email to the contact person below before the end of the public review period. A 30-day review and comment period from February 3, 2021 to March 5, 2021 has been established in accordance with Section 15072(a) of the CEQA Guidelines. Following the close of the public comment period, the City will consider this MND and comments in determining whether to approve the proposed project.

Written comments on the MND may be mailed to the City at the address below or may be submitted by email to City representative Tricia Stevens at tstevens@migcom.com by March 5, 2021.

Tricia Stevens
City of Sausalito
420 Litho Street
Sausalito, California 94965

1.5 Entitlements and Required Approvals

The proposed project would require a number of discretionary actions and approvals, including the following:

- City of Sausalito
 - Design Review approval (ADR17-285)
 - Conditional use permit and building use permit
 - Grading and Building Permit
- Marin Municipal Water District
 - Landscape Review Permit
 - New Water Service Application
 - Potable, recycled, backflow, and fire service permits
- Marin County Environmental Health Services
 - Health Permit to Operate
- Southern Marin Fire Protection District
 - Fire Department Permit
- Bay Area Air Quality Management District
 - Authority to Construct and Permit to Operate
- San Francisco Bay Conservation and Development Commission
 - To be determined

2 Project Description

2.1 Project Location

The project site is an approximately 3.9-acre site located on the east side of the City, along the shore of Richardson Bay (Figure 1, Project Location). The project site is accessible from U.S. Highway 101, approximately 1.3 miles north and east of Bridgeway. The site consists of one parcel—Assessor's Parcel Number 063-080-06. As shown in Figure 1, the project site is accessed from the one-way Liberty Ship Way loop, leading to two-way circulation within the site. The site circulation interconnects with the existing Schoonmaker Point Marina parking area to allow ingress and egress to the site and the Marinship area.

2.2 Surrounding Land Uses

The project site is located within the Industrial and Waterfront zoning districts in the southeastern portion of the Marinship Specific Plan area (City of Sausalito 1989).

The marsh restoration easement and the Napa Street Galilee Harbor lie along the eastern boundary of the project site (Figure 2, Project Vicinity). The Schoonmaker Marina is immediately north of the site, with Schoonmaker Beach bordering the parcel at its northernmost boundary. Industrial buildings containing industrial, manufacturing, warehousing, and marine uses are to the northwest and west. There are also limited commercial uses and harbors north, west, and southwest of the project site. Immediately south of the site is an industrial development with two office/industrial buildings buffering the site from Bridgeway, a main thoroughfare leading to U.S. Highway 101.

2.3 Existing Conditions

The 170,205-square-foot project site is predominantly flat and is approximately 12 feet above mean sea level. The project site currently contains dry boat storage for approximately 85 small vessels and containerized storage. An adjacent restaurant uses approximately 10,000 square feet of the site for parking. A two-story, 1,923-square-foot portion of the Harbormaster building also exists on site. There are no other permanent buildings located within the project boundary.

Both 30 Liberty Ship Way to the south and 80 Liberty Ship Way to the west contain existing commercial uses. An approximately 28,888-square-foot marsh restoration area is located along the southeastern boundary, and the City holds a restoration easement over this area. Adjacent to the marsh is an 8-foot-wide segment of the Bay Trail, a Class I waterfront pedestrian and bike path that extends along the San Francisco Bay. The Bay Trail, which extends 100 feet inland from the mean high tide line, is within the jurisdiction of San Francisco Bay Conservation and Development Commission (SFBCDC).

2.4 Planning Context

The project site is zoned Industrial (I) and Waterfront (W) with a Marinship Specific Plan Overlay. Approximately 105,200 square feet of the project site is located within Industrial zoning, and 65,005 square feet is located within Waterfront zoning (City of Sausalito 2003). The permitted uses within the Industrial (I) zone include general industrial, marine industrial, arts, commercial service, limited restaurant and food service, and dry boat storage.

The permitted uses within the Waterfront (W) zone include boat harbors, piers, wharves, and launching ramps; boat storage; boat sales, rental, repair, and service; commercial and sport fishing facilities; marine equipment sales, manufacture, service, and repair; and marine research laboratories (City of Sausalito 1989).

2.5 Proposed Project

The proposed project would involve construction of three two-story industrial buildings totaling approximately 50,000 square feet (Figure 3, Proposed Project Visual Simulation) and up to 32 feet in height. The building footprint of Building A is proposed as 9,376 square feet (18,752 gross square feet). Building B is proposed as 9,057 square feet (18,114 gross square feet), and Building C is proposed as 5,963 square feet (11,518 gross square feet) (Figure 4, Overall Site Plan). The potential uses for the project include manufacturing, warehousing, medical clinic, marine industrial, marine commercial, and restaurant uses. Specifically, Building A would include dry boat storage, manufacturing, and storage/warehouse; Building B would include manufacturing, repair and maintenance, and medical services; and Building C would include marine industrial, marine commercial, and restaurant uses. Figure 5, Section Site Plan, gives the cross-sections of Buildings A, B, and C. When buildout of the project is complete, approximately 84 full-time staff would be employed on site.

The proposed project would provide an approximately 48,979-square-foot surface parking lot with up to 108 parking spaces, including six handicap spaces; 12 bicycle parking spaces; and five motorcycle spaces. Nine of these spaces would be available for public use on weekdays from 8 a.m. to 5 p.m. in the southwestern portion of the site. An additional eight spaces would be available for public use on weekends and extended evening hours. A truck loading space would be located adjacent to Building A.

The parking lot would be illuminated by light poles approximately 20 feet high, with the lights hanging at approximately 12 feet high. These lights would operate on motion sensors, thus reducing light levels in unused parking zones.

The project site would contain 2,530 square feet of solar energy panels on the roof of Building B. The panels would extend approximately 6 inches above the roof.

Access and Circulation

Access to the project site would be provided via Liberty Ship Way, which loops at the western edge of the project site and connects to Marinship Way. Although Liberty Ship Way is approximately 24-foot wide, it narrows to approximately 20-foot wide just west of the project site. For approximately 270-feet, the primary entrance to the site would be designated as one-way from the southern loop of Liberty Ship Way. Pending redevelopment of the 60D Liberty Ship Way building that causes the constraint, the one-way portion of the roadway may ultimately widen to accommodate the project's 24-foot wide drive aisle, thereby allowing for two-way traffic within the entirety of the site.

As part of the project, a curb and guardrail system would be added to the northern edge of the roadway to reduce potential hazards with the southernmost corner of the 60D Liberty Ship Way building. Additionally, the segment adjacent to this building, west of the driveway to 30 Liberty Ship Way and east to the proposed project parking lot, which are deteriorated and include old railroad tracks, would be repaved. After the one-way segment, the roadway would become two-way and would have 24-foot wide parking lot drive aisles, which are large enough to adequately accommodate delivery vehicles. Visitors may exit via the parking lot and drive aisles of the existing parking areas north of the site, before connecting back to the northern section of the Liberty Ship Way loop. The portion of Liberty Ship Way within the site boundary and internal driveways within the site would be owned and maintained by the

project applicant. Additionally, accessible pedestrian routes, consistent with Americans with Disabilities Act (ADA) requirements, would be provided throughout the project site.

Landscaping

The project would include 35,785 square feet of landscaped and vegetated areas, in addition to the existing marsh restoration area, which would remain as it currently exists. Two iron bark eucalyptus trees (*Eucalyptus sideroxylon*) would be removed from the southern point of the project site. The project would involve planting 24 Brisbane box trees (*Tristania conferta*) and six date palms (*Phoenix dactylifera*). Five bioretention areas are proposed to be located throughout the site to intercept and treat stormwater runoff prior to being discharged from the site.

Bay Trail Improvements

The project would provide enhanced access and connectivity to the Bay Trail by improving pedestrian access, adding lighting, and defining the edges of the path. Three pedestrian access points on the southeastern edge of the parking lot would connect an on-site sidewalk system to the Bay Trail. Each access point would be illuminated by a pair of lights. An existing 8-foot-high chain-link fence currently runs along the project boundary and would be replaced with chain bollards to improve visual character. The project would also provide nine public parking spaces, as described above.

Project Construction and Schedule

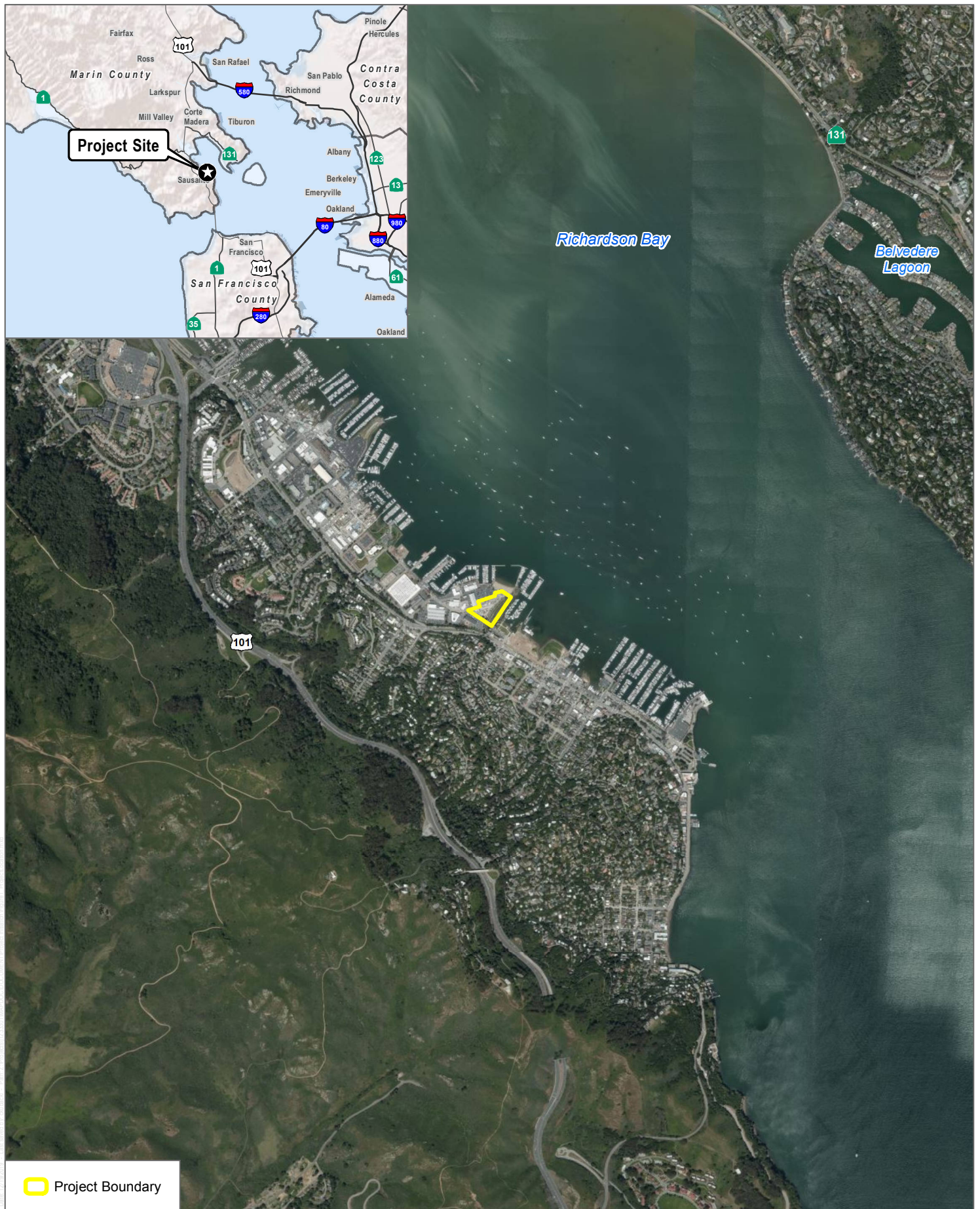
Construction activities would consist of excavation and shoring, construction of the foundation and below-grade areas, and construction of the building and finishing interiors. The project would not involve demolition, since there are no permanent structures on site. Project construction is expected to occur over approximately 42 months, with construction scheduled to commence in April 2021. Site preparation, grading, and construction of Building A would occur first and separately from Buildings B and C. Pile driving for Building A would begin in April 2021. Construction of Building A would be finished in November 2022, with occupants projected to move in that month. Construction of Buildings B and C would begin in December 2022 and pile driving would occur during December 2022 and January 2023. Buildings B and C would be finished in August 2024.

The project site would be excavated approximately 24 to 30 inches below grade, and up to 5 feet in select places. Excavation would remove approximately 2,380 cubic yards of soil. Of the excavated soil, 430 cubic yards would be used as fill; a net 1,950 cubic yards of soil would be hauled off site. A total of 2,790 tons of material would be exported off site, which would include concrete slab and curbs, asphalt, and the chain-link fence.

No soils would be imported to the site. Groundwater on the site is likely to be encountered approximately 6 feet below ground surface and could fluctuate several feet depending on the season and rainfall. Dewatering would not be required. Pile driving would be required for Buildings A, B, and C and would occur over a total of 20 days. The concrete piles would be drilled into the underlying bedrock located at depths ranging from 50 feet to 90 feet. Approximately 42,500 square feet of the project site would be paved. The proposed project would result in approximately 132,786 square feet of impervious surfaces (approximately 78% of the site), which is an increase from the existing conditions of 36,011 square feet of impervious surface (21% of the site).

Construction hours on-site would be Monday through Friday (8 a.m.–6 p.m.), Saturday (9 a.m.–5 p.m.), no work on Sundays, and holidays (9 a.m.–7 p.m.). There would be an average of eight construction workers on site each day.

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SOURCE: Bing Maps 2019; Marin County 2018

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SOURCE: Bing Maps 2019; Marin County 2018

FIGURE 2

Project Vicinity

70-74 Liberty Ship Way Project

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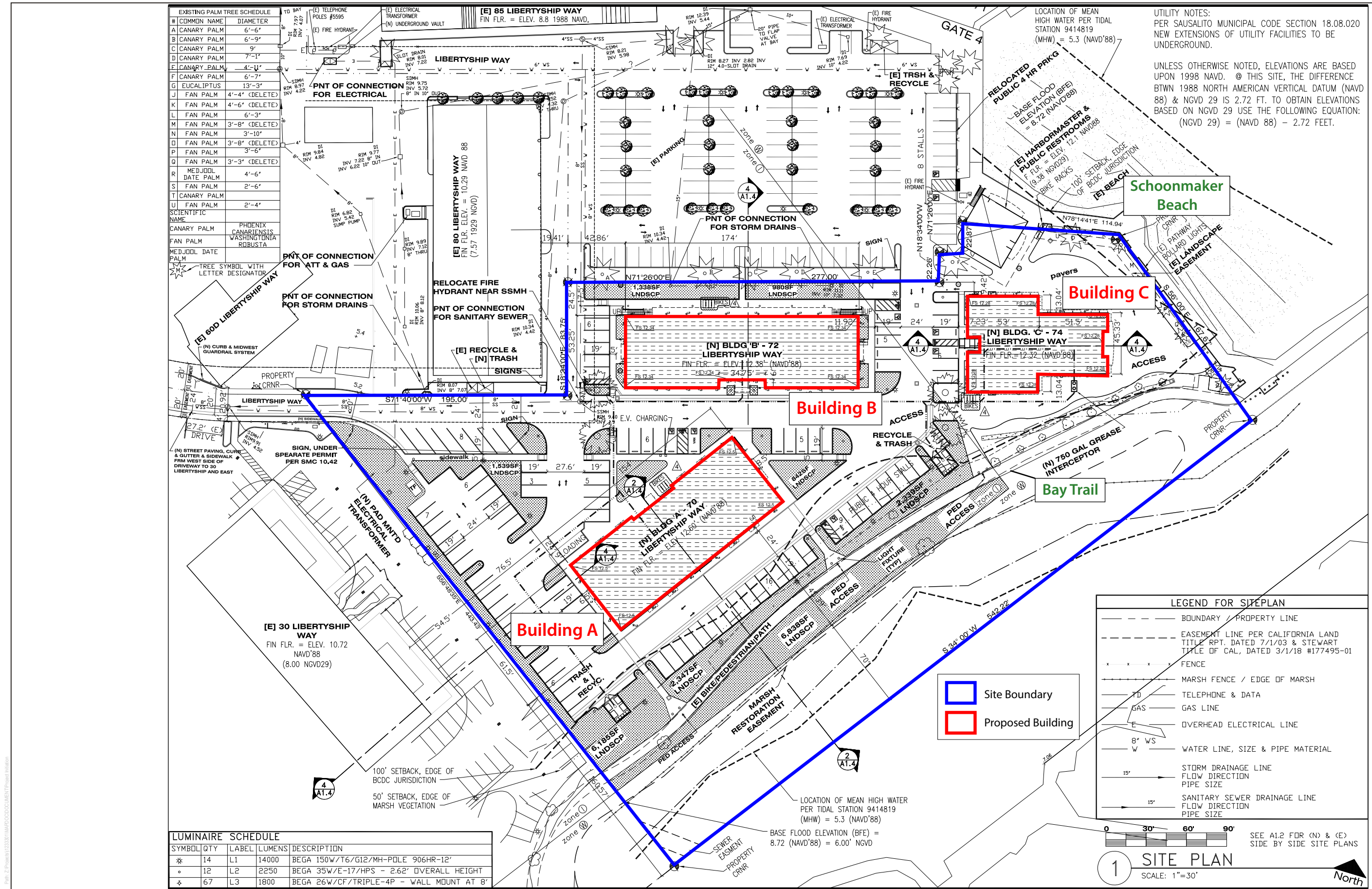
SOURCE: Onda Rosa 2019

FIGURE 3

Proposed Project Visual Simulation

70-74 Liberty Ship Way Project

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SOURCE: Onda Rosa 2019

FIGURE 4
Overall Site Plan
70-74 Liberty Ship Way Project

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3 Initial Study Checklist

1. Project title:

70-74 Liberty Ship Way Project

2. Lead agency name and address:

City of Sausalito
420 Litho Street
Sausalito, California 94965

3. Contact person and phone number:

Tricia Stevens, MIG Contract Planner
(916)-698-4592
tstevens@migcom.com

4. Project location:

70-74 Liberty Ship Way, Sausalito, California 94965

5. Project sponsor's name and address:

Michael Rainey
85 Liberty Ship Way
Sausalito, California 94965

6. General plan designation:

Industrial and Waterfront

7. Zoning:

Industrial and Waterfront

8. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

- Marin Municipal Water District
- Marin County Environmental Health Services
- Southern Marin Fire Protection District
- Bay Area Air Quality Management District
- San Francisco Bay Conservation and Development Commission

9. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

No, consultation was not requested. See Section 3.18 for further information.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact,” as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology and Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards and Hazardous Materials |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☐ 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 ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


Signature

9/29/2021
Date

3.1 Aesthetics

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Would the project have a substantial adverse effect on a scenic vista?

Less-Than-Significant Impact. There are no officially designated scenic vistas located within the City of Sausalito. However, the Marinship Specific Plan identifies specific view corridors to be preserved and/or enhanced as a goal for development in the Marinship Specific Plan area. The Marinship Specific Plan notes that the intent of the inclusion of view corridors is to accommodate “review of the placement, height, and bulk of future structures in this area to evaluate their potential view impact of Richardson Bay, the shoreline, and industrial activity from Bridgeway” (City of Sausalito 1989). There are two view corridors from Bridgeway within the vicinity of the subject site with potential view impacts: View Corridor I and View Corridor J. These view corridors are depicted in Figure 6, Marinship Specific Plan View Corridors.

View Corridor I is a view of Richardson Bay from Bridgeway down Mono Street, an undeveloped, public right-of-way where an existing marsh restoration area is located. The project is laid out such that the buildings would be located toward the interior of the site and parking would be along the shoreline. This design seeks to diminish the massing of the buildings by setting them back from the shoreline. Buildings A and B would be largely blocked from view, since they would be located behind 30 Liberty Ship Way and at a lower elevation. As shown in Figure 3 and Figure 7, Building A would be perpendicular to 30 Liberty Ship Way to minimize potential obstruction of views from Bridgeway. The eastern boundary of the project site would be free of buildings to maintain View Corridor I. View impacts to this corridor are anticipated to be minimal and would be an enhancement of the existing view corridor by eliminating the view of outdoor storage in the distance.

The second view corridor, View Corridor J, offers sight lines of the Marinship industrial activity, and at points, views of the beach from Bridgeway between the Schoonmaker Building and 30 Liberty Ship Way. The intervening buildings located at 10 Liberty Ship Way, 28 Liberty Ship Way, and 30 Liberty Ship Way block views of the project site from Bridgeway. The project would not impact View Corridor J.

The project would leave the view corridor of Richardson Bay, the marsh restoration easement, and the harbor unobstructed. Impacts to a scenic vista would be less than significant.

- b) *Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?***

Less-Than-Significant Impact. U.S. Highway 101 is located approximately 1.5 miles from the project site. The stretch of U.S. Highway 101 through Sausalito is an Eligible State Scenic Highway as designated by the California Department of Transportation's (Caltrans) Scenic Highway Program but is not an Officially Designated State Scenic Highway (Caltrans 2020). The project site is not visible from U.S. Highway 101. The project site currently houses a boat storage yard and contains two iron bark eucalyptus trees. These two trees would be removed with a Tree Removal Permit. As such, there are no scenic resources, trees, rock outcroppings, or historic buildings within a state scenic highway that would be substantially damaged. Impacts would be less than significant.

- c) *In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

Less-Than-Significant Impact. The project site currently houses an open boat storage and containerized storage. Adjacent properties contain industrial buildings of a similar architectural style with painted metal siding and rectangular massing. The visual character and zoning of the site is suitable for industrial uses and architecture, which is consistent with the proposed project and its industrial architectural design. In addition to conforming to the existing character of the area, the project would enhance the site and its surroundings by formalizing infrastructure, interconnecting and expanding the roadway network, improving the Bay Trail located along the marsh restoration area, constructing new industrial buildings of a similar architectural style to adjacent buildings, developing landscaped and plaza areas throughout the site with street trees, and diversifying the area's architecture by introducing triangular- and gazebo-shaped structures with architectural treatments such as glass canopies and flexible industrial storefronts. The project would enhance the visual character of the Bay Trail by replacing existing chain link fence with chain bollards and limited nighttime illumination.

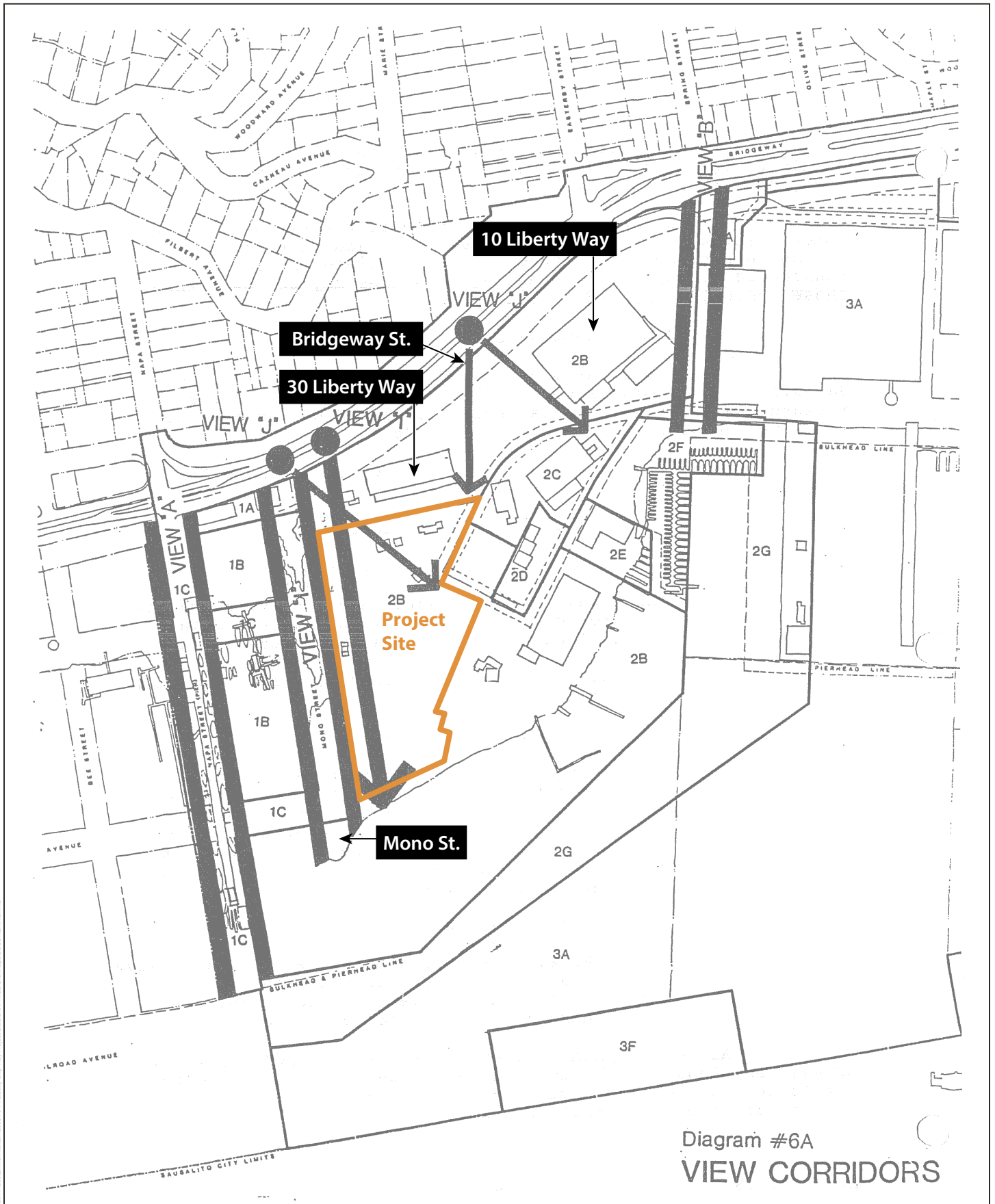
The City's Design Review requirements ensure a process by which the aesthetic character of the site and vicinity would be assessed, thus preventing degradation to surrounding properties, and potentially enhancing the property. The proposed project would require Design Review approval prior to the issuance of a building permit, which would require the Planning Commission to consider the visual quality of the project in relationship to the existing neighborhood. The project would not be approved without the Planning Commission's determination that the required Design Review findings can be made for the project, which include determining that the proposed architecture and site design complement the surrounding neighborhood, and that the scale of the proposed structure is consistent with the general scale of structures in the surrounding district (Zoning Ordinance Section 10.54.050.D). Therefore, impacts would be less than significant.

- d) *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Less-Than-Significant Impact with Mitigation Proposed lighting on the project site would include sixty-seven 8-foot 26-watt wall-mounted lights, twelve 2.62-foot 35-watt parking lot lights, and fourteen 12 foot 50-watt pole lights. Six of the 2.62-foot lights would be located at the three pedestrian entrances to the Bay Trail. The light poles throughout the parking areas would be equipped with bi-level controls, or “motion sensors,” that set lights at higher luminance levels when motion is detected and then reset to lower levels. Along the project boundaries, lights would be directed into the site and would reduce light spill-over to adjacent properties.

In addition, under Section 10.54.050 of the Municipal Code, for the Planning Commission to approve a Design Review Permit, the Planning Commission must find that exterior lighting and mechanical equipment is appropriately designed and located to minimize visual impacts to adjacent properties and the general public. To ensure that impacts on nighttime views would be less than significant, Design Review applications are subject to the City’s standard condition that all exterior lighting be downward-facing and shielded, and subject to review and approval by the Community Development Department. With the incorporation of Mitigation Measure (MM) AES-1, impacts regarding light and glare would be less than significant.

MM-AES-1: Parking lot lighting shall be designed and constructed with full cut-off luminaires and shall be fully shielded so that light is directed inward and downward toward the interior of the property, with a maximum illuminance level of 2.5 foot-candles. All lighting placed on the exterior of the building, including security lighting, shall also have fully shielded lighting fixtures to direct the light inward and downward, with a maximum illuminance level of 2.5 foot-candles.

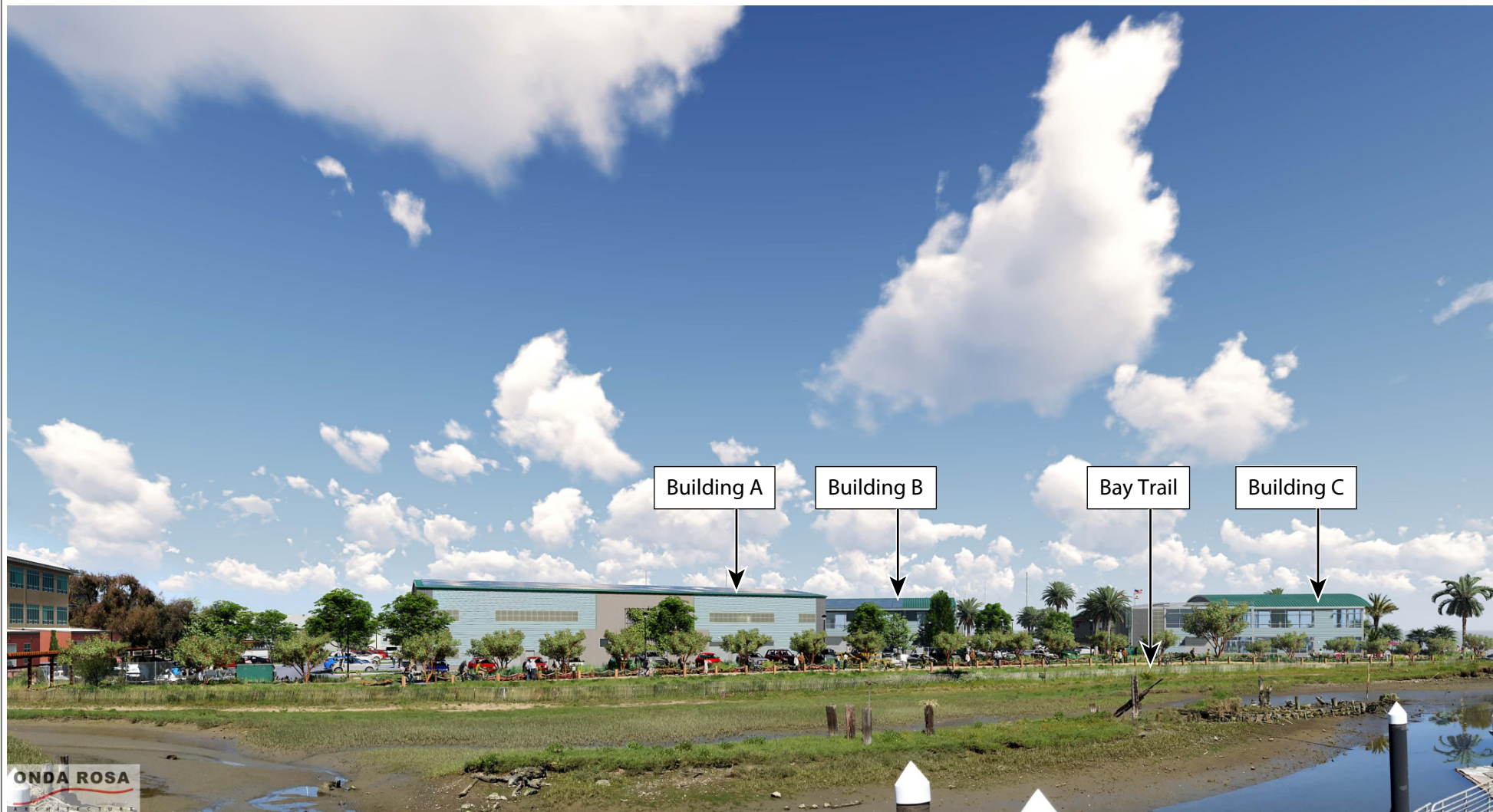


SOURCE: Marinship Specific Plan 1989

FIGURE 6

Marinship Specific Plan View Corridors
70-74 Liberty Ship Way Project

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SOURCE: Onda Rosa 2019

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3.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a,b) *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact. The project site is currently zoned Waterfront (W) and Industrial (I) within the Marinship Specific Plan area (City of Sausalito 1989), suitable for marine and industrial development. The project is located within Urban and Built-Up Land, and is not designated by the Farmland Mapping Monitoring Program of the California Resources Agency as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DLRP 2016). Furthermore, the proposed project is not under a Williamson Act contract (GeoData Analytics 2003). Therefore, the project would not convert farmland to a non-agricultural use, or conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

- c) *Would the project conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

No Impact. The project site is zoned Waterfront (W) and Industrial (I) within the Marinship Specific Plan area (City of Sausalito 1989). No forestland, timberland, or Timberland Production zones exist on or adjacent to the project site (GeoData Analytics 2003). The project would not conflict with zoning of forestland or timberland. The project would not result in the loss of forestland or conversion of forestland to non-forest use. No impact would occur.

- d) *Would the project result in the loss of forestland or conversion of forest land to non-forest use?*

No Impact. The project site is zoned Waterfront (W) and Industrial (I) within the Marinship Specific Plan area (City of Sausalito 1989). No forestland, timberland, or Timberland Production zones exist on or adjacent to the project site (GeoData Analytics 2003). The project would not conflict with zoning of forestland or timberland. The project would not result in the loss of forestland or conversion of forestland to non-forest use. No impact would occur.

- e) *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?*

No Impact. The project is located in an urban environment surrounded by Waterfront, Commercial Waterfront, and Industrial zones. There is no Farmland or forestland in proximity to the project site (GeoData Analytics 2003); therefore, the project would not result in a conversion to non-agricultural or non-forest use, and there would be no impact.

3.3 Air Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The Bay Area Air Quality Management District (BAAQMD) adopted updated CEQA Air Quality Guidelines, including new thresholds of significance, in June 2010 (BAAQMD 2010), and revised them in May 2011. The CEQA Air Quality Guidelines advise lead agencies on how to evaluate potential air quality impacts, including establishing quantitative and qualitative thresholds of significance. The BAAQMD resolutions adopting and revising the significance thresholds in 2011 were set aside by a judicial writ of mandate on March 5, 2012. In May 2012, the BAAQMD updated its CEQA Air Quality Guidelines to continue to provide direction on recommended analysis methodologies, but without recommended quantitative significance thresholds (BAAQMD 2012). On August 13, 2013, the First District Court of Appeal ordered the trial court to reverse the judgment and upheld the BAAQMD's CEQA thresholds. The BAAQMD CEQA Air Quality Guidelines were re-released in May 2017 and include the same thresholds as in the 2010 and 2011 Guidelines for criteria air pollutants, toxic air contaminants (TACs), and greenhouse gases (GHGs) (BAAQMD 2017a). The CEQA Air Quality Guidelines also address the December 2015 Supreme Court's opinion (*California Building Industry Association v. Bay Area Air Quality Management District* [2015] 62 Cal. 4th 369). These BAAQMD significance thresholds are summarized in Table 3.3-1, Thresholds of Significance.

In general, the BAAQMD significance thresholds for reactive organic gases (ROGs), oxides of nitrogen (NO_x), particulate matter with an aerodynamic diameter of 10 micrometers or less (PM₁₀), particulate matter with an aerodynamic diameter of 2.5 micrometers or less (PM_{2.5}), and carbon monoxide (CO) address the first three air quality significance criteria. The BAAQMD maintains that these thresholds are intended to maintain ambient air quality concentrations of these criteria air pollutants below state and federal standards, and to prevent a cumulatively considerable contribution to regional nonattainment with ambient air quality standards. The TAC thresholds (cancer and noncancer risks) and local CO thresholds address the fourth significance criterion, and the BAAQMD odors threshold addresses the fifth significance criterion.

Table 3.3-1. Thresholds of Significance for Air Quality

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (pounds per day)	Average Daily Emissions (pounds per day)	Maximum Annual Emissions (tons per year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (exhaust)	82	15
PM _{2.5}	54 (exhaust)	54	10
PM ₁₀ /PM _{2.5} (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
Risks and Hazards (Individual Project)	Compliance with Qualified Community Risk Reduction Plan or Increased cancer risk of >10.0 in 1 million Increased noncancer risk of >1.0 Hazard Index (Chronic or Acute) Ambient PM _{2.5} increase >0.3 µg/m ³ 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 1 million (from all local sources) Noncancer risk of >10.0 Hazard Index (chronic, from all local sources) Ambient PM _{2.5} >0.8 µg/m ³ 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 BAAQMD per year averaged over 3 years	

Source: BAAQMD 2017a

Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter; ROG = reactive organic gases; NO_x = oxides of nitrogen; PM₁₀ = 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

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less-Than-Significant Impact. An area is designated as “in attainment” when it is in compliance with the federal and/or state standards. These standards are set by the U.S. Environmental Protection Agency or California Air Resources Board (CARB) for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or public welfare with a margin of safety. The project site is located within the San Francisco Bay Area Air Basin, which is designated non-attainment for the federal 8-hour ozone (O₃) and 24-hour PM_{2.5} standards. The area is in attainment or unclassified for all other federal standards. The area is designated non-attainment for state standards for 1-hour and 8-hour O₃, 24-hour PM₁₀, annual PM₁₀, and annual PM_{2.5}.

On April 19, 2017, the BAAQMD adopted the Spare the Air: Cool the Climate Final 2017 Clean Air Plan (BAAQMD 2017b). The 2017 Clean Air Plan provides a regional strategy to protect public health and protect the climate. To protect public health, the 2017 Clean Air Plan includes all feasible measures to reduce emissions of O₃ precursors (ROG and NO_x), and reduce O₃ transport to neighboring air basins. In addition,

the 2017 Clean Air Plan builds on the BAAQMD's efforts to reduce PM_{2.5} and TACs. To protect the climate, the Clean Air Plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets (BAAQMD 2017b).

The BAAQMD CEQA Air Quality Guidelines identify a three-step methodology for determining a project's consistency with the current Clean Air Plan. If the responses to these three questions can be concluded in the affirmative and those conclusions are supported by substantial evidence, then the BAAQMD considers the project to be consistent with air quality plans prepared for the Bay Area (BAAQMD 2017a).

The first question to be assessed in this methodology is "Does the project support the goals of the Air Quality Plan?" The BAAQMD-recommended measure for determining project support for these goals is consistency with BAAQMD thresholds of significance. If a project would not result in significant and unavoidable air quality impacts after the application of all feasible mitigation measures, if necessary, the project would be consistent with the goals of the 2017 Clean Air Plan (BAAQMD 2017a).

As indicated in the following discussion with regard to air quality impact questions b) and c), the proposed project would result in less-than-significant construction and operational emissions impacts. Therefore, the project would be considered to support the primary goals of the 2017 Clean Air Plan and is consistent with the current Clean Air Plan.

The second question to be assessed in this consistency methodology is "Does the project include applicable control measures from the Clean Air Plan?" The 2017 Clean Air Plan contains 85 control measures aimed at reducing air pollution in the Bay Area. Projects that incorporate all feasible air quality plan control measures are considered to be consistent with the Clean Air Plan (BAAQMD 2017a). The control strategies of the 2017 Clean Air Plan include measures in the categories of stationary sources, the transportation sector, the buildings sector, the energy sector, the agriculture sector, natural and working lands, the waste sector, the water sector, and super-GHG pollutant measures. Depending on the control measure, the tools for implementation include leveraging the BAAQMD rules and permitting authority, regional coordination and funding, working with local governments to facilitate best policies in building codes, outreach and education, and advocacy strategies.

The proposed project includes plans for constructing three buildings totaling approximately 50,300 square feet of light industrial uses and associated parking. Since the proposed project would comply with all applicable BAAQMD rules and would incorporate energy efficiency and green building measures in compliance with state standards and/or local building codes, the project would include applicable control measures from the 2017 Clean Air Plan.

The third question to be assessed in this consistency methodology is "Does the project disrupt or hinder implementation of any control measures from the Clean Air Plan?" Examples of how a project may cause the disruption or delay of control measures include a project that precludes an extension of a transit line or bike path, or proposes excessive parking beyond parking requirements (BAAQMD 2017a). The proposed project would not create any barriers or impediments to planned or future improvements to transit or bicycle facilities in the area, nor would it include excessive parking. Therefore, the project would not hinder implementation of 2017 Clean Air Plan control measures.

In summary, the project would not conflict with or obstruct implementation of the 2017 Clean Air Plan. Therefore, this impact would be less than significant.

- b) ***Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?***

Less-Than-Significant Impact. The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the project. 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 construction and operational activities from a variety of land use projects, such as residential, commercial, and industrial. CalEEMod input parameters for the proposed project, including the project land use type and size and construction schedule, were based on information provided by the project applicant or on default model assumptions if project specifics were unavailable.

Construction. Construction of the project would involve construction and operation of approximately 50,300 square feet of light industrial uses and parking. Construction is anticipated to begin in April 2021 and would take approximately 42 months to complete by August 2024.¹

The project site would be excavated approximately 24 to 30 inches below grade, but up to 5 feet in select places. Excavation would remove approximately 2,380 cubic yards of soil. Of the excavated soil, 430 cubic yards would be used as fill; a net 1,950 cubic yards of soil would be hauled off site. A total of 2,790 tons of material would be exported off site, which would include concrete slab and curbs, asphalt, and the chain-link fence. Sources of emissions would include off-road construction equipment exhaust, on-road-vehicle exhaust, entrained road dust (i.e., material delivery trucks and worker vehicles), fugitive dust associated with site preparation and grading activities, and paving and architectural coating. Detailed assumptions associated with project construction are included in Appendix A.

Average daily emissions were computed by dividing the total construction emissions by the number of active construction days, which were then compared to the BAAQMD construction thresholds of significance. Table 3.3-2 shows average daily construction emissions of O₃ precursors (ROG and NO_x), PM₁₀ exhaust, and PM_{2.5} exhaust during project construction.²

Table 3.3-2. Average Daily Unmitigated Construction Emissions

	ROG	NO _x	PM ₁₀ Exhaust	PM _{2.5} Exhaust
Year	<i>Pounds per Day</i>			
2021-2024 Project Emissions	4.0	20.5	0.9	0.9
BAAQMD Construction Thresholds	54	54	82	54
Exceed Threshold?	No	No	No	No

Source: Appendix A

Notes: The values shown are average daily emissions based on total overall tons of construction emissions, converted to pounds, and divided by 166 active work days.

¹ The analysis and modeling used an earlier construction start date, previously assumed to be March 2020; however, the same 42-month construction duration was used in the analysis. This analysis provides a conservative estimate for construction emissions because increasingly stringent state and local regulations and growing market penetration of cleaner construction equipment are anticipated to further reduce emissions in the future. In other words, the project's emissions with a construction start date at a later time would result in emissions below those estimated with the earlier start.

² Fuel combustion during construction and operations would also result in the generation of sulfur dioxide (SO₂) and CO. These values are included in Appendix A. However, since the San Francisco Bay Area Air Basin is in attainment for these pollutants, the BAAQMD has not established a quantitative mass-significance threshold for comparison, and these are not included in the project-generated emissions tables in this document. Notably, the BAAQMD does have screening criteria for operational localized CO, which are discussed in more detail below.

BAAQMD = Bay Area Air Quality Management District; ROG = reactive organic gas; NO_x = oxides of nitrogen; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter

As shown in Table 3.3-2, construction of the project would not exceed BAAQMD significance thresholds. Criteria air pollutant emissions during construction would be less than significant.

Although the BAAQMD does not have a quantitative significance threshold for fugitive dust, the BAAQMD's CEQA Guidelines recommend that projects determine the significance for fugitive dust through application of best management practices (BMPs). The project contractor would be required, as conditions of approval, to implement the following BMPs that are required of all projects (BAAQMD 2017a):

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Implementation of the required fugitive dust control measures would ensure that air quality and fugitive dust impacts associated with construction would remain less than significant.

Operations. Operation of the project would generate criteria pollutant emissions (ROG, NO_x, PM₁₀, and PM_{2.5}) from mobile sources (vehicular traffic), area sources (consumer products, architectural coatings, landscaping equipment), and energy sources (natural gas appliances, space and water heating). CalEEMod was used to estimate daily emissions from project-related operational sources. The CalEEMod default trip rate was adjusted to match the trip generation provided from the project's traffic and parking analysis. Table 3.3-3, Daily Unmitigated Operational Emissions, summarizes the daily mobile, energy, and area emissions of criteria pollutants that would be generated by project development, and compares the emissions to BAAQMD operational thresholds.

Table 3.3-3. Daily Unmitigated Operational Emissions

Source	ROG	NO _x	PM ₁₀	PM _{2.5}
	<i>Pounds per Day</i>			
Area	1.3	<0.1 ^a	<0.1 ^a	<0.1 ^a
Energy	<0.1 ^a	0.3	<0.1 ^a	<0.1 ^a
Mobile	1.0	3.1	4.4	1.2
Total	2.3	3.3	4.4	1.2
<i>BAAQMD Operational Thresholds</i>	<i>54</i>	<i>54</i>	<i>82</i>	<i>54</i>
Exceed Threshold?	No	No	No	No

Source: Appendix A

Notes: The values shown are the maximum summer or winter daily emissions results from CalEEMod.

BAAQMD = Bay Area Air Quality Management District; ROG = reactive organic gases; NO_x = oxides of nitrogen; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter

^a <0.1 = value less than reported 0.1 pounds per day.

As indicated in Table 3.3-3, project-related operational emissions of ROG, NO_x, PM₁₀, and PM_{2.5} would not exceed the BAAQMD significance thresholds during operations, and thus, the project would have a less-than-significant impact in relation to regional operational emissions.

Regarding localized CO concentrations, according to the BAAQMD thresholds, a project would result in a less-than-significant impact if the following screening criteria are met (BAAQMD 2017a):

1. The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The project would generate minimal traffic trips, approximately 706 daily trips as described in Section 3.17, Transportation and Circulation, and would comply with the BAAQMD's screening criteria. Accordingly, project-related traffic would not exceed BAAQMD CO screening criteria, and therefore, no further analysis is required for the formation of potential CO impacts. This CO emissions impact would be less than significant on a project level and cumulative basis.

Past, present, and future development projects may contribute to the region's adverse air quality impacts on a cumulative basis. Per BAAQMD's CEQA Guidelines, by its nature air pollution is largely a cumulative impact; no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be considered cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, if the project's emissions are below the BAAQMD thresholds or screening criteria, then the project's cumulative impact would be considered to be less than significant (BAAQMD 2017a).

As described for criterion “b” above, criteria pollutant emissions generated by short-term construction and long-term operations of the project would not exceed the BAAQMD significance thresholds. Thus, the project would have a less-than-significant cumulative impact in relation to regional emissions. In addition, project-related traffic would not exceed the BAAQMD CO screening criteria and would result in a less-than-significant cumulative impact in relation to localized CO.

c) *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Less-Than-Significant Impact. The BAAQMD has adopted project and cumulative thresholds for three risk-related air quality indicators for sensitive receptors: cancer risks, noncancer health effects, and increases in ambient air concentrations of PM_{2.5}. These impacts are addressed on a localized rather than regional basis, and are specific to the sensitive receptors identified for the project. Sensitive receptors are groups of individuals, including children, older adults, the acutely ill, and the chronically ill, who may be more susceptible to health risks due to chemical exposure. Sensitive-receptor population groups are likely to be located at hospitals, medical clinics, schools, playgrounds, childcare centers, residences, and retirement homes (BAAQMD 2017a). The closest existing sensitive receptors are existing residences located approximately 412 feet south of the project site.

“Incremental cancer risk” is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be diesel particulate matter, emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB air toxic control measures to reduce diesel particulate matter emissions. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with a project (OEHHA 2015). Thus, the duration of construction activities for the proposed project (approximately 42 months) would only constitute a small percentage of the total 30-year exposure period.

Regarding long-term operations, the project would include dry boat storage, manufacturing, and storage/warehouse in Building A; manufacturing, repair and maintenance, and medical services in Building B; and marine industrial and marine commercial space in Building C. The project would not result in non-permitted stationary sources that would emit air pollutants or TACs. In addition, the project would provide a distance buffer between the facility and proximate residences.

In summary, the project would not expose sensitive receptors to substantial, long-term pollutant concentrations or health risks during construction or operations, and this impact would be less than significant on a project level and cumulative basis.

d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Less-Than-Significant Impact. BAAQMD has identified typical sources of odor in its CEQA Air Quality Guidelines; some examples include manufacturing plants, rendering plants, coffee roasters, wastewater

treatment plants, sanitary landfills, and solid waste transfer stations (BAAQMD 2017a). Although sources that generate objectionable odors must comply with air quality regulations, the public's sensitivity to locally produced odors often exceeds regulatory thresholds. As previously discussed, the potential uses for Building A include dry boat storage, manufacturing, and storage/warehouse; Building B would include manufacturing, repair and maintenance, and medical services; and Building C would include marine industrial and marine commercial space. No significant odor impacts that would affect a substantial number of people are anticipated from the project. In addition, there would be a physical setback from potential receptors, and any such odors would be contained within the project's buildings. Therefore, potential odor impacts would be less than significant.

3.4 Biological Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – 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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The following analysis relies on a biological resources assessment conducted by Dudek in February 2020. This assessment included a field reconnaissance and review of the latest available relevant literature; published research; and maps on soils, hydrology, wetlands, and special-status species distributions to determine those resources that have the potential to occur within the 3.95-acre property located at 70-74 Liberty Ship Way, Sausalito (Assessor's Parcel Number 063-080-06) (project site) and surrounding 100-foot buffer (the biological study area) (Figure 8, Biological Resources). The proposed project would include redevelopment of an existing dry boat and containerized storage area with three new two-story buildings, 108 parking spaces, and pedestrian access improvements, and may include marine, industrial, storage, and other related uses over an approximate 2.90-acre portion (the impact area) of the 3.9-acre project site.

For the purposes of this analysis, special-status species include those that are (1) listed, proposed for listing, or candidates for listing under the federal Endangered Species Act as threatened or endangered; (2) listed or candidates for listing under the California Endangered Species Act as threatened or endangered; (3) a state fully protected species; (4) a California Department of Fish and Wildlife (CDFW) Species of Special Concern; or (5) a species listed on the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants with a California Rare Plant Rank of 1B or 2B. Sensitive vegetation communities are those communities identified as high priority for inventory in CDFW's List of Vegetation Alliances and Associations (or Natural Communities List) (CDFW 2019a), which is based on A Manual of California Vegetation, Second Edition (Sawyer et al. 2009), by a state rarity ranking of S1, S2, or S3.

Literature Review

Prior to conducting field reconnaissance, Dudek searched the CDFW California Natural Diversity Database (CNDDB) (CDFW 2019b, 2020a-c), the CNPS Inventory of Rare and Endangered Plants (CNPS 2020), and the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Conservation occurrence data (USFWS 2020a) to identify special-status biological resources that are known to occur in the region. The CNDDB and CNPS databases were searched based on the U.S. Geological Survey 7.5-minute topographic quadrangle map for San Francisco North, where the project site is located, as well as the surrounding seven U.S. Geological Survey 7.5-minute quadrangle maps (i.e., San Francisco South, Hunters Point, San Rafael, San Quentin, Richmond, Point Bonita, and Oakland West). Results of the CNDDB, CNPS, and Information for Planning and Conservation database searches are included as Appendix B of this document. In addition, potential and/or historic drainages and aquatic features were investigated based on a review of U.S. Geological Survey topographic maps (1:24,000 scale), aerial photographs, the National Wetland Inventory database (USFWS 2020b), and the Natural Resource Conservation Service Web Soil Survey (USDA 2019). Dudek also conducted a thorough review of the results of the biological resources assessment (WRA 2007) and Visual Tree Analysis conducted in 2017 to support a tree removal/alteration permit (Kipping 2018).

Field Reconnaissance

Following the literature and data review, Dudek biologist Ryan Henry conducted a reconnaissance-level survey on February 4, 2020, to identify existing biological resources and potential biological constraints within the biological study area. During the survey, vegetation communities and land covers were catalogued and confirmed based on existing site conditions. Additionally, Dudek investigated the extent and distribution of waters of the United States and waters of the state that may be subject to regulation by the U.S. Army Corps of Engineers, Regional Water Quality Control Board (RWQCB), CDFW, and/or SFBCDC. The survey was conducted from 8:15 a.m. to 9:36 a.m., and weather conditions were favorable, with clear skies and 0% cloud cover, a temperature that ranged from 48° F to 52° F, and wind speeds from 2 to 5 miles per hour. Vegetation community and land cover mapping was conducted according to the CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018) and the Natural Communities List (CDFW 2019a). Vegetation communities and land covers not included in the Natural Communities List followed Cowardin et al. (1979). During the survey, Dudek compiled a general inventory of plant and wildlife species detected by sight, calls, tracks, scat, or other signs, and made a determination concerning the potential for special-status species to occur within the biological study area.

Vegetation Communities and Plants

The biological study area supports four vegetation communities and land covers: pickleweed mats alliance, fennel association, open water-marine intertidal, and urban/developed. Figure 8 illustrates the distribution, and Table 3.4-1 summarizes the extent of vegetation communities and land covers within the biological study area. Descriptions of these vegetation communities and land covers are summarized below.

Table 3.4-1. Vegetation Communities and Land Covers within the Project Site

Vegetation Community or Land Cover	Project Site (acres)	Proposed Impact Area (acres)
<i>Herbaceous Alliances and Stands</i>		
Pickleweed mats alliance	0.47	—
Fennel association	0.53	0.33
<i>Non-Natural Land Covers/Unvegetated Communities</i>		
Open water-marine intertidal	0.34	—
Urban/developed	2.61	2.57
Total*	3.95	2.90

* Acreages may not total due to rounding

The pickleweed mats (*Salicornia pacifica* [*Salicornia depressa*]) alliance is dominated or co-dominated by Virginia glasswort (*Salicornia depressa*) or Pacific swampfire (*Sarcocornia pacifica*). This alliance occurs in coastal salt marshes and alkaline flats and has an intermittent to continuous ground cover. This alliance stretches along the southeastern side of the biological study area, where it is dominated by Virginia glasswort (*Salicornia depressa*). It sits between a section of heavily mown fennel (*Foeniculum vulgare*) to the northwest and open water to the southeast. Other plant species observed in this area include salt grass (*Distichlis spicata*), California cordgrass (*Spartina foliosa*), and sea fig (*Carpobrotus chilensis*). The landward side of this vegetation community is delineated by a wooden sand fence and has benefited from historic and ongoing wetland restoration activities implemented by the neighboring Galilee Harbor Community Association.

The fennel association (*Foeniculum vulgare* association) is dominated by fennel (*Foeniculum vulgare*) and other non-native invasive plant of the Apiaceae family, with ground cover open to continuous.³ Within the biological study area, this association lies southeast of a developed area used for boat storage and is dominated by fennel (*Foeniculum vulgare*). Other species that occur within this community include Russian thistle (*Salsola soda*), buckhorn plantain (*Plantago coronopus*), seaside barley (*Hordeum marinum*), soft brome (*Bromus hordeaceus*), and non-native annual grasses. An 8-foot-wide segment of the Bay Trail passes through this association, which is delineated to the southeast by a wooden sand fence and the edge of the pickleweed mats alliance.

The open water–marine intertidal mapping unit is not recognized by the Natural Communities List (CDFW 2019a). Per Cowardin et al. (1979), marine habitats extend from the upper limit of the unvegetated shore to the ocean, and the intertidal zone includes the area exposed by low tide up to and including the spray zone. This land cover is often unvegetated, although algae and Scouler’s surfgrass (*Phyllospadix scouleri*) can occur. Although open water is not considered a riparian habitat because it lacks hydrophytic vegetation, it is typically regulated by CDFW, pursuant to Section 1602 of the California Fish and Game Code, and the U.S. Army Corps of Engineers, pursuant to Section 404 of the federal Clean Water Act (33 USC 1251 et seq.). This mapping unit exists at the southeastern edge of the biological study area, northwest of the Galilee Harbor. No vegetation was observed within this mapping unit.

Urban or developed land covers refer to areas that have been constructed on or otherwise physically altered to the point where vegetation is no longer present. Urban or developed areas are characterized by permanent or semi-permanent structures, hardscapes, and landscaped areas that require irrigation. Developed land is not a listed vegetation community under the California Natural Community List (CDFW 2019a), but has been used in this report because it best describes what was observed in the field. As such, this community is not globally or state ranked, and is not considered a sensitive natural community. This land cover comprises a large portion of the biological study area, the majority of which consists of a non-vegetated dirt and gravel lot used for parking and dry boat storage. Some ornamental trees and shrubs are present around the perimeter of this land cover and in adjacent areas, including Canary Island date palm (*Phoenix canariensis*), olive (*Olea europaea*), Peruvian peppertree (*Schinus molle*), red ironbark (*Eucalyptus sideroxylon*), and silverleaf cotoneaster (*Cotoneaster pannosa*). Additional developed areas are present to the immediate northwest, west, and southwest of the project site. The proposed area of impact is primarily within the boundaries of this land cover.

Wildlife

Several wildlife species were observed or detected during the reconnaissance-level survey of the biological study area, including 16 bird species. Bird species detected within the biological study area were American avocet (*Recurvirostra americana*), Anna’s hummingbird (*Calypte anna*), belted kingfisher (*Megaceryle alcyon*), black-crowned night-heron (*Nycticorax nycticorax*), black phoebe (*Sayornis nigricans*), Brewer’s blackbird (*Euphagus cyanocephalus*), bufflehead (*Bucephala albeola*), Caspian tern (*Hydroprogne caspia*), common raven (*Corvus corax*), double-crested cormorant (*Phalacrocorax auritus*), great blue heron (*Ardea herodias*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), rock pigeon (rock dove) (*Columba livia*), snowy egret (*Egretta thula*), western gull (*Larus occidentalis*), and white-crowned sparrow (*Zonotrichia leucophrys*). No active bird nests were detected within the biological study area.

³ Per the second edition of the Manual of California Vegetation, “open” refers to areas having less than 33% absolute vegetative cover, and “continuous” as having greater than 66% absolute vegetative cover.

Jurisdictional Waters

The eastern portion of the biological study area was investigated during the assessment for jurisdictional aquatic resources. Richardson Bay is a navigable waterbody that is subject to the ebb and flow of the tides. Federal jurisdiction within tidal areas is determined by the high tide line, which occurs at an elevation of 5.13 feet North American Vertical Datum of 1988 (NOAA Station 9414819), which generally corresponds with the edge of the open water–marine tidal mapping unit. State jurisdiction corresponds with the edge of the pickleweed mats alliance. As a result, the open water–marine tidal mapping unit and pickleweed mats alliance would be considered jurisdictional waters of the United States and state, and regulated by the U.S. Army Corps of Engineers, RWQCB, CDFW, and SFBCCDC. The proposed project has been designed to avoid all jurisdictional waters. See Figure 9, Impacts to Biological Resources.

- a) ***Would the project 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 Game or U.S. Fish and Wildlife Service?***

Less-Than-Significant Impact With Mitigation Incorporated. The biological study area includes the project site and a 100-foot buffer around the project site. The proposed impact area generally lacks suitable habitat for most special-status plant species known from the surrounding region due to a combination of unsuitable habitat conditions and the high level of human activity in the area. Several special-status plant and wildlife species have a low potential to occur within the biological study area, as discussed below.

Special-Status Plants

The project site does not occur within USFWS-designated critical habitat for any federally listed plant species. No plant species listed or proposed for listing as rare, threatened, or endangered by CDFW or USFWS were detected within the biological study area during the reconnaissance-level survey conducted by Dudek in February 2020, or during previous surveys conducted by WRA in October 2007. Additionally, no plant species considered sensitive by CNPS were detected during these surveys.

Dudek performed a review of the literature, existing documentation, and GIS data to evaluate the potential for special-status plant species to occur within the biological study area. Based on the results of the literature review and database searches, 87 special-status plant species were identified as occurring within the region. Due to the current conditions present on site, including soils, vegetation communities (habitat), elevation ranges, and current disturbance levels, none of these species is expected to occur in the proposed area of impact, which is entirely developed and subject to regular disturbance. Five special-status plant species—California seablite (*Suaeda californica*; federally endangered/California Rare Plant Rank [CRPR] 1B.1), marsh sandwort (*Arenaria paludicola*; federally endangered/state endangered/CRPR 1B.1), pappose tarplant (*Centromadia parryi* ssp. *Parryi*; CRPR 1B.2), Point Reyes bird's-beak (*Chloropyron maritimum* ssp. *Palustre*; CRPR 1B.2), and Suisun Marsh aster (*Symphyotrichum lentum*; CRPR 1B.2)—have at least a moderate potential to occur in the biological survey area. Although the surrounding development makes it less likely, these species have the potential to occur east of the project site. No other special-status plant species are expected to occur within the biological study area based on the absence of suitable soils, lack of suitable vegetation communities (habitats) present, the location of biological study area being outside species elevation ranges, the proximity to previous known locations based on the CNDDDB and CNPS records, and the results of previous surveys.

California seablite, marsh sandwort, pappose tarplant, Point Reyes bird's-beak, and Suisun Marsh aster could be adversely affected by the project, if present. However, because no development is proposed for the portion of the biological study area where these species have the potential to occur, there would be no direct impacts to these species. Potential indirect impacts to these species would be limited to short-term construction-related impacts due to erosion, runoff, and dust. Standard BMPs have been incorporated as part of the project and would be implemented during construction to address these potential indirect impacts. With implementation of BMPs, potential indirect impacts to special-status plants would be less than significant. As a result, impacts to special-status plant species would be less than significant.

Special-Status Wildlife

The project site does not occur within USFWS-designated critical habitat for any federally listed wildlife species. No wildlife species listed or proposed for listing as rare, sensitive, threatened, or endangered by CDFW or USFWS were detected within the biological study area during the reconnaissance-level survey conducted by Dudek in February 2020. However, one special-status wildlife species (San Pablo song sparrow [*Melospiza melodia samuelis*]) was observed in the biological study area during previous surveys conducted by WRA in October 2007 (discussed below).

Dudek performed a review of literature, existing documentation, and GIS data to evaluate the potential for special-status wildlife species to occur within the project site and biological study area. Based on the results of the literature review and database searches, 43 special-status wildlife species were identified as occurring within the region. Based on the vegetation communities (habitat) present, elevation ranges, previous known locations documented within the CNDDB, and USFWS occurrence data, two of these species have at least a moderate potential to occur within the biological study area: San Pablo song sparrow and saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*).

San Pablo song sparrows, a California Species of Special Concern and a USFWS Bird of Conservation Concern, are found in tidal salt marshes throughout San Pablo Bay, where they are primarily associated with high marsh, particularly pickleweed (*Salicornia virginica*) (Shuford and Gardali 2008). This species was observed within the biological study area during site assessments performed by WRA on October 23, 2007 (WRA 2007), and may nest in the pickleweed mats land cover within the biological study area. Saltmarsh common yellowthroat, a California Species of Special Concern and a USFWS Bird of Conservation Concern, nests and forages in emergent wetlands, including woody swamp, brackish marsh, and freshwater marsh. Saltmarsh common yellowthroat nests near the ground in grasses, herbaceous vegetation, cattails, tules, and some shrubs (Shuford and Gardali 2008). Within the biological study area, this species has a moderate potential to occur, and may nest in the pickleweed mats vegetation community.

The remaining special-status wildlife species identified during the literature review and database searches are not expected to occur within the biological study area based on the current disturbance levels, lack of suitable vegetation communities (habitats) present, the biological study area being outside species elevation ranges, the proximity to previous known locations based on the CNDDB and CNPS records, and the results of previous surveys.

San Pablo song sparrow and saltmarsh common yellowthroat both nest and forage in tidal marsh habitats, which are present within the biological study area. However, these species are not expected to occur within the proposed area of impact, and no development is proposed within the portion of the biological study area where suitable nesting and foraging habitat for these species is present. Therefore, direct impacts to

these species are not expected to occur. Potential indirect impacts to San Pablo song sparrow and saltmarsh common yellowthroat would be limited to short-term construction-related impacts due to noise, erosion, runoff, and dust. Standard BMPs would be implemented during construction to reduce these potential indirect impacts to less than significant. As a result, impacts to special-status wildlife species would be less than significant.

Nesting Birds

Direct impacts to migratory nesting birds must be avoided to comply with the Migratory Bird Treaty Act of 1918 (50 CFR Section 10.13). Additionally, Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests, including raptors and other migratory nongame birds (as designated under the Migratory Bird Treaty Act).

Direct Impacts

The project site contains suitable foraging and nesting habitat for several common raptor and passerine species. It also provides potential nesting habitat for ground-nesting species such as killdeer (*Charadrius vociferous*). Therefore, project construction could result in direct impacts to nesting birds, including the loss of nests, eggs, and fledglings, if vegetation clearing and ground-disturbing activities occur during the nesting season (generally February 15 through August 31). This impact would be significant absent mitigation. Implementation of MM-BIO-1 would reduce this direct impact to less than significant.

Indirect Impacts

Nesting birds can be significantly affected by indirect impacts from short-term construction-related noise, resulting in decreased reproductive success or abandonment of an area as nesting habitat. The biological study area and immediately adjacent areas support trees, shrubs, and structures that could provide potential nesting and foraging habitat for a variety of raptor and passerine species in the area. Indirect impacts from construction-related noise may occur to nesting birds if construction occurs during the breeding season (i.e., February 15 through August 31). Implementation of MM-BIO-1 would reduce this indirect impact to less than significant.

Mitigation Measures

MM-BIO-1 Grading and earthwork activities (including disturbances to native and non-native vegetation, structures, and substrates) should take place outside of the bird breeding/nesting season, which generally occurs February 15 through August 31. If these activities cannot feasibly occur from September 1 through February 14, the applicant shall arrange for focused nesting bird surveys to be completed by a qualified biologist to determine if active nests of bird species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are present in the area of impact or within 300 feet (500 feet for raptors) of the area of impact. Surveys shall be conducted within the week prior to the initiation of construction. If nesting birds are detected, clearing and construction shall be postponed or halted, at the discretion of the biologist until the nest is vacated and juveniles have fledged, and there is no evidence of a second attempt at nesting, as determined by the biologist. Based on the species present, surrounding habitat, and existing environmental setting/level of disturbance, the biologist may establish an avoidance buffer

around occupied nests, within which no construction or ground-disturbing activities shall be conducted while the nest is still active. The extent of the buffer shall be established at the discretion of the biologist.

- b) ***Would the project 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 Game or U.S. Fish and Wildlife Service?***

Less-Than-Significant Impact. As described above, most of the biological study area is composed of urban and developed land covers. The eastern portion of the biological study area contains a narrow stretch of pickleweed flats and open water-marine intertidal, which are sensitive natural communities regulated by the U.S. Army Corps of Engineers, RWQCB, CDFW, and SFBCDC. However, no development is proposed for these areas, and, as a result, there would be no direct impact to riparian habitat or sensitive natural communities. Potential indirect impacts to these communities would be limited to short-term construction-related impacts due to erosion, runoff, and dust. Standard BMPs would be implemented during construction to address these potential indirect impacts. With implementation of these BMPs, impacts to sensitive natural communities would be less than significant.

- c) ***Would the project 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?***

Less-Than-Significant Impact. As described above, most of the biological study area is composed of urban and developed land covers. The eastern portion of the biological study area, composed of pickleweed flats and open water-marine intertidal land covers, supports jurisdictional waters of the United States and state, including state- and federally protected wetlands. However, no development is proposed for these areas, and, as a result, there would be no direct impact to state or federally protected wetlands. Potential indirect impacts to these areas would be limited to short-term construction-related impacts due to erosion, runoff, and dust. Standard BMPs would be implemented during construction to address these potential indirect impacts. With implementation of these BMPs, impacts to state- or federally-protected wetlands would be less than significant.

- d) ***Would the project 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?***

No Impact. As described above, most of the biological study area is composed of urban and developed land covers. The project site generally has limited value as a habitat linkage or wildlife corridor because of the developed character of the site itself and the surrounding existing development, including residential development to the south and commercial development to the west. With the possible exception of nesting or foraging birds, as discussed above, it is unlikely that the project site serves as an important corridor or resting place for any migratory or resident species. The natural land covers within the biological study area, situated east of the project site, could provide some value to native resident or migratory fish or wildlife species as a habitat linkage or wildlife corridor. However, no development is proposed for these areas and, as a result, there would be no direct impact to wildlife corridors or the movement of resident or migratory wildlife species within the biological study area. Neither would potential indirect impacts resulting from the proposed project diminish the value these areas provide as habitat linkages or wildlife corridors.

Additionally, no native wildlife nurseries are located in the in the biological study area. Therefore, the project would have no impact on the movement of any native resident or migratory fish or wildlife species, on established native resident or migratory wildlife corridors, or on native wildlife nursery sites.

- e) ***Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

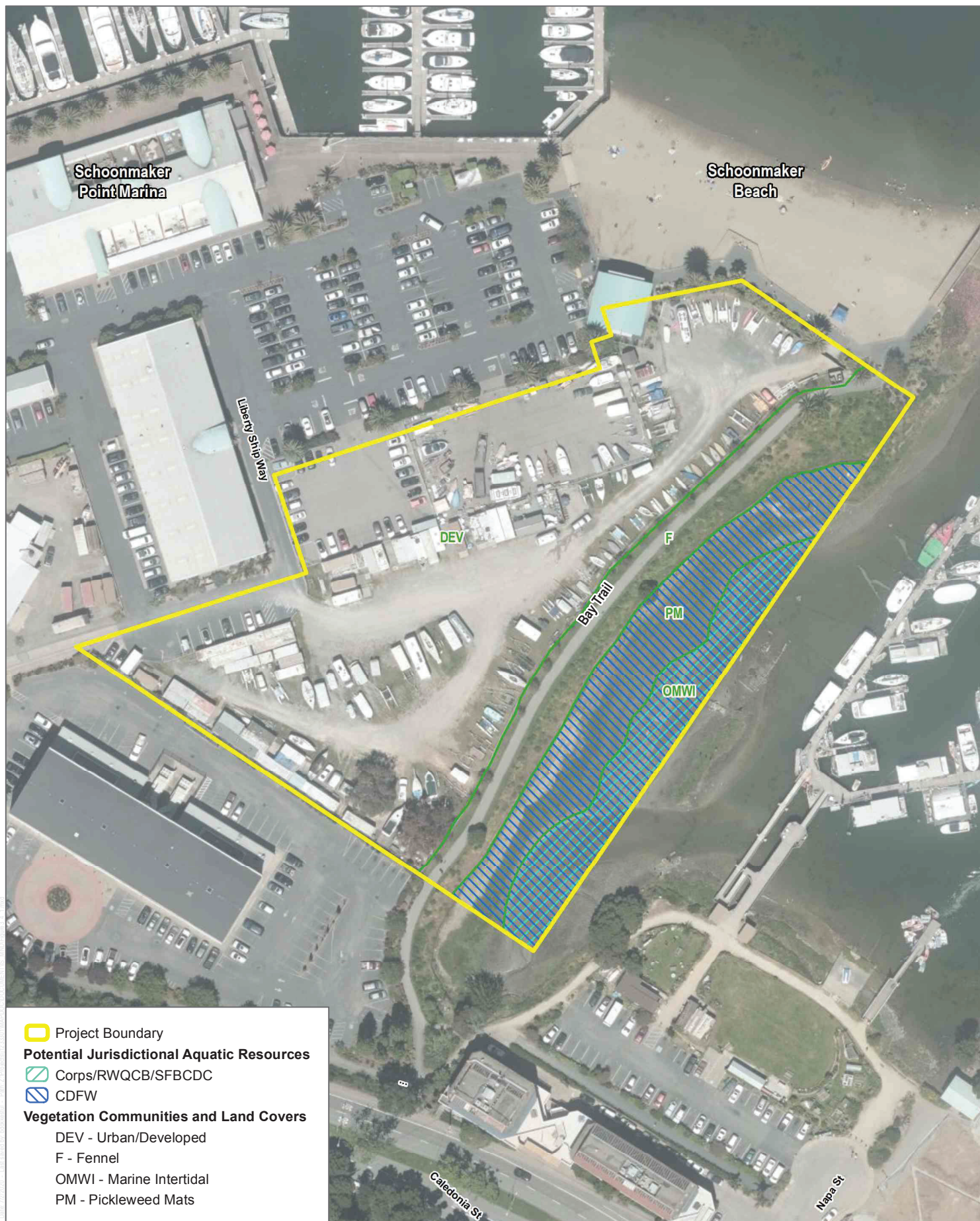
Less-Than-Significant Impact. Chapter 11.12 of the City's Municipal Code provides for the protection of certain trees on both City-owned and private property. On private, developed property, the City defines "protected trees" as including Coast live oak (*Quercus agrifolia*) measuring 4 inches diameter at breast height; heritage trees, defined as any tree measuring 10 inches diameter at breast height; and dedicated trees, which are trees provided special significance by resolution of the City council (City of Sausalito 2019). The City also identifies some species of trees as undesirable trees, negating any protection otherwise provided by the Municipal Code.

No coast live oak trees or City-dedicated trees are present in the biological study area. However, two red ironbark trees in the southern portion of the biological study area, measuring approximately 32- and 54-inches diameter at breast height, respectively, are heritage trees protected under the City's Municipal Code. The proposed project would remove both trees. In a tree report prepared in 2018 addressing the two trees proposed for removal, certified arborist Ted Kipping identified both trees as mechanically and biologically weakened with the potential to become hazardous. The report recommended removal of the trees (Kipping 2018). Furthermore, although not specifically identified as an undesirable tree in the City's Municipal Code, red ironbark tree is a non-native invasive species similar to Tasmanian bluegum (*Eucalyptus globulus*), which is listed as an undesirable tree in the Municipal Code. In addition to addressing a potential safety hazard, removal of the red ironbark trees would reduce the potential for colonization of other areas by this non-native invasive species. No other conflicts with local policies or ordinances would occur as a result of the proposed project.

In addition, the proposed project includes planting of 24 Brisbane box trees (*Tristania conferta*) and six date palms (*Phoenix dactylifera*). Therefore, impacts to biological resources protected by local policies or ordinances would be less than significant.

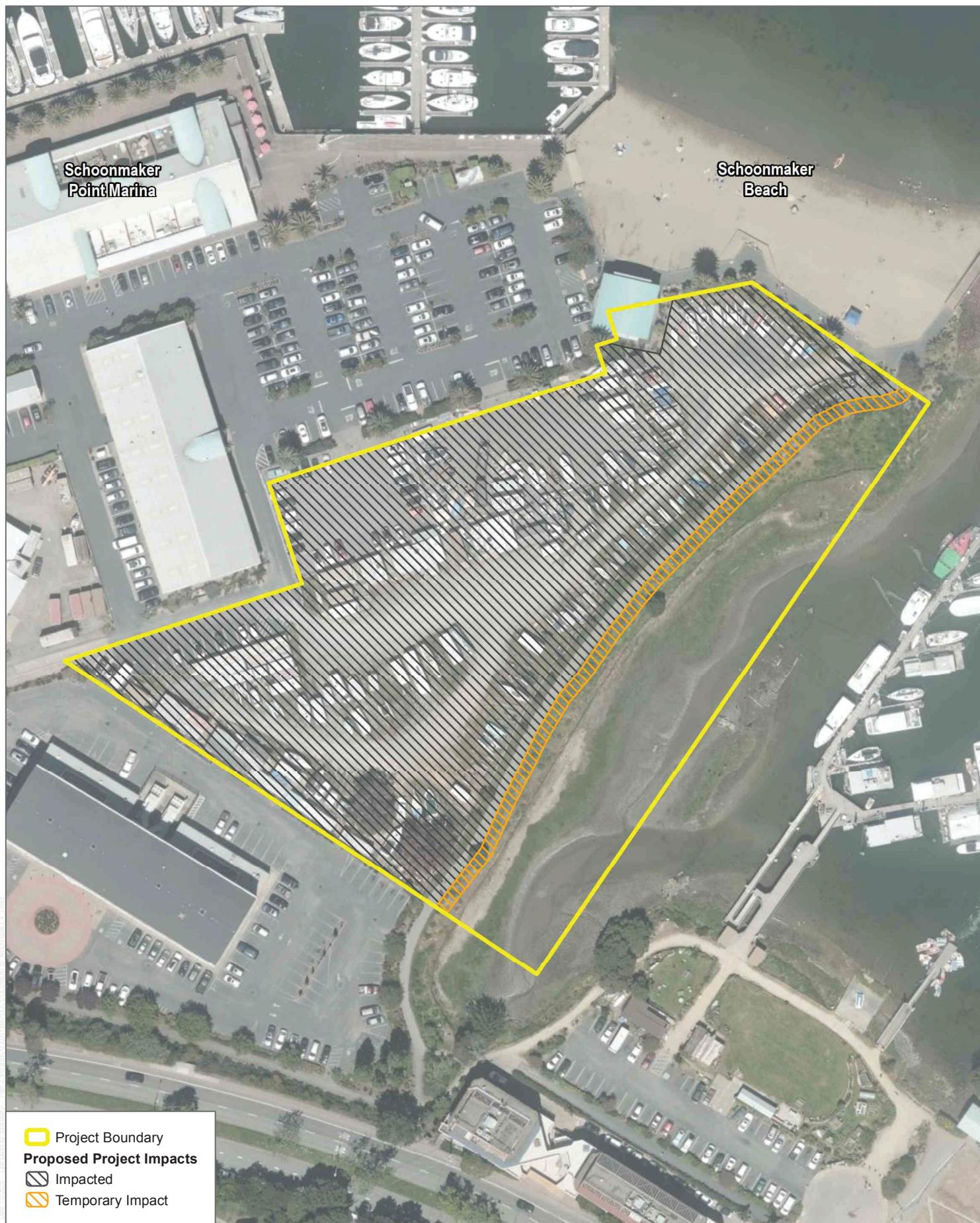
- f) ***Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

No Impact. The project site is not within an area covered by any adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan. As a result, the proposed project would not conflict with any such plan, and no impact would occur.



SOURCE: Bing Maps 2019; Marin County 2018

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SOURCE: Bing Maps 2019; Marin County 2018

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3.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cultural Records Search Results

A records search was completed for the proposed project site and a 1/4-mile radius at the Northwest Information Center (NWIC) at Sonoma State University on January 7, 2019 (Appendix C). This search included a review of their collection of mapped prehistoric, historical, and built-environment resources, Department of Parks and Recreation Site Records, technical reports, historical maps, and local inventories. Additional consulted sources included the National Register of Historic Places (NRHP), California Inventory of Historical Resources/CRHR and listed Office of Historic Preservation Archaeological Determinations of Eligibility, California Points of Historical Interest, and California Historical Landmarks. NWIC records indicate that 10 previous cultural resources technical investigations have been conducted within 1/4-mile of the proposed Project site. Of these studies, none have included any portion the proposed Project site.

Archival Building Development Research

Dudek consulted historic maps and aerial photographs to understand development of the proposed Project site and surrounding properties. Historic aerial photographs were available from 1946 to 2016; historic maps were available from 1895 to 2018 (NETR 2020). As indicated by both historical maps and aerial images, the Project site has only been used as a storage yard. In addition, the historical maps and aerial images indicate the Project site is completely composed of imported fill. Between 1947 and 1950, most of the Project site was created by imported fill placed in Richardson Bay. Between 1964 and 1968, more fill was added to create the current waterfront coastline.

a) *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

No Impact. The project site is entirely developed and is used for boat storage. There are no buildings on site. The NWIC records search, archival and building development research, and pedestrian survey completed for the project site did not identify any historical resources within the project boundaries (Appendix C). The record search noted there is a historic pier located at the end of Napa Street approximately 450 east of the project site but it would not be affected by the project. Therefore, no impact to historical resources would occur.

b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

Less-Than-Significant Impact with Mitigation Incorporated. The project site is entirely developed and historically has been used for marine industrial purposes. It is entirely composed of fill imported in several stages between 1947 and 1968. No newly identified archaeological resources were recorded during the pedestrian survey of the project site, conducted on January 7, 2020 (Appendix C). Further, a NWIC records search did not identify the presence of cultural resources. An NAHC Sacred Lands File search did identify Native American resources within the search area, which included the proposed Project site and the surrounding 1/4-mile buffer. The proposed project, as currently designed, appears to have a very low potential for encountering intact cultural deposits during ground-disturbing activities and would have no impact to known cultural resources. However, the potential still exists to encounter previously undiscovered significant archaeological resources during project construction activities. To ensure that impacts to cultural resources remain less than significant, should any such resources be encountered during project grading and construction, the project would be required to implement MM-CUL-1. With implementation of MM-CUL-1, impacts to archaeological resources would be less than significant with mitigation.

MM-CUL-1: Unanticipated Discovery of Archaeological Resources. In the event archaeological resources are unearthed during sediment-disturbing activities, all sediment-disturbing activities within 100 feet of the find shall be halted so that the find can be evaluated. Sediment-disturbing activities shall not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. All archaeological resources unearthed by project construction activities shall be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards. In anticipation of additional discoveries during construction, Archaeological Sensitivity Training shall then be carried out by a qualified archaeologist for all personnel who will engage in sediment-disturbing activities on the site. All Native American artifacts (tribal finds) shall be considered as a significant Tribal Cultural Resource, pursuant to PRC 21074 until the lead agency has enough evidence to make a determination of significance. The City of Sausalito shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing and analysis. If appropriate, the archaeologist may introduce archaeological monitoring on all or part of the site. An archaeological report will be written detailing all archaeological finds and submitted to the Town and the Northwest Information Center.

c) *Would the project disturb any human remains, including those interred outside of dedicated cemeteries?*

Less-Than-Significant Impact with Mitigation Incorporated. The previous uses of the site are associated with marine industrial uses and storage and did not have any association with a cemetery or mausoleum. Furthermore, the site is entirely composed of imported fill and was not used historically for burial or internment purposes. No known human remains or burial sites were discovered through the NWIC records search, pedestrian survey of the project site, or NAHC Sacred Lands File search and subsequent tribal outreach. However, MM-CUL-2 has been incorporated into the project to ensure that potential impacts would be less-than-significant impact with mitigation by providing standard procedures in the event that human remains are encountered during project construction.

MMM-CUL-2: Unanticipated Discovery of Human Remains. In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within 2 working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the MLD from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

3.6 Energy

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Energy – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) *Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Less-Than-Significant Impact. The project plans to comply with the most current Title 24 California Building Code/Code of Regulations (2019), CAL Green Code, California Green Building Standards Code, and 2019 energy standards at the time of building construction, as amended by the State of California and City of Sausalito. The project would include the construction of three buildings and would be responsible to comply with all current Title 24 energy requirements. During construction activities, heavy equipment powered by diesel and gasoline would clear and grade the site and be used to construct the buildings. Construction equipment would not result in the unnecessary or inefficient use of resources. In addition, during both construction and operation of the project, the project applicant or its contractor would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. During construction, all waste generated would be recycled to the maximum extent possible.

The project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Therefore, this impact would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-Than-Significant Impact. The project would follow applicable energy standards and regulations during the construction phase. In addition, the project would be built and operated in accordance with all existing, applicable regulations at the time of construction. As such, impacts related to the project's potential to conflict with plans for renewable energy and energy efficiency would be less than significant.

3.7 Geology and Soils

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) **Would the project 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.**

No Impact. As depicted in the Sausalito General Plan Update, Figure GEO-2, Alquist-Priolo Fault Zones, the closest active faults are the San Andreas Fault, located approximately 7 miles southwest of the project site, and the Hayward/Rodgers Creek Fault Zone, located approximately 11 miles northeast of the project site (CGS 2019a; City of Sausalito 2017; ENGEO 1993; Salem Howes 2006). Although varying in width, the Alquist-Priolo Fault Zones are typically 0.25 miles in width (California Public Resources Code 2020). Therefore, the project site does not fall within an active fault zone. As surface faulting or ground rupture generally occur along fault lines, and no active fault lines are located within or near the project site, the potential for fault surface rupture in the development area is considered remote. In addition, project development would not directly or indirectly cause an active fault to rupture. As a result, no impacts would occur.

ii) **Strong seismic ground shaking?**

Less-Than-Significant Impact. Although the project site is not located within an Alquist-Priolo Fault Zone, Sausalito is located in a seismically active region, with four major active fault systems capable of causing strong ground-shaking earthquakes (ENGEO 1993; Salem Howes 2006). These fault systems affect a broad area, and ground shaking is the cause of most damage during earthquakes. The factors that affect the severity (intensity) of ground shaking and seismic risk to structures are the size (magnitude) of the earthquake, the duration of the earthquake, the distance of the structure from the quake epicenter, and the geological materials that underlie the site. The building materials used to strengthen or seismically reinforce a structure are also crucial (City of Sausalito 2017).

The geology of the project site consists of approximately 10 to 16 feet of artificial fill, underlain by Bay Mud, with bedrock at 50 to 90 feet below the surface. A geotechnical investigation completed at the site concluded that although the site is not subject to any unusual earthquake hazards, located near an active fault, or within a current Alquist-Priolo Fault Zone, structures founded on fill and Bay Mud are subject to severe shaking during seismic events. The 30-year probability of one or more large earthquakes occurring in the San Francisco region is 70% (Salem Howes 2006).

However, completion of the project would not directly or indirectly cause strong seismically induced ground shaking. Project grading and construction would be completed in accordance with provisions of the California Building Code (CBC), which requires compliance with the recommendations of a site-specific geotechnical report, including the two most-recent reports/memos completed (Salem Howes 2006, 2018). As is standard practice, a follow-up geotechnical report (or memorandum) would be completed based on the final project design and the most-recent version of the CBC. In addition, the project would incorporate the City's Health and Safety Code Earthquake Resistant Construction Standards (HS-1.1.1) and Building Code (HS-1.1.2) to minimize impacts caused by strong seismic ground shaking. As a result, impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less-Than-Significant Impact. Liquefaction refers to the loosely packed, water-logged sediments at or near the ground surface that lose their strength due to strong ground shaking. Liquefaction occurring beneath buildings and other structures can cause major damage during earthquakes. Within the City, the low-lying coastal areas are most susceptible to liquefaction due to the underlying loose sand deposits. As depicted in City of Sausalito General Plan Update, Figure GEO-1, Landslide and Liquefaction Hazard, the potential for liquefaction at the project site is considered very high (City of Sausalito 2017).

However, as previously discussed, completion of the project would not directly or indirectly cause liquefaction to occur. Project grading and construction would be completed in accordance with provisions of the CBC and City municipal code requirements, which require compliance with the recommendations of a site-specific geotechnical report, including the two most-recent reports/memos completed (Salem Howes 2006, 2018). As is standard practice, a follow-up geotechnical report (or memo) would be completed based on the final project design and the most recent version of the CBC. In addition, the project would incorporate the City's Health and Safety Code Earthquake Resistant Construction Standards (HS-1.1.1) and Building Code (HS-1.1.2) to minimize impacts caused by seismic-related ground failure. As a result, impacts would be less than significant.

iv) Landslides?

Less-Than-Significant Impact. The topography of the project site is flat, with a low elevation of 10 to 12 feet above sea level. There are no steep banks or hillsides in the immediate project area. The City of Sausalito General Plan Update, Figure GEO-1, Landslide and Liquefaction Hazard, does not place the site in a landslide hazard zone (City of Sausalito 2017). Although the project site would be excavated approximately 24 to 30 inches below grade, and up to 5 feet in select places, excavation side slopes would be completed in accordance with the CBC, City of Sausalito Building Code, and Occupational Safety and Health Administration standards and guidelines, thus preventing slope failures from occurring. As a result, the project would not directly or indirectly cause substantial adverse effects regarding landslides, and impacts would be less than significant.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less-Than-Significant Impact. Sandy soils on moderately steep slopes or clayey soils on steep slopes are susceptible to erosion when exposed to concentrated surface water flow. The project site includes a mild

slope, varying from sea level to 12 feet above sea level. Construction activities would consist of excavation and shoring, foundation and below-grade construction, and construction of the building and finishing interiors. The project would involve excavation to approximately 24 to 30 inches below grade, and up to 5 feet in select places. Excavation would remove approximately 2,380 cubic yards of soil. Temporary staging areas would be provided for parking and maintenance of construction equipment.

Each of these activities would expose soils that could be susceptible to erosion as a result of rain, windy conditions, and/or construction vehicles traveling over exposed soils. However, because the proposed project would disturb more than 1 acre of soil, the applicant would be required to implement a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ, NPDES No. CAS000002) (also known as the Construction General Permit), or the latest approved general permit requirements for stormwater discharge at construction sites. SWPPPs are required to include erosion control measures, such as covering exposed soil stockpiles, lining the perimeter of construction areas with sediment barriers, and protecting storm drain inlets and adjacent bay waters. In addition, project grading and construction would be completed in compliance with the Marin County Stormwater Pollution Prevention Program, which requires completion of an Erosion Control Plan and implementation of BMPs to reduce erosion. These measures would control and reduce erosion and loss of topsoil during construction. Impacts would be less than significant.

- c) ***Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?***

Less-Than-Significant Impact. A project-specific geotechnical investigation concluded that the fill on which the project site is located is considered more than adequate to spread the foundation load to an acceptable value at the fill/Bay Mud contact (Salem Howes 2006). The fill contains a wide range of non-soil material (glass, wood, wire, metal fragments), and the consistency ranges from medium to very dense. The fill is from 10 to 16 feet in thickness, with bedrock located 50 to 90 feet below the surface.

Settlement is considered the most significant geologic risk factor for the proposed project. Settlement refers to the vertical movement of the ground, often caused when increased vertical stresses are applied on or above non-dense soils. Differential settlement of the project site has resulted from the consolidation of varying thicknesses of Bay Mud under the weight of the overlying fill and former structures (Salem Howes 2006). The geotechnical investigation calculated that the existing fill has undergone approximately 4.5 feet of settlement since it was originally placed in 1941. An additional 0.5 to 1.0 feet of settlement is expected to occur in the next 50 years. The total settlement is predicted to be approximately 6.5 feet, occurring in the next 200 to 1,000 years (Salem Howes 2006).

As previously discussed, project grading and construction would be completed in accordance with provisions of the CBC, which require compliance with the recommendations of a site-specific geotechnical report. The 2006 geotechnical report and follow-up 2018 memo recommend that proposed foundations consist either of a ribbed mat-type foundation on compacted fill, or pile support if differential settlement cannot be accommodated by the structure supported on the fill. Pile foundations have an advantage in that the floor elevation would remain constant as the surrounding ground settles (Salem Howes 2006, 2018). As is standard practice, a follow-up geotechnical report/memo would be completed based on the final project design and the most recent version of the CBC. In addition, the project would incorporate the City's

Health and Safety Code Earthquake Resistant Construction Standards (HS-1.1.1) and Building Code (HS-1.1.2) to minimize impacts caused by seismic-related ground failure and long-term differential settlement. As a result, impacts would be less than significant.

- d) ***Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?***

Less-Than-Significant Impact. Expansive soils can experience a significant volume change due to successive wetting and drying of soils, which can cause damage to improperly designed structures. In Sausalito, there is generally a low to moderate risk of damage from expansive soils throughout most of the City; however, the risk of damage is moderate to high in low-lying areas along Richardson Bay (City of Sausalito 2017). The project site contains 10 to 15 feet of fill over 40 to 80 feet of soft clays, referred to as Bay Mud. The fill material is heterogeneous and may contain expansive soils. However, proposed structures would be constructed in accordance with recommendations in a standard, final design-level geotechnical report, as well as provisions of the CBC and City's Building Code, thus minimizing the potential for damage. Therefore, construction of the project would not create substantial direct or indirect risks to life or property in association with potentially expansive soils. Impacts would be less than significant.

- e) ***Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?***

No Impact. The proposed project would connect to the existing sewer system and would not use a septic tank system or other alternative wastewater systems. Therefore, there would be no impact.

- f) ***Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?***

Less-Than-Significant Impact with Mitigation Incorporated. As the project is presently designed, no paleontological monitoring or additional management requirements would be required. The project site is located within the Coast Ranges Geomorphic Province within California (CGS 2002; Norris and Webb 1990). Artificial fill underlays the project site; the project would not impact native soils with potential to support the presence of fossilized material. Recent (map units Qaf and Qm respectively; less than approximately 11,700 years old) Bay Mud and clay are mapped in areas adjacent to the project site. Modern shell fragments may be encountered within these geological units, but due to their young age, these shells would not be considered to be paleontologically significant. Older, Pleistocene-age deposits (2.58 million to 11,700 years old) are anticipated to underlie these Holocene-age deposits at an unknown depth (Schlocker 1958).

The graywacke and mélange (map unit KJss; Cretaceous and Jurassic; approximately 80 million to 200 years old) mapped south of the project site has low potential also, due to any potentially preserved fossilized remains being destroyed during the tectonic processes in this area, as they are part of the greater Franciscan complex geology exposed within the project area (Schlocker 1958). Although there are other bedrock units in this area that contain fossils, such as the Cretaceous-Jurassic radiolarian cherts (map unit KJc; Cretaceous and Jurassic; approximately 80 million to 200 years old), these fossils would be considered redundant (Schlocker 1958). These bedrock units are not anticipated to be impacted during construction.

The archival search of recorded paleontological localities found that no localities have been recorded within the project site; however, localities nearby have produced fossils specimens of extinct horse and tapir (Appendix C, Cultural Resources Report). Although no paleontological resources were observed during the pedestrian survey, the surrounding area is considered to have the potential to yield significant paleontological resources. Should the project site extend outside the current limits, Pleistocene-age

sedimentary deposits may be encountered during grading activities. Therefore, if the project footprint changes to extend into the south or west outside of the current footprint, the following measure is recommended to reduce impacts to paleontological resources. With the incorporation of MM-GEO-1, impacts would be less than significant.

MM-GEO-1: Prior to the commencement of any grading activity, the applicant shall retain a paleontologist qualified by the Society of Vertebrate Paleontology (SVP 2010), subject to the review and approval of the lead agency to ensure the implementation of a paleontological monitoring program.

The qualified paleontologist shall attend, or call in to, any pre-construction meetings, and manage the paleontological monitors if she/he is not doing the monitoring. A paleontological monitor shall be on site during all excavations below the depth of previously disturbed sediments. The Society of Vertebrate Paleontology defines a qualified paleontological monitor as having the following (SVP 2010):

The paleontological monitor shall monitor construction excavations below a depth of 5 feet in areas underlain by Quaternary alluvium and all excavations in areas underlain by elevated Quaternary alluvium as determined by the Qualified Paleontologist based on the construction plans. The paleontological monitor shall be equipped with necessary tools for the collection of fossils and associated geological and paleontological data. The monitor shall complete daily logs detailing the day's excavation activities and pertinent geological and paleontological data. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor shall temporarily halt or divert grading activity to allow recovery of paleontological resources. The area of discovery shall be roped off with a 50-foot-radius buffer. Once documentation and collection of the find is completed, the monitor shall remove the rope and allow grading to recommence in the area of the find.

Following the paleontological monitoring program, a final monitoring report shall be submitted to the City for approval. The report shall summarize the monitoring program and include geological observations and any paleontological resources recovered during paleontological monitoring for the project.

3.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind, lasting for an extended period (decades or longer). Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). The greenhouse effect traps heat in the troposphere through a threefold process: (1) short-wave radiation emitted by the Sun is absorbed by the Earth; (2) the Earth emits a portion of this energy in the form of long-wave radiation; and (3) GHGs in the upper atmosphere absorb this long-wave radiation and emit this long-wave radiation into space and back toward the Earth. This trapping of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect (CAT 2006).

Principal GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide, O₃, and water vapor. Some GHGs, such as CO₂, CH₄, and nitrous oxide, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely byproducts of fossil-fuel combustion, whereas CH₄ results mostly from off-gassing associated with agricultural practices and landfills. Manufactured GHGs, which have a much greater heat-absorption potential than CO₂, include fluorinated gases, such as hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride, which are associated with certain industrial products and processes (CAT 2006).

The Intergovernmental Panel on Climate Change developed the global warming potential concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO₂; therefore, emissions weighted by global warming potential are measured in metric tons (MTs) of CO₂ equivalent (CO₂e).

Regarding impacts from GHGs, both BAAQMD and the California Air Pollution Control Officers Association consider GHG impacts to be exclusively cumulative impacts (BAAQMD 2017a; CAPCOA 2008); therefore, assessment of significance is based on a determination of whether the GHG emissions from a project represent a cumulatively considerable contribution to the global atmosphere. This analysis uses both a quantitative and qualitative approach. The quantitative approach was used to address the first significance criterion: “Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?” This analysis considers that, because the quantifiable thresholds developed by BAAQMD were formulated based on Assembly Bill (AB) 32 and California Climate Change Scoping Plan reduction targets for which its set of strategies were developed to reduce GHG emissions statewide, a project cannot exceed a numeric BAAQMD threshold without also conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, if a project exceeds a numeric threshold and results in a significant cumulative impact, it would also result in a significant cumulative impact with respect to plan, policy, or regulation consistency, even though the project may incorporate measures and have features that would reduce its contribution to cumulative GHG emissions.

Separate thresholds of significance are established by the BAAQMD for operational emissions from stationary sources (such as generators, furnaces, and boilers) and nonstationary sources (such as on-road vehicles) (BAAQMD 2017a). The threshold for stationary sources is 10,000 MT CO₂e per year (i.e., emissions above this level may be considered significant). For nonstationary sources, the following three separate thresholds have been established:

- Compliance with a Qualified Greenhouse Gas Reduction Strategy (i.e., if a project is found to be out of compliance with a Qualified Greenhouse Gas Reduction Strategy, its GHG emissions may be considered significant).
- 1,100 MT CO₂e per year (i.e., emissions above this level may be considered significant).
- 4.6 MT CO₂e per service population per year (i.e., emissions above this level may be considered significant). (Service population is the sum of residents plus employees expected for a development project.)

The quantitative threshold of 1,100 MT CO₂e annually adopted by BAAQMD was applied to this analysis. If the project's GHG emissions would exceed this threshold then, consistent with BAAQMD Guidelines, it would be considered to have a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact on climate change.

a) *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less-Than-Significant Impact. The proposed project would generate GHG emissions during both construction and operation, as evaluated below.

Construction. Construction of the project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road vendor (material delivery) trucks, and worker vehicles. Since the BAAQMD has not established construction-phase GHG thresholds, construction GHG emissions were amortized assuming a 30-year development life after completion of construction and added to operational emissions to compare to the BAAQMD operational GHG threshold. Amortized GHG emissions associated with project construction would result in an annualized generation of 40 MT CO₂e (Appendix A). A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, vendor trucks, and worker vehicles—is included in Appendix A.

Operations. Long-term operational emissions would occur over the life of the project. CalEEMod was used to estimate GHG emissions from motor vehicle trips, grid electricity usage, solid waste, and other sources (including area sources, natural gas combustion, and water/wastewater conveyance). CalEEMod default mobile-source data, including temperature, trip characteristics, variable start information, emission factors, and trip distances, were used for the model inputs. Project-related traffic was assumed to be composed of a mixture of vehicles in accordance with the model defaults for industrial land use traffic. The CalEEMod default trip rate was adjusted to match project specifics as provided in the project's traffic and parking analysis. The first full year of project operation would be in 2025.

CalEEMod was also used to estimate emissions from the project's area sources, which includes operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions.

The estimation of operational energy emissions was based on CalEEMod land use defaults and total area (i.e., square footage) of the project. Annual natural gas (non-hearth) and electricity emissions were estimated in CalEEMod using the emissions factors for Pacific Gas & Electric as a conservative estimate and adjusted based on Pacific Gas & Electric's reported emissions rate of 206 pounds of CO₂ per megawatt-hour of delivered electricity (Pacific Gas & Electric Company 2020). The most recent amendments to Title 24, Part 6, referred to as the 2019 standards, became effective on January 1, 2020. These standards are

incorporated in the latest version of CalEEMod by including a 30% reduction compared with the default values in CalEEMod (Appendix A).

Supply, conveyance, treatment, and distribution of water for the project would require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the project would require the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. Water consumption estimates for both indoor and outdoor water use and associated electricity consumption from water use and wastewater generation were estimated using CalEEMod default values. In addition, compliance with CALGreen indoor and outdoor water reduction standards was assumed (Appendix A).

The project would generate solid waste and would therefore result in CO₂e emissions associated with landfill off-gassing. The project was assumed to comply with the 50% diversion rate consistent with AB 341 (Chesbro, Chapter 476, Statutes of 2011).

The estimated operational project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, water supply, and wastewater treatment are shown in Table 3.8-1.

Table 3.8-1. Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	CO ₂ e (Metric Tons per Year)
Area	<0.1 ^a
Energy	87.94
Mobile	519.2
Solid Waste	15.7
Water Supply and Wastewater	17.4
Total	640.2
Amortized Construction Emissions	39.8
Operation + Amortized Construction Total	680.0
<i>BAAQMD Greenhouse Gas Threshold</i>	<i>1,100</i>
<i>Significant (Yes or No)?</i>	<i>No</i>

Source: Appendix A

Note: Total emissions may not sum due to rounding. Project greenhouse gas emissions are based on the “Mitigated” CalEEMod outputs in order to incorporate compliance with the 2019 Title 24 Standards, water reduction consistent with CALGreen, and solid waste diversion rates consistent with Assembly Bill 341, even though these would not be considered actual mitigation.

CO₂e = carbon dioxide-equivalent; BAAQMD = Bay Area Air Quality Management District

^a <0.1 = value less than reported 0.1 metric tons per year.

Table 3.8-1 indicates that the GHG emissions associated with the project would be below BAAQMD’s GHG threshold of 1,100 MT CO₂e per year. Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and this would represent a cumulatively less-than-significant GHG impact.

b) Would the project generate conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less-Than-Significant Impact. The City of Sausalito has a Climate Action Plan that focused on reducing municipal and community GHG emissions through 2020. To reduce GHG emissions 9% below 2005 levels by 2020, the Climate Action Plan included recommended actions. The actions outlined in the Climate Action Plan, such as increasing energy efficiency in buildings; encouraging less dependence on the automobile;

and using clean, renewable energy sources, would help to reduce community-wide GHG emissions (City of Sausalito 2015). The project would install solar energy panels and would comply with the current Title 24 California Building Code/Code of Regulations (2019), CALGreen Code, California Green Building Standards Code, and 2019 energy standards. The project would not conflict with the City's Climate Action Plan.

The Climate Change Scoping Plan, approved by CARB on December 12, 2008, and updated since, provides a framework for actions to reduce California's GHG emissions, and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects (CARB 2014, 2017). Relatedly, in the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the California Natural Resources Agency observed that "[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area-source emissions (e.g., energy usage, high global-warming-potential GHGs in consumer products) and changes to the vehicle fleet (e.g., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others. To the extent that these regulations are applicable to the project, the project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent required by law (CARB 2014, 2017).

Regarding consistency with Senate Bill (SB) 32 (goal of reducing GHG emissions to 40% below 1990 levels by 2030) and Executive Order S-3-05 (goal of reducing GHG emissions to 80% below 1990 levels by 2050), there are no established protocols or thresholds of significance for a future-year analysis. However, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update to the Climate Change Scoping Plan states the following (CARB 2014):

This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under Assembly Bill 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and Executive Order S-3-05. This is confirmed in California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), which states, "This Plan draws from the experiences in developing and implementing previous plans to present a path to reaching California's 2030 GHG reduction target. The Plan is a package of economically viable and technologically feasible actions to not just keep California on track to achieve its 2030 target, but stay on track for a low- to zero-carbon economy by involving every part of the state" (CARB 2017). The 2017 Scoping Plan also states that although "the Scoping Plan charts the path to achieving the 2030 GHG emissions reduction target, we also need momentum to propel us to the 2050 statewide GHG

target (80% below 1990 levels). In developing this Scoping Plan, we considered what policies are needed to meet our mid-term and long-term goals” (CARB 2017).

The project would not interfere with implementation of any of the above-described GHG reduction goals for 2030 or 2050 because the project would not exceed the BAAQMD’s GHG threshold of 1,100 MT CO₂e per year, which was established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. Because the project would not exceed the threshold, this analysis provides support for the conclusion that the project would not impede the state’s trajectory toward the above-described statewide GHG reduction goals for 2030 or 2050.

In addition, as discussed previously, the project is consistent with the GHG emission reduction measures in the Scoping Plan and would not conflict with the state’s trajectory toward future GHG reductions. Since the specific path to compliance for the state in regards to the long-term goals will likely require development of technology and other changes that are not currently known or available, specific additional mitigation measures for the project would be speculative and cannot be identified at this time. With respect to future GHG targets under SB 32 and Executive Order S-3-05, CARB has also made clear its legal interpretation that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet SB 32’s 40% reduction target by 2030 and Executive Order S-3-05’s 80% reduction target by 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets.

Based on the above considerations, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and no mitigation is required. This impact would be less than significant.

3.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) ***Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***

Less-Than-Significant Impact. Construction of the proposed project would result in the development of three industrial buildings with an adjacent surface parking lot. The Marin County Department of Public Works is the local Certified Unified Program Agency (CUPA), which regulates and inspects Marin County businesses, including compliance with hazardous materials regulations and providing assistance and guidance in order to meet compliance requirements (County of Marin 2020a). Any facility in Marin County that handles or stores hazardous materials or hazardous waste materials in quantities that require a state Hazardous Materials Business Plan must report this use or storage to the County Certified Unified Program Agency prior to business operation. The general thresholds of hazardous waste materials are 55 gallons of a liquid, 200 cubic feet of a gas, and 500 pounds of a solid. In the event that project operations include hazardous materials use in excess of these quantities, the facility occupant would obtain a Hazardous Materials Business Plan prior to operations.

Although small quantities of commercially available hazardous materials may be used within the proposed buildings and in landscaped areas on the project site, quantities of these materials would not be above the federal or state-defined thresholds or pose a threat to human or environmental health. Hazardous materials may include products such as pesticides, petroleum products, solvents, and chemical intermediates. Toxic materials used during the construction period would be handled in compliance with hazardous materials regulations. Therefore, implementation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and impacts would be less than significant.

- b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less-Than-Significant Impact with Mitigation Incorporated. An adjacent property to the south, located at 30 Liberty Ship Way, underwent a remediation effort under the supervision of the San Francisco Bay RWQCB, in association with an underground storage tank release of petroleum products (AEI Consultants 2018). In 1997, one 500-gallon gasoline underground storage tank was removed from this adjacent site, and in 2000, one 3,000-gallon diesel underground storage tank was removed. In addition, approximately 600 tons of impacted soil and approximately 9,200 gallons of impacted groundwater were removed and disposed of off-site. Elevated levels of total petroleum hydrocarbons, total petroleum oil and grease, and lead were present in the soil. Quarterly monitoring events and remediation efforts were ongoing from 2002 through 2010 (AEI Consultants 2018). To a limited extent, the tank release also affected the southwest portion of the project site where Building A is proposed. Based on the results of initial site investigations and groundwater monitoring at 30 Liberty Ship Way (AEI Consultants 2018), additional site characterization/assessment was implemented in January 2007, including soil and groundwater sampling at 30 Liberty Ship Way and on the project site. Samples taken on the project site included 14 soil borings and the installation of 8 groundwater monitoring wells.

In 2011, the RWQCB concluded that the concentrations in soil vapor did not pose an unacceptable human health risk for commercial/industrial workers and recommended case closure. Although 30 Liberty Ship Way and the impacted portion of the project site were issued a Case Closed status by the RWQCB on August 25, 2011, deed restrictions are in place on both sites (AEI Consultants 2018). In response to direction by the RWQCB, AEI Consultants prepared the Risk Management Plan for Diesel-Impacted Portions of 30 Liberty Ship Way and 76 Liberty Ship Way in 2011 (AEI Consultants 2011). The Risk Management Plan includes the proper handling of diesel-impacted soil and/or groundwater should it be encountered or brought to the ground surface during future excavations in the project site and other general requirements. Implementation of MM-HAZ-1 would require the project to comply with the post-closure deed restrictions found in the project's Phase I Environmental Site Assessment (AEI Consultants 2018) and Risk Management Plan (AEI Consultants 2011), thus reducing the impacts from hazardous materials to less than significant.

MM-HAZ-1: Adherence to the post-closure deed restrictions of the California Regional Water Quality Control Board (RWQCB) Covenant and Environmental Restriction on Property (Deed 2011-0039596), dated August 22, 2011 require the site land use restrictions include the following:

The restrictions on development and use are as follows: development and use of the property shall be restricted to industrial, commercial, containerized/dry boat storage, office space, water recreational, or maritime uses; no residence for human habitation shall be permitted on the property; no hospitals shall be permitted on the property; no schools for persons under 21 years of age shall be permitted on the property; no day care center for children or senior citizens shall be permitted on the property; no excavation work shall be conducted except in compliance with the Risk Management Plan and any contaminated soil brought to the surface shall be managed in accordance with local, state, and federal law; all uses and development shall preserve or restore a minimum depth of 2 feet of soil above the diesel/fuel oil-impacted areas; no drilling for the purpose of a well or extraction of water for any use; the RWQCB shall be notified of any planned grading/excavation/trenching/backfilling that could create a direct contact exposure pathway above the

diesel/fuel oil-impacted areas; and no act shall aggravate or contribute to the existing environmental conditions of the property.

- c) ***Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

No Impact. The project site is 0.3 miles northeast of Montessori Sparrow Creek School and is approximately 0.6 miles east of Willow Creek Academy. Due to their distance from the project site, there would be no impact.

- d) ***Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

Less-Than-Significant Impact with Mitigation Incorporated. The Hazardous Waste and Substances Sites (Cortese) List, compiled pursuant to Government Code Section 65962.5 by the Department of Toxic Substances Control, provides information regarding the location of hazardous materials release sites. Although the project site itself is not included on the Cortese List, the following properties within 1,000 feet of the project site are included: the adjacent site located at 30 Liberty Ship Way, 25 Liberty Ship Way, and 300 Napa Street (AEI Consultants 2018).

As discussed for Threshold 3.9(b), contamination at the adjacent 30 Liberty Ship Way property associated with a former leaking underground storage tank migrated downgradient onto the project site. However, in 2011, the RWQCB concluded that although residual soil and groundwater contamination remains at 30 Liberty Ship Way and the project site, the concentrations of soil vapor did not pose an unacceptable human health risk for commercial/industrial workers and recommended case closure. 30 Liberty Ship Way and the impacted portion of the project site were issued a Case Closed status by the RWQCB on August 25, 2011 but deed restrictions are in place on both sites (AEI Consultants 2018). Implementation of MM-HAZ-1 described above would require the project to comply with the post-closure deed restrictions, thus reducing the impacts from hazardous materials to less than significant.

The property located at 300 Napa Street, approximately 175 feet east of the project site, is a voluntary cleanup site due to a release of arsenic, lead, diesel, mercury, and motor oil from historic shipbuilding activities at the site. Impacted soil was excavated and removed from the site. Residual contaminated soil was covered by a geosynthetic liner followed by a geotextile fabric and 1 foot of clean soil over the fabric. Land use restrictions also apply to this site. Based on this information and the down-gradient location of this site relative to the project site, the property located at 300 Napa Street is not expected to represent a significant hazard to the public or the environment (AEI Consultants 2018).

The property located at 25 Liberty Ship Way, approximately 750 feet west of the project site, is a former shipyard and machine shop operated during World War II (DTSC 2020). The U.S. Army Corps of Engineers acquired one building from the shipyard in 1948 and converted it into a geotechnical testing laboratory in 1950. This laboratory closed in 1997 and the site is currently owned by the Veterans Administration. Contaminants in the soil and groundwater on site included Polychlorinated Biphenyls (PCBs), petroleum hydrocarbon, solvents, metals, and arsenic. A soil removal action was completed in 2006 to remove PCB contamination detected above levels considered safe for commercial/industrial use. Land use restrictions are in effect to restrict the property from sensitive uses such as residential, hospital, or school. Due to the distance from the project site, this property would not represent a significant hazard to the public or the environment.

Therefore, with the inclusion of MM-HAZ-1, the project site and nearby properties would not create a significant hazard to the public or the environment. Impacts would be less than significant with mitigation incorporated.

- 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?***

No Impact. The project is not located within an airport land use plan or within 2 miles of a public airport or public use airport. The closest airports are San Rafael Airport in San Rafael Airport and San Francisco Airport, both of which are more than 10 miles away. Therefore, the project does not have the potential to result in a safety hazard for people residing or working in the project area. There would be no impact.

- f) ***Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

No Impact. The project site would be served by the City of Sausalito Police Department and Southern Marin Fire Protection District, both of which are equipped to respond to an emergency on the site should the need occur. The City has limited routes of access to and from the City; however, the project would not obstruct evacuation routes during construction or operation. The project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. There would be no impact.

- g) ***Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?***

No Impact. The project site is located within an urbanized area, and is not adjacent to or close to wildlands. Figure HAZ-3, Wildfire Hazards, of the City of Sausalito General Plan Update does not show the area as having any wildfire hazards (City of Sausalito 2017). Therefore, the project does not have the potential to expose people to risk as a result of wildland fires. There would be no impact.

3.10 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 which would:				
i) result in substantial erosion or siltation on or off site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) ***Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

Less-Than-Significant Impact. The San Francisco Bay RWQCB regulates water quality in surface waters and groundwater bodies and is responsible for implementation of state and federal water quality protection guidelines at the project site. The federal NPDES Nonpoint Source Program (established through the Clean Water Act) regulates the water quality of runoff. The NPDES Program objective is to control and reduce pollutants to water bodies from nonpoint discharges.

Construction

As described in Section 3.7, Geology and Soils, grading and construction activities would expose soils that could be susceptible to erosion-induced siltation of adjacent marine waters as a result of rain, windy conditions, and/or construction vehicles traveling over the exposed soils. However, because the proposed project would disturb more than 1 acre of soil, the applicant would be required to implement a SWPPP in compliance with the NPDES Construction General Permit. SWPPPs are required to include erosion control measures, such as covering exposed soil stockpiles, lining the perimeter of construction areas with sediment barriers, and protecting storm drain inlets and adjacent bay waters. In addition, project grading and construction would be completed in

compliance with the Marin County Stormwater Pollution Prevention Program, which requires completion of an Erosion Control Plan and implementation of BMPs to reduce erosion.

Construction activities could also result in incidental spills of pollutants, including paint, concrete, mortar, and cement. BMPs would similarly be implemented in accordance with the SWPPP to control potential releases of these materials. With implementation of construction-related BMPs, project construction would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface water or groundwater quality.

As described in Section 3.8 Hazards and Hazardous Materials, the construction operations may also disturb existing hazardous materials located under the surface. If this were to occur, the SWPPP in conjunction with coordination with CUPA and RWQCB regulations stipulate that the material exposed will be managed in accordance with state and federal requirements. Impacts would be less than significant.

Operation

The proposed project would involve construction of three, two-story, mixed-use industrial buildings totaling 47,096 square feet of floor area on a 3.9-acre parcel. There is 36,011 square feet of existing impervious surfaces on site, which represents 21% of the total surface area. Approximately 55,252 square feet of the parcel area would be occupied by structures and other impervious surfaces (CSW/SSEG 2018), which is equivalent to 33% of the total surface area, or a 12% increase over existing conditions.

Stormwater runoff is the principal source of pollution entering surface water and groundwater in the San Francisco Bay region (City of Sausalito 2017). Based on NPDES stormwater regulations, the project would require on-site treatment of stormwater runoff. To maintain compliance with NPDES regulations, the City participates in the Marin County Stormwater Pollution Prevention Program, which maintains compliance with the NPDES Storm Water Discharge Permit. This program provides annual reports to the San Francisco Bay RWQCB, including information on illegal discharge detection and elimination, street and storm drain cleaning, municipal and creek maintenance, stormwater and creek protection controls for development projects, business inspections, and public health outreach and participation (County of Marin 2020b).

The most recent Marin County Stormwater Pollution Prevention Program Annual Report identified Richardson Bay as exceeding coliform bacteria water quality standards (City of Sausalito 2017). A numeric target for pathogens was established by the State Water Resources Control Board when it created the Richardson Bay total maximum daily load in 2008. In addition, Richardson Bay is listed by the U.S. Environmental Protection Agency as an impaired water body for the pesticides chlordane, DDT, and dieldrin, as well as coliform bacteria, dioxin-containing compounds, furan-containing compounds, invasive species, mercury, and polychlorinated biphenyls (PCBs). In 2009, the U.S. Environmental Protection Agency approved a Basin Plan amendment incorporating total maximum daily loads for Richardson Bay and including an implementation plan to control pollutant sources and achieve needed reductions (City of Sausalito 2017).

Without implementation of a Stormwater Control Plan, post-construction land use could result in degradation of water quality in Richardson Bay by reducing the quality of stormwater runoff. Potential on-site sources of stormwater pollutants include incidental releases of oil, grease, and metals from vehicles in parking lots; fertilizers, herbicides, and pesticides from landscape maintenance; litter during trash management; and animal waste. However, a Stormwater Control Plan was prepared for the project (CWS/SSEG 2018a), which recommends permanent low-impact-development operation-source-control

BMPs to address potential sources of runoff pollutants. Water quality control features would include landscaping, biofiltration basins, and permeable paving.

Based on the Stormwater Control Plan, the project site was divided into five proposed drainage areas, with each area to control the runoff and treat the surface water prior to discharge to the storm drains and Richardson Bay (CWS/SSEG 2018a). Runoff would be directed to planter areas dispersed throughout the site and would have an additional filter system for the storm drain system prior to discharge to the Bay. From the planter areas, runoff would primarily flow across impervious pavement and then be diverted to bioretention basins, which would be located to take advantage of multiple existing discharge points. Permeable pavers would be installed in the northwest corner of the project site, in a small area of proposed parking and sidewalk, since the runoff in this area would not be directed to a bioretention area for treatment. With the exception of the northwest corner, proposed buildings, walkways, parking lots, and graded areas would all drain to bioretention facilities, which would be designed and constructed to the criteria in the Bay Area Stormwater Management Agencies Association Post-Construction Manual (BASMAA 2019). The bioretention facilities would be maintained in perpetuity by the property owner, in accordance with a Stormwater Facility Operation and Maintenance Plan, to be submitted to the City prior to completion of construction.

Based on implementation of the Stormwater Control Plan, which would include implementation of permanent low-impact-development BMPs and which would be constructed in accordance with criteria in the Bay Area Stormwater Management Agencies Association Post-Construction Manual, project operation would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface water or groundwater quality. Impacts would be less than significant.

- b) ***Would the project 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 Impact. The Marin Municipal Water District (MMWD) provides water services for the City. The 2015 Urban Water Management Plan Update indicates that MMWD's water supply is derived primarily from a network of seven local, rain-fed reservoirs, supplemented with water from the Sonoma County Water Agency (MMWD 2016a). As a result, water demand for the proposed project would not substantially decrease groundwater supplies, and impacts would be less than significant.

In addition, the project site is not located in an area of groundwater recharge, since it is located within an urban, developed area, immediately adjacent to Richardson Bay. Although project construction would result in an increase in impervious surfaces of 12%, incorporation of pervious landscaping and infiltration basins throughout the site would allow partial infiltration of runoff into on-site soils. As a result, the project would not substantially interfere with groundwater recharge, and impacts would be less than significant.

- c) ***Would the project 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 which would:***

- i) ***Result in substantial erosion or siltation on or off site***

Less-Than-Significant Impact. The project site is located on a mild slope at low elevations near sea level, with compact soils throughout the site. As previously discussed for Threshold 3.10(a), following construction, runoff would be directed to planter areas dispersed throughout the site.

From the planter areas, runoff would primarily flow across impervious pavement and then be diverted to five bioretention basins, which would be located to take advantage of multiple existing discharge points. Permeable pavers would be installed in the northwest corner of the project site in a small area of proposed parking and sidewalk, since the runoff in this area would not be directed to a bioretention area for treatment. Two of the five bioretention areas would provide water quality benefits, and provide capacity to detain runoff so that post-project peak stormwater flows would be less than or equal to existing conditions for the 100-year peak runoff storm event (CWS/SSEG 2018b). As a result, off-site runoff would not result in substantial on- or off-site erosive scour or siltation of Richardson Bay. Impacts would be less than significant.

ii) *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site*

Less-Than-Significant Impact. As discussed previously for Threshold 3.10(c)(i), the proposed development would not increase the rate of peak surface water runoff because the project would incorporate bioretention systems, landscaped areas, and porous pavement into project design. As a result, the proposed project would not result in flooding on site or off site, and impacts would be less than significant.

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*

Less-Than-Significant Impact. As discussed previously for Threshold 3.10(c)(i), the proposed development would not increase the rate of peak surface water runoff because the project would incorporate bioretention systems, landscaped areas, and porous pavement into project design. As a result, the proposed project would not exceed the capacity of existing or planned stormwater drainage systems. In addition, as discussed for Threshold 3.10(a), based on implementation of the Stormwater Control Plan (CWS/SSEG 2018a;), which includes implementation of permanent low-impact-development BMPs and which would be constructed in accordance with criteria in the Bay Area Stormwater Management Agencies Association Post-Construction Manual, stormwater runoff would not provide substantial additional sources of polluted runoff. Impacts would be less than significant.

iv) *Impede or redirect flood flows?*

Less-Than-Significant Impact. Liberty Ship Way is located near the waterfront of Richardson Bay, which is prone to flood and tsunami hazards. Rising sea levels and more severe storm flooding as a result of climate change are impacting Marin County, which has planned for the challenges of climate change in collaboration with Marin's cities and towns. Based on the City's General Plan Update (City of Sausalito 2017), the on-site marsh restoration easement located southeast of the Bay Trail is within a 100-year flood plain, for which base flood elevations have been determined. This area is susceptible to 1% annual chance flooding with potential wave action. However, none of the proposed structures would be located within this flood zone. Similarly, as shown in Figure 10, mapping by the Federal Emergency Management Agency (FEMA 2016) indicates that the southeast portion of the site, seaward of the Bay Trail, is located within a 100-year flood zone (Zone VE). The base flood elevations in the area are between 10 and 11 feet above mean sea level; the buildings would be set approximately 2 feet above those levels. However, the southwest, northwest, and northeast portions of the project site are located within a 500-year flood zone (Zone X), in which there is a 0.2% annual chance of flooding, or an area of

1% annual chance of flooding with average depths less than 1 foot. Proposed structures would be located in these areas.

To promote public health, safety, and general welfare, the City adopted Chapter 8.48, Floodplain Management, of the Sausalito Municipal Code, which includes methods of reducing flood losses (8.48.014), including restricting uses that are dangerous to health, safety, and property due to flooding; requiring that uses vulnerable to flooding be protected against flood damage; controlling the alteration of floodplains and natural drainages, which help accommodate or channel floodwaters; controlling filling, grading, dredging, and other development that may increase flood damage; and preventing or regulating the construction of flood barriers that would unnaturally divert floodwaters or that may increase flood hazards in other areas.

New construction is not prohibited by federal, state, or local laws within 500-year flood plains or tsunami inundation areas. In the unlikely event that flooding occurred on site, proposed structures and other improvements would not impede or redirect flood flows such that flooding would increase on adjacent properties. As a result, impacts associated with flood flows would be less than significant.

d) *In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*

Less-Than-Significant Impact. The site would not be subject to seiches, which are oscillations (i.e., sloshing) in an enclosed body of water due to seismically induced ground shaking. The entire project site is located within a potential tsunami inundation area (CGS 2019b) and would be subject to flooding in the unlikely event of a 500-year flood or tsunami. The proposed project would include industrial uses, and as a result, may include storage and use of hazardous materials. However, as discussed in Section 3.9, Hazards and Hazardous Materials, any facility in Marin County that handles or stores hazardous materials or hazardous waste materials in quantities that require implementation of a Hazardous Materials Business Plan must submit the plan for approval by the County Certified Unified Program Agency prior to business operation. Compliance with such a plan would ensure proper storage and handling of hazardous materials, thus minimizing the potential for releases during the unlikely event of a flood.

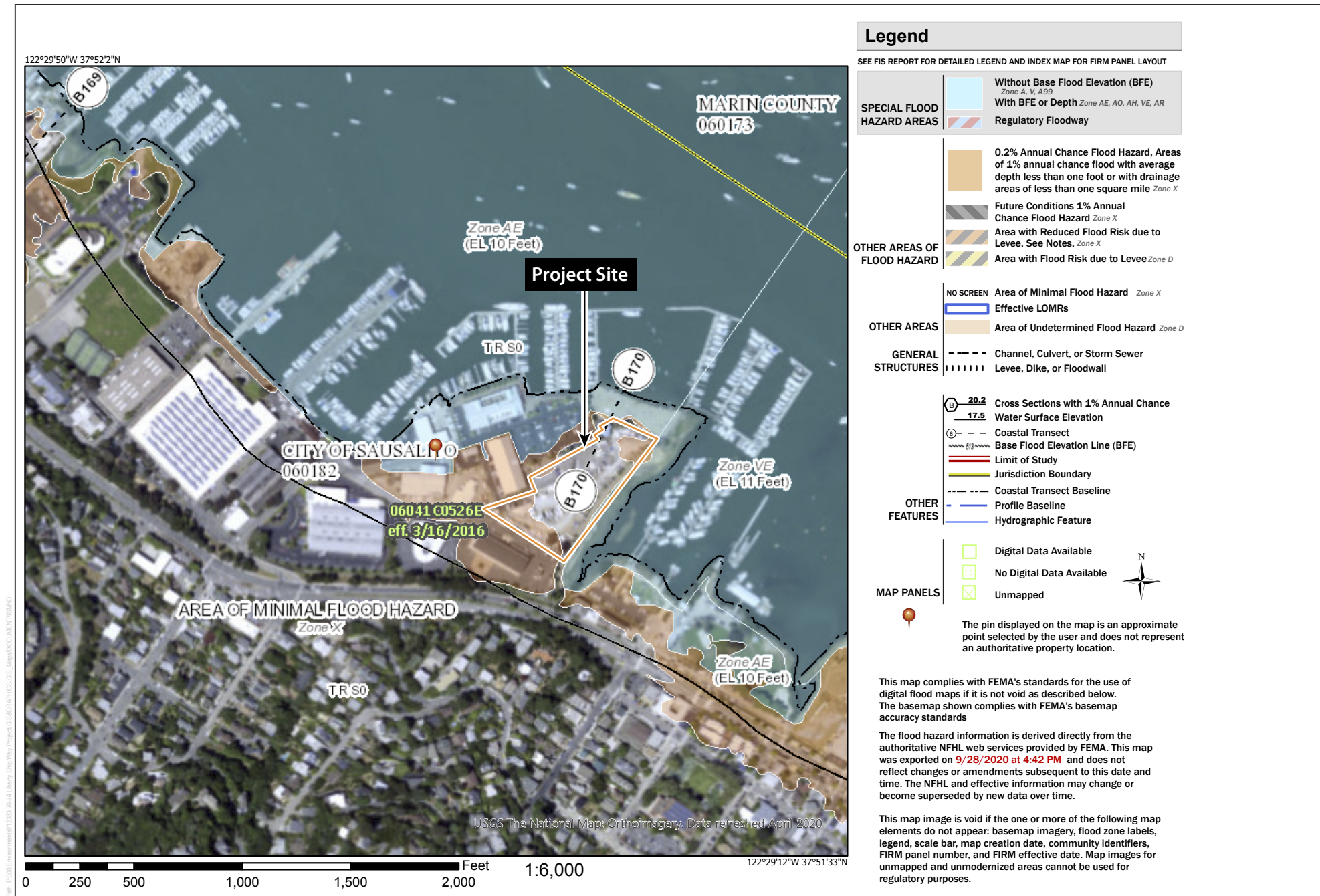
Although small quantities of commercially available hazardous materials may be used within the proposed buildings and in landscaped areas on the project site, quantities of these materials would not be above the state-defined thresholds or pose a threat to human or environmental health. The source of pollutants may be managed through standard hazardous materials source control BMPs during project operations. Although the project site is located in a 500-year flood zone and tsunami zone, with implementation of practices required by the City's Municipal Code (8.48.014), implementation of a Hazardous Materials Business Plan (if applicable), and implementation of standard source control BMPs, the risk of release of pollutants due to project inundation is low and impacts would be less than significant.

e) *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

No Impact. As previously discussed, the project would comply with applicable water quality regulatory requirements, including implementation of a SWPPP, stormwater BMPs, and low-impact-development design, which would minimize potential off-site surface water quality impacts and contribute to a reduction in water quality impacts within the overall Richardson Bay Watershed. In addition, with compliance with regulatory requirements, the project would reduce potential water quality impairment of surface waters

such that existing and potential beneficial uses of key surface water drainages throughout the jurisdiction of the San Francisco Bay RWQCB Basin Plan would not be adversely impacted. As a result, the project would not conflict with or obstruct the San Francisco Bay RWQCB Basin Plan, and no impacts would occur.

As mentioned for Threshold 3.10(b), the proposed project would rely on water services provided by the MMWD, which derives most of its water from surface waters. As a result, the project would not conflict with or obstruct implementation of a groundwater management plan, and no impacts would occur.



SOURCE: Federal Emergency Management Agency

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3.11 Land Use and Planning

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) *Would the project physically divide an established community?*

No Impact. The project site currently contains dry boat storage for approximately 85 small vessels and containerized storage. There is one existing building on site, the Harbormaster building, and no other permanent buildings occur within the project boundaries. The project would involve construction of three industrial buildings. The intended uses of the buildings would include a variety of marine services, manufacturing, general industrial, boat storage, repair and maintenance, commercial, and restaurant uses. The project design enhances connectivity through the site to the Bay Trail by expanding pedestrian access and public parking. There are no residences on or in the immediate vicinity of the project site. Therefore, the project would not physically divide an established community. There would be no impact.

b) *Would the project cause a significant 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?*

Less-Than-Significant Impact. The parcel is designated for Industrial and Waterfront uses in the 2040 General Plan Update and the Zoning Ordinance of the City of Sausalito (City of Sausalito 2020). The project site is zoned Industrial and Waterfront under the Marinship Overlay Zoning District (GeoData Analytics 2003). Approximately, 105,200 square feet of the project site is located within Industrial zoning and 65,005 square feet is located within Waterfront zoning. The purposes of the Industrial Marinship Zoning District include providing for non-polluting, low-intensity industrial uses; providing compatibility with an industrial area; providing for non-invasive industry with minimal community impacts; providing industrial service and art uses; encouraging a mixture of uses; providing urban development standards; providing public access to Richardson Bay; and maintaining the land use entitlements that are contained in the Industrial District Regulations (City of Sausalito 1989).

The Waterfront Marinship Zoning limits development to that which supports the marine industry. The Marinship Specific Plan intent for the Waterfront zone includes the following marine-oriented uses: boat harbors, piers, wharves, and launching ramps; boat storage; boat sales, rental, building, repair, and service; commercial and sport fishing facilities; wholesale and retail fish sales; marine equipment sales, manufacture, service, and repair; tax-exempt yacht clubs; and marine research laboratories. The project

would be consistent with both zoning districts and their allowed uses. The project would also be consistent with the site development standards of the Marinship Overlay Zoning District, as well as the parking requirements per the Marinship Specific Plan (City of Sausalito 1989). The project would not have an environmental impact due to a conflict with any land use plan, policy, or regulation. Impacts would be less than significant.

3.12 Mineral Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,b) *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

No Impact. The California Department of Conservation's Division of Mining and Geology implements the Mineral Land Classification program, which divides land into four categories called Mineral Resource Zones (MRZs) based on the quality of geologic information available on a given geographic area and the estimated economic value of the resource (DOC 1998). The project site is designated as MRZ-1, areas where significant mineral resources are unlikely to exist (CGS 2013). The Sausalito General Plan does not identify the presence of locally important mineral resource recovery site in the vicinity of the project site (City of Sausalito 2017). Implementation of the project would not result in a loss of availability of any known mineral resource. No impact would occur.

3.13 Noise

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE – Would the project result in:				
a) Generation of a 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or 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 expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) ***Would the project result in generation of a 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 Impact Current existing outdoor ambient sound levels in the vicinity of the project site range from 55 A-weighted decibels (dBA) to 65 dBA day-night noise level (L_{dn}) per Map GP-19 from the Health and Safety Element of the City of Sausalito General Plan (City of Sausalito 1995). In addition, Table 7-3 from the Health, Safety, and Community Resilience Element of the 2040 General Plan Update indicates that at a distance of 50 feet from the centerline of the intersection of Bridgeway and Marinship Way, near the northern entrance of the project site, the weighted average is 67 dBA as calculated from measurement data. Table 7-4 from the Health, Safety, and Community Resilience Element shows that, consistent with state planning guidelines, existing noise level exposures of up to 70 dBA L_{dn} are “conditionally acceptable” for industrial and manufacturing uses (City of Sausalito 2020); the project site is zoned “Industrial” by the City.

Existing noise levels ranging from 55 to 70 dBA L_{dn} would be either normally or conditionally acceptable for the proposed uses on the site depending on proximity to the dominant source of noise level exposure—in this case, the nearby roadway traffic. The following noise analyses demonstrates that the intended land uses of the project are compatible with the anticipated outdoor sound environment after implementation of the project.

Temporary Noise Increase

Construction noise is a temporary phenomenon, with emission levels varying from hour to hour and day to day depending on the heavy equipment in use, the operations performed, and the distance between the source and receptor. Equipment that would be in use during project construction would include, in part, backhoes, cranes, forklifts, pavers, rollers, and air compressors. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 3.13-1. Note that the equipment noise levels presented in Table 3.13-1 are maximum noise levels. Typically, construction equipment operates in alternating cycles of full power and low power, producing energy-average noise levels less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 3.13-1. Typical Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (L_{max} , dBA at 50 Feet)
Air compressor	78
Auger drill rig	84
Backhoe	78
Concrete mixer truck	79
Concrete saw	90
Crane	81
Dozer	82
Dump Truck	76
Front-end loader	79
Generator	72
Grader	85
Impact pile driver	95
Man lift	75
Paver	77
Roller	80
Welder/torch	73

Source: DOT 2006.

dBA = A-weighted decibels.

As shown in Table 3.13-1, the maximum noise levels at 50 feet for expected construction equipment would be 90 dBA for the concrete saw activity during initial demolition of the existing pavement on site, and then 95 dBA for the pile-driving as part of the foundation phase for each of the three planned project buildings.

Construction noise in a well-defined area typically attenuates at approximately 6 decibels (dB) per doubling of distance. Proposed project construction would take place both near and far from adjacent, existing noise-sensitive uses. For example, construction of Building A could occur as close as 215 feet to the nearest houseboats associated with the Galilee Harbor Community Association (GHCA) and 315 feet to the nearest existing homes south of Bridgeway. These distances represent the closest that construction activities would be to sensitive receptors as construction on other parts of the site would be farther away; however, for the purposes of providing a conservative analysis these two distances were used to assess potential construction noise impacts.

An Excel-based noise prediction model emulating and using reference data from the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (FHWA 2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. (Although the Roadway Construction Noise Model was funded and promulgated by the FHWA, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction.) Input variables for this predictive modeling consist of the equipment type, quantity (one each), the default duty cycle for each piece of equipment (e.g., percentage of time within a specific time period, such as an hour, when the equipment is expected to operate at full power or capacity and thus make noise at a level comparable to what is presented in Table 3.13-1), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling. The default Roadway Construction Noise Model duty cycle values (i.e., "acoustical usage factor") for the various pieces of equipment were derived from an extensive study of typical construction activity patterns at the "Big Dig" Central Artery project in Boston (DOT 2006).

Estimated aggregate noise levels from operating on-site equipment and processes for the major construction phases were calculated at the distances associated with the previously mentioned GHCA and Bridgeway community nearest noise-sensitive land uses. As presented in Table 3.13-2, Construction Noise Modeling Summary Results, the estimated construction noise levels are predicted to be as high as 76 dBA equivalent continuous sound level (L_{eq}) over an 8-hour period at the nearest GHCA houseboats or live-aboards when foundation pile-driving takes place.

Table 3.13-2. Construction Noise Modeling Summary Results

Construction Phase (expected equipment types)	Estimated 8-Hour L_{eq} (dBA)	
	Nearest GHCA Receiver (215 feet)*	Nearest Bridgeway Receiver (315 feet)
Demolition (backhoe, concrete saw)	71	63
Grading (backhoe, grader, dump truck, front end loader, dozer)	73	64
Foundations (auger drill rig, impact pile driver)	76	68
Building Construction (crane, man-lift, generator, welder/torch)	64	56
Paving (concrete mixer truck, backhoe, air compressor, paver, roller)	69	61
Architectural Coating (air compressor)	52	44

Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibel; GHCA = Galillee Harbor Community Association

* As much of the sound would travel over water, typical acoustical ground absorption is not accounted for in this calculation.

Although Section 12.16.140.A of the City's Municipal Code limits construction hours to allowable timeframes on weekdays (8:00 a.m. to 6:00 p.m.) and Saturdays (9:00 a.m. to 5:00 p.m.), it does not quantify a specific threshold on permissible construction noise. Hence, for purposes of this analysis and owing to the lack of a local noise limit, this assessment adopts the Federal Transit Administration (FTA) guidance daytime threshold of 80 dBA L_{eq} over an 8-hour period for residential receptors (FTA 2018). On this basis, all predicted construction phase noise levels for the nearest GHCA and Bridgeway residences are less than this federal guidance, and would therefore support a less-than-significant impact finding. No mitigation measures would be needed. However, construction activities on site would still need to conform with City's Health and Safety Element policies (HS-3.5) that require proper noise-reducing baffles on heavy equipment, restriction of construction activity to the aforementioned allowable time periods per the City's Municipal Code, and consideration of temporary noise walls. Temporary noise walls are not expected to be

needed as given the predicted project construction noise levels shown in Table 3.13-2 would be compliant with the FTA guidance.

Because occupation of a completed Building A is anticipated to occur prior to commencement of site work for Buildings B and C, there will be an opportunity for Building A to be exposed to temporary on-site construction noise. For instance, when pile-driving occurs for Building B, the nearest potentially occupied space in Building A would only be about 50 feet away. However, the site plans show that Building A is intended for boat storage on its first floor and warehousing/storage on its second floor. Such uses are not usually considered noise-sensitive; hence, and for informational purposes, adverse noise effects are not expected for Building A when construction of Buildings B and C take place.

Durable Noise Increase

Off-Site Transportation Noise

The proposed project would result in the creation of additional vehicle trips on local roadways (e.g., Bridgeway), which could result in increased traffic noise levels at adjacent noise-sensitive land uses. However, the addition of project-attributed traffic to existing Bridgeway peak hour volumes, as analyzed by Robert L. Harrison Transportation Planning (2018), is predicted to be no more than a 2% increase, which, per acoustical principles, would result in no more than an insignificant 0.1 dB change to existing traffic noise emission levels. To put this in perspective, a doubling of traffic volume on a roadway causes a 3 dB change, which is considered barely perceptible. Hence, off-site transportation noise impacts due to the project would be less than significant.

On-Site Operation Noise

The proposed project would have three buildings (A, B, and C) that, according to site plans, would feature heating, ventilating, and air-conditioning (HVAC) equipment and can be summarized as follows:

- Building A: Due to expected manufacturing and storage uses depending on the occupying lessee, HVAC equipment locations for this structure are not yet determined. However, it is likely that wall-mounted exhaust fans or air-cooled condensing units would be placed near the building façade. For purposes of this analysis, such condensing units could be comparable to Carrier CA16-NA-060 (5-ton refrigeration capacity) units that have a sound power level of 78 dBA (Carrier 2012), and as many as six (i.e., one per lessee) may be installed near a facade. If all six were operating, the sound level would be 86 dBA (i.e., $78 + 10 \cdot \text{LOG}[6]$ per principles of logarithmic addition for identical sound emission sources).
- Building B: The design of this building features a centrally located “well” area for mechanical equipment on the roof level bounded on four sides by the sloped roof structure. Given the sound-path occlusion formed by the roof, noise emission from the contained mechanical equipment would be reduced prior to propagation toward the neighboring community. For purposes of this analysis, as many as 12 air-cooled condensing units comparable to a Carrier CA16-NA-060 would be arrayed within the rooftop well, producing an aggregate sound emission level of up to 89 dBA (i.e., $78 + 10 \cdot \text{LOG}[12]$ per principles of logarithmic addition for identical sound emission sources).
- Building C: The design of this building features a rooftop area for mechanical equipment that is bounded by a solid screen. One side of this wall, facing Building B, is an architectural louver (presumably to facilitate air intake for the HVAC units). Given the sound-path occlusion formed by this effectively three-sided equipment screen, aggregate noise emissions from the contained mechanical

equipment would be reduced prior to propagation toward the neighboring community. For purposes of this analysis, it is assumed that the operating rooftop air-handling units (and/or other equipment on this bounded rooftop area) would emit an aggregate outdoor noise emission level comparable to as many as 12 aforementioned Carrier CA16-NA-060 air-cooled condensing units.

Based on the above-described anticipated operating HVAC equipment noise emission levels, at approximate distances of 215 feet to the nearest façade of Building A, 330 feet to the rooftop well of Building B, and 275 feet to the rooftop equipment area of Building C, the closest GHCA houseboat (or live-aboard) would receive a project-attributed sound exposure level of 46 dBA. This predicted HVAC noise level is 14 dB less than the daytime (7:00 a.m. to 10:00 p.m.) ambient base noise level of 60 dBA classified for Waterfront-zoned property, per Section 12.16.040 of the City's Noise Ordinance.

At approximate distances of 450 feet to the nearest façade of Building A, 510 feet to the rooftop well of Building B, and 630 feet to the rooftop equipment area of Building C, the closest residence south of Bridgeway would receive a project-attributed sound exposure level of 36 dBA. This predicted HVAC noise level is 19 dB less than the daytime ambient base noise level of 55 dBA classified for Waterfront-zoned property per Section 12.16.040 of the City's Noise Ordinance.

Since Section 12.16.130 of the City's Noise Ordinance allows up to a 5 dB increase over the ambient base noise level, and thus no exceedances would occur based on these two predictions, noise impacts from project-attributed operation of stationary sources during expected business hours (i.e., equipment would be inoperative or operating at much lower noise emission levels at night) would be less than significant.

b) *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Less-Than-Significant Impact Construction activities may expose persons to excessive groundborne vibration or groundborne noise, causing a potentially significant impact. Caltrans has collected groundborne vibration information related to construction activities (Caltrans 2013). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.2 inches per second is considered “annoying.” For context, heavier pieces of construction equipment, such as a bulldozer that may be expected on the project site, have peak particle velocities of approximately 0.089 inches per second or less at a reference distance of 25 feet (FTA 2018).

Groundborne vibration attenuates rapidly—even over short distances. 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. Table 3.13-3 presents predicted vibration velocity levels for the operating equipment type of each construction phase anticipated to generate the highest levels of groundborne vibration.

Table 3.13-3. Predicted Construction Vibration Propagation

Construction Phase (expected equipment producing highest vibration emission)	Vibration Velocity Levels (peak particle velocity in inches per second)	
	Reference PPV (at 25 feet)*	PPV at Nearest Bridgeway Residence (at 315 feet)
Demolition (backhoe)	0.089	0.002
Grading (dozer)	0.089	0.002
Foundations (impact pile driver)	0.644	0.014

Table 3.13-3. Predicted Construction Vibration Propagation

Construction Phase (expected equipment producing highest vibration emission)	Vibration Velocity Levels (peak particle velocity in inches per second)	
	Reference PPV (at 25 feet)*	PPV at Nearest Bridgeway Residence (at 315 feet)
Building Construction (crane)	0.089	0.002
Paving (roller)	0.210	0.004

* from FTA 2006.

PPV = peak particle velocity

None of the predicted groundborne vibration velocity levels are expected to exceed the human annoyance criterion of 0.2 inches per second peak particle velocity; therefore, such impact would be less than significant.

Additionally, construction vibration at sufficiently high levels can present a building damage risk. However, anticipated construction vibration associated with the proposed project would not yield levels that would surpass this risk. Per Caltrans, the recommended peak particle velocity threshold is 0.5 inches per second for newer residential structures and 0.3 inches per second for older residential structures—both of which are less stringent than the aforementioned threshold to annoy occupants of such structures; thus, vibration damage risk to nearby structures would be less than significant.

For informational purposes, this analysis predicted that on-site pile-driving activity for the installation of foundations at Buildings B and C might exceed 0.2 inches per second peak particle velocity at the nearest façade of a newly completed Building A; however, the predicted vibration velocity level would still be less than the FTA-recommended threshold of 0.5 inches per second peak particle velocity for modern steel buildings. Hence, this on-site construction activity vibration might be perceptible to someone temporarily visiting a boat storage stall in Building A, but based on this analysis, would not risk damaging the new building structure.

- c) *For a project located within the vicinity of a private airstrip or 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 expose people residing or working in the project area to excessive noise levels?*

Less-Than-Significant Impact. There are no private airstrips within the vicinity of the project site. The closest airports to the project site are more than 10 miles away (San Rafael Airport to the north, and San Francisco International Airport to the south), and would therefore not be expected to cause excessive noise level exposures. Hence, impacts under this assessment category would be less than significant.

3.14 Population and Housing

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING – 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) *Would the project 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)?*

Less-Than-Significant Impact. The project would involve construction of three new industrial buildings on a site zoned Industrial and Waterfront under the Marinship Overlay Zoning District (City of Sausalito 2003). Access and circulation for vehicles and pedestrians would be improved. The project would not include housing, and thus would not directly induce population growth. Approximately 84 new jobs would be created with the project (McDonald 2020). The existing labor force in Marin County is estimated to be approximately 143,000 people, which would be sufficient to provide for the project's employment demand (State of California Employment Development Department 2020). The scale and type of the project would not directly or indirectly induce population growth. Impacts would be less than significant.

- b) *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

No Impact. The project site currently contains dry boat and containerized storage and does not contain existing housing. There would be no displacement of people or housing necessitating the construction of replacement housing elsewhere. No impact would occur.

3.15 Public Services

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) ***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 of the public services:***

The project site is located in an area that currently receives public services of fire, police, public schools, parks, and other services by the City. Per the City's Zoning designations, this parcel is identified to be a combination of Industrial and Waterfront Zoning and provide a mix of uses, including Light Industrial, Marine Commercial, Office, Specialized Education, Restaurant Lounge, and Storage Areas (Sausalito Municipal Code, Title 10, Chapter 10.10.010 and Chapter 10.10.020). The development would not provide residential uses; thus, the project would not contribute to population growth. The proposed development is not anticipated to impact existing public services to the severity to require new or altered government facilities. Therefore, no significant impacts to the City's public services are projected as described below.

Fire protection?

Less-Than-Significant Impact. The Southern Marin Fire District provides fire protection and prevention services to the City, including the project site. The project would be required to comply with the Municipal Code Chapter 8.40, Fire Code, and Fire Department standards in effect at the time of project development, including building specifications, access design, the location and spacing of fire hydrants, and other plan check and design review requirements. The closest fire station to the project site is 333 Johnson Street, approximately 0.75 miles away (South Marin Fire District 2017). Therefore, due to the design of the project and proximity to the fire station, new or physically altered fire protection facilities would not be needed, and the project's impact on fire protection facilities would be less than significant.

Police protection?

Less-Than-Significant Impact. The Sausalito Police Department provides police protection services to the City, including the project site. The police station is located 1 mile from the project site at 29 Caledonia Street. Police officers regularly patrol within the City limits; the project site is located directly off of a major thoroughfare (Bridgeway), and it would be expected that police response to the project site would occur within acceptable response times (City of Sausalito 2020). The project would not induce population growth and would include on-site security measures. For these reasons, the proposed project would not result in the need for new or expanded police protection facilities, and impacts would be less than significant.

Schools?

No Impact. The proposed project would consist of the construction of three industrial buildings and would not directly result in population growth that would increase K-12 enrollment in the Sausalito Marin City School District. There would be no need for new or expanded school facilities. No impact would occur.

Parks? Other public facilities?

Less-Than-Significant Impact. The proposed project would consist of the construction of three industrial buildings and would not directly result in population growth. The project would improve access to and lighting on the Bay Trail. Access and demand for parks and other public facilities in the project vicinity would not substantially increase over existing patterns. Impacts would be less than significant.

3.16 Recreation

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a,b) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?*

Less-Than-Significant Impact. The project would involve construction of three industrial buildings on a site that currently is occupied by dry boat and containerized storage. The project would also include improvements to the Bay Trail and enhance pedestrian access to the shoreline. The project would not induce population growth. There are sufficient parks and recreational facilities close to the project site, including Schoonmaker Beach, Dunphy Park, and Lagendorf Park. Therefore, the project would not increase the use of existing facilities such that substantial physical deterioration would occur. Furthermore, there would be no adverse physical effect on the environment from construction related to recreational facilities. Impacts would be less than significant.

3.17 Transportation

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION – Would the project:				
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

This section analyzes the transportation impacts of the project based on CEQA Guidelines Section 15064.3(b), which focuses on recently adopted analysis criteria and impact metrics pursuant to Senate Bill (SB) 743 for determining the significance of transportation impacts. Per SB 743, the focus of transportation analysis changed from a level of service (LOS) or vehicle delay approach to the analysis of vehicle miles traveled (VMT). The related updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018 and were required to be implemented on July 1, 2020.

Accordingly, for CEQA purposes, this section analyzes the project-related impacts pertaining to VMT. An LOS/delay-based analysis has also been prepared and is provided for informational purposes only. This analysis can be found in the Traffic Impact Study (TIS) (Dudek 2021) prepared for the project (see Appendix D).

Project Trip Generation

Trip generation estimates were based on the project description and characteristics as well as the expected land uses associated within each of the three buildings proposed as part of the project. Trip generation was estimated by using trip rates from the Institute of Transportation Engineers 10th Edition Trip Generation book (2017). Accordingly, AM and PM peak hour trip generation volumes were computed. Table 3.17-1 presents the trip generation estimates for the proposed project.

Table 3.17-1. Project Trip Generation

Land Use ¹	Quantity	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Building A - Manufacturing	3.176 TSF	12	2	0	2	1	1	2
Building A - Warehousing	15.576 TSF	27	2	1	3	1	2	3
<i>Building A - Total</i>		39	4	1	5	2	3	5
Building B - Manufacturing	13.561 TSF	53	6	2	8	3	6	9
Building B - Medical Clinic	4.553 TSF	174	13	4	17	4	11	15
<i>Building B - Total</i>		227	19	6	25	7	17	24
Building C - Marine Industrial	4.767 TSF	24	3	0	3	0	3	3
Building C - Marine Commercial	4.585 TSF	173	3	1	4	9	9	18
Building C - Restaurant	2.166 TSF	243	12	10	22	13	8	21
<i>Building C - Total</i>		440	18	11	29	22	20	42
Project Total		706	41	18	59	31	40	71

Notes:

¹ Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017.

Based on Table 3.17-1, the proposed project would generate approximately 706 daily trips, 59 AM peak hour trips (41 inbound and 18 outbound), and 71 PM peak hour trips (31 inbound and 40 outbound).

The following describes the project's potential impacts to transportation policies and ordinances, VMT, hazards related to geometric design, and emergency access.

- a) ***Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

Less-Than-Significant Impact. The proposed project could potentially affect portions of the circulation systems within the jurisdictions of the City of Sausalito (City) and Marin County (County) and the transit agencies of Marin Transit and Golden Gate Transit. Therefore, the following consistency requirements would apply.

City of Sausalito Circulation Element

The following policies within the 2020 draft General Plan Circulation Element are applicable to the project:

Policy CP 1.1 Street Network: Emphasize maintenance and improvements to the street network that will not require construction or major roadway widening.

Policy 3.1 Public Bus Service: Encourage the maintenance of a safe, efficient, and reliable bus service.

Policy 3.2 Alternative Transportation: Improve the efficiency of the existing transportation system and reduce the reliance on the private automobile by emphasizing alternative transportation modes.

Policy 5.2 Bicyclist Safety: Provide a safe environment for bicycling along city streets and bicycle trails.

Policy 5.5 Bicycle Route Design and Standards: Ensure that all existing and proposed bike routes, lanes, paths, and intersections are compliant with the most up-to-date standards to reduce conflicts between bicyclists, vehicles, and pedestrians, promote safety, and encourage the use of nonmotorized travel modes.

Policy 5.6 Regional Bicycle and Pedestrian Trails: Continue to support the San Francisco Bay Trail, Bay Area Ridge Trail, and other agencies and jurisdictions in their efforts to provide bicycle and pedestrian trails throughout the nine counties of the San Francisco Bay Area.

Policy 5.9 Accessibility: Ensure city sidewalks and pathways are accessible for people of all abilities.

Policy 5.11 Development Plan Review: New development and substantial remodels in the Marinship should give special attention to the establishment and enhancement of pedestrian and bicycle pathways.

Policy 6.3 Marinship Circulation: Promote functional circulation improvements in the Marinship.

Policy 8.1 Contemplative Path: Identify a contemplative, predominantly pedestrian, pathway through the Marinship for interpretive, educational, and celebratory purposes to memorialize the historic events that occurred in the Marinship as provided for in program W-1.3.2.

Policy 8.2 Pedestrian Access: Promote and enhance safe public access to the Marinship without compromising the operations of industrial and maritime businesses.

The proposed project would be consistent with the Marinship Specific Plan, and as such would comply with all the policies associated and mandated with land uses and development with the Marinship area. The project is not expected to severely delay, impact, or reduce the service level of transit in the area, nor is it not expected to create unsafe alternative transportation options. Bicyclist and pedestrian safety would be maintained at existing levels, and would even be improved by the connection and improvement of the Bay Trail. The Bay Trail runs along the boundary of the project site and provides a regional pedestrian and bicycle connection to other areas of Marin County. Within the project site, all pedestrian connections would be accessible and adhere to all City guidelines for design.

Therefore, as discussed above, impacts related to applicable General Plan policies/programs related to transportation would be less-than-significant.

Additionally, as noted above, per SB 743 the focus of transportation analysis changed from LOS or vehicle delay to VMT. Accordingly, for CEQA purposes, project transportation impacts are based on VMT. An LOS/delay-based analysis has also been prepared and is provided for informational purposes only (see Appendix D).

Congestion Management Program

The Congestion Management Program (CMP) addresses the problem of increasing congestion on regional highways and principal arterials through a coordinated approach involving the state, county, cities, and transit providers. The Transportation Authority of Marin (TAM) has been designated as the Congestion Management Agency (CMA) for the County of Marin, including the City of Sausalito.

The CMP identifies arterial roadways and freeway segments within the study area that may require specialized analysis according to the procedures outlined in TAM's *Final Report 2015 CMP Update* (2015). The nearest CMP facilities identified within the City of Sausalito and nearest to the project study area, include, U.S. Highway 101 between Spencer Avenue and the Golden Gate Bridge, and the arterial roadway segment of Bridgeway between Gate 5 Road and Gate 6 Road. Additionally, if a major development results in a net increase of 100 or more PM peak hour vehicle trips, then TAM requires the project to be analyzed. As shown in Table 3.17-1 above, the proposed project would generate fewer than 100 PM peak hour vehicle trips, and thus, would not generate substantial traffic along CMP facilities. Therefore, the project would be exempt from any further CMP analysis, and impacts related to applicable CMP policies/programs related to traffic would be less-than-significant.

Transit Facilities

The City is served by both Marin Transit and Golden Gate Transit. The nearest bus stop locations are at the Marinship Way-Easterby Street/Bridgeway intersection, as well as the Napa Street/Bridgeway intersection, both of which are approximately a 0.25-mile distance from the proposed project. The following information is representative of existing conditions prior to the Covid-19 Pandemic.

Marin Transit Routes 17 and 61 provide daily service, while Routes 71X and 115 provide weekday service only. Route 17 provides frequent service to the City of San Rafael every 15-30 minutes during peak hours and every hour on weekends. Route 61 provides service to Bolinas on an hourly basis on weekdays, and every 2 hours generally on weekends (weekend service limited between the months of March and October only). Route 71X provides weekday only service to the City of Novato every 30 minutes during peak hours and hourly thereafter. Route 115 provides limited weekday service to the communities of Mill Valley and Strawberry with one coach in service during both the AM and PM peak periods.

Golden Gate Transit Routes 2, 4, and 92 provide only weekday service, while Route 30 provides weekday and weekend service as well. Route 2 is generally a commuter route that provides service between Marin City and the City of San Francisco only during the AM and PM peak periods with a headway of 20 minutes. Route 4 is a commuter route that provides service between Strawberry Village and the City of San Francisco with 15-20-minute headways during the AM and PM peak period, and hourly service thereafter. Route 92 is a commuter route that provides service between the Manzanita Park & Ride and the City of San Francisco with hourly service throughout the day, ending during the PM peak period commute. Route 30 provides service between the San Rafael Transit Center and the Salesforce Transit Center within the City of San Francisco with service generally provided on an hourly basis on both weekdays and weekends.

Golden Gate Transit also manages the Sausalito Ferry, which is approximately one mile south of the project site and provides service to the City of San Francisco Ferry Building. Service is provided every weekday on an hourly basis during the AM and PM peak period and thereafter every two to three hours. Weekend service is limited generally to afternoon arrivals and departures.

The project would not relocate any existing bus stops and would not require any changes to existing and future routes as described above. The project would not require an increase in service frequency or additional routes to serve the Marinship area.

Therefore, development of the project would not conflict with the existing bus routes or bus stops. Impacts to transit would be less-than-significant.

Pedestrian and Bicycle Facilities

Bicycle facilities are typically divided into several classifications that describe their efficacy. Class I (separated right-of-way) bicycle paths are completely separated from roadways and can be typically shared with pedestrians. Class II (painted) bicycle lanes are designed to be on-street and include a painted stripe to indicate the separation between bicyclists and motorists. Class III (signed) bicycle routes are designated to be on-street, however, they are provided on slower roadways that facilitate safe equal sharing of the roadway between bicyclists and motorists. Class IV (protected) bicycle lanes are separated from roadways and provide for exclusive use for bicyclists, including motorists, pedestrians, and other alternative transportation forms that are not permitted.

Currently, there is an existing Class II (painted) bicycle lane along both sides of Bridgeway, however the southern portion of the roadway narrows south of Marinship Way and becomes a Class III bicycle (signed) route, while the northern portion remains a Class II bicycle lane.

Additionally, the Bay Trail along the boundary of the project site provides a Class I bicycle path as well as shared pedestrian facilities. The proposed project would improve the section of the Bay Trail along its frontage with improved lighting and safety elements. Due to the industrial history of the Marinship area, Liberty Ship Way generally lacks sidewalks and adequate pedestrian amenities. However, development of the proposed project would include bicycle and pedestrian amenities. For pedestrians, the project would provide a connection to the Bay Trail from Liberty Ship, Marinship Way, and Bridgeway, and the Bay Trail itself would be renovated to accommodate both pedestrians and bicyclists as well as other alternative forms of transportation. Details of the proposed pedestrian and accessible path of travel information is provided in the TIS. Development of the project would not conflict with the existing pedestrian or bicycle facilities and would include improvements to pedestrian facilities around the project site. Therefore, impacts to pedestrian or bicycle facilities would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less-Than-Significant Impact. CEQA Guidelines Section 15064.3(b) focuses on VMT for determining the significance of transportation impacts. As shown in the analysis below, the project's impact due to conflicts or inconsistencies with Section 15064.3(b) would be less than significant.

Vehicle Miles Traveled

The City has not yet adopted significance thresholds for VMT; therefore, in the interim, the California State Office of Planning and Research's (OPR) recommended threshold of 15% below existing per capita VMT per service population for the region has been used for this analysis. This threshold has also been used in the draft 2020 General Plan Update.

The CEQA Guidelines state that “...generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts” and define VMT as “the amount and distance of automobile travel attributable to a project...” It should be noted that “automobile” refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined automobile and heavy truck VMT). Other relevant considerations may include the effects of the project on transit and non-motorized travel. The OPR Technical Advisory (OPR 2018) provides guidance and tools to properly carry out the principles within SB 743 and how to evaluate transportation impacts in CEQA. The OPR Technical Advisory was utilized within this analysis as the primary reference for the analysis of VMT and transportation-related impacts.

The Technical Advisory and the draft 2020 General Plan Update suggests that the City may screen out VMT impacts using project size, map-based screening, transit availability, and provision of affordable housing. The applicability of each of these screening criteria to the proposed project is described below.

- **Screening Threshold for Small Projects** (110 daily trips or less): Since the project generates more than 110 trips per day as shown in Table 3.17-1, this threshold cannot be considered.
- **Map Based Screening for Residential and Office Projects:** Currently, the City does not have VMT maps that can be utilized to identify areas with low VMT for projects.
- **Presumption of Less Than Significant Impact for Affordable Residential Development:** The project is not a residential development and does not include affordable residential units.
- **Presumption of Less Than Significant Impact Near Transit Stations:** Proposed CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within 0.5 miles of an existing major transit stop⁴ or an existing stop along a high quality transit corridor⁵ would have a less-than-significant impact on VMT. This presumption would not apply, if the project:
 - Has a Floor Area Ratio (FAR) of less than 0.75
 - Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
 - Is inconsistent with the Plan Bay Area 2040 and/or
 - Replaces affordable residential units with a smaller number of moderate- or high-income residential units

The project site is located within 0.5 miles of several bus routes however, the service intervals are greater than 15 minutes during peak commute hours and therefore the project cannot be screened using the proximity to transit availability criteria.

However, as mentioned above, under the draft 2020 General Plan, the project site would be screened-out of a potential significant VMT impact since approximately 95% of the land uses under the General

⁴ Pub. Resources Code, § 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.”)

⁵ Pub. Resources Code, § 21155 (“For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.”).

Plan would be located within 0.5 miles of the Bridgeway and U.S. Highway 101 corridors that would provide high-quality transit service and the project would not be excluded based on the criteria above.

- **Presumption of Less Than Significant Impact for Local Serving Retail and Other Uses:** For development projects, if the project leads to a net increase in provision of locally-serving retail and public facility uses, transportation impacts from such uses can be presumed to be less than significant. Generally, local-serving retail and similar uses less than 50,000 square feet can be assumed to cause a less-than-significant transportation impact because by improving destination proximity, local-serving developments tend to shorten trips and therefore reduce VMT.

Since the project proposes a high percentage of local-serving uses such as marine commercial, restaurant and medical offices, it is not anticipated to increase VMT significantly. Further, since overall square footage of the local-serving retail portion of the project is less than 50,000 square feet, it would be screened out from further VMT analysis.

The above mentioned VMT screening criteria for local serving retail and other uses, would apply to the project in addition to the high-quality transit screening applicable to the City's draft 2020 General Plan. Therefore, a detailed VMT analysis is not required.

As described in Section 2, Project Description, it is anticipated that approximately 84 employees would work at the project. Therefore, the following program contained in the Circulation and Parking Element of the General Plan that assists in reducing VMT could apply to the project.

- Program CP-2.4.3 Requires the City to update the adopted Trip Reduction Ordinance to require employers with 50 or more employees to provide incentives for their employees to use transportation alternatives to get to work.

Therefore, the project would not conflict or be inconsistent with CEQA Guidelines section 150645.3, subdivision (b), and impacts would be less than significant.

c) *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Less-Than-Significant Impact with Mitigation Incorporated. The project would not include construction of new roadways or require any temporary road closures of public roadways. As described below, improvements and roadway modifications would be required to remedy potentially hazardous conditions as a result of the project's contribution toward vehicular queuing on public roadways. Any and all improvements required within the public right-of-way would be required to comply with standards set forth by the City to ensure that the project does not introduce an incompatible design feature that would impede operations on project-adjacent roadway facilities.

Project Site Access

As discussed previously in Section 2, Project Description, access to the project site would be provided via Liberty Ship Way, which loops at the western edge of the project site and connects to Marinship Way. Although Liberty Ship Way is approximately 24-feet wide, it narrows to approximately 20-feet wide just west of the project site. For approximately 270-feet, the primary entrance to the site would be designated as one-way from the southern loop of Liberty Ship Way. Pending redevelopment of the 60D Liberty Ship Way

building that causes the constraint, the one-way portion of the roadway may ultimately widen to accommodate the project's 24-foot wide drive aisle, thereby allowing for two-way traffic within the entirety of the site. Although the ingress path along Liberty Ship Way provides sufficient roadway width per City requirements, the southernmost corner of the 60D Liberty Ship Way building abuts the northern edge of the roadway as shown in Figure 4, Project Site Plan.

As part of the project, a curb and guardrail system would be added to the northern edge of the roadway to reduce potential hazards with the southernmost corner of the 60D Liberty Ship Way building. Additionally, the segment adjacent to this building, west of the driveway to 30 Liberty Ship Way and east to the proposed project parking lot, which are deteriorated and include old railroad tracks, would be repaved. After the one-way segment, the roadway would become two-way and would have 24-foot wide parking lot drive aisles, which are large enough to adequately accommodate delivery vehicles. The portion of Liberty Ship Way within the site boundary and internal driveways within the site would be owned and maintained by the project applicant.

Egress from the site would be possible via the parking lot and drive aisles of the existing parking areas north of the site, before connecting back to the northern section of the Liberty Ship Way loop. Building A would be accessed directly via the most western drive aisle of the site and from the center drive aisles that would also connect Building B and Building C. Parking would be provided on all sides of Building A and all sides of Building B except for the southern edge where the center drive aisle would be located. Building C would have parking primarily located along its western edge and would have access to both parking areas near Building B and Building A. The circulation plan has been approved by the fire department and emergency services for access. Additionally, accessible pedestrian routes, consistent with ADA requirements, would be provided throughout the project site. All supporting information for project access, including truck turning radii, site circulation, and accessible path of travel is provided in the TIS.

Therefore, based on the information above and described in detail within the TIS, the project would not create a significant impact to the project driveways or impede egress or ingress for the roadways near the project site, and hazards due to geometric design features would be less than significant.

Queuing Analysis for Future Year Conditions

Due the variety of land uses proposed for the project, a queuing analysis was prepared. Queuing was analyzed utilizing the SimTraffic software, which calculates the 95th percentile (design) queue. All queuing analysis data and SimTraffic queuing worksheets are further provided within the TIS. For the purposes of this analysis, the future year conditions analyzed were the Opening Year 2023 and the 2040 scenarios. Both scenarios were evaluated to compare the baseline (no project) condition with the addition of project traffic.

The Opening Year 2023 scenario consists of existing traffic volumes (collected in 2018 and adjusted by 2% per year to represent 2020 existing conditions), ambient growth from the background growth of traffic within the study area (approximately 2% per year), and cumulative projects. As described in the TIS, counts were originally obtained in 2018 for the following back-to-back signalized intersections adjacent to the project site:

- Marinship Way-Easterby Street/Bridgeway
- Spring Street/Bridgeway

For the purposes of consistency, the year 2020 counts were compared to those utilized within the 2020 City of Sausalito draft General Plan Circulation Element and were deemed to be adequately consistent for both intersections. Finally, the City of Sausalito Community Development Department provided a list of

cumulative projects within the study area. The 2040 baseline traffic volumes were obtained directly from the City of Sausalito 2020 draft General Plan Circulation Element and from the General Plan's Appendix F Transportation Supporting Information document. Thereafter, the project trip generation as shown in Table 3.17-1, was added to both the Opening Year 2023 and the 2040 baseline scenarios separately so that the traffic impacts of the project could be fully analyzed for both future conditions. The TIS provides additional detail and information for the analysis and discussion on traffic volumes.

As shown in Tables 3.17-2 and 3.17-3, the calculated 95th percentile (design) queue for the Opening Year 2023 plus Project and 2040 plus Project conditions at all intersections do not exceed the storage lengths provided, except for the eastbound left-turn lane at the Marinship Way-Easterby Street/Bridgeway intersection. The longest forecast queue exceeds the available storage length of 75 feet by 5 feet (less than one car length) in the AM and by 21 feet (approximately one car length) in the PM peak hour. In both baseline conditions, the queue exceedance is nearly identical when compared to the plus-project condition.

The City does not have a relevant significance criterion in place, however the exceedance of a storage lane may potentially create hazardous conditions for drivers proceeding eastbound at the intersection as the eastbound left-turn lane overflows into the nearest through lane. Therefore, the project would contribute to this potentially hazardous condition. It is important to note that the draft General Plan's Appendix F Transportation Supporting Information document identifies the same queuing issue in both its existing and future year 2040 scenario. The recommendation concluded is the extension of the median at the intersection.

Therefore, a recommended solution would be to extend the existing median in the eastbound approach approximately 55 feet, to create a 130-foot storage length for the eastbound left-turn lane. As shown in the analysis, the 95th percentile queue would not exceed the storage length under this condition. Since the project would contribute to the deficient condition, the project would be responsible for paying its fair share to implement mitigation.

Table 3.17-2. Opening Year 2023 plus Project Queuing Summary

Intersection	Movement	Vehicle Storage Length ¹	Opening Year 2023 ²		Opening Year 2023 plus Project ²		Change in Queue		Exceeds Vehicle Storage Length?	
			AM	PM	AM	PM	AM	PM	AM	PM
Marinship Way-Easterby Street/Bridgeway	EBL	75	111	60	116	81	5	21	Yes	Yes
	EBT ³	240	183	125	220	150	37	25	No	No
	WBL	100	39	57	46	67	7	10	No	No
	WBT ³	1,200	135	132	139	151	4	19	No	No
	NBLTR ³	500	135	110	143	99	8	-11	No	No
	SBLT ³	190	36	97	45	108	9	11	No	No
	SBR	150	52	70	49	74	-3	4	No	No
Spring Street/Bridgeway	EBT ³	250	121	119	139	118	18	-1	No	No
	WBL	75	25	32	27	35	2	3	No	No
	WBT ³	215	112	117	103	109	-9	-8	No	No
	NBLR ³	400	69	50	64	52	-5	2	No	No

Notes:

- ¹ Measured in feet.
- ² Based on 95th percentile (design) queue length in SimTraffic 10.
- ³ Length measured to nearest intersection.

Table 3.17-3. 2040 plus Project Queuing Summary

Intersection	Movement	Vehicle Storage Length ¹	2040 Baseline ²		2040 plus Project ²		Change in Queue		Exceeds Vehicle Storage Length?	
			AM	PM	AM	PM	AM	PM	AM	PM
Marinship Way-Easterby Street/Bridgeway	EBL	75	112	81	115	96	3	15	Yes	Yes
	EBT ³	240	221	167	232	188	11	21	No	No
	WBL	100	38	68	41	59	3	-9	No	No
	WBT ³	1,200	193	168	204	179	11	11	No	No
	NBLTR ³	500	120	74	130	92	10	18	No	No
	SBLT ³	190	72	155	67	141	-5	-14	No	No
	SBR	150	48	85	53	75	5	-10	No	No
Spring Street/Bridgeway	EBT ³	250	177	182	204	180	27	-2	No	No
	WBL	75	53	52	48	60	-5	8	No	No
	WBT ³	215	139	146	148	157	9	11	No	No
	NBLR ³	400	75	80	87	83	12	3	No	No

Notes:

- ¹ Measured in feet.
² Based on 95th percentile (design) queue length in SimTraffic 10.
³ Length measured to nearest intersection

Therefore, for the potentially hazardous conditions identified that would result in an exceedance of the storage length of the eastbound left-turn lane at the Marinship Way-Easterby Street/Bridgeway intersection, the following mitigation measure is provided.

MM-TRAF-1 Prior to the issuance of a Certificate of Occupancy, the applicant shall pay its fair share towards, or construct the following improvement and be reimbursed based on its fair share costs of the improvement, as determined by the Public Works Director:

- Extend the existing median on the eastbound approach, approximately 55 feet, for a total eastbound left-turn storage length of 130 feet.
- Re-optimize the signal timing and phasing for both intersections.

With the implementation of MM-TRAF-1, the maximum 95th percentile queue of 129 feet would be accommodated within the newly extended 130-foot storage lane. Therefore, the project would not create a significant impact to adjacent intersections and hazards due to geometric design features would be less than significant with mitigation incorporated.

d) Would the project result in inadequate emergency access?

Less-Than-Significant Impact. As discussed in Section 2, Project Description, and under Threshold C above, the existing Liberty Ship Way roadway would provide primary site access and create a loop at the western edge of the project site that connects to Marinship Way. The primary ingress to the site would be via a one-way entry way from the southern portion of Liberty Ship Way, with a 20-foot wide path of vehicular travel. A curb and guardrail system would be added to the northern edge of roadway adjacent to 60D Liberty Ship way as part of the project to reduce potential hazards. The internal circulation of the site would

accommodate two-way traffic and include 24-foot wide parking lot drive aisles large enough to adequately accommodate all vehicles and have been approved by the fire department and emergency services for access. Emergency vehicles would be able to access all buildings and driveways within the project site. The project site would be accessible to emergency responders during construction and operation of the project. Therefore, the impacts of the project as it relates to resulting in inadequate emergency access would be less than significant.

3.18 Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES				
Would the project 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, 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:				
a) 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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) 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 subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a,b) *Would the project 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, 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:*

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)?

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 subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less-Than-Significant Impact. As noted in Section 3.5, Cultural Resources, there are no known tribal cultural resources, as defined in Public Resources Code Section 21074, identified within the project site or in its immediate vicinity. The project site has historically been used for marine industrial uses and is composed of fill. The NWIC records search conducted for the project site did not identify any previously recorded archaeological resources within the project site or 0.25-mile buffer (Appendix C). Dudek requested a search of the NAHC's Sacred Lands File on January 7, 2020, for the project site. The NAHC results, received January 15, 2020, indicated that the Sacred Lands File search identified possible cultural resources within the records search area. The NAHC then provided a list of Native American tribes culturally affiliated with the location of the project site, and recommended contact with them for further information. Letters were sent to each of the contacts to request information on resources in the area on January 16, 2020. No responses to Dudek's requests for information had been received at the time of this IS/MND. NAHC and tribal correspondence documents are included in Appendix C, Cultural Resources Report. If any responses are received in the future, they will be forwarded to the City. Since no known tribal cultural resources occur at the project site or would be affected by the proposed project, impacts would be less than significant.

3.19 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) ***Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?***

Less-Than-Significant with Mitigation Incorporated. The project site contains existing water and sewer lines. The points of connection for gas, electrical, sanitary sewers, and storm drains are located in the easterly portion of the project site, with additional storm drains southeast of proposed Building B.

The site would be provided water service by the Marin Municipal Water District (MMWD), which would determine the necessary facilities and water entitlement for the project upon the fulfillment of its requests reported in its letter dated July 25, 2007 (MMWD 2007). The project would require a Landscape Review Permit, new service permits for potable and recycled water, and permits for backflow and fire service permit. This would also include the review and approval of the placement of a new fire hydrant and water main extension. Site development would comply with all MMWD requirements for new water facilities, rules and regulations in effect at the time service is requested, and all landscape and irrigation plans shall be designed in accordance with the most current MMWD landscape and backflow prevention requirements.

The Sausalito-Marín City Sanitary District (SMCSD) currently serves the project site as the wastewater treatment provider (SMCSD 2020). The project proposes a sanitary sewer connection with the existing SMCSD gravity main that parallels Bridgeway. The sanitary sewer for the buildings on the project site would discharge into an existing street manhole in front of 30 Liberty Ship Way. The applicant's engineer reported that the sanitary sewer design would consist of solvent welded polyvinyl chloride (PVC) pipe so that the system can be converted to a pressure system in the future, if needed. Conversion to a force system could be accomplished by constructing a flush-surface wet-well and installing submersible pumps hooked up to the PVC discharge line with an emergency power back-up system for the pumps.

As stated in the letter, the City engineer reviewed the sewer system and was satisfied with the details provided, with conditions that the project provide welded or PVC pipe that is pressure tested, the project

designate an area for a potential future pump station, and the project provide sewer that accounts for an estimated 1 foot settlement that may occur in the next 50 years. If, at any time in the future the need for the pump station arises, the applicant would install the sanitary pump station to support the proposed development. The incorporation of MM-UT-1 would address these conditions and would reduce the potential impacts to wastewater facilities to less than significant.

MM-UT-1 Prior to issuance of a Building Permit, detailed sewer plans shall be submitted to the City of Sausalito engineer for review and approval. The plans shall include the use of welded or PVC pipe that is pressure tested and shall provide designation of an area for a future pump station. Such design shall also account for an estimated 1-foot settlement that may occur in the next 50 years. If, at any time in the future the need for the pump station existing the applicant shall install the sanitary pump station to support the proposed development.

b) *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?*

Less-Than-Significant Impact. The MMWD provides water services for the City. The 2015 Urban Water Management Plan Update shows that MMWD’s water supply comes primarily from a network of seven local, rain-fed reservoirs, supplemented with water from the Sonoma County Water Agency. Water within the MMWD’s service area is largely used for single- and multi-family residential homes, which make up 75% of the total demand, and commercial, industrial, and landscape, which comprise the remaining 25%. MMWD manages a distribution system of reservoirs, tanks, pumps, and pipeline to deliver water (MMWD 2016a).

The state is currently undergoing an effort to update the requirements for water shortage contingency planning. As part of urban water management planning, MMWD is required to provide a Water Shortage Contingency Plan that outlines how the supplier will prepare for and respond to water shortages. MMWD has a developed a rationing plan that includes five triggers that were selected because they provide the district more flexibility in addressing dry periods early. They were designed to allow MMWD to manage its supplies through a 6-year severe drought, and the amount of rationing is determined by the amount of water in the reservoirs. Additionally, MMWD has a number of prohibitions that it implements during periods of rationing, including limiting landscape irrigation, prohibiting use of potable water for washing hard surfaces, replacement of leaks in pipes, and other restrictions (MMWD 2016b). The proposed project would comply with the conditions set forth by MMWD as outlined in MM UT-1 to ensure the impacts to water supplies would be less than significant.

c) *Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?*

Less-Than-Significant Impact. In discussion with SMCSO staff, SMCSO has indicated that adequate wastewater infrastructure is available to accommodate the new development, and that the project would not cause the SMCSO to exceed wastewater treatment requirements required by the San Francisco Bay RWQCB (Simmons 2008). Upon development of detailed sewer design plans, the project may require a permit from SMCSO or other routine monitoring, pre-treatment, or sampling of discharges based on an assessment of pollutants expected to be discharged from the project site (Simmons 2008). Prior to issuance of a Building Permit, an assessment shall be completed outlining the pollutants expected to be discharged from the project. The assessment shall be submitted for approval to the Sausalito-Marín City Sanitary Sewer District.

Appropriate permits from the Sausalito-Marín City Sanitary Sewer District shall be obtained prior to installation of the sewer system. Compliance with these standard requirements and development of a detailed sewer plan and pollutant assessment to be reviewed and approved by the SMCSD would ensure that wastewater treatment be designed to meet standards set by the San Francisco Bay RWQCB. Impacts to wastewater would be less than significant.

- d) ***Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?***

Less-Than-Significant Impact. The Countywide Integrated Waste Management Plan for Marin County, intended to provide structure and guidance for waste management programs, incorporates the following solid waste planning documents (County of Marin 2007):

- Source Reduction and Recycling Element
- Non-Disposal Facility Element
- Household Hazardous Waste Element

Furthermore, the Marin Hazardous and Solid Waste Joint Powers Authority, also known as Zero Waste Marin, consists of representatives from all over Marin County to help residents and businesses meet the County of Marin's Zero Waste goal by 2025 (County of Marin 2020c).

The project is anticipated to be accommodated in the Marin County and the City of Sausalito's existing solid waste disposal system, which is served by the City's franchised provider of garbage and recycling, Bay Cities Refuse Service. Solid waste disposal needs would be consistent with the Industrial and Waterfront zoning districts, and there would be sufficient capacity to accommodate the project's solid waste disposal needs. Impacts would be less than significant.

- e) ***Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?***

No Impact. The project would comply with federal, state, and local statutes and regulation related to solid waste, as discussed above. There would be no impact.

3.20 Wildfire

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

No Impact. Refer to Section 3.9(f).

b,c,d) Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less-Than-Significant Impact. The project site is located in an urban area and is not within a Fire Hazard Severity Zone, as mapped by the County of Marin (County of Marin 2019) and the California Department of Forestry and Fire Protection (CAL FIRE 2008). Fire Hazard Severity Zones do exist within the City between the 450-foot to 1,120-foot elevation line on the west side of Bridgeway (South Marin Fire District 2017). However, the project site is bounded by the San Francisco Bay shoreline to the north and east. The shoreline is not susceptible to wildfire since it consists of beaches and marsh vegetation. The project would comply with City of Sausalito Municipal Code Section 8.40 and Sausalito Ordinance No. 1240, which define the fire code, emergency access requirements, and building standards (City of Sausalito 2019). The project would not exacerbate wildfire risks, require the installation or maintenance of associated infrastructure, or expose people or structures to significant risks. Impacts would be less than significant.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project 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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) ***Does the project 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?***

As discussed in Section 3.4, Biological Resources, the project site is adjacent to a marsh restoration area on the San Francisco Bay. The project site is occupied by dry boat and containerized storage and generally lacks suitable habitat for most special-status plant species due to a combination of unsuitable habitat conditions and the high level of human activity in the area. However, the project site does contain trees and other vegetation that have the potential to support nesting birds that are protected under the California Fish and Game Code and under the Migratory Bird Treaty Act. In the event that any such nesting birds are present during construction activities associated with the proposed project, the birds would be protected in accordance with mitigation measure MM-BIO-1, which would require a nesting bird survey to be completed if construction occurs during the nesting season. In accordance with mitigation measure MM-BIO-1, any nesting birds or raptors that are discovered within or near a construction area would be monitored by a

qualified biologist, who would have the authority to cease construction if there is any sign of distress to the nesting bird. Any impacts to biological resources resulting from the proposed project are therefore expected to be less than significant with mitigation incorporated.

As described in Section 3.5, Cultural Resources, the proposed project would have a less-than-significant impact on historical resources. However, the proposed project would include ground disturbing activities that could result in the inadvertent discovery of sub-surface cultural and/or paleontological resources. In the unlikely event that sub-surface cultural and/or paleontological resources were to be discovered during construction activities associated with the proposed project, the resource(s) would be protected in accordance with mitigation measures MM-CUL-1, MM-CUL-2, and MM-GEO-1. Therefore, the proposed project would not eliminate important examples of the major periods of California history or prehistory. For these reasons, impacts to cultural resources resulting from the proposed project would be less than significant with mitigation incorporated.

As such, effects to biological and cultural resources and potential for project-related activities to degrade the quality of the environment would be less than significant with incorporation of mitigation measures MM-BIO-1, MM-CUL-1, MM-CUL-2, and MM-GEO-1.

- b) *Does the project 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)?***

As described throughout this IS/MND, the proposed project would result in potentially significant impacts involving aesthetics, biological resources, cultural resources, geology and soils, hazards and hazardous materials, and utilities and service systems. However, mitigation measures have been identified that would reduce these impacts to less-than-significant levels. Furthermore, the analysis presented in Section 3.2, Air Quality, and Section 3.17, Transportation, considers potential cumulative impacts associated with development in the area. This analysis determined that cumulative air and traffic impacts would be less than significant. All reasonably foreseeable future development in the City of Sausalito 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 Municipal 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. For these reasons, cumulative impacts would be less than significant with mitigation incorporated (see Sections 3.1, Aesthetics, Sections 3.4, Biological Resources, 3.5, Cultural Resources, 3.8, Geology and Soils, 3.9, Hazards and Hazardous Materials, Section 3.17, Transportation, and 3.19 Utilities and Service Systems). No further mitigation is required.

- c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?***

As described in this IS/MND, the proposed project could result in potentially significant impacts related to aesthetics and hazards and hazardous materials. With implementation of mitigation measure identified in Section 3.1, Aesthetics, of this IS/MND, impacts regarding light and glare on nighttime views would be reduced to a less-than-significant level (MM-AES-1). In addition, the as outlined in Section 3.9, Hazards and Hazardous Materials, incorporation of MM-HAZ-1 would ensure adherence to the post-closure deed

restrictions on the project site and reduce impacts to a less-than-significant level. The proposed project would not exceed significance thresholds or result in significant impacts for the other environmental categories typically associated with indirect or direct effects to human beings: air quality, noise, and public services. As such, direct or indirect adverse impacts on human beings would be less than significant with mitigation incorporated. No further mitigation is required.

4 References and Preparers

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4.2 List of Preparers

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Appendix A

CalEEMod Output

70-74 Liberty Way Project
Marin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	50.30	1000sqft	1.15	50,300.00	0
Other Non-Asphalt Surfaces	0.52	Acre	0.52	22,589.00	0
Parking Lot	108.00	Space	1.12	48,979.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	69
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	206	CH4 Intensity (lb/MW hr)	0.009	N2O Intensity (lb/MW hr)	0.002

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 70-74 Liberty Way Project. Adjusted intensity factors based on PG&E 2020 Corporate Sustainability Report.

Land Use - Three buildings totaling 50,300 sf, 22,589 sf of landscaping, and 108 parking spaces (48,979 sf).

Construction Phase - Construction would begin March 2020 and would occur over 42 months.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Assume no equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Added bore/drill rig for pile driving.

Off-road Equipment - Added trencher and excavator for utility work.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Assume no equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Added bore/drill rig for pile driving.

Off-road Equipment - Added trencher and excavator for utility work.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Trips and VMT - Rounded trips. Updated haul trips to account for offsite haul of debris and trip distance (8.8 miles).

Grading - 1,950 cy of soil export divided between both Pile Driving/Grading phases.

Architectural Coating - Exterior Painted metal will meet VOC 250 g/L (Industrial Maintenance coatings & Rust preventative coatings)

Vehicle Trips - Updated trip rate per Traffic Analysis.

Construction Off-road Equipment Mitigation - Water exposed area twice daily.

Energy Mitigation - Comply with 2019 Title 24 Standards.

Water Mitigation - 20% reduction in water consumption consistent with CalGreen.

Waste Mitigation - Assume 50% waste diverted consistent with AB 939.

Energy Use - Default energy use inputs

Water And Wastewater - Default water and wastewater inputs

Solid Waste - Default solid waste inputs

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Parking	150.00	250.00
tblArchitecturalCoating	EF_Parking	150.00	250.00
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	220.00	261.00

Page 3 of 55
70-74 Liberty Way Project - Marin County, Annual

tblConstructionPhase	NumDays	220.00	108.00
tblConstructionPhase	NumDays	220.00	240.00
tblConstructionPhase	NumDays	220.00	109.00
tblConstructionPhase	NumDays	6.00	110.00
tblConstructionPhase	NumDays	6.00	22.00
tblConstructionPhase	NumDays	6.00	110.00
tblConstructionPhase	NumDays	6.00	44.00
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	3.00	22.00
tblGrading	AcresOfGrading	33.00	11.00
tblGrading	MaterialExported	0.00	975.00
tblGrading	MaterialExported	0.00	975.00
tblLandUse	LandUseSquareFeet	22,651.20	22,589.00
tblLandUse	LandUseSquareFeet	43,200.00	48,979.00
tblLandUse	LotAcreage	0.97	1.12
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.009
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.002
tblTripsAndVMT	HaulingTripLength	20.00	8.80
tblTripsAndVMT	HaulingTripLength	20.00	8.80
tblTripsAndVMT	HaulingTripLength	20.00	8.80
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tblTripsAndVMT	HaulingTripNumber	0.00	140.00
tblTripsAndVMT	HaulingTripNumber	0.00	140.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00

Page 4 of 55
70-74 Liberty Way Project - Marin County, Annual

tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	51.00	52.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	51.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	51.00	52.00
tblTripsAndVMT	WorkerTripNumber	51.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblVehicleTrips	ST_TR	1.32	2.66
tblVehicleTrips	SU_TR	0.68	1.37
tblVehicleTrips	WD_TR	6.97	14.04

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					
2020	0.2547	2.1547	1.6967	3.4700e-003	0.1229	0.1032	0.2261	0.0499	0.0978	0.1477	0.0000	300.1459	300.1459	0.0572	0.0000	301.5760
2021	0.6039	2.4431	1.7185	3.5700e-003	0.4799	0.1123	0.5922	0.2349	0.1049	0.3398	0.0000	311.0051	311.0051	0.0723	0.0000	312.8124
2022	0.3888	3.4398	2.9403	6.1800e-003	0.5100	0.1513	0.6613	0.2415	0.1425	0.3839	0.0000	535.2065	535.2065	0.1083	0.0000	537.9135
2023	0.3728	0.1964	0.2263	4.9000e-004	0.0119	8.3600e-003	0.0203	3.2000e-003	8.0700e-003	0.0113	0.0000	42.0741	42.0741	5.0500e-003	0.0000	42.2003
Maximum	0.6039	3.4398	2.9403	6.1800e-003	0.5100	0.1513	0.6613	0.2415	0.1425	0.3839	0.0000	535.2065	535.2065	0.1083	0.0000	537.9135

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					
2020	0.2547	2.1547	1.6967	3.4700e-003	0.0801	0.1032	0.1833	0.0292	0.0978	0.1269	0.0000	300.1457	300.1457	0.0572	0.0000	301.5757
2021	0.6039	2.4431	1.7185	3.5700e-003	0.2372	0.1123	0.3495	0.1114	0.1049	0.2163	0.0000	311.0048	311.0048	0.0723	0.0000	312.8121
2022	0.3888	3.4398	2.9403	6.1800e-003	0.2706	0.1513	0.4218	0.1198	0.1425	0.2622	0.0000	535.2060	535.2060	0.1083	0.0000	537.9130
2023	0.3728	0.1964	0.2263	4.9000e-004	0.0119	8.3600e-003	0.0203	3.2000e-003	8.0700e-003	0.0113	0.0000	42.0741	42.0741	5.0500e-003	0.0000	42.2003
Maximum	0.6039	3.4398	2.9403	6.1800e-003	0.2706	0.1513	0.4218	0.1198	0.1425	0.2622	0.0000	535.2060	535.2060	0.1083	0.0000	537.9130

	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
Percent Reduction	0.00	0.00	0.00	0.00	46.68	0.00	35.01	50.22	0.00	30.13	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	tons/yr										MT/yr					
Area	0.2289	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8400e-003	2.8400e-003	1.0000e-005	0.0000	3.0200e-003
Energy	6.7100e-003	0.0610	0.0513	3.7000e-004		4.6400e-003	4.6400e-003		4.6400e-003	4.6400e-003	0.0000	103.5680	103.5680	2.9000e-003	1.5800e-003	104.1108
Mobile	0.1247	0.4081	1.4924	5.6700e-003	0.5758	5.4000e-003	0.5812	0.1544	5.0500e-003	0.1595	0.0000	518.8252	518.8252	0.0161	0.0000	519.2268
Waste						0.0000	0.0000		0.0000	0.0000	12.6606	0.0000	12.6606	0.7482	0.0000	31.3660
Water						0.0000	0.0000		0.0000	0.0000	3.6903	5.8811	9.5714	0.3793	9.0100e-003	21.7374
Total	0.3604	0.4691	1.5451	6.0400e-003	0.5758	0.0101	0.5859	0.1544	9.7000e-003	0.1641	16.3508	628.2772	644.6280	1.1465	0.0106	676.4440

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	0.2289	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8400e-003	2.8400e-003	1.0000e-005	0.0000	3.0200e-003
Energy	5.2600e-003	0.0478	0.0402	2.9000e-004		3.6300e-003	3.6300e-003		3.6300e-003	3.6300e-003	0.0000	87.4880	87.4880	2.5500e-003	1.3000e-003	87.9386
Mobile	0.1247	0.4081	1.4924	5.6700e-003	0.5758	5.4000e-003	0.5812	0.1544	5.0500e-003	0.1595	0.0000	518.8252	518.8252	0.0161	0.0000	519.2268
Waste						0.0000	0.0000		0.0000	0.0000	6.3303	0.0000	6.3303	0.3741	0.0000	15.6830
Water						0.0000	0.0000		0.0000	0.0000	2.9522	4.7049	7.6571	0.3034	7.2100e-003	17.3899
Total	0.3589	0.4559	1.5340	5.9600e-003	0.5758	9.0400e-003	0.5849	0.1544	8.6900e-003	0.1631	9.2825	611.0210	620.3035	0.6962	8.5100e-003	640.2413

	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
Percent Reduction	0.40	2.82	0.72	1.32	0.00	10.05	0.17	0.00	10.41	0.62	43.23	2.75	3.77	39.28	19.64	5.35

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Work - Site Preparation	Site Preparation	3/1/2020	3/31/2020	5	22	
2	Building A - Pile Driving/Grading	Grading	4/1/2020	4/30/2020	5	22	
3	Building A - Utilities	Trenching	5/1/2020	6/30/2020	5	43	
4	Building A - Building Construction	Building Construction	6/1/2020	4/30/2021	5	240	
5	Site Work - Grading 1	Grading	3/1/2021	7/31/2021	5	110	
6	Building A - Finish Work	Building Construction	4/1/2021	8/31/2021	5	109	
7	Building A - Architectural Coating	Architectural Coating	6/1/2021	7/31/2021	5	44	
8	Building A - Paving	Paving	8/1/2021	9/30/2021	5	44	
9	Building B and C - Pile Driving/Grading	Grading	12/1/2021	1/31/2022	5	44	
10	Building B and C - Utilities	Trenching	1/1/2022	2/28/2022	5	41	
11	Building B and C - Building Construction	Building Construction	2/1/2022	1/31/2023	5	261	
12	Site Work - Grading 2	Grading	5/1/2022	9/30/2022	5	110	
13	Building B and C - Paving	Paving	10/1/2022	11/30/2022	5	43	
14	Building B and C - Finish Work	Building Construction	1/1/2023	5/31/2023	5	108	
15	Building B and C - Architectural Coating	Architectural Coating	2/1/2023	3/31/2023	5	43	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.64

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,450; Non-Residential Outdoor: 25,150; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Work - Site Preparation	Graders	1	8.00	187	0.41
Site Work - Site Preparation	Scrapers	1	8.00	367	0.48
Site Work - Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building A - Pile Driving/Grading	Bore/Drill Rigs	1	7.00	221	0.50
Building A - Pile Driving/Grading	Graders	1	8.00	187	0.41
Building A - Pile Driving/Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building A - Pile Driving/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building A - Utilities	Excavators	1	8.00	158	0.38
Building A - Utilities	Trenchers	1	8.00	78	0.50
Building A - Building Construction	Cranes	1	8.00	231	0.29
Building A - Building Construction	Forklifts	2	7.00	89	0.20
Building A - Building Construction	Generator Sets	1	8.00	84	0.74
Building A - Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building A - Building Construction	Welders	3	8.00	46	0.45
Site Work - Grading 1	Graders	1	8.00	187	0.41
Site Work - Grading 1	Rubber Tired Dozers	1	8.00	247	0.40
Site Work - Grading 1	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building A - Finish Work	Cranes	0	0.00	231	0.29
Building A - Architectural Coating	Air Compressors	1	6.00	78	0.48
Building A - Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building A - Paving	Pavers	1	8.00	130	0.42
Building A - Paving	Paving Equipment	1	8.00	132	0.36
Building A - Paving	Rollers	2	8.00	80	0.38
Building A - Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building B and C - Pile Driving/Grading	Bore/Drill Rigs	1	7.00	221	0.50
Building B and C - Pile Driving/Grading	Graders	1	8.00	187	0.41
Building B and C - Pile Driving/Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building B and C - Pile Driving/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37

Page 10 of 55
70-74 Liberty Way Project - Marin County, Annual

Building B and C - Utilities	Excavators	1	8.00	156	0.38
Building B and C - Utilities	Trenchers	1	8.00	78	0.50
Building B and C - Building Construction	Cranes	1	8.00	231	0.29
Building B and C - Building Construction	Forklifts	2	7.00	89	0.20
Building B and C - Building Construction	Generator Sets	1	8.00	84	0.74
Building B and C - Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building B and C - Building Construction	Welders	3	8.00	46	0.45
Site Work - Grading 2	Graders	1	8.00	187	0.41
Site Work - Grading 2	Rubber Tired Dozers	1	8.00	247	0.40
Site Work - Grading 2	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building B and C - Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building B and C - Paving	Pavers	1	8.00	130	0.42
Building B and C - Paving	Paving Equipment	1	8.00	132	0.36
Building B and C - Paving	Rollers	2	8.00	80	0.38
Building B and C - Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building B and C - Finish Work	Cranes	0	0.00	231	0.29
Building B and C - Architectural Coating	Air Compressors	1	6.00	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
Site Work - Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Pile Driving/Grading	5	14.00	0.00	122.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building A - Utilities	2	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Building Construction	8	52.00	20.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Work - Grading 1	4	10.00	0.00	140.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building A - Finish Work	0	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Paving	6	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Pile Driving/Grading	5	14.00	0.00	122.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building B and C - Utilities	2	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Building Construction	8	52.00	20.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Work - Grading 2	4	10.00	0.00	140.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building B and C - Paving	6	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Finish Work	0	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Work - Site Preparation - 2020

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					5.8300e-003	0.0000	5.8300e-003	6.3000e-004	0.0000	6.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.2191	0.1240	2.7000e-004		8.5500e-003	8.5500e-003		7.8600e-003	7.8600e-003	0.0000	23.6793	23.6793	7.6600e-003	0.0000	23.8708
Total	0.0182	0.2191	0.1240	2.7000e-004	5.8300e-003	8.5500e-003	0.0144	6.3000e-004	7.8600e-003	8.4900e-003	0.0000	23.6793	23.6793	7.6600e-003	0.0000	23.8708

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	3.1000e-004	2.1000e-004	2.0800e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186
Total	3.1000e-004	2.1000e-004	2.0800e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186

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					2.6200e-003	0.0000	2.6200e-003	2.8000e-004	0.0000	2.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.2191	0.1240	2.7000e-004		8.5500e-003	8.5500e-003		7.8600e-003	7.8600e-003	0.0000	23.6793	23.6793	7.6600e-003	0.0000	23.8707
Total	0.0182	0.2191	0.1240	2.7000e-004	2.6200e-003	8.5500e-003	0.0112	2.8000e-004	7.8600e-003	8.1400e-003	0.0000	23.6793	23.6793	7.6600e-003	0.0000	23.8707

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	3.1000e-004	2.1000e-004	2.0800e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186
Total	3.1000e-004	2.1000e-004	2.0800e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.6183	0.6183	1.0000e-005	0.0000	0.6186

3.3 Building A - Pile Driving/Grading - 2020

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					0.0721	0.0000	0.0721	0.0371	0.0000	0.0371	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0238	0.2687	0.1293	3.2000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	27.8663	27.8663	9.0100e-003	0.0000	28.0916
Total	0.0238	0.2687	0.1293	3.2000e-004	0.0721	0.0119	0.0840	0.0371	0.0109	0.0480	0.0000	27.8663	27.8663	9.0100e-003	0.0000	28.0916

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	3.0000e-004	0.0108	3.0300e-003	2.0000e-005	4.5000e-004	3.0000e-005	4.8000e-004	1.2000e-004	3.0000e-005	1.5000e-004	0.0000	2.3239	2.3239	1.5000e-004	0.0000	2.3277
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	5.4000e-004	3.7000e-004	3.6400e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0819	1.0819	3.0000e-005	0.0000	1.0826
Total	8.4000e-004	0.0112	6.6700e-003	3.0000e-005	1.6600e-003	4.0000e-005	1.7000e-003	4.4000e-004	4.0000e-005	4.8000e-004	0.0000	3.4058	3.4058	1.8000e-004	0.0000	3.4103

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					0.0325	0.0000	0.0325	0.0167	0.0000	0.0167	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0238	0.2687	0.1293	3.2000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	27.8663	27.8663	9.0100e-003	0.0000	28.0916
Total	0.0238	0.2687	0.1293	3.2000e-004	0.0325	0.0119	0.0443	0.0167	0.0109	0.0276	0.0000	27.8663	27.8663	9.0100e-003	0.0000	28.0916

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	3.0000e-004	0.0108	3.0300e-003	2.0000e-005	4.5000e-004	3.0000e-005	4.8000e-004	1.2000e-004	3.0000e-005	1.5000e-004	0.0000	2.3239	2.3239	1.5000e-004	0.0000	2.3277
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	5.4000e-004	3.7000e-004	3.6400e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0819	1.0819	3.0000e-005	0.0000	1.0826
Total	8.4000e-004	0.0112	6.6700e-003	3.0000e-005	1.6600e-003	4.0000e-005	1.7000e-003	4.4000e-004	4.0000e-005	4.8000e-004	0.0000	3.4058	3.4058	1.8000e-004	0.0000	3.4103

3.4 Building A - Utilities - 2020

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	0.0143	0.1335	0.1269	1.8000e-004		8.6200e-003	8.6200e-003		7.9300e-003	7.9300e-003	0.0000	16.1288	16.1288	5.2200e-003	0.0000	16.2593
Total	0.0143	0.1335	0.1269	1.8000e-004		8.6200e-003	8.6200e-003		7.9300e-003	7.9300e-003	0.0000	16.1288	16.1288	5.2200e-003	0.0000	16.2593

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	4.5000e-004	3.1000e-004	3.0500e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9063	0.9063	2.0000e-005	0.0000	0.9068
Total	4.5000e-004	3.1000e-004	3.0500e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9063	0.9063	2.0000e-005	0.0000	0.9068

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	0.0143	0.1335	0.1269	1.8000e-004		8.6200e-003	8.6200e-003		7.9300e-003	7.9300e-003	0.0000	16.1288	16.1288	5.2200e-003	0.0000	16.2592
Total	0.0143	0.1335	0.1269	1.8000e-004		8.6200e-003	8.6200e-003		7.9300e-003	7.9300e-003	0.0000	16.1288	16.1288	5.2200e-003	0.0000	16.2592

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	4.5000e-004	3.1000e-004	3.0500e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9063	0.9063	2.0000e-005	0.0000	0.9068
Total	4.5000e-004	3.1000e-004	3.0500e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9063	0.9063	2.0000e-005	0.0000	0.9068

3.5 Building A - Building Construction - 2020

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	0.1762	1.3424	1.1471	1.9300e-003		0.0730	0.0730		0.0700	0.0700	0.0000	159.8862	159.8862	0.0325	0.0000	160.6974
Total	0.1762	1.3424	1.1471	1.9300e-003		0.0730	0.0730		0.0700	0.0700	0.0000	159.8862	159.8862	0.0325	0.0000	160.6974

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	6.7000e-003	0.1698	0.0629	4.1000e-004	0.0101	8.7000e-004	0.0109	2.9100e-003	8.3000e-004	3.7400e-003	0.0000	39.5246	39.5246	1.9900e-003	0.0000	39.5742
Worker	0.0140	9.5700e-003	0.0947	3.1000e-004	0.0315	2.2000e-004	0.0318	8.3900e-003	2.0000e-004	8.5900e-003	0.0000	28.1303	28.1303	6.7000e-004	0.0000	28.1470
Total	0.0207	0.1793	0.1576	7.2000e-004	0.0416	1.0900e-003	0.0427	0.0113	1.0300e-003	0.0123	0.0000	67.6549	67.6549	2.6600e-003	0.0000	67.7212

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	0.1762	1.3424	1.1471	1.9300e-003		0.0730	0.0730		0.0700	0.0700	0.0000	159.8860	159.8860	0.0325	0.0000	160.6973
Total	0.1762	1.3424	1.1471	1.9300e-003		0.0730	0.0730		0.0700	0.0700	0.0000	159.8860	159.8860	0.0325	0.0000	160.6973

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	6.7000e-003	0.1698	0.0629	4.1000e-004	0.0101	8.7000e-004	0.0109	2.9100e-003	8.3000e-004	3.7400e-003	0.0000	39.5246	39.5246	1.9900e-003	0.0000	39.5742
Worker	0.0140	9.5700e-003	0.0947	3.1000e-004	0.0315	2.2000e-004	0.0318	8.3900e-003	2.0000e-004	8.5900e-003	0.0000	28.1303	28.1303	6.7000e-004	0.0000	28.1470
Total	0.0207	0.1793	0.1576	7.2000e-004	0.0416	1.0900e-003	0.0427	0.0113	1.0300e-003	0.0123	0.0000	67.6549	67.6549	2.6600e-003	0.0000	67.7212

3.5 Building A - Building Construction - 2021

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	0.0879	0.6892	0.6262	1.0800e-003		0.0351	0.0351		0.0337	0.0337	0.0000	89.2890	89.2890	0.0176	0.0000	89.7281
Total	0.0879	0.6892	0.6262	1.0800e-003		0.0351	0.0351		0.0337	0.0337	0.0000	89.2890	89.2890	0.0176	0.0000	89.7281

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	3.0600e-003	0.0858	0.0310	2.3000e-004	5.6200e-003	2.0000e-004	5.8200e-003	1.6300e-003	1.9000e-004	1.8200e-003	0.0000	21.8812	21.8812	1.0500e-003	0.0000	21.9074
Worker	7.2700e-003	4.7800e-003	0.0483	1.7000e-004	0.0176	1.2000e-004	0.0177	4.6900e-003	1.1000e-004	4.7900e-003	0.0000	15.1603	15.1603	3.3000e-004	0.0000	15.1686
Total	0.0103	0.0906	0.0792	4.0000e-004	0.0232	3.2000e-004	0.0236	6.3200e-003	3.0000e-004	6.6100e-003	0.0000	37.0415	37.0415	1.3800e-003	0.0000	37.0761

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	0.0879	0.6892	0.6262	1.0800e-003		0.0351	0.0351		0.0337	0.0337	0.0000	89.2889	89.2889	0.0176	0.0000	89.7280
Total	0.0879	0.6892	0.6262	1.0800e-003		0.0351	0.0351		0.0337	0.0337	0.0000	89.2889	89.2889	0.0176	0.0000	89.7280

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	3.0600e-003	0.0858	0.0310	2.3000e-004	5.6200e-003	2.0000e-004	5.8200e-003	1.6300e-003	1.9000e-004	1.8200e-003	0.0000	21.8812	21.8812	1.0500e-003	0.0000	21.9074
Worker	7.2700e-003	4.7800e-003	0.0483	1.7000e-004	0.0176	1.2000e-004	0.0177	4.6900e-003	1.1000e-004	4.7900e-003	0.0000	15.1603	15.1603	3.3000e-004	0.0000	15.1686
Total	0.0103	0.0906	0.0792	4.0000e-004	0.0232	3.2000e-004	0.0236	6.3200e-003	3.0000e-004	6.6100e-003	0.0000	37.0415	37.0415	1.3800e-003	0.0000	37.0761

3.6 Site Work - Grading 1 - 2021

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					0.3604	0.0000	0.3604	0.1852	0.0000	0.1852	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1005	1.1117	0.5368	1.1300e-003		0.0504	0.0504		0.0463	0.0463	0.0000	99.5714	99.5714	0.0322	0.0000	100.3764
Total	0.1005	1.1117	0.5368	1.1300e-003	0.3604	0.0504	0.4108	0.1852	0.0463	0.2316	0.0000	99.5714	99.5714	0.0322	0.0000	100.3764

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	3.1000e-004	0.0117	3.2200e-003	3.0000e-005	5.2000e-004	3.0000e-005	5.5000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.6357	2.6357	1.7000e-004	0.0000	2.6399
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	1.7900e-003	1.1800e-003	0.0119	4.0000e-005	4.3300e-003	3.0000e-005	4.3600e-003	1.1500e-003	3.0000e-005	1.1800e-003	0.0000	3.7291	3.7291	8.0000e-005	0.0000	3.7311
Total	2.1000e-003	0.0129	0.0151	7.0000e-005	4.8500e-003	6.0000e-005	4.9100e-003	1.2900e-003	6.0000e-005	1.3500e-003	0.0000	6.3648	6.3648	2.5000e-004	0.0000	6.3710

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					0.1622	0.0000	0.1622	0.0834	0.0000	0.0834	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1005	1.1117	0.5368	1.1300e-003		0.0504	0.0504		0.0463	0.0463	0.0000	99.5712	99.5712	0.0322	0.0000	100.3763
Total	0.1005	1.1117	0.5368	1.1300e-003	0.1622	0.0504	0.2125	0.0834	0.0463	0.1297	0.0000	99.5712	99.5712	0.0322	0.0000	100.3763

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	3.1000e-004	0.0117	3.2200e-003	3.0000e-005	5.2000e-004	3.0000e-005	5.5000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.6357	2.6357	1.7000e-004	0.0000	2.6399
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	1.7900e-003	1.1800e-003	0.0119	4.0000e-005	4.3300e-003	3.0000e-005	4.3600e-003	1.1500e-003	3.0000e-005	1.1800e-003	0.0000	3.7291	3.7291	8.0000e-005	0.0000	3.7311
Total	2.1000e-003	0.0129	0.0151	7.0000e-005	4.8500e-003	6.0000e-005	4.9100e-003	1.2900e-003	6.0000e-005	1.3500e-003	0.0000	6.3648	6.3648	2.5000e-004	0.0000	6.3710

3.7 Building A - Finish Work - 2021

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	0.0000	0.0000	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	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	1.7700e-003	1.1700e-003	0.0118	4.0000e-005	4.2900e-003	3.0000e-005	4.3200e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	3.6952	3.6952	8.0000e-005	0.0000	3.6972
Total	1.7700e-003	1.1700e-003	0.0118	4.0000e-005	4.2900e-003	3.0000e-005	4.3200e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	3.6952	3.6952	8.0000e-005	0.0000	3.6972

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	0.0000	0.0000	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

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	1.7700e-003	1.1700e-003	0.0118	4.0000e-005	4.2900e-003	3.0000e-005	4.3200e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	3.6952	3.6952	8.0000e-005	0.0000	3.6972
Total	1.7700e-003	1.1700e-003	0.0118	4.0000e-005	4.2900e-003	3.0000e-005	4.3200e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	3.6952	3.6952	8.0000e-005	0.0000	3.6972

3.8 Building A - Architectural Coating - 2021

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	0.3455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8200e-003	0.0336	0.0400	7.0000e-005		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	5.6172	5.6172	3.9000e-004	0.0000	5.6268
Total	0.3503	0.0336	0.0400	7.0000e-005		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	5.6172	5.6172	3.9000e-004	0.0000	5.6268

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	7.2000e-004	4.7000e-004	4.7500e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4916	1.4916	3.0000e-005	0.0000	1.4924
Total	7.2000e-004	4.7000e-004	4.7500e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4916	1.4916	3.0000e-005	0.0000	1.4924

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	0.3455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8200e-003	0.0336	0.0400	7.0000e-005		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	5.6172	5.6172	3.9000e-004	0.0000	5.6268
Total	0.3503	0.0336	0.0400	7.0000e-005		2.0700e-003	2.0700e-003		2.0700e-003	2.0700e-003	0.0000	5.6172	5.6172	3.9000e-004	0.0000	5.6268

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	7.2000e-004	4.7000e-004	4.7500e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4916	1.4916	3.0000e-005	0.0000	1.4924
Total	7.2000e-004	4.7000e-004	4.7500e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4916	1.4916	3.0000e-005	0.0000	1.4924

3.9 Building A - Paving - 2021

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	0.0234	0.2343	0.2591	3.9000e-004		0.0128	0.0128		0.0118	0.0118	0.0000	34.1105	34.1105	0.0108	0.0000	34.3808
Paving	1.4700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0249	0.2343	0.2591	3.9000e-004		0.0128	0.0128		0.0118	0.0118	0.0000	34.1105	34.1105	0.0108	0.0000	34.3808

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	1.1400e-003	7.5000e-004	7.6000e-003	3.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.3866	2.3866	5.0000e-005	0.0000	2.3879
Total	1.1400e-003	7.5000e-004	7.6000e-003	3.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.3866	2.3866	5.0000e-005	0.0000	2.3879

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	0.0234	0.2343	0.2591	3.9000e-004		0.0128	0.0128		0.0118	0.0118	0.0000	34.1105	34.1105	0.0108	0.0000	34.3808
Paving	1.4700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0249	0.2343	0.2591	3.9000e-004		0.0128	0.0128		0.0118	0.0118	0.0000	34.1105	34.1105	0.0108	0.0000	34.3808

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	1.1400e-003	7.5000e-004	7.6000e-003	3.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.3866	2.3866	5.0000e-005	0.0000	2.3879
Total	1.1400e-003	7.5000e-004	7.6000e-003	3.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.3866	2.3866	5.0000e-005	0.0000	2.3879

3.10 Building B and C - Pile Driving/Grading - 2021

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					0.0810	0.0000	0.0810	0.0393	0.0000	0.0393	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2629	0.1331	3.3000e-004		0.0115	0.0115		0.0105	0.0105	0.0000	29.1453	29.1453	9.4300e-003	0.0000	29.3809
Total	0.0236	0.2629	0.1331	3.3000e-004	0.0810	0.0115	0.0924	0.0393	0.0105	0.0499	0.0000	29.1453	29.1453	9.4300e-003	0.0000	29.3809

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	1.4000e-004	5.3200e-003	1.4700e-003	1.0000e-005	4.0000e-004	1.0000e-005	4.1000e-004	1.0000e-004	1.0000e-005	1.2000e-004	0.0000	1.2006	1.2006	8.0000e-005	0.0000	1.2025
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	5.2000e-004	3.4000e-004	3.4700e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.0916	1.0916	2.0000e-005	0.0000	1.0922
Total	6.6000e-004	5.6600e-003	4.9400e-003	2.0000e-005	1.6700e-003	2.0000e-005	1.6900e-003	4.4000e-004	2.0000e-005	4.7000e-004	0.0000	2.2922	2.2922	1.0000e-004	0.0000	2.2947

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					0.0364	0.0000	0.0364	0.0177	0.0000	0.0177	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.2629	0.1331	3.3000e-004		0.0115	0.0115		0.0105	0.0105	0.0000	29.1452	29.1452	9.4300e-003	0.0000	29.3809
Total	0.0236	0.2629	0.1331	3.3000e-004	0.0364	0.0115	0.0479	0.0177	0.0105	0.0282	0.0000	29.1452	29.1452	9.4300e-003	0.0000	29.3809

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	1.4000e-004	5.3200e-003	1.4700e-003	1.0000e-005	4.0000e-004	1.0000e-005	4.1000e-004	1.0000e-004	1.0000e-005	1.2000e-004	0.0000	1.2006	1.2006	8.0000e-005	0.0000	1.2025
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	5.2000e-004	3.4000e-004	3.4700e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.0916	1.0916	2.0000e-005	0.0000	1.0922
Total	6.6000e-004	5.6600e-003	4.9400e-003	2.0000e-005	1.6700e-003	2.0000e-005	1.6900e-003	4.4000e-004	2.0000e-005	4.7000e-004	0.0000	2.2922	2.2922	1.0000e-004	0.0000	2.2947

3.10 Building B and C - Pile Driving/Grading - 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					0.0750	0.0000	0.0750	0.0360	0.0000	0.0360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.1992	0.1156	3.0000e-004		8.4600e-003	8.4600e-003		7.7900e-003	7.7900e-003	0.0000	26.6222	26.6222	8.6100e-003	0.0000	26.8374
Total	0.0182	0.1992	0.1156	3.0000e-004	0.0750	8.4600e-003	0.0834	0.0360	7.7900e-003	0.0438	0.0000	26.6222	26.6222	8.6100e-003	0.0000	26.8374

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	1.2000e-004	4.5300e-003	1.2900e-003	1.0000e-005	3.9000e-004	1.0000e-005	4.0000e-004	1.0000e-004	1.0000e-005	1.1000e-004	0.0000	1.0821	1.0821	7.0000e-005	0.0000	1.0838
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	4.5000e-004	2.8000e-004	2.9300e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1700e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9603	0.9603	2.0000e-005	0.0000	0.9608
Total	5.7000e-004	4.8100e-003	4.2200e-003	2.0000e-005	1.5500e-003	2.0000e-005	1.5700e-003	4.1000e-004	2.0000e-005	4.3000e-004	0.0000	2.0424	2.0424	9.0000e-005	0.0000	2.0446

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					0.0337	0.0000	0.0337	0.0162	0.0000	0.0162	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.1992	0.1156	3.0000e-004		8.4600e-003	8.4600e-003		7.7900e-003	7.7900e-003	0.0000	26.6221	26.6221	8.6100e-003	0.0000	26.8374
Total	0.0182	0.1992	0.1156	3.0000e-004	0.0337	8.4600e-003	0.0422	0.0162	7.7900e-003	0.0240	0.0000	26.6221	26.6221	8.6100e-003	0.0000	26.8374

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	1.2000e-004	4.5300e-003	1.2900e-003	1.0000e-005	3.9000e-004	1.0000e-005	4.0000e-004	1.0000e-004	1.0000e-005	1.1000e-004	0.0000	1.0821	1.0821	7.0000e-005	0.0000	1.0838
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	4.5000e-004	2.8000e-004	2.9300e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1700e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9603	0.9603	2.0000e-005	0.0000	0.9608
Total	5.7000e-004	4.8100e-003	4.2200e-003	2.0000e-005	1.5500e-003	2.0000e-005	1.5700e-003	4.1000e-004	2.0000e-005	4.3000e-004	0.0000	2.0424	2.0424	9.0000e-005	0.0000	2.0446

3.11 Building B and C - Utilities - 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	0.0116	0.1057	0.1200	1.8000e-004		6.6700e-003	6.6700e-003		6.1400e-003	6.1400e-003	0.0000	15.3793	15.3793	4.9700e-003	0.0000	15.5037
Total	0.0116	0.1057	0.1200	1.8000e-004		6.6700e-003	6.6700e-003		6.1400e-003	6.1400e-003	0.0000	15.3793	15.3793	4.9700e-003	0.0000	15.5037

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	3.8000e-004	2.4000e-004	2.4500e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.8000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.8035	0.8035	2.0000e-005	0.0000	0.8039
Total	3.8000e-004	2.4000e-004	2.4500e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.8000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.8035	0.8035	2.0000e-005	0.0000	0.8039

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	0.0116	0.1057	0.1200	1.8000e-004		6.6700e-003	6.6700e-003		6.1400e-003	6.1400e-003	0.0000	15.3793	15.3793	4.9700e-003	0.0000	15.5036
Total	0.0116	0.1057	0.1200	1.8000e-004		6.6700e-003	6.6700e-003		6.1400e-003	6.1400e-003	0.0000	15.3793	15.3793	4.9700e-003	0.0000	15.5036

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	3.8000e-004	2.4000e-004	2.4500e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.8000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.8035	0.8035	2.0000e-005	0.0000	0.8039
Total	3.8000e-004	2.4000e-004	2.4500e-003	1.0000e-005	9.7000e-004	1.0000e-005	9.8000e-004	2.6000e-004	1.0000e-005	2.6000e-004	0.0000	0.8035	0.8035	2.0000e-005	0.0000	0.8039

3.12 Building B and C - Building Construction - 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	0.2217	1.7452	1.7152	2.9900e-003		0.0839	0.0839		0.0804	0.0804	0.0000	248.1777	248.1777	0.0479	0.0000	249.3747
Total	0.2217	1.7452	1.7152	2.9900e-003		0.0839	0.0839		0.0804	0.0804	0.0000	248.1777	248.1777	0.0479	0.0000	249.3747

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	7.8300e-003	0.2254	0.0797	6.2000e-004	0.0156	5.0000e-004	0.0161	4.5200e-003	4.7000e-004	4.9900e-003	0.0000	60.2340	60.2340	2.8200e-003	0.0000	60.3045
Worker	0.0190	0.0120	0.1237	4.5000e-004	0.0490	3.2000e-004	0.0493	0.0130	2.9000e-004	0.0133	0.0000	40.5939	40.5939	8.3000e-004	0.0000	40.6148
Total	0.0268	0.2373	0.2034	1.0700e-003	0.0646	8.2000e-004	0.0654	0.0176	7.6000e-004	0.0183	0.0000	100.8279	100.8279	3.6500e-003	0.0000	100.9193

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	0.2217	1.7452	1.7152	2.9900e-003		0.0839	0.0839		0.0804	0.0804	0.0000	248.1774	248.1774	0.0479	0.0000	249.3744
Total	0.2217	1.7452	1.7152	2.9900e-003		0.0839	0.0839		0.0804	0.0804	0.0000	248.1774	248.1774	0.0479	0.0000	249.3744

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	7.8300e-003	0.2254	0.0797	6.2000e-004	0.0156	5.0000e-004	0.0161	4.5200e-003	4.7000e-004	4.9900e-003	0.0000	60.2340	60.2340	2.8200e-003	0.0000	60.3045
Worker	0.0190	0.0120	0.1237	4.5000e-004	0.0490	3.2000e-004	0.0493	0.0130	2.9000e-004	0.0133	0.0000	40.5939	40.5939	8.3000e-004	0.0000	40.6148
Total	0.0268	0.2373	0.2034	1.0700e-003	0.0646	8.2000e-004	0.0654	0.0176	7.6000e-004	0.0183	0.0000	100.8279	100.8279	3.6500e-003	0.0000	100.9193

3.12 Building B and C - Building Construction - 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	0.0189	0.1499	0.1564	2.8000e-004		6.7500e-003	6.7500e-003		6.4700e-003	6.4700e-003	0.0000	22.8472	22.8472	4.3200e-003	0.0000	22.9553
Total	0.0189	0.1499	0.1564	2.8000e-004		6.7500e-003	6.7500e-003		6.4700e-003	6.4700e-003	0.0000	22.8472	22.8472	4.3200e-003	0.0000	22.9553

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	5.7000e-004	0.0162	6.7100e-003	6.0000e-005	1.4400e-003	2.0000e-005	1.4600e-003	4.2000e-004	2.0000e-005	4.4000e-004	0.0000	5.3998	5.3998	2.4000e-004	0.0000	5.4057
Worker	1.6400e-003	9.9000e-004	0.0105	4.0000e-005	4.5100e-003	3.0000e-005	4.5300e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.5939	3.5939	7.0000e-005	0.0000	3.5957
Total	2.2100e-003	0.0172	0.0172	1.0000e-004	5.9500e-003	5.0000e-005	5.9900e-003	1.6200e-003	5.0000e-005	1.6700e-003	0.0000	8.9937	8.9937	3.1000e-004	0.0000	9.0014

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	0.0189	0.1499	0.1564	2.8000e-004		6.7500e-003	6.7500e-003		6.4700e-003	6.4700e-003	0.0000	22.8472	22.8472	4.3200e-003	0.0000	22.9552
Total	0.0189	0.1499	0.1564	2.8000e-004		6.7500e-003	6.7500e-003		6.4700e-003	6.4700e-003	0.0000	22.8472	22.8472	4.3200e-003	0.0000	22.9552

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	5.7000e-004	0.0162	6.7100e-003	6.0000e-005	1.4400e-003	2.0000e-005	1.4600e-003	4.2000e-004	2.0000e-005	4.4000e-004	0.0000	5.3998	5.3998	2.4000e-004	0.0000	5.4057
Worker	1.6400e-003	9.9000e-004	0.0105	4.0000e-005	4.5100e-003	3.0000e-005	4.5300e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.5939	3.5939	7.0000e-005	0.0000	3.5957
Total	2.2100e-003	0.0172	0.0172	1.0000e-004	5.9500e-003	5.0000e-005	5.9900e-003	1.6200e-003	5.0000e-005	1.6700e-003	0.0000	8.9937	8.9937	3.1000e-004	0.0000	9.0014

3.13 Site Work - Grading 2 - 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					0.3604	0.0000	0.3604	0.1852	0.0000	0.1852	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0847	0.9341	0.5071	1.1300e-003		0.0408	0.0408		0.0376	0.0376	0.0000	99.5649	99.5649	0.0322	0.0000	100.3700
Total	0.0847	0.9341	0.5071	1.1300e-003	0.3604	0.0408	0.4012	0.1852	0.0376	0.2228	0.0000	99.5649	99.5649	0.0322	0.0000	100.3700

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	2.9000e-004	0.0109	3.0900e-003	3.0000e-005	5.2000e-004	2.0000e-005	5.4000e-004	1.4000e-004	2.0000e-005	1.7000e-004	0.0000	2.6018	2.6018	1.7000e-004	0.0000	2.6059
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	1.6800e-003	1.0600e-003	0.0109	4.0000e-005	4.3300e-003	3.0000e-005	4.3600e-003	1.1500e-003	3.0000e-005	1.1800e-003	0.0000	3.5930	3.5930	7.0000e-005	0.0000	3.5948
Total	1.9700e-003	0.0120	0.0140	7.0000e-005	4.8500e-003	5.0000e-005	4.9000e-003	1.2900e-003	5.0000e-005	1.3500e-003	0.0000	6.1948	6.1948	2.4000e-004	0.0000	6.2007

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					0.1622	0.0000	0.1622	0.0834	0.0000	0.0834	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0847	0.9341	0.5071	1.1300e-003		0.0408	0.0408		0.0376	0.0376	0.0000	99.5648	99.5648	0.0322	0.0000	100.3698
Total	0.0847	0.9341	0.5071	1.1300e-003	0.1622	0.0408	0.2030	0.0834	0.0376	0.1209	0.0000	99.5648	99.5648	0.0322	0.0000	100.3698

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	2.9000e-004	0.0109	3.0900e-003	3.0000e-005	5.2000e-004	2.0000e-005	5.4000e-004	1.4000e-004	2.0000e-005	1.7000e-004	0.0000	2.6018	2.6018	1.7000e-004	0.0000	2.6059
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	1.6800e-003	1.0600e-003	0.0109	4.0000e-005	4.3300e-003	3.0000e-005	4.3600e-003	1.1500e-003	3.0000e-005	1.1800e-003	0.0000	3.5930	3.5930	7.0000e-005	0.0000	3.5948
Total	1.9700e-003	0.0120	0.0140	7.0000e-005	4.8500e-003	5.0000e-005	4.9000e-003	1.2900e-003	5.0000e-005	1.3500e-003	0.0000	6.1948	6.1948	2.4000e-004	0.0000	6.2007

3.14 Building B and C - Paving - 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	0.0202	0.2006	0.2515	3.8000e-004		0.0105	0.0105		9.6700e-003	9.6700e-003	0.0000	33.3466	33.3466	0.0106	0.0000	33.6108
Paving	1.4700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0217	0.2006	0.2515	3.8000e-004		0.0105	0.0105		9.6700e-003	9.6700e-003	0.0000	33.3466	33.3466	0.0106	0.0000	33.6108

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	1.0500e-003	6.6000e-004	6.8500e-003	2.0000e-005	2.7100e-003	2.0000e-005	2.7300e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.2472	2.2472	5.0000e-005	0.0000	2.2484
Total	1.0500e-003	6.6000e-004	6.8500e-003	2.0000e-005	2.7100e-003	2.0000e-005	2.7300e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.2472	2.2472	5.0000e-005	0.0000	2.2484

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	0.0202	0.2006	0.2515	3.8000e-004		0.0105	0.0105		9.6700e-003	9.6700e-003	0.0000	33.3466	33.3466	0.0106	0.0000	33.6108
Paving	1.4700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0217	0.2006	0.2515	3.8000e-004		0.0105	0.0105		9.6700e-003	9.6700e-003	0.0000	33.3466	33.3466	0.0106	0.0000	33.6108

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	1.0500e-003	6.6000e-004	6.8500e-003	2.0000e-005	2.7100e-003	2.0000e-005	2.7300e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.2472	2.2472	5.0000e-005	0.0000	2.2484
Total	1.0500e-003	6.6000e-004	6.8500e-003	2.0000e-005	2.7100e-003	2.0000e-005	2.7300e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.2472	2.2472	5.0000e-005	0.0000	2.2484

3.15 Building B and C - Finish Work - 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	0.0000	0.0000	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	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	1.5500e-003	9.3000e-004	9.8700e-003	4.0000e-005	4.2500e-003	3.0000e-005	4.2800e-003	1.1300e-003	2.0000e-005	1.1600e-003	0.0000	3.3929	3.3929	6.0000e-005	0.0000	3.3945
Total	1.5500e-003	9.3000e-004	9.8700e-003	4.0000e-005	4.2500e-003	3.0000e-005	4.2800e-003	1.1300e-003	2.0000e-005	1.1600e-003	0.0000	3.3929	3.3929	6.0000e-005	0.0000	3.3945

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	0.0000	0.0000	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

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	1.5500e-003	9.3000e-004	9.8700e-003	4.0000e-005	4.2500e-003	3.0000e-005	4.2800e-003	1.1300e-003	2.0000e-005	1.1600e-003	0.0000	3.3929	3.3929	6.0000e-005	0.0000	3.3945
Total	1.5500e-003	9.3000e-004	9.8700e-003	4.0000e-005	4.2500e-003	3.0000e-005	4.2800e-003	1.1300e-003	2.0000e-005	1.1600e-003	0.0000	3.3929	3.3929	6.0000e-005	0.0000	3.3945

3.16 Building B and C - Architectural Coating - 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	0.3455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1200e-003	0.0280	0.0389	6.0000e-005		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	5.4895	5.4895	3.3000e-004	0.0000	5.4977
Total	0.3496	0.0280	0.0389	6.0000e-005		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	5.4895	5.4895	3.3000e-004	0.0000	5.4977

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	6.2000e-004	3.7000e-004	3.9300e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3509	1.3509	3.0000e-005	0.0000	1.3515
Total	6.2000e-004	3.7000e-004	3.9300e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3509	1.3509	3.0000e-005	0.0000	1.3515

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	0.3455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1200e-003	0.0280	0.0389	6.0000e-005		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	5.4895	5.4895	3.3000e-004	0.0000	5.4977
Total	0.3496	0.0280	0.0389	6.0000e-005		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	5.4895	5.4895	3.3000e-004	0.0000	5.4977

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	6.2000e-004	3.7000e-004	3.9300e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3509	1.3509	3.0000e-005	0.0000	1.3515
Total	6.2000e-004	3.7000e-004	3.9300e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3509	1.3509	3.0000e-005	0.0000	1.3515

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	0.1247	0.4081	1.4924	5.6700e-003	0.5758	5.4000e-003	0.5812	0.1544	5.0500e-003	0.1595	0.0000	518.8252	518.8252	0.0161	0.0000	519.2268
Unmitigated	0.1247	0.4081	1.4924	5.6700e-003	0.5758	5.4000e-003	0.5812	0.1544	5.0500e-003	0.1595	0.0000	518.8252	518.8252	0.0161	0.0000	519.2268

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	706.21	133.80	68.91	1,557,254	1,557,254
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	706.21	133.80	68.91	1,557,254	1,557,254

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
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
General Light Industry	0.598301	0.039360	0.198316	0.109153	0.015323	0.005191	0.010619	0.011654	0.002041	0.002927	0.005696	0.000707	0.000711
Other Non-Asphalt Surfaces	0.598301	0.039360	0.198316	0.109153	0.015323	0.005191	0.010619	0.011654	0.002041	0.002927	0.005696	0.000707	0.000711
Parking Lot	0.598301	0.039360	0.198316	0.109153	0.015323	0.005191	0.010619	0.011654	0.002041	0.002927	0.005696	0.000707	0.000711

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	35.4280	35.4280	1.5500e-003	3.4000e-004	35.5692
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	37.1341	37.1341	1.6200e-003	3.6000e-004	37.2821
NaturalGas Mitigated	5.2600e-003	0.0478	0.0402	2.9000e-004		3.6300e-003	3.6300e-003		3.6300e-003	3.6300e-003	0.0000	52.0601	52.0601	1.0000e-003	9.5000e-004	52.3694
NaturalGas Unmitigated	6.7100e-003	0.0610	0.0513	3.7000e-004		4.6400e-003	4.6400e-003		4.6400e-003	4.6400e-003	0.0000	66.4339	66.4339	1.2700e-003	1.2200e-003	66.8287

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					
General Light Industry	1.24493e+006	6.7100e-003	0.0610	0.0513	3.7000e-004		4.6400e-003	4.6400e-003		4.6400e-003	4.6400e-003	0.0000	66.4339	66.4339	1.2700e-003	1.2200e-003	66.8287
Other Non-Asphalt Surfaces	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
Total		6.7100e-003	0.0610	0.0513	3.7000e-004		4.6400e-003	4.6400e-003		4.6400e-003	4.6400e-003	0.0000	66.4339	66.4339	1.2700e-003	1.2200e-003	66.8287

Mitigated

	Natural Gas 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					
General Light Industry	975569	5.2600e-003	0.0478	0.0402	2.9000e-004		3.6300e-003	3.6300e-003		3.6300e-003	3.6300e-003	0.0000	52.0601	52.0601	1.0000e-003	9.5000e-004	52.3694
Other Non-Asphalt Surfaces	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
Total		5.2600e-003	0.0478	0.0402	2.9000e-004		3.6300e-003	3.6300e-003		3.6300e-003	3.6300e-003	0.0000	52.0601	52.0601	1.0000e-003	9.5000e-004	52.3694

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	380268	35.5323	1.5500e-003	3.4000e-004	35.6739
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	17142.6	1.6018	7.0000e-005	2.0000e-005	1.6082
Total		37.1341	1.6200e-003	3.6000e-004	37.2821

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	362009	33.8261	1.4800e-003	3.3000e-004	33.9610
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	17142.6	1.6018	7.0000e-005	2.0000e-005	1.6082
Total		35.4280	1.5500e-003	3.5000e-004	35.5691

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	0.2289	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8400e-003	2.8400e-003	1.0000e-005	0.0000	3.0200e-003
Unmitigated	0.2289	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8400e-003	2.8400e-003	1.0000e-005	0.0000	3.0200e-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	0.0277					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2011					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8400e-003	2.8400e-003	1.0000e-005	0.0000	3.0200e-003
Total	0.2289	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8400e-003	2.8400e-003	1.0000e-005	0.0000	3.0200e-003

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	0.0277					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2011					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8400e-003	2.8400e-003	1.0000e-005	0.0000	3.0200e-003
Total	0.2289	1.0000e-005	1.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8400e-003	2.8400e-003	1.0000e-005	0.0000	3.0200e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.6571	0.3034	7.2100e-003	17.3899
Unmitigated	9.5714	0.3793	9.0100e-003	21.7374

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	11.6319 / 0	9.5714	0.3793	9.0100e-003	21.7374
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		9.5714	0.3793	9.0100e-003	21.7374

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	9.3055 / 0	7.6571	0.3034	7.2100e-003	17.3899
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		7.6571	0.3034	7.2100e-003	17.3899

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.3303	0.3741	0.0000	15.6830
Unmitigated	12.6606	0.7482	0.0000	31.3660

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	62.37	12.6606	0.7482	0.0000	31.3660
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		12.6606	0.7482	0.0000	31.3660

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	31.185	6.3303	0.3741	0.0000	15.6830
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		6.3303	0.3741	0.0000	15.6830

CalEEMod Version: CalEEMod.2016.3.2

Date: 1/19/2021 10:04 AM

70-74 Liberty Way Project Marin County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	50.30	1000sqft	1.15	50,300.00	0
Other Non-Asphalt Surfaces	0.52	Acre	0.52	22,589.00	0
Parking Lot	108.00	Space	1.12	48,979.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	69
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	206	CH4 Intensity (lb/MW hr)	0.009	N2O Intensity (lb/MW hr)	0.002

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 70-74 Liberty Way Project. Adjusted intensity factors based on PG&E 2020 Corporate Sustainability Report.

Land Use - Three buildings totaling 50,300 sf, 22,589 sf of landscaping, and 108 parking spaces (48,979 sf).

Construction Phase - Construction would begin March 2020 and would occur over 42 months.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Assume no equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Added bore/drill rig for pile driving.

Off-road Equipment - Added trencher and excavator for utility work.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Assume no equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Added bore/drill rig for pile driving.

Off-road Equipment - Added trencher and excavator for utility work.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Trips and VMT - Rounded trips. Updated haul trips to account for offsite haul of debris and trip distance (8.8 miles).

Grading - 1,950 cy of soil export divided between both Pile Driving/Grading phases.

Architectural Coating - Exterior Painted metal will meet VOC 250 g/L (Industrial Maintenance coatings & Rust preventative coatings)

Vehicle Trips - Updated trip rate per Traffic Analysis.

Construction Off-road Equipment Mitigation - Water exposed area twice daily.

Energy Mitigation - Comply with 2019 Title 24 Standards.

Water Mitigation - 20% reduction in water consumption consistent with CalGreen.

Waste Mitigation - Assume 50% waste diverted consistent with AB 939.

Energy Use - Default energy use inputs

Water And Wastewater - Default water and wastewater inputs

Solid Waste - Default solid waste inputs

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Parking	150.00	250.00
tblArchitecturalCoating	EF_Parking	150.00	250.00
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	220.00	261.00

Page 3 of 50
70-74 Liberty Way Project - Marin County, Summer

tblConstructionPhase	NumDays	220.00	108.00
tblConstructionPhase	NumDays	220.00	240.00
tblConstructionPhase	NumDays	220.00	109.00
tblConstructionPhase	NumDays	6.00	110.00
tblConstructionPhase	NumDays	6.00	22.00
tblConstructionPhase	NumDays	6.00	110.00
tblConstructionPhase	NumDays	6.00	44.00
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	3.00	22.00
tblGrading	AcresOfGrading	33.00	11.00
tblGrading	MaterialExported	0.00	975.00
tblGrading	MaterialExported	0.00	975.00
tblLandUse	LandUseSquareFeet	22,651.20	22,589.00
tblLandUse	LandUseSquareFeet	43,200.00	48,979.00
tblLandUse	LotAcreage	0.97	1.12
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.009
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.002
tblTripsAndVMT	HaulingTripLength	20.00	8.80
tblTripsAndVMT	HaulingTripLength	20.00	8.80
tblTripsAndVMT	HaulingTripLength	20.00	8.80
tblTripsAndVMT	HaulingTripLength	20.00	8.80
tblTripsAndVMT	HaulingTripNumber	0.00	140.00
tblTripsAndVMT	HaulingTripNumber	0.00	140.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00

tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	51.00	52.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	51.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	51.00	52.00
tblTripsAndVMT	WorkerTripNumber	51.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblVehicleTrips	ST_TR	1.32	2.66
tblVehicleTrips	SU_TR	0.68	1.37
tblVehicleTrips	WD_TR	6.97	14.04

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					
2020	3.2474	25.9345	23.0560	0.0438	6.7150	1.3636	7.7972	3.4104	1.2915	4.4062	0.0000	4,169.964 1	4,169.964 1	0.9207	0.0000	4,189.241 6
2021	17.8546	38.5530	26.7421	0.0572	7.2889	1.7420	9.0308	3.5660	1.6340	5.2000	0.0000	5,482.930 8	5,482.930 8	1.1380	0.0000	5,511.380 4
2022	3.6607	33.7495	28.1501	0.0562	7.2068	1.4522	8.6589	3.5442	1.3632	4.9075	0.0000	5,378.548 9	5,378.548 9	1.1816	0.0000	5,406.688 0
2023	16.3182	15.1772	16.0270	0.0348	0.6446	0.6187	1.2634	0.1740	0.5928	0.7669	0.0000	3,297.491 1	3,297.491 1	0.4653	0.0000	3,309.122 9
Maximum	17.8546	38.5530	28.1501	0.0572	7.2889	1.7420	9.0308	3.5660	1.6340	5.2000	0.0000	5,482.930 8	5,482.930 8	1.1816	0.0000	5,511.380 4

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					
2020	3.2474	25.9345	23.0560	0.0438	3.1085	1.3636	4.1907	1.5579	1.2915	2.5537	0.0000	4,169.964 1	4,169.964 1	0.9207	0.0000	4,189.241 6
2021	17.8546	38.5530	26.7421	0.0572	3.6851	1.7420	5.4270	1.7139	1.6340	3.3479	0.0000	5,482.930 8	5,482.930 8	1.1380	0.0000	5,511.380 4
2022	3.6607	33.7495	28.1501	0.0562	3.6030	1.4522	5.0551	1.6921	1.3632	3.0553	0.0000	5,378.548 9	5,378.548 9	1.1816	0.0000	5,406.688 0
2023	16.3182	15.1772	16.0270	0.0348	0.6446	0.6187	1.2634	0.1740	0.5928	0.7669	0.0000	3,297.491 1	3,297.491 1	0.4653	0.0000	3,309.122 9
Maximum	17.8546	38.5530	28.1501	0.0572	3.6851	1.7420	5.4270	1.7139	1.6340	3.3479	0.0000	5,482.930 8	5,482.930 8	1.1816	0.0000	5,511.380 4

	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
Percent Reduction	0.00	0.00	0.00	0.00	49.48	0.00	40.43	51.96	0.00	36.37	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	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370
Energy	0.0368	0.3344	0.2809	2.0100e-003		0.0254	0.0254		0.0254	0.0254		401.2651	401.2651	7.6900e-003	7.3600e-003	403.6496
Mobile	1.0320	2.8198	11.3721	0.0439	4.3660	0.0393	4.4053	1.1667	0.0367	1.2035		4,423.5188	4,423.5188	0.1309		4,426.7917
Total	2.3239	3.1543	11.6692	0.0459	4.3660	0.0648	4.4307	1.1667	0.0622	1.2289		4,824.8187	4,824.8187	0.1387	7.3600e-003	4,830.4783

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	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370
Energy	0.0288	0.2620	0.2201	1.5700e-003		0.0199	0.0199		0.0199	0.0199		314.4459	314.4459	6.0300e-003	5.7600e-003	316.3145
Mobile	1.0320	2.8198	11.3721	0.0439	4.3660	0.0393	4.4053	1.1667	0.0367	1.2035		4,423.5188	4,423.5188	0.1309		4,426.7917
Total	2.3159	3.0819	11.6084	0.0455	4.3660	0.0593	4.4252	1.1667	0.0567	1.2234		4,737.9995	4,737.9995	0.1370	5.7600e-003	4,743.1432

	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
Percent Reduction	0.34	2.29	0.52	0.96	0.00	8.49	0.12	0.00	8.84	0.45	0.00	1.80	1.80	1.20	21.74	1.81

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Work - Site Preparation	Site Preparation	3/1/2020	3/31/2020	5	22	
2	Building A - Pile Driving/Grading	Grading	4/1/2020	4/30/2020	5	22	
3	Building A - Utilities	Trenching	5/1/2020	6/30/2020	5	43	
4	Building A - Building Construction	Building Construction	6/1/2020	4/30/2021	5	240	
5	Site Work - Grading 1	Grading	3/1/2021	7/31/2021	5	110	
6	Building A - Finish Work	Building Construction	4/1/2021	8/31/2021	5	109	
7	Building A - Architectural Coating	Architectural Coating	6/1/2021	7/31/2021	5	44	
8	Building A - Paving	Paving	8/1/2021	9/30/2021	5	44	
9	Building B and C - Pile Driving/Grading	Grading	12/1/2021	1/31/2022	5	44	
10	Building B and C - Utilities	Trenching	1/1/2022	2/28/2022	5	41	
11	Building B and C - Building Construction	Building Construction	2/1/2022	1/31/2023	5	261	
12	Site Work - Grading 2	Grading	5/1/2022	9/30/2022	5	110	
13	Building B and C - Paving	Paving	10/1/2022	11/30/2022	5	43	
14	Building B and C - Finish Work	Building Construction	1/1/2023	5/31/2023	5	108	
15	Building B and C - Architectural Coating	Architectural Coating	2/1/2023	3/31/2023	5	43	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.64

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,450; Non-Residential Outdoor: 25,150; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Work - Site Preparation	Graders	1	8.00	187	0.41
Site Work - Site Preparation	Scrapers	1	8.00	367	0.48
Site Work - Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building A - Pile Driving/Grading	Bore/Drill Rigs	1	7.00	221	0.50
Building A - Pile Driving/Grading	Graders	1	8.00	187	0.41
Building A - Pile Driving/Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building A - Pile Driving/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building A - Utilities	Excavators	1	8.00	158	0.38
Building A - Utilities	Trenchers	1	8.00	78	0.50
Building A - Building Construction	Cranes	1	8.00	231	0.29
Building A - Building Construction	Forklifts	2	7.00	89	0.20
Building A - Building Construction	Generator Sets	1	8.00	84	0.74
Building A - Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building A - Building Construction	Welders	3	8.00	46	0.45
Site Work - Grading 1	Graders	1	8.00	187	0.41
Site Work - Grading 1	Rubber Tired Dozers	1	8.00	247	0.40
Site Work - Grading 1	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building A - Finish Work	Cranes	0	0.00	231	0.29
Building A - Architectural Coating	Air Compressors	1	6.00	78	0.48
Building A - Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building A - Paving	Pavers	1	8.00	130	0.42
Building A - Paving	Paving Equipment	1	8.00	132	0.36
Building A - Paving	Rollers	2	8.00	80	0.38
Building A - Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building B and C - Pile Driving/Grading	Bore/Drill Rigs	1	7.00	221	0.50
Building B and C - Pile Driving/Grading	Graders	1	8.00	187	0.41
Building B and C - Pile Driving/Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building B and C - Pile Driving/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37

Page 9 of 50
70-74 Liberty Way Project - Marin County, Summer

Building B and C - Utilities	Excavators	1	8.00	158	0.38
Building B and C - Utilities	Trenchers	1	8.00	78	0.50
Building B and C - Building Construction	Cranes	1	8.00	231	0.29
Building B and C - Building Construction	Forklifts	2	7.00	89	0.20
Building B and C - Building Construction	Generator Sets	1	8.00	84	0.74
Building B and C - Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building B and C - Building Construction	Welders	3	8.00	46	0.45
Site Work - Grading 2	Graders	1	8.00	187	0.41
Site Work - Grading 2	Rubber Tired Dozers	1	8.00	247	0.40
Site Work - Grading 2	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building B and C - Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building B and C - Paving	Pavers	1	8.00	130	0.42
Building B and C - Paving	Paving Equipment	1	8.00	132	0.36
Building B and C - Paving	Rollers	2	8.00	80	0.38
Building B and C - Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building B and C - Finish Work	Cranes	0	0.00	231	0.29
Building B and C - Architectural Coating	Air Compressors	1	6.00	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
Site Work - Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Pile Driving/Grading	5	14.00	0.00	122.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building A - Utilities	2	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Building Construction	8	52.00	20.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Work - Grading 1	4	10.00	0.00	140.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building A - Finish Work	0	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Paving	6	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Pile Driving/Grading	5	14.00	0.00	122.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building B and C - Utilities	2	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Building Construction	8	52.00	20.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Work - Grading 2	4	10.00	0.00	140.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building B and C - Paving	6	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Finish Work	0	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Work - Site Preparation - 2020

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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.6521	19.9196	11.2678	0.0245		0.7771	0.7771		0.7149	0.7149		2,372.906 2	2,372.906 2	0.7675		2,392.092 4
Total	1.6521	19.9196	11.2678	0.0245	0.5303	0.7771	1.3073	0.0573	0.7149	0.7722		2,372.906 2	2,372.906 2	0.7675		2,392.092 4

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	0.0289	0.0168	0.2044	6.7000e-004	0.0657	4.3000e-004	0.0662	0.0174	4.0000e-004	0.0178		66.6514	66.6514	1.5700e-003		66.6905
Total	0.0289	0.0168	0.2044	6.7000e-004	0.0657	4.3000e-004	0.0662	0.0174	4.0000e-004	0.0178		66.6514	66.6514	1.5700e-003		66.6905

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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	1.6521	19.9196	11.2678	0.0245		0.7771	0.7771		0.7149	0.7149	0.0000	2,372.9062	2,372.9062	0.7675		2,392.0924
Total	1.6521	19.9196	11.2678	0.0245	0.2386	0.7771	1.0157	0.0258	0.7149	0.7407	0.0000	2,372.9062	2,372.9062	0.7675		2,392.0924

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	0.0289	0.0168	0.2044	6.7000e-004	0.0657	4.3000e-004	0.0662	0.0174	4.0000e-004	0.0178		66.6514	66.6514	1.5700e-003		66.6905
Total	0.0289	0.0168	0.2044	6.7000e-004	0.0657	4.3000e-004	0.0662	0.0174	4.0000e-004	0.0178		66.6514	66.6514	1.5700e-003		66.6905

3.3 Building A - Pile Driving/Grading - 2020

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					6.5574	0.0000	6.5574	3.3682	0.0000	3.3682			0.0000			0.0000
Off-Road	2.1648	24.4238	11.7562	0.0288		1.0790	1.0790		0.9926	0.9926		2,792.487 1	2,792.487 1	0.9032		2,815.065 8
Total	2.1648	24.4238	11.7562	0.0288	6.5574	1.0790	7.6363	3.3682	0.9926	4.3609		2,792.487 1	2,792.487 1	0.9032		2,815.065 8

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	0.0266	0.9730	0.2623	2.1900e-003	0.0426	2.5300e-003	0.0452	0.0117	2.4200e-003	0.0141		235.6187	235.6187	0.0148		235.9883
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	0.0506	0.0294	0.3577	1.1700e-003	0.1150	7.5000e-004	0.1158	0.0305	7.0000e-004	0.0312		116.6399	116.6399	2.7400e-003		116.7084
Total	0.0772	1.0024	0.6200	3.3600e-003	0.1576	3.2800e-003	0.1609	0.0422	3.1200e-003	0.0453		352.2586	352.2586	0.0175		352.6967

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					2.9508	0.0000	2.9508	1.5157	0.0000	1.5157			0.0000			0.0000
Off-Road	2.1648	24.4238	11.7562	0.0288		1.0790	1.0790		0.9926	0.9926	0.0000	2,792.487 1	2,792.487 1	0.9032		2,815.065 8
Total	2.1648	24.4238	11.7562	0.0288	2.9508	1.0790	4.0298	1.5157	0.9926	2.5084	0.0000	2,792.487 1	2,792.487 1	0.9032		2,815.065 8

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	0.0266	0.9730	0.2623	2.1900e-003	0.0426	2.5300e-003	0.0452	0.0117	2.4200e-003	0.0141		235.6187	235.6187	0.0148		235.9883
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	0.0506	0.0294	0.3577	1.1700e-003	0.1150	7.5000e-004	0.1158	0.0305	7.0000e-004	0.0312		116.6399	116.6399	2.7400e-003		116.7084
Total	0.0772	1.0024	0.6200	3.3600e-003	0.1576	3.2800e-003	0.1609	0.0422	3.1200e-003	0.0453		352.2586	352.2586	0.0175		352.6967

3.4 Building A - Utilities - 2020

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	0.6647	6.2092	5.9041	8.5400e-003		0.4011	0.4011		0.3690	0.3690		826.9305	826.9305	0.2675		833.6167
Total	0.6647	6.2092	5.9041	8.5400e-003		0.4011	0.4011		0.3690	0.3690		826.9305	826.9305	0.2675		833.6167

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	0.0217	0.0126	0.1533	5.0000e-004	0.0493	3.2000e-004	0.0496	0.0131	3.0000e-004	0.0134		49.9885	49.9885	1.1700e-003		50.0179
Total	0.0217	0.0126	0.1533	5.0000e-004	0.0493	3.2000e-004	0.0496	0.0131	3.0000e-004	0.0134		49.9885	49.9885	1.1700e-003		50.0179

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	0.6647	6.2092	5.9041	8.5400e-003		0.4011	0.4011		0.3690	0.3690	0.0000	826.9305	826.9305	0.2675		833.6167
Total	0.6647	6.2092	5.9041	8.5400e-003		0.4011	0.4011		0.3690	0.3690	0.0000	826.9305	826.9305	0.2675		833.6167

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	0.0217	0.0126	0.1533	5.0000e-004	0.0493	3.2000e-004	0.0496	0.0131	3.0000e-004	0.0134		49.9885	49.9885	1.1700e-003		50.0179
Total	0.0217	0.0126	0.1533	5.0000e-004	0.0493	3.2000e-004	0.0496	0.0131	3.0000e-004	0.0134		49.9885	49.9885	1.1700e-003		50.0179

3.5 Building A - Building Construction - 2020

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	2.2879	17.4336	14.8972	0.0250		0.9482	0.9482		0.9089	0.9089		2,288.887 7	2,288.887 7	0.4646		2,300.501 4
Total	2.2879	17.4336	14.8972	0.0250		0.9482	0.9482		0.9089	0.9089		2,288.887 7	2,288.887 7	0.4646		2,300.501 4

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	0.0851	2.1699	0.7727	5.3800e-003	0.1353	0.0112	0.1465	0.0389	0.0107	0.0496		570.9234	570.9234	0.0278		571.6173
Worker	0.1880	0.1092	1.3287	4.3500e-003	0.4272	2.8000e-003	0.4300	0.1133	2.5800e-003	0.1159		433.2339	433.2339	0.0102		433.4883
Total	0.2731	2.2791	2.1013	9.7300e-003	0.5625	0.0140	0.5764	0.1522	0.0133	0.1655		1,004.157 3	1,004.157 3	0.0379		1,005.105 7

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	2.2879	17.4336	14.8972	0.0250		0.9482	0.9482		0.9089	0.9089	0.0000	2,288.8877	2,288.8877	0.4646		2,300.5014
Total	2.2879	17.4336	14.8972	0.0250		0.9482	0.9482		0.9089	0.9089	0.0000	2,288.8877	2,288.8877	0.4646		2,300.5014

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	0.0851	2.1699	0.7727	5.3800e-003	0.1353	0.0112	0.1465	0.0389	0.0107	0.0496		570.9234	570.9234	0.0278		571.6173
Worker	0.1880	0.1092	1.3287	4.3500e-003	0.4272	2.8000e-003	0.4300	0.1133	2.5800e-003	0.1159		433.2339	433.2339	0.0102		433.4883
Total	0.2731	2.2791	2.1013	9.7300e-003	0.5625	0.0140	0.5764	0.1522	0.0133	0.1655		1,004.1573	1,004.1573	0.0379		1,005.1057

3.5 Building A - Building Construction - 2021

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	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831		2,288.9355	2,288.9355	0.4503		2,300.1935
Total	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831		2,288.9355	2,288.9355	0.4503		2,300.1935

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	0.0693	1.9670	0.6790	5.3200e-003	0.1353	4.6500e-003	0.1399	0.0389	4.4500e-003	0.0434		566.0325	566.0325	0.0263		566.6901
Worker	0.1750	0.0977	1.2163	4.1900e-003	0.4272	2.7200e-003	0.4299	0.1133	2.5100e-003	0.1158		418.0919	418.0919	9.1100e-003		418.3198
Total	0.2443	2.0647	1.8953	9.5100e-003	0.5625	7.3700e-003	0.5698	0.1522	6.9600e-003	0.1592		984.1244	984.1244	0.0354		985.0099

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	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831	0.0000	2,288.9355	2,288.9355	0.4503		2,300.1935
Total	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831	0.0000	2,288.9355	2,288.9355	0.4503		2,300.1935

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	0.0693	1.9670	0.6790	5.3200e-003	0.1353	4.6500e-003	0.1399	0.0389	4.4500e-003	0.0434		566.0325	566.0325	0.0263		566.6901
Worker	0.1750	0.0977	1.2163	4.1900e-003	0.4272	2.7200e-003	0.4299	0.1133	2.5100e-003	0.1158		418.0919	418.0919	9.1100e-003		418.3198
Total	0.2443	2.0647	1.8953	9.5100e-003	0.5625	7.3700e-003	0.5698	0.1522	6.9600e-003	0.1592		984.1244	984.1244	0.0354		985.0099

3.6 Site Work - Grading 1 - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	1.8271	20.2135	9.7604	0.0206	6.5523	0.9158	7.4681	3.3675	0.8425	4.2100		1,995.6114	1,995.6114	0.6454		2,011.7470

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	5.5800e-003	0.2096	0.0557	5.0000e-004	9.7800e-003	5.2000e-004	0.0103	2.6800e-003	4.9000e-004	3.1700e-003		53.4548	53.4548	3.3200e-003		53.5378
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	0.0337	0.0188	0.2339	8.1000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		80.4023	80.4023	1.7500e-003		80.4461
Total	0.0392	0.2284	0.2896	1.3100e-003	0.0919	1.0400e-003	0.0930	0.0245	9.7000e-004	0.0254		133.8571	133.8571	5.0700e-003		133.9839

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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	1.8271	20.2135	9.7604	0.0206	2.9486	0.9158	3.8643	1.5154	0.8425	2.3579	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470

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	5.5800e-003	0.2096	0.0557	5.0000e-004	9.7800e-003	5.2000e-004	0.0103	2.6800e-003	4.9000e-004	3.1700e-003		53.4548	53.4548	3.3200e-003		53.5378
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	0.0337	0.0188	0.2339	8.1000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		80.4023	80.4023	1.7500e-003		80.4461
Total	0.0392	0.2284	0.2896	1.3100e-003	0.0919	1.0400e-003	0.0930	0.0245	9.7000e-004	0.0254		133.8571	133.8571	5.0700e-003		133.9839

3.7 Building A - Finish Work - 2021

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	0.0000	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

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	0.0337	0.0188	0.2339	8.1000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		80.4023	80.4023	1.7500e-003		80.4461
Total	0.0337	0.0188	0.2339	8.1000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		80.4023	80.4023	1.7500e-003		80.4461

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	0.0000	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

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	0.0337	0.0188	0.2339	8.1000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		80.4023	80.4023	1.7500e-003		80.4461
Total	0.0337	0.0188	0.2339	8.1000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		80.4023	80.4023	1.7500e-003		80.4461

3.8 Building A - Architectural Coating - 2021

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	15.7021					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	15.9210	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

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	0.0337	0.0188	0.2339	8.1000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		80.4023	80.4023	1.7500e-003		80.4461
Total	0.0337	0.0188	0.2339	8.1000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		80.4023	80.4023	1.7500e-003		80.4461

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	15.7021					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	15.9210	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

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	0.0337	0.0188	0.2339	8.1000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		80.4023	80.4023	1.7500e-003		80.4461
Total	0.0337	0.0188	0.2339	8.1000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		80.4023	80.4023	1.7500e-003		80.4461

3.9 Building A - Paving - 2021

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	1.0633	10.6478	11.7756	0.0178		0.5826	0.5826		0.5371	0.5371		1,709.1107	1,709.1107	0.5417		1,722.6524
Paving	0.0667					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1300	10.6478	11.7756	0.0178		0.5826	0.5826		0.5371	0.5371		1,709.1107	1,709.1107	0.5417		1,722.6524

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	0.0539	0.0301	0.3743	1.2900e-003	0.1314	8.4000e-004	0.1323	0.0349	7.7000e-004	0.0356		128.6437	128.6437	2.8000e-003		128.7138
Total	0.0539	0.0301	0.3743	1.2900e-003	0.1314	8.4000e-004	0.1323	0.0349	7.7000e-004	0.0356		128.6437	128.6437	2.8000e-003		128.7138

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	1.0633	10.6478	11.7756	0.0178		0.5826	0.5826		0.5371	0.5371	0.0000	1,709.1107	1,709.1107	0.5417		1,722.6524
Paving	0.0667					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1300	10.6478	11.7756	0.0178		0.5826	0.5826		0.5371	0.5371	0.0000	1,709.1107	1,709.1107	0.5417		1,722.6524

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	0.0539	0.0301	0.3743	1.2900e-003	0.1314	8.4000e-004	0.1323	0.0349	7.7000e-004	0.0356		128.6437	128.6437	2.8000e-003		128.7138
Total	0.0539	0.0301	0.3743	1.2900e-003	0.1314	8.4000e-004	0.1323	0.0349	7.7000e-004	0.0356		128.6437	128.6437	2.8000e-003		128.7138

3.10 Building B and C - Pile Driving/Grading - 2021

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					6.5548	0.0000	6.5548	3.3679	0.0000	3.3679			0.0000			0.0000
Off-Road	2.0530	22.8585	11.5751	0.0288		0.9959	0.9959		0.9163	0.9163		2,793.666 1	2,793.666 1	0.9035		2,816.254 3
Total	2.0530	22.8585	11.5751	0.0288	6.5548	0.9959	7.5508	3.3679	0.9163	4.2841		2,793.666 1	2,793.666 1	0.9035		2,816.254 3

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	0.0122	0.4567	0.1213	1.0800e-003	0.0360	1.1200e-003	0.0372	9.4600e-003	1.0700e-003	0.0105		116.4552	116.4552	7.2300e-003		116.6360
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	0.0471	0.0263	0.3275	1.1300e-003	0.1150	7.3000e-004	0.1157	0.0305	6.8000e-004	0.0312		112.5632	112.5632	2.4500e-003		112.6246
Total	0.0593	0.4830	0.4488	2.2100e-003	0.1511	1.8500e-003	0.1529	0.0400	1.7500e-003	0.0417		229.0184	229.0184	9.6800e-003		229.2605

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					2.9497	0.0000	2.9497	1.5155	0.0000	1.5155			0.0000			0.0000
Off-Road	2.0530	22.8585	11.5751	0.0288		0.9959	0.9959		0.9163	0.9163	0.0000	2,793.6660	2,793.6660	0.9035		2,816.2543
Total	2.0530	22.8585	11.5751	0.0288	2.9497	0.9959	3.9456	1.5155	0.9163	2.4318	0.0000	2,793.6660	2,793.6660	0.9035		2,816.2543

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	0.0122	0.4567	0.1213	1.0800e-003	0.0360	1.1200e-003	0.0372	9.4600e-003	1.0700e-003	0.0105		116.4552	116.4552	7.2300e-003		116.6360
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	0.0471	0.0263	0.3275	1.1300e-003	0.1150	7.3000e-004	0.1157	0.0305	6.8000e-004	0.0312		112.5632	112.5632	2.4500e-003		112.6246
Total	0.0593	0.4830	0.4488	2.2100e-003	0.1511	1.8500e-003	0.1529	0.0400	1.7500e-003	0.0417		229.0184	229.0184	9.6800e-003		229.2605

3.10 Building B and C - Pile Driving/Grading - 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					6.5548	0.0000	6.5548	3.3679	0.0000	3.3679			0.0000			0.0000
Off-Road	1.7364	18.9667	11.0062	0.0289		0.8059	0.8059		0.7415	0.7415		2,794.848 2	2,794.848 2	0.9039		2,817.445 9
Total	1.7364	18.9667	11.0062	0.0289	6.5548	0.8059	7.3608	3.3679	0.7415	4.1093		2,794.848 2	2,794.848 2	0.9039		2,817.445 9

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	0.0113	0.4268	0.1169	1.0600e-003	0.0390	9.7000e-004	0.0400	0.0102	9.3000e-004	0.0111		114.9741	114.9741	7.1000e-003		115.1517
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	0.0442	0.0237	0.3028	1.0900e-003	0.1150	7.2000e-004	0.1157	0.0305	6.6000e-004	0.0312		108.4514	108.4514	2.2100e-003		108.5067
Total	0.0556	0.4505	0.4197	2.1500e-003	0.1540	1.6900e-003	0.1557	0.0407	1.5900e-003	0.0423		223.4254	223.4254	9.3100e-003		223.6584

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					2.9497	0.0000	2.9497	1.5155	0.0000	1.5155			0.0000			0.0000
Off-Road	1.7364	18.9667	11.0062	0.0289		0.8059	0.8059		0.7415	0.7415	0.0000	2,794.848 2	2,794.848 2	0.9039		2,817.445 9
Total	1.7364	18.9667	11.0062	0.0289	2.9497	0.8059	3.7556	1.5155	0.7415	2.2570	0.0000	2,794.848 2	2,794.848 2	0.9039		2,817.445 9

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	0.0113	0.4268	0.1169	1.0600e-003	0.0390	9.7000e-004	0.0400	0.0102	9.3000e-004	0.0111		114.9741	114.9741	7.1000e-003		115.1517
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	0.0442	0.0237	0.3028	1.0900e-003	0.1150	7.2000e-004	0.1157	0.0305	6.6000e-004	0.0312		108.4514	108.4514	2.2100e-003		108.5067
Total	0.0556	0.4505	0.4197	2.1500e-003	0.1540	1.6900e-003	0.1557	0.0407	1.5900e-003	0.0423		223.4254	223.4254	9.3100e-003		223.6584

3.11 Building B and C - Utilities - 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	0.5663	5.1567	5.8541	8.5400e-003		0.3254	0.3254		0.2994	0.2994		826.9647	826.9647	0.2675		833.6511
Total	0.5663	5.1567	5.8541	8.5400e-003		0.3254	0.3254		0.2994	0.2994		826.9647	826.9647	0.2675		833.6511

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	0.0190	0.0102	0.1298	4.7000e-004	0.0493	3.1000e-004	0.0496	0.0131	2.8000e-004	0.0134		46.4792	46.4792	9.5000e-004		46.5029
Total	0.0190	0.0102	0.1298	4.7000e-004	0.0493	3.1000e-004	0.0496	0.0131	2.8000e-004	0.0134		46.4792	46.4792	9.5000e-004		46.5029

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	0.5663	5.1567	5.8541	8.5400e-003		0.3254	0.3254		0.2994	0.2994	0.0000	826.9647	826.9647	0.2675		833.6511
Total	0.5663	5.1567	5.8541	8.5400e-003		0.3254	0.3254		0.2994	0.2994	0.0000	826.9647	826.9647	0.2675		833.6511

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	0.0190	0.0102	0.1298	4.7000e-004	0.0493	3.1000e-004	0.0496	0.0131	2.8000e-004	0.0134		46.4792	46.4792	9.5000e-004		46.5029
Total	0.0190	0.0102	0.1298	4.7000e-004	0.0493	3.1000e-004	0.0496	0.0131	2.8000e-004	0.0134		46.4792	46.4792	9.5000e-004		46.5029

3.12 Building B and C - Building Construction - 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	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230
Total	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230

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	0.0639	1.8611	0.6293	5.2700e-003	0.1353	4.0700e-003	0.1394	0.0389	3.8900e-003	0.0428		560.7257	560.7257	0.0255		561.3619
Worker	0.1642	0.0879	1.1246	4.0400e-003	0.4272	2.6600e-003	0.4298	0.1133	2.4500e-003	0.1158		402.8193	402.8193	8.2200e-003		403.0249
Total	0.2281	1.9490	1.7538	9.3100e-003	0.5625	6.7300e-003	0.5692	0.1522	6.3400e-003	0.1586		963.5450	963.5450	0.0337		964.3868

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	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230
Total	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230

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	0.0639	1.8611	0.6293	5.2700e-003	0.1353	4.0700e-003	0.1394	0.0389	3.8900e-003	0.0428		560.7257	560.7257	0.0255		561.3619
Worker	0.1642	0.0879	1.1246	4.0400e-003	0.4272	2.6600e-003	0.4298	0.1133	2.4500e-003	0.1158		402.8193	402.8193	8.2200e-003		403.0249
Total	0.2281	1.9490	1.7538	9.3100e-003	0.5625	6.7300e-003	0.5692	0.1522	6.3400e-003	0.1586		963.5450	963.5450	0.0337		964.3868

3.12 Building B and C - Building Construction - 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	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880		2,289.5233	2,289.5233	0.4330		2,300.3479
Total	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880		2,289.5233	2,289.5233	0.4330		2,300.3479

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	0.0503	1.4589	0.5769	5.1200e-003	0.1353	2.0100e-003	0.1373	0.0390	1.9200e-003	0.0409		546.0462	546.0462	0.0235		546.6333
Worker	0.1540	0.0792	1.0364	3.8800e-003	0.4272	2.6000e-003	0.4298	0.1133	2.4000e-003	0.1157		387.4181	387.4181	7.3900e-003		387.6028
Total	0.2043	1.5381	1.6133	9.0000e-003	0.5625	4.6100e-003	0.5671	0.1523	4.3200e-003	0.1566		933.4643	933.4643	0.0309		934.2361

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	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	0.0000	2,289.5233	2,289.5233	0.4330		2,300.3479
Total	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	0.0000	2,289.5233	2,289.5233	0.4330		2,300.3479

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	0.0503	1.4589	0.5769	5.1200e-003	0.1353	2.0100e-003	0.1373	0.0390	1.9200e-003	0.0409		546.0462	546.0462	0.0235		546.6333
Worker	0.1540	0.0792	1.0364	3.8800e-003	0.4272	2.6000e-003	0.4298	0.1133	2.4000e-003	0.1157		387.4181	387.4181	7.3900e-003		387.6028
Total	0.2043	1.5381	1.6133	9.0000e-003	0.5625	4.6100e-003	0.5671	0.1523	4.3200e-003	0.1566		933.4643	933.4643	0.0309		934.2361

3.13 Site Work - Grading 2 - 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829		1,995.4825	1,995.4825	0.6454		2,011.6169
Total	1.5403	16.9836	9.2202	0.0206	6.5523	0.7423	7.2946	3.3675	0.6829	4.0504		1,995.4825	1,995.4825	0.6454		2,011.6169

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	5.2100e-003	0.1959	0.0537	4.9000e-004	9.7900e-003	4.4000e-004	0.0102	2.6800e-003	4.3000e-004	3.1100e-003		52.7750	52.7750	3.2600e-003		52.8565
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	0.0316	0.0169	0.2163	7.8000e-004	0.0822	5.1000e-004	0.0827	0.0218	4.7000e-004	0.0223		77.4653	77.4653	1.5800e-003		77.5048
Total	0.0368	0.2128	0.2699	1.2700e-003	0.0919	9.5000e-004	0.0929	0.0245	9.0000e-004	0.0254		130.2402	130.2402	4.8400e-003		130.3613

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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829	0.0000	1,995.4825	1,995.4825	0.6454		2,011.6169
Total	1.5403	16.9836	9.2202	0.0206	2.9486	0.7423	3.6908	1.5154	0.6829	2.1983	0.0000	1,995.4825	1,995.4825	0.6454		2,011.6169

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	5.2100e-003	0.1959	0.0537	4.9000e-004	9.7900e-003	4.4000e-004	0.0102	2.6800e-003	4.3000e-004	3.1100e-003		52.7750	52.7750	3.2600e-003		52.8565
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	0.0316	0.0169	0.2163	7.8000e-004	0.0822	5.1000e-004	0.0827	0.0218	4.7000e-004	0.0223		77.4653	77.4653	1.5800e-003		77.5048
Total	0.0368	0.2128	0.2699	1.2700e-003	0.0919	9.5000e-004	0.0929	0.0245	9.0000e-004	0.0254		130.2402	130.2402	4.8400e-003		130.3613

3.14 Building B and C - Paving - 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	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.689 2	1,709.689 2	0.5419		1,723.235 6
Paving	0.0682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0094	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.689 2	1,709.689 2	0.5419		1,723.235 6

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	0.0505	0.0271	0.3460	1.2400e-003	0.1314	8.2000e-004	0.1323	0.0349	7.5000e-004	0.0356		123.9444	123.9444	2.5300e-003		124.0077
Total	0.0505	0.0271	0.3460	1.2400e-003	0.1314	8.2000e-004	0.1323	0.0349	7.5000e-004	0.0356		123.9444	123.9444	2.5300e-003		124.0077

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	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.689 2	1,709.689 2	0.5419		1,723.235 6
Paving	0.0682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0094	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.689 2	1,709.689 2	0.5419		1,723.235 6

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	0.0505	0.0271	0.3460	1.2400e-003	0.1314	8.2000e-004	0.1323	0.0349	7.5000e-004	0.0356		123.9444	123.9444	2.5300e-003		124.0077
Total	0.0505	0.0271	0.3460	1.2400e-003	0.1314	8.2000e-004	0.1323	0.0349	7.5000e-004	0.0356		123.9444	123.9444	2.5300e-003		124.0077

3.15 Building B and C - Finish Work - 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	0.0000	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

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	0.0296	0.0152	0.1993	7.5000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		74.5035	74.5035	1.4200e-003		74.5390
Total	0.0296	0.0152	0.1993	7.5000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		74.5035	74.5035	1.4200e-003		74.5390

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	0.0000	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

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	0.0296	0.0152	0.1993	7.5000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		74.5035	74.5035	1.4200e-003		74.5390
Total	0.0296	0.0152	0.1993	7.5000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		74.5035	74.5035	1.4200e-003		74.5390

3.16 Building B and C - Architectural Coating - 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	16.0673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	16.2589	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

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	0.0296	0.0152	0.1993	7.5000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		74.5035	74.5035	1.4200e-003		74.5390
Total	0.0296	0.0152	0.1993	7.5000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		74.5035	74.5035	1.4200e-003		74.5390

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	16.0673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	16.2589	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

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	0.0296	0.0152	0.1993	7.5000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		74.5035	74.5035	1.4200e-003		74.5390
Total	0.0296	0.0152	0.1993	7.5000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		74.5035	74.5035	1.4200e-003		74.5390

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	1.0320	2.8198	11.3721	0.0439	4.3660	0.0393	4.4053	1.1667	0.0367	1.2035		4,423.5188	4,423.5188	0.1309		4,426.7917
Unmitigated	1.0320	2.8198	11.3721	0.0439	4.3660	0.0393	4.4053	1.1667	0.0367	1.2035		4,423.5188	4,423.5188	0.1309		4,426.7917

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	706.21	133.80	68.91	1,557,254	1,557,254
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	706.21	133.80	68.91	1,557,254	1,557,254

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
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
General Light Industry	0.598301	0.039360	0.198316	0.109153	0.015323	0.005191	0.010619	0.011654	0.002041	0.002927	0.005696	0.000707	0.000711
Other Non-Asphalt Surfaces	0.598301	0.039360	0.198316	0.109153	0.015323	0.005191	0.010619	0.011654	0.002041	0.002927	0.005696	0.000707	0.000711
Parking Lot	0.598301	0.039360	0.198316	0.109153	0.015323	0.005191	0.010619	0.011654	0.002041	0.002927	0.005696	0.000707	0.000711

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	0.0288	0.2620	0.2201	1.5700e-003		0.0199	0.0199		0.0199	0.0199		314.4459	314.4459	6.0300e-003	5.7600e-003	316.3145
NaturalGas Unmitigated	0.0368	0.3344	0.2809	2.0100e-003		0.0254	0.0254		0.0254	0.0254		401.2651	401.2651	7.6900e-003	7.3600e-003	403.6496

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					
General Light Industry	3410.75	0.0368	0.3344	0.2809	2.0100e-003		0.0254	0.0254		0.0254	0.0254		401.2651	401.2651	7.6900e-003	7.3600e-003	403.6496
Other Non-Asphalt Surfaces	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
Total		0.0368	0.3344	0.2809	2.0100e-003		0.0254	0.0254		0.0254	0.0254		401.2651	401.2651	7.6900e-003	7.3600e-003	403.6496

Mitigated

	Natural Gas 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					
General Light Industry	2.67279	0.0288	0.2620	0.2201	1.5700e-003		0.0199	0.0199		0.0199	0.0199		314.4459	314.4459	6.0300e-003	5.7600e-003	316.3145
Other Non-Asphalt Surfaces	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
Total		0.0288	0.2620	0.2201	1.5700e-003		0.0199	0.0199		0.0199	0.0199		314.4459	314.4459	6.0300e-003	5.7600e-003	316.3145

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	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370
Unmitigated	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370

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	0.1519					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1018					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.4900e-003	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370
Total	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370

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	0.1519					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1018					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.4900e-003	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370
Total	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370

CalEEMod Version: CalEEMod.2016.3.2

Date: 1/19/2021 10:07 AM

70-74 Liberty Way Project Marin County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	50.30	1000sqft	1.15	50,300.00	0
Other Non-Asphalt Surfaces	0.52	Acre	0.52	22,589.00	0
Parking Lot	108.00	Space	1.12	48,979.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	69
Climate Zone	5			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	206	CH4 Intensity (lb/MW hr)	0.009	N2O Intensity (lb/MW hr)	0.002

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 70-74 Liberty Way Project. Adjusted intensity factors based on PG&E 2020 Corporate Sustainability Report.

Land Use - Three buildings totaling 50,300 sf, 22,589 sf of landscaping, and 108 parking spaces (48,979 sf).

Construction Phase - Construction would begin March 2020 and would occur over 42 months.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Assume no equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Added bore/drill rig for pile driving.

Off-road Equipment - Added trencher and excavator for utility work.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Assume no equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Added bore/drill rig for pile driving.

Off-road Equipment - Added trencher and excavator for utility work.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Trips and VMT - Rounded trips. Updated haul trips to account for offsite haul of debris and trip distance (8.8 miles).

Grading - 1,950 cy of soil export divided between both Pile Driving/Grading phases.

Architectural Coating - Exterior Painted metal will meet VOC 250 g/L (Industrial Maintenance coatings & Rust preventative coatings)

Vehicle Trips - Updated trip rate per Traffic Analysis.

Construction Off-road Equipment Mitigation - Water exposed area twice daily.

Energy Mitigation - Comply with 2019 Title 24 Standards.

Water Mitigation - 20% reduction in water consumption consistent with CalGreen.

Waste Mitigation - Assume 50% waste diverted consistent with AB 939.

Energy Use - Default energy use inputs

Water And Wastewater - Default water and wastewater inputs

Solid Waste - Default solid waste inputs

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Parking	150.00	250.00
tblArchitecturalCoating	EF_Parking	150.00	250.00
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	220.00	261.00

Page 3 of 50
70-74 Liberty Way Project - Marin County, Winter

tblConstructionPhase	NumDays	220.00	108.00
tblConstructionPhase	NumDays	220.00	240.00
tblConstructionPhase	NumDays	220.00	109.00
tblConstructionPhase	NumDays	6.00	110.00
tblConstructionPhase	NumDays	6.00	22.00
tblConstructionPhase	NumDays	6.00	110.00
tblConstructionPhase	NumDays	6.00	44.00
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	10.00	44.00
tblConstructionPhase	NumDays	3.00	22.00
tblGrading	AcresOfGrading	33.00	11.00
tblGrading	MaterialExported	0.00	975.00
tblGrading	MaterialExported	0.00	975.00
tblLandUse	LandUseSquareFeet	22,651.20	22,589.00
tblLandUse	LandUseSquareFeet	43,200.00	48,979.00
tblLandUse	LotAcreage	0.97	1.12
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.009
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.002
tblTripsAndVMT	HaulingTripLength	20.00	8.80
tblTripsAndVMT	HaulingTripLength	20.00	8.80
tblTripsAndVMT	HaulingTripLength	20.00	8.80
tblTripsAndVMT	HaulingTripLength	20.00	8.80
tblTripsAndVMT	HaulingTripNumber	0.00	140.00
tblTripsAndVMT	HaulingTripNumber	0.00	140.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00

tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	51.00	52.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	51.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	51.00	52.00
tblTripsAndVMT	WorkerTripNumber	51.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblVehicleTrips	ST_TR	1.32	2.66
tblVehicleTrips	SU_TR	0.68	1.37
tblVehicleTrips	WD_TR	6.97	14.04

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					
2020	3.2687	25.9976	23.0740	0.0433	6.7150	1.3638	7.7973	3.4104	1.2917	4.4063	0.0000	4,121.564 1	4,121.564 1	0.9212	0.0000	4,140.860 3
2021	17.8630	38.6121	26.7416	0.0567	7.2889	1.7422	9.0310	3.5660	1.6342	5.2002	0.0000	5,425.846 1	5,425.846 1	1.1387	0.0000	5,454.312 8
2022	3.6813	33.7971	28.1437	0.0557	7.2068	1.4524	8.6591	3.5442	1.3634	4.9076	0.0000	5,328.879 7	5,328.879 7	1.1818	0.0000	5,357.038 2
2023	16.3233	15.2111	16.0178	0.0343	0.6446	0.6189	1.2635	0.1740	0.5929	0.7670	0.0000	3,251.114 9	3,251.114 9	0.4658	0.0000	3,262.758 7
Maximum	17.8630	38.6121	28.1437	0.0567	7.2889	1.7422	9.0310	3.5660	1.6342	5.2002	0.0000	5,425.846 1	5,425.846 1	1.1818	0.0000	5,454.312 8

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					
2020	3.2687	25.9976	23.0740	0.0433	3.1085	1.3638	4.1908	1.5579	1.2917	2.5538	0.0000	4,121.5641	4,121.5641	0.9212	0.0000	4,140.8603
2021	17.8630	38.6121	26.7416	0.0567	3.6851	1.7422	5.4273	1.7139	1.6342	3.3481	0.0000	5,425.8461	5,425.8461	1.1387	0.0000	5,454.3128
2022	3.6813	33.7971	28.1437	0.0557	3.6030	1.4524	5.0553	1.6921	1.3634	3.0555	0.0000	5,328.8797	5,328.8797	1.1818	0.0000	5,357.0382
2023	16.3233	15.2111	16.0178	0.0343	0.6446	0.6189	1.2635	0.1740	0.5929	0.7670	0.0000	3,251.1149	3,251.1149	0.4658	0.0000	3,262.7587
Maximum	17.8630	38.6121	28.1437	0.0567	3.6851	1.7422	5.4273	1.7139	1.6342	3.3481	0.0000	5,425.8461	5,425.8461	1.1818	0.0000	5,454.3128

	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
Percent Reduction	0.00	0.00	0.00	0.00	49.48	0.00	40.43	51.96	0.00	36.36	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	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370
Energy	0.0368	0.3344	0.2809	2.0100e-003		0.0254	0.0254		0.0254	0.0254		401.2651	401.2651	7.6900e-003	7.3600e-003	403.6496
Mobile	0.9054	3.0540	11.2653	0.0411	4.3660	0.0394	4.4054	1.1667	0.0368	1.2036		4,143.2317	4,143.2317	0.1307		4,146.4995
Total	2.1973	3.3886	11.5623	0.0431	4.3660	0.0649	4.4308	1.1667	0.0623	1.2290		4,544.5316	4,544.5316	0.1385	7.3600e-003	4,550.1861

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	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370
Energy	0.0288	0.2620	0.2201	1.5700e-003		0.0199	0.0199		0.0199	0.0199		314.4459	314.4459	6.0300e-003	5.7600e-003	316.3145
Mobile	0.9054	3.0540	11.2653	0.0411	4.3660	0.0394	4.4054	1.1667	0.0368	1.2036		4,143.2317	4,143.2317	0.1307		4,146.4995
Total	2.1893	3.3162	11.5016	0.0427	4.3660	0.0594	4.4253	1.1667	0.0568	1.2235		4,457.7124	4,457.7124	0.1368	5.7600e-003	4,462.8510

	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
Percent Reduction	0.36	2.14	0.53	1.02	0.00	8.48	0.12	0.00	8.83	0.45	0.00	1.91	1.91	1.20	21.74	1.92

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Work - Site Preparation	Site Preparation	3/1/2020	3/31/2020	5	22	
2	Building A - Pile Driving/Grading	Grading	4/1/2020	4/30/2020	5	22	
3	Building A - Utilities	Trenching	5/1/2020	6/30/2020	5	43	
4	Building A - Building Construction	Building Construction	6/1/2020	4/30/2021	5	240	
5	Site Work - Grading 1	Grading	3/1/2021	7/31/2021	5	110	
6	Building A - Finish Work	Building Construction	4/1/2021	8/31/2021	5	109	
7	Building A - Architectural Coating	Architectural Coating	6/1/2021	7/31/2021	5	44	
8	Building A - Paving	Paving	8/1/2021	9/30/2021	5	44	
9	Building B and C - Pile Driving/Grading	Grading	12/1/2021	1/31/2022	5	44	
10	Building B and C - Utilities	Trenching	1/1/2022	2/28/2022	5	41	
11	Building B and C - Building Construction	Building Construction	2/1/2022	1/31/2023	5	261	
12	Site Work - Grading 2	Grading	5/1/2022	9/30/2022	5	110	
13	Building B and C - Paving	Paving	10/1/2022	11/30/2022	5	43	
14	Building B and C - Finish Work	Building Construction	1/1/2023	5/31/2023	5	108	
15	Building B and C - Architectural Coating	Architectural Coating	2/1/2023	3/31/2023	5	43	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.64

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,450; Non-Residential Outdoor: 25,150; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Work - Site Preparation	Graders	1	8.00	187	0.41
Site Work - Site Preparation	Scrapers	1	8.00	367	0.48
Site Work - Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building A - Pile Driving/Grading	Bore/Drill Rigs	1	7.00	221	0.50
Building A - Pile Driving/Grading	Graders	1	8.00	187	0.41
Building A - Pile Driving/Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building A - Pile Driving/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building A - Utilities	Excavators	1	8.00	158	0.38
Building A - Utilities	Trenchers	1	8.00	78	0.50
Building A - Building Construction	Cranes	1	8.00	231	0.29
Building A - Building Construction	Forklifts	2	7.00	89	0.20
Building A - Building Construction	Generator Sets	1	8.00	84	0.74
Building A - Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building A - Building Construction	Welders	3	8.00	46	0.45
Site Work - Grading 1	Graders	1	8.00	187	0.41
Site Work - Grading 1	Rubber Tired Dozers	1	8.00	247	0.40
Site Work - Grading 1	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building A - Finish Work	Cranes	0	0.00	231	0.29
Building A - Architectural Coating	Air Compressors	1	6.00	78	0.48
Building A - Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building A - Paving	Pavers	1	8.00	130	0.42
Building A - Paving	Paving Equipment	1	8.00	132	0.36
Building A - Paving	Rollers	2	8.00	80	0.38
Building A - Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building B and C - Pile Driving/Grading	Bore/Drill Rigs	1	7.00	221	0.50
Building B and C - Pile Driving/Grading	Graders	1	8.00	187	0.41
Building B and C - Pile Driving/Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building B and C - Pile Driving/Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37

Page 9 of 50
70-74 Liberty Way Project - Marin County, Winter

Building B and C - Utilities	Excavators	1	8.00	158	0.38
Building B and C - Utilities	Trenchers	1	8.00	78	0.50
Building B and C - Building Construction	Cranes	1	8.00	231	0.29
Building B and C - Building Construction	Forklifts	2	7.00	89	0.20
Building B and C - Building Construction	Generator Sets	1	8.00	84	0.74
Building B and C - Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building B and C - Building Construction	Welders	3	8.00	46	0.45
Site Work - Grading 2	Graders	1	8.00	187	0.41
Site Work - Grading 2	Rubber Tired Dozers	1	8.00	247	0.40
Site Work - Grading 2	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building B and C - Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building B and C - Paving	Pavers	1	8.00	130	0.42
Building B and C - Paving	Paving Equipment	1	8.00	132	0.36
Building B and C - Paving	Rollers	2	8.00	80	0.38
Building B and C - Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building B and C - Finish Work	Cranes	0	0.00	231	0.29
Building B and C - Architectural Coating	Air Compressors	1	6.00	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
Site Work - Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Pile Driving/Grading	5	14.00	0.00	122.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building A - Utilities	2	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Building Construction	8	52.00	20.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Work - Grading 1	4	10.00	0.00	140.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building A - Finish Work	0	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building A - Paving	6	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Pile Driving/Grading	5	14.00	0.00	122.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building B and C - Utilities	2	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Building Construction	8	52.00	20.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Work - Grading 2	4	10.00	0.00	140.00	10.80	7.30	8.80	LD_Mix	HDT_Mix	HHDT
Building B and C - Paving	6	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Finish Work	0	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building B and C - Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Work - Site Preparation - 2020

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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.6521	19.9196	11.2678	0.0245		0.7771	0.7771		0.7149	0.7149		2,372.906 2	2,372.906 2	0.7675		2,392.092 4
Total	1.6521	19.9196	11.2678	0.0245	0.5303	0.7771	1.3073	0.0573	0.7149	0.7722		2,372.906 2	2,372.906 2	0.7675		2,392.092 4

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	0.0312	0.0208	0.1946	6.2000e-004	0.0657	4.3000e-004	0.0662	0.0174	4.0000e-004	0.0178		61.6491	61.6491	1.4700e-003		61.6859
Total	0.0312	0.0208	0.1946	6.2000e-004	0.0657	4.3000e-004	0.0662	0.0174	4.0000e-004	0.0178		61.6491	61.6491	1.4700e-003		61.6859

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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	1.6521	19.9196	11.2678	0.0245		0.7771	0.7771		0.7149	0.7149	0.0000	2,372.9062	2,372.9062	0.7675		2,392.0924
Total	1.6521	19.9196	11.2678	0.0245	0.2386	0.7771	1.0157	0.0258	0.7149	0.7407	0.0000	2,372.9062	2,372.9062	0.7675		2,392.0924

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	0.0312	0.0208	0.1946	6.2000e-004	0.0657	4.3000e-004	0.0662	0.0174	4.0000e-004	0.0178		61.6491	61.6491	1.4700e-003		61.6859
Total	0.0312	0.0208	0.1946	6.2000e-004	0.0657	4.3000e-004	0.0662	0.0174	4.0000e-004	0.0178		61.6491	61.6491	1.4700e-003		61.6859

3.3 Building A - Pile Driving/Grading - 2020

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					6.5574	0.0000	6.5574	3.3682	0.0000	3.3682			0.0000			0.0000
Off-Road	2.1648	24.4238	11.7562	0.0288		1.0790	1.0790		0.9926	0.9926		2,792.487 1	2,792.487 1	0.9032		2,815.065 8
Total	2.1648	24.4238	11.7562	0.0288	6.5574	1.0790	7.6363	3.3682	0.9926	4.3609		2,792.487 1	2,792.487 1	0.9032		2,815.065 8

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	0.0280	0.9827	0.2915	2.1300e-003	0.0426	2.6500e-003	0.0453	0.0117	2.5300e-003	0.0142		229.0930	229.0930	0.0155		229.4804
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	0.0546	0.0363	0.3405	1.0800e-003	0.1150	7.5000e-004	0.1158	0.0305	7.0000e-004	0.0312		107.8859	107.8859	2.5800e-003		107.9504
Total	0.0826	1.0190	0.6320	3.2100e-003	0.1576	3.4000e-003	0.1610	0.0422	3.2300e-003	0.0454		336.9789	336.9789	0.0181		337.4307

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					2.9508	0.0000	2.9508	1.5157	0.0000	1.5157			0.0000			0.0000
Off-Road	2.1648	24.4238	11.7562	0.0288		1.0790	1.0790		0.9926	0.9926	0.0000	2,792.487 1	2,792.487 1	0.9032		2,815.065 8
Total	2.1648	24.4238	11.7562	0.0288	2.9508	1.0790	4.0298	1.5157	0.9926	2.5084	0.0000	2,792.487 1	2,792.487 1	0.9032		2,815.065 8

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	0.0280	0.9827	0.2915	2.1300e-003	0.0426	2.6500e-003	0.0453	0.0117	2.5300e-003	0.0142		229.0930	229.0930	0.0155		229.4804
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	0.0546	0.0363	0.3405	1.0800e-003	0.1150	7.5000e-004	0.1158	0.0305	7.0000e-004	0.0312		107.8859	107.8859	2.5800e-003		107.9504
Total	0.0826	1.0190	0.6320	3.2100e-003	0.1576	3.4000e-003	0.1610	0.0422	3.2300e-003	0.0454		336.9789	336.9789	0.0181		337.4307

3.4 Building A - Utilities - 2020

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	0.6647	6.2092	5.9041	8.5400e-003		0.4011	0.4011		0.3690	0.3690		826.9305	826.9305	0.2675		833.6167
Total	0.6647	6.2092	5.9041	8.5400e-003		0.4011	0.4011		0.3690	0.3690		826.9305	826.9305	0.2675		833.6167

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	0.0234	0.0156	0.1459	4.6000e-004	0.0493	3.2000e-004	0.0496	0.0131	3.0000e-004	0.0134		46.2368	46.2368	1.1100e-003		46.2645
Total	0.0234	0.0156	0.1459	4.6000e-004	0.0493	3.2000e-004	0.0496	0.0131	3.0000e-004	0.0134		46.2368	46.2368	1.1100e-003		46.2645

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	0.6647	6.2092	5.9041	8.5400e-003		0.4011	0.4011		0.3690	0.3690	0.0000	826.9305	826.9305	0.2675		833.6167
Total	0.6647	6.2092	5.9041	8.5400e-003		0.4011	0.4011		0.3690	0.3690	0.0000	826.9305	826.9305	0.2675		833.6167

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	0.0234	0.0156	0.1459	4.6000e-004	0.0493	3.2000e-004	0.0496	0.0131	3.0000e-004	0.0134		46.2368	46.2368	1.1100e-003		46.2645
Total	0.0234	0.0156	0.1459	4.6000e-004	0.0493	3.2000e-004	0.0496	0.0131	3.0000e-004	0.0134		46.2368	46.2368	1.1100e-003		46.2645

3.5 Building A - Building Construction - 2020

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	2.2879	17.4336	14.8972	0.0250		0.9482	0.9482		0.9089	0.9089		2,288.887 7	2,288.887 7	0.4646		2,300.501 4
Total	2.2879	17.4336	14.8972	0.0250		0.9482	0.9482		0.9089	0.9089		2,288.887 7	2,288.887 7	0.4646		2,300.501 4

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	0.0900	2.2043	0.8621	5.2600e-003	0.1353	0.0114	0.1467	0.0389	0.0109	0.0499		558.7901	558.7901	0.0292		559.5193
Worker	0.2027	0.1349	1.2647	4.0200e-003	0.4272	2.8000e-003	0.4300	0.1133	2.5800e-003	0.1159		400.7189	400.7189	9.5800e-003		400.9585
Total	0.2928	2.3392	2.1267	9.2800e-003	0.5625	0.0142	0.5767	0.1522	0.0135	0.1657		959.5090	959.5090	0.0388		960.4778

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	2.2879	17.4336	14.8972	0.0250		0.9482	0.9482		0.9089	0.9089	0.0000	2,288.8877	2,288.8877	0.4646		2,300.5014
Total	2.2879	17.4336	14.8972	0.0250		0.9482	0.9482		0.9089	0.9089	0.0000	2,288.8877	2,288.8877	0.4646		2,300.5014

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	0.0900	2.2043	0.8621	5.2600e-003	0.1353	0.0114	0.1467	0.0389	0.0109	0.0499		558.7901	558.7901	0.0292		559.5193
Worker	0.2027	0.1349	1.2647	4.0200e-003	0.4272	2.8000e-003	0.4300	0.1133	2.5800e-003	0.1159		400.7189	400.7189	9.5800e-003		400.9585
Total	0.2928	2.3392	2.1267	9.2800e-003	0.5625	0.0142	0.5767	0.1522	0.0135	0.1657		959.5090	959.5090	0.0388		960.4778

3.5 Building A - Building Construction - 2021

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	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831		2,288.9355	2,288.9355	0.4503		2,300.1935
Total	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831		2,288.9355	2,288.9355	0.4503		2,300.1935

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	0.0737	1.9926	0.7601	5.2100e-003	0.1353	4.8500e-003	0.1401	0.0389	4.6300e-003	0.0436		553.8871	553.8871	0.0276		554.5773
Worker	0.1891	0.1206	1.1530	3.8800e-003	0.4272	2.7200e-003	0.4299	0.1133	2.5100e-003	0.1158		386.7191	386.7191	8.5600e-003		386.9330
Total	0.2628	2.1132	1.9131	9.0900e-003	0.5625	7.5700e-003	0.5700	0.1522	7.1400e-003	0.1594		940.6061	940.6061	0.0362		941.5103

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	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831	0.0000	2,288.9355	2,288.9355	0.4503		2,300.1935
Total	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831	0.0000	2,288.9355	2,288.9355	0.4503		2,300.1935

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	0.0737	1.9926	0.7601	5.2100e-003	0.1353	4.8500e-003	0.1401	0.0389	4.6300e-003	0.0436		553.8871	553.8871	0.0276		554.5773
Worker	0.1891	0.1206	1.1530	3.8800e-003	0.4272	2.7200e-003	0.4299	0.1133	2.5100e-003	0.1158		386.7191	386.7191	8.5600e-003		386.9330
Total	0.2628	2.1132	1.9131	9.0900e-003	0.5625	7.5700e-003	0.5700	0.1522	7.1400e-003	0.1594		940.6061	940.6061	0.0362		941.5103

3.6 Site Work - Grading 1 - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	1.8271	20.2135	9.7604	0.0206	6.5523	0.9158	7.4681	3.3675	0.8425	4.2100		1,995.6114	1,995.6114	0.6454		2,011.7470

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	5.8600e-003	0.2114	0.0617	4.8000e-004	9.7800e-003	5.4000e-004	0.0103	2.6800e-003	5.2000e-004	3.2000e-003		51.9549	51.9549	3.4700e-003		52.0416
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	0.0364	0.0232	0.2217	7.5000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		74.3691	74.3691	1.6500e-003		74.4102
Total	0.0422	0.2346	0.2835	1.2300e-003	0.0919	1.0600e-003	0.0930	0.0245	1.0000e-003	0.0255		126.3239	126.3239	5.1200e-003		126.4518

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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	1.8271	20.2135	9.7604	0.0206	2.9486	0.9158	3.8643	1.5154	0.8425	2.3579	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470

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	5.8600e-003	0.2114	0.0617	4.8000e-004	9.7800e-003	5.4000e-004	0.0103	2.6800e-003	5.2000e-004	3.2000e-003		51.9549	51.9549	3.4700e-003		52.0416
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	0.0364	0.0232	0.2217	7.5000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		74.3691	74.3691	1.6500e-003		74.4102
Total	0.0422	0.2346	0.2835	1.2300e-003	0.0919	1.0600e-003	0.0930	0.0245	1.0000e-003	0.0255		126.3239	126.3239	5.1200e-003		126.4518

3.7 Building A - Finish Work - 2021

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	0.0000	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

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	0.0364	0.0232	0.2217	7.5000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		74.3691	74.3691	1.6500e-003		74.4102
Total	0.0364	0.0232	0.2217	7.5000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		74.3691	74.3691	1.6500e-003		74.4102

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	0.0000	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

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	0.0364	0.0232	0.2217	7.5000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		74.3691	74.3691	1.6500e-003		74.4102
Total	0.0364	0.0232	0.2217	7.5000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		74.3691	74.3691	1.6500e-003		74.4102

3.8 Building A - Architectural Coating - 2021

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	15.7021					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	15.9210	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

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	0.0364	0.0232	0.2217	7.5000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		74.3691	74.3691	1.6500e-003		74.4102
Total	0.0364	0.0232	0.2217	7.5000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		74.3691	74.3691	1.6500e-003		74.4102

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	15.7021					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	15.9210	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

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	0.0364	0.0232	0.2217	7.5000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		74.3691	74.3691	1.6500e-003		74.4102
Total	0.0364	0.0232	0.2217	7.5000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		74.3691	74.3691	1.6500e-003		74.4102

3.9 Building A - Paving - 2021

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	1.0633	10.6478	11.7756	0.0178		0.5826	0.5826		0.5371	0.5371		1,709.1107	1,709.1107	0.5417		1,722.6524
Paving	0.0667					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1300	10.6478	11.7756	0.0178		0.5826	0.5826		0.5371	0.5371		1,709.1107	1,709.1107	0.5417		1,722.6524

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	0.0582	0.0371	0.3548	1.1900e-003	0.1314	8.4000e-004	0.1323	0.0349	7.7000e-004	0.0356		118.9905	118.9905	2.6300e-003		119.0563
Total	0.0582	0.0371	0.3548	1.1900e-003	0.1314	8.4000e-004	0.1323	0.0349	7.7000e-004	0.0356		118.9905	118.9905	2.6300e-003		119.0563

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	1.0633	10.6478	11.7756	0.0178		0.5826	0.5826		0.5371	0.5371	0.0000	1,709.1107	1,709.1107	0.5417		1,722.6524
Paving	0.0667					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1300	10.6478	11.7756	0.0178		0.5826	0.5826		0.5371	0.5371	0.0000	1,709.1107	1,709.1107	0.5417		1,722.6524

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	0.0582	0.0371	0.3548	1.1900e-003	0.1314	8.4000e-004	0.1323	0.0349	7.7000e-004	0.0356		118.9905	118.9905	2.6300e-003		119.0563
Total	0.0582	0.0371	0.3548	1.1900e-003	0.1314	8.4000e-004	0.1323	0.0349	7.7000e-004	0.0356		118.9905	118.9905	2.6300e-003		119.0563

3.10 Building B and C - Pile Driving/Grading - 2021

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					6.5548	0.0000	6.5548	3.3679	0.0000	3.3679			0.0000			0.0000
Off-Road	2.0530	22.8585	11.5751	0.0288		0.9959	0.9959		0.9163	0.9163		2,793.666 1	2,793.666 1	0.9035		2,816.254 3
Total	2.0530	22.8585	11.5751	0.0288	6.5548	0.9959	7.5508	3.3679	0.9163	4.2841		2,793.666 1	2,793.666 1	0.9035		2,816.254 3

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	0.0128	0.4606	0.1344	1.0500e-003	0.0360	1.1700e-003	0.0372	9.4600e-003	1.1200e-003	0.0106		113.1874	113.1874	7.5600e-003		113.3763
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	0.0509	0.0325	0.3104	1.0400e-003	0.1150	7.3000e-004	0.1157	0.0305	6.8000e-004	0.0312		104.1167	104.1167	2.3000e-003		104.1743
Total	0.0637	0.4931	0.4449	2.0900e-003	0.1511	1.9000e-003	0.1530	0.0400	1.8000e-003	0.0418		217.3041	217.3041	9.8600e-003		217.5506

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					2.9497	0.0000	2.9497	1.5155	0.0000	1.5155			0.0000			0.0000
Off-Road	2.0530	22.8585	11.5751	0.0288		0.9959	0.9959		0.9163	0.9163	0.0000	2,793.6660	2,793.6660	0.9035		2,816.2543
Total	2.0530	22.8585	11.5751	0.0288	2.9497	0.9959	3.9456	1.5155	0.9163	2.4318	0.0000	2,793.6660	2,793.6660	0.9035		2,816.2543

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	0.0128	0.4606	0.1344	1.0500e-003	0.0360	1.1700e-003	0.0372	9.4600e-003	1.1200e-003	0.0106		113.1874	113.1874	7.5600e-003		113.3763
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	0.0509	0.0325	0.3104	1.0400e-003	0.1150	7.3000e-004	0.1157	0.0305	6.8000e-004	0.0312		104.1167	104.1167	2.3000e-003		104.1743
Total	0.0637	0.4931	0.4449	2.0900e-003	0.1511	1.9000e-003	0.1530	0.0400	1.8000e-003	0.0418		217.3041	217.3041	9.8600e-003		217.5506

3.10 Building B and C - Pile Driving/Grading - 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					6.5548	0.0000	6.5548	3.3679	0.0000	3.3679			0.0000			0.0000
Off-Road	1.7364	18.9667	11.0062	0.0289		0.8059	0.8059		0.7415	0.7415		2,794.848 2	2,794.848 2	0.9039		2,817.445 9
Total	1.7364	18.9667	11.0062	0.0289	6.5548	0.8059	7.3608	3.3679	0.7415	4.1093		2,794.848 2	2,794.848 2	0.9039		2,817.445 9

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	0.0119	0.4299	0.1292	1.0300e-003	0.0390	1.0200e-003	0.0400	0.0102	9.7000e-004	0.0112		111.7073	111.7073	7.4200e-003		111.8927
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	0.0479	0.0292	0.2859	1.0100e-003	0.1150	7.2000e-004	0.1157	0.0305	6.6000e-004	0.0312		100.3171	100.3171	2.0700e-003		100.3690
Total	0.0598	0.4591	0.4151	2.0400e-003	0.1540	1.7400e-003	0.1557	0.0407	1.6300e-003	0.0423		212.0244	212.0244	9.4900e-003		212.2616

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					2.9497	0.0000	2.9497	1.5155	0.0000	1.5155			0.0000			0.0000
Off-Road	1.7364	18.9667	11.0062	0.0289		0.8059	0.8059		0.7415	0.7415	0.0000	2,794.848 2	2,794.848 2	0.9039		2,817.445 9
Total	1.7364	18.9667	11.0062	0.0289	2.9497	0.8059	3.7556	1.5155	0.7415	2.2570	0.0000	2,794.848 2	2,794.848 2	0.9039		2,817.445 9

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	0.0119	0.4299	0.1292	1.0300e-003	0.0390	1.0200e-003	0.0400	0.0102	9.7000e-004	0.0112		111.7073	111.7073	7.4200e-003		111.8927
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	0.0479	0.0292	0.2859	1.0100e-003	0.1150	7.2000e-004	0.1157	0.0305	6.6000e-004	0.0312		100.3171	100.3171	2.0700e-003		100.3690
Total	0.0598	0.4591	0.4151	2.0400e-003	0.1540	1.7400e-003	0.1557	0.0407	1.6300e-003	0.0423		212.0244	212.0244	9.4900e-003		212.2616

3.11 Building B and C - Utilities - 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	0.5663	5.1567	5.8541	8.5400e-003		0.3254	0.3254		0.2994	0.2994		826.9647	826.9647	0.2675		833.6511
Total	0.5663	5.1567	5.8541	8.5400e-003		0.3254	0.3254		0.2994	0.2994		826.9647	826.9647	0.2675		833.6511

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	0.0205	0.0125	0.1225	4.3000e-004	0.0493	3.1000e-004	0.0496	0.0131	2.8000e-004	0.0134		42.9931	42.9931	8.9000e-004		43.0153
Total	0.0205	0.0125	0.1225	4.3000e-004	0.0493	3.1000e-004	0.0496	0.0131	2.8000e-004	0.0134		42.9931	42.9931	8.9000e-004		43.0153

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	0.5663	5.1567	5.8541	8.5400e-003		0.3254	0.3254		0.2994	0.2994	0.0000	826.9647	826.9647	0.2675		833.6511
Total	0.5663	5.1567	5.8541	8.5400e-003		0.3254	0.3254		0.2994	0.2994	0.0000	826.9647	826.9647	0.2675		833.6511

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	0.0205	0.0125	0.1225	4.3000e-004	0.0493	3.1000e-004	0.0496	0.0131	2.8000e-004	0.0134		42.9931	42.9931	8.9000e-004		43.0153
Total	0.0205	0.0125	0.1225	4.3000e-004	0.0493	3.1000e-004	0.0496	0.0131	2.8000e-004	0.0134		42.9931	42.9931	8.9000e-004		43.0153

3.12 Building B and C - Building Construction - 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	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230
Total	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230

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	0.0679	1.8828	0.7046	5.1600e-003	0.1353	4.2500e-003	0.1396	0.0389	4.0600e-003	0.0430		548.5789	548.5789	0.0267		549.2465
Worker	0.1778	0.1086	1.0621	3.7400e-003	0.4272	2.6600e-003	0.4298	0.1133	2.4500e-003	0.1158		372.6065	372.6065	7.7000e-003		372.7991
Total	0.2458	1.9913	1.7666	8.9000e-003	0.5625	6.9100e-003	0.5694	0.1522	6.5100e-003	0.1588		921.1854	921.1854	0.0344		922.0456

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	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230
Total	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230

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	0.0679	1.8828	0.7046	5.1600e-003	0.1353	4.2500e-003	0.1396	0.0389	4.0600e-003	0.0430		548.5789	548.5789	0.0267		549.2465
Worker	0.1778	0.1086	1.0621	3.7400e-003	0.4272	2.6600e-003	0.4298	0.1133	2.4500e-003	0.1158		372.6065	372.6065	7.7000e-003		372.7991
Total	0.2458	1.9913	1.7666	8.9000e-003	0.5625	6.9100e-003	0.5694	0.1522	6.5100e-003	0.1588		921.1854	921.1854	0.0344		922.0456

3.12 Building B and C - Building Construction - 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	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880		2,289.523 3	2,289.523 3	0.4330		2,300.347 9
Total	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880		2,289.523 3	2,289.523 3	0.4330		2,300.347 9

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	0.0538	1.4707	0.6415	5.0200e-003	0.1353	2.1400e-003	0.1374	0.0390	2.0400e-003	0.0410		534.3012	534.3012	0.0246		534.9149
Worker	0.1674	0.0977	0.9744	3.5900e-003	0.4272	2.6000e-003	0.4298	0.1133	2.4000e-003	0.1157		358.3726	358.3726	6.8900e-003		358.5450
Total	0.2212	1.5684	1.6159	8.6100e-003	0.5625	4.7400e-003	0.5672	0.1523	4.4400e-003	0.1567		892.6738	892.6738	0.0314		893.4599

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	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	0.0000	2,289.5233	2,289.5233	0.4330		2,300.3479
Total	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	0.0000	2,289.5233	2,289.5233	0.4330		2,300.3479

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	0.0538	1.4707	0.6415	5.0200e-003	0.1353	2.1400e-003	0.1374	0.0390	2.0400e-003	0.0410		534.3012	534.3012	0.0246		534.9149
Worker	0.1674	0.0977	0.9744	3.5900e-003	0.4272	2.6000e-003	0.4298	0.1133	2.4000e-003	0.1157		358.3726	358.3726	6.8900e-003		358.5450
Total	0.2212	1.5684	1.6159	8.6100e-003	0.5625	4.7400e-003	0.5672	0.1523	4.4400e-003	0.1567		892.6738	892.6738	0.0314		893.4599

3.13 Site Work - Grading 2 - 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829		1,995.4825	1,995.4825	0.6454		2,011.6169
Total	1.5403	16.9836	9.2202	0.0206	6.5523	0.7423	7.2946	3.3675	0.6829	4.0504		1,995.4825	1,995.4825	0.6454		2,011.6169

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	5.4600e-003	0.1973	0.0593	4.7000e-004	9.7900e-003	4.7000e-004	0.0103	2.6800e-003	4.5000e-004	3.1300e-003		51.2755	51.2755	3.4000e-003		51.3606
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	0.0342	0.0209	0.2042	7.2000e-004	0.0822	5.1000e-004	0.0827	0.0218	4.7000e-004	0.0223		71.6551	71.6551	1.4800e-003		71.6921
Total	0.0397	0.2182	0.2635	1.1900e-003	0.0919	9.8000e-004	0.0929	0.0245	9.2000e-004	0.0254		122.9306	122.9306	4.8800e-003		123.0527

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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829	0.0000	1,995.4825	1,995.4825	0.6454		2,011.6169
Total	1.5403	16.9836	9.2202	0.0206	2.9486	0.7423	3.6908	1.5154	0.6829	2.1983	0.0000	1,995.4825	1,995.4825	0.6454		2,011.6169

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	5.4600e-003	0.1973	0.0593	4.7000e-004	9.7900e-003	4.7000e-004	0.0103	2.6800e-003	4.5000e-004	3.1300e-003		51.2755	51.2755	3.4000e-003		51.3606
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	0.0342	0.0209	0.2042	7.2000e-004	0.0822	5.1000e-004	0.0827	0.0218	4.7000e-004	0.0223		71.6551	71.6551	1.4800e-003		71.6921
Total	0.0397	0.2182	0.2635	1.1900e-003	0.0919	9.8000e-004	0.0929	0.0245	9.2000e-004	0.0254		122.9306	122.9306	4.8800e-003		123.0527

3.14 Building B and C - Paving - 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	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.689 2	1,709.689 2	0.5419		1,723.235 6
Paving	0.0682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0094	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.689 2	1,709.689 2	0.5419		1,723.235 6

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	0.0547	0.0334	0.3268	1.1500e-003	0.1314	8.2000e-004	0.1323	0.0349	7.5000e-004	0.0356		114.6482	114.6482	2.3700e-003		114.7074
Total	0.0547	0.0334	0.3268	1.1500e-003	0.1314	8.2000e-004	0.1323	0.0349	7.5000e-004	0.0356		114.6482	114.6482	2.3700e-003		114.7074

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	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.689 2	1,709.689 2	0.5419		1,723.235 6
Paving	0.0682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0094	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.689 2	1,709.689 2	0.5419		1,723.235 6

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	0.0547	0.0334	0.3268	1.1500e-003	0.1314	8.2000e-004	0.1323	0.0349	7.5000e-004	0.0356		114.6482	114.6482	2.3700e-003		114.7074
Total	0.0547	0.0334	0.3268	1.1500e-003	0.1314	8.2000e-004	0.1323	0.0349	7.5000e-004	0.0356		114.6482	114.6482	2.3700e-003		114.7074

3.15 Building B and C - Finish Work - 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	0.0000	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

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	0.0322	0.0188	0.1874	6.9000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		68.9178	68.9178	1.3300e-003		68.9510
Total	0.0322	0.0188	0.1874	6.9000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		68.9178	68.9178	1.3300e-003		68.9510

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	0.0000	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

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	0.0322	0.0188	0.1874	6.9000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		68.9178	68.9178	1.3300e-003		68.9510
Total	0.0322	0.0188	0.1874	6.9000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		68.9178	68.9178	1.3300e-003		68.9510

3.16 Building B and C - Architectural Coating - 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	16.0673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	16.2589	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

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	0.0322	0.0188	0.1874	6.9000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		68.9178	68.9178	1.3300e-003		68.9510
Total	0.0322	0.0188	0.1874	6.9000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		68.9178	68.9178	1.3300e-003		68.9510

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	16.0673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	16.2589	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

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	0.0322	0.0188	0.1874	6.9000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		68.9178	68.9178	1.3300e-003		68.9510
Total	0.0322	0.0188	0.1874	6.9000e-004	0.0822	5.0000e-004	0.0827	0.0218	4.6000e-004	0.0223		68.9178	68.9178	1.3300e-003		68.9510

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	0.9054	3.0540	11.2653	0.0411	4.3660	0.0394	4.4054	1.1667	0.0368	1.2036		4,143.2317	4,143.2317	0.1307		4,146.4995
Unmitigated	0.9054	3.0540	11.2653	0.0411	4.3660	0.0394	4.4054	1.1667	0.0368	1.2036		4,143.2317	4,143.2317	0.1307		4,146.4995

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	706.21	133.80	68.91	1,557,254	1,557,254
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	706.21	133.80	68.91	1,557,254	1,557,254

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
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
General Light Industry	0.598301	0.039360	0.198316	0.109153	0.015323	0.005191	0.010619	0.011654	0.002041	0.002927	0.005696	0.000707	0.000711
Other Non-Asphalt Surfaces	0.598301	0.039360	0.198316	0.109153	0.015323	0.005191	0.010619	0.011654	0.002041	0.002927	0.005696	0.000707	0.000711
Parking Lot	0.598301	0.039360	0.198316	0.109153	0.015323	0.005191	0.010619	0.011654	0.002041	0.002927	0.005696	0.000707	0.000711

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	0.0288	0.2620	0.2201	1.5700e-003		0.0199	0.0199		0.0199	0.0199		314.4459	314.4459	6.0300e-003	5.7600e-003	316.3145
NaturalGas Unmitigated	0.0368	0.3344	0.2809	2.0100e-003		0.0254	0.0254		0.0254	0.0254		401.2651	401.2651	7.6900e-003	7.3600e-003	403.6496

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					
General Light Industry	3410.75	0.0368	0.3344	0.2809	2.0100e-003		0.0254	0.0254		0.0254	0.0254		401.2651	401.2651	7.6900e-003	7.3600e-003	403.6496
Other Non-Asphalt Surfaces	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
Total		0.0368	0.3344	0.2809	2.0100e-003		0.0254	0.0254		0.0254	0.0254		401.2651	401.2651	7.6900e-003	7.3600e-003	403.6496

Mitigated

	Natural Gas 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					
General Light Industry	2.67279	0.0288	0.2620	0.2201	1.5700e-003		0.0199	0.0199		0.0199	0.0199		314.4459	314.4459	6.0300e-003	5.7600e-003	316.3145
Other Non-Asphalt Surfaces	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
Total		0.0288	0.2620	0.2201	1.5700e-003		0.0199	0.0199		0.0199	0.0199		314.4459	314.4459	6.0300e-003	5.7600e-003	316.3145

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	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370
Unmitigated	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370

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	0.1519					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1018					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.4900e-003	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370
Total	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370

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	0.1519					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1018					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.4900e-003	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370
Total	1.2552	1.5000e-004	0.0162	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0348	0.0348	9.0000e-005		0.0370

Appendix B

Biological Resources

Appendix B

Biological Resources



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (San Francisco North (3712274) OR San Francisco South (3712264) OR Hunters Point (3712263) OR San Rafael (3712285) OR San Quentin (3712284) OR Richmond (3712283) OR Point Bonita (3712275) OR Oakland West (3712273))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Adela oplerella</i> Opler's longhorn moth	IILEE0G040	None	None	G2	S2	
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	PMLIL021R1	None	None	G5T2	S2	1B.2
<i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	PDFAB08012	None	None	G4T2	S2	1B.2
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Archoplites interruptus</i> Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
<i>Arctostaphylos franciscana</i> Franciscan manzanita	PDERI040J3	Endangered	None	G1	S1	1B.1
<i>Arctostaphylos imbricata</i> San Bruno Mountain manzanita	PDERI040L0	None	Endangered	G1	S1	1B.1
<i>Arctostaphylos montana</i> ssp. <i>montana</i> Mt. Tamalpais manzanita	PDERI040J5	None	None	G3T3	S3	1B.3
<i>Arctostaphylos montana</i> ssp. <i>ravenii</i> Presidio manzanita	PDERI040J2	Endangered	Endangered	G3T1	S1	1B.1
<i>Arctostaphylos montaraensis</i> Montara manzanita	PDERI042W0	None	None	G1	S1	1B.2
<i>Arctostaphylos pacifica</i> Pacific manzanita	PDERI040Z0	None	Endangered	G1	S1	1B.1
<i>Arctostaphylos pallida</i> pallid manzanita	PDERI04110	Threatened	Endangered	G1	S1	1B.1
<i>Arctostaphylos virgata</i> Marin manzanita	PDERI041K0	None	None	G2	S2	1B.2
<i>Ardea alba</i> great egret	ABNGA04040	None	None	G5	S4	
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Arenaria paludicola</i> marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Asio flammeus</i> short-eared owl	ABNSB13040	None	None	G5	S3	SSC
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Banksula incredula</i> incredible harvestman	ILARA14100	None	None	G1	S1	
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
<i>Caecidotea tomalensis</i> Tomales isopod	ICMAL01220	None	None	G2	S2S3	
<i>Calamagrostis crassiglumis</i> Thurber's reed grass	PMPOA17070	None	None	G3Q	S2	2B.1
<i>Callophrys mossii bayensis</i> San Bruno elfin butterfly	IILEPE2202	Endangered	None	G4T1	S1	
<i>Calochortus tiburonensis</i> Tiburon mariposa-lily	PMLIL0D1C0	Threatened	Threatened	G1	S1	1B.1
<i>Calystegia purpurata</i> ssp. <i>saxicola</i> coastal bluff morning-glory	PDCON040D2	None	None	G4T2T3	S2S3	1B.2
<i>Carex comosa</i> bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
<i>Carex praticola</i> northern meadow sedge	PMCYP03B20	None	None	G5	S2	2B.2
<i>Castilleja affinis</i> var. <i>neglecta</i> Tiburon paintbrush	PDSCR0D013	Endangered	Threatened	G4G5T1T2	S1S2	1B.2
<i>Centromadia parryi</i> ssp. <i>parryi</i> pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
<i>Charadrius alexandrinus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	PDPGN04081	None	None	G2T1	S1	1B.2
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
<i>Cicindela hirticollis gravaida</i> sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Cirsium andrewsii</i> Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
<i>Cirsium hydrophilum var. vaseyi</i> Mt. Tamalpais thistle	PDAST2E1G2	None	None	G2T1	S1	1B.2
<i>Cirsium occidentale var. compactum</i> compact cobwebby thistle	PDAST2E1Z1	None	None	G3G4T2	S2	1B.2
<i>Clarkia franciscana</i> Presidio clarkia	PDONA050H0	Endangered	Endangered	G1	S1	1B.1
<i>Coastal Brackish Marsh</i> Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
<i>Coastal Terrace Prairie</i> Coastal Terrace Prairie	CTT41100CA	None	None	G2	S2.1	
<i>Collinsia corymbosa</i> round-headed Chinese-houses	PDSCR0H060	None	None	G1	S1	1B.2
<i>Collinsia multicolor</i> San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Coturnicops noveboracensis</i> yellow rail	ABNME01010	None	None	G4	S1S2	SSC
<i>Danaus plexippus pop. 1</i> monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
<i>Dicamptodon ensatus</i> California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
<i>Dirca occidentalis</i> western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
<i>Dufourea stagei</i> Stage's dufourine bee	IIHYM22010	None	None	G1G2	S1	
<i>Egretta thula</i> snowy egret	ABNGA06030	None	None	G5	S4	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Enhydra lutris nereis</i> southern sea otter	AMAJF09012	Threatened	None	G4T2	S2	FP
<i>Erethizon dorsatum</i> North American porcupine	AMAFJ01010	None	None	G5	S3	
<i>Eriogonum luteolum var. caninum</i> Tiburon buckwheat	PDPGN083S1	None	None	G5T2	S2	1B.2
<i>Eucyclogobius newberryi</i> tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



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<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
<i>Extriplex joaquinana</i> San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fissidens pauperculus</i> minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
<i>Fritillaria lanceolata</i> var. <i>tristulis</i> Marin checker lily	PMLIL0V0P1	None	None	G5T2	S2	1B.1
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Gilia capitata</i> ssp. <i>chamissonis</i> blue coast gilia	PDPLM040B3	None	None	G5T2	S2	1B.1
<i>Gilia millefoliata</i> dark-eyed gilia	PDPLM04130	None	None	G2	S2	1B.2
<i>Grindelia hirsutula</i> var. <i>maritima</i> San Francisco gumplant	PDAST470D3	None	None	G5T1Q	S1	3.2
<i>Helianthella castanea</i> Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
<i>Helminthoglypta nickliniana bridgesi</i> Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1S2	
<i>Hemizonia congesta</i> ssp. <i>congesta</i> congested-headed hayfield tarplant	PDAST4R065	None	None	G5T2	S2	1B.2
<i>Hesperervax sparsiflora</i> var. <i>brevifolia</i> short-leaved evax	PDASTE5011	None	None	G4T3	S2	1B.2
<i>Hesperolinon congestum</i> Marin western flax	PDLIN01060	Threatened	Threatened	G1	S1	1B.1
<i>Heteranthera dubia</i> water star-grass	PMPON03010	None	None	G5	S2	2B.2
<i>Hoita strobilina</i> Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
<i>Holocarpa macradenia</i> Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
<i>Horkelia marinensis</i> Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2	1B.2
<i>Horkelia tenuiloba</i> thin-lobed horkelia	PDROS0W0E0	None	None	G2	S2	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Hydroporus leechi</i> Leech's skyline diving beetle	IICOL55040	None	None	G1?	S1?	
<i>Hydroprogne caspia</i> Caspian tern	ABNNM08020	None	None	G5	S4	
<i>Hypogymnia schizidiata</i> island tube lichen	NLT0032640	None	None	G2G3	S2	1B.3
<i>Ischnura gemina</i> San Francisco forktail damselfly	IIDOD72010	None	None	G2	S2	
<i>Kopsiopsis hookeri</i> small groundcone	PDORO01010	None	None	G4?	S1S2	2B.3
<i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G5	S3S4	
<i>Lasiurus blossevillii</i> western red bat	AMACC05060	None	None	G5	S3	SSC
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G5	S4	
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<i>Layia carnosa</i> beach layia	PDAST5N010	Endangered	Endangered	G2	S2	1B.1
<i>Leptosiphon rosaceus</i> rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
<i>Lessingia germanorum</i> San Francisco lessingia	PDAST5S010	Endangered	Endangered	G1	S1	1B.1
<i>Lessingia micradenia</i> var. <i>micradenia</i> Tamalpais lessingia	PDAST5S063	None	None	G2T2	S2	1B.2
<i>Lichnanthe ursina</i> bumblebee scarab beetle	IICOL67020	None	None	G2	S2	
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2	1B.2
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
<i>Melospiza melodia pusillula</i> Alameda song sparrow	ABPBXA301S	None	None	G5T2?	S2S3	SSC
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
<i>Microcina leei</i> Lee's micro-blind harvestman	ILARA47040	None	None	G1	S1	
<i>Microcina tiburona</i> Tiburon micro-blind harvestman	ILARA47060	None	None	G1	S1	
<i>Microseris paludosa</i> marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



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<i>Microtus californicus sanpabloensis</i> San Pablo vole	AMAFF11034	None	None	G5T1T2	S1S2	SSC
<i>Monardella sinuata ssp. nigrescens</i> northern curly-leaved monardella	PDLAM18162	None	None	G3T2	S2	1B.2
<i>Mylopharodon conocephalus</i> hardhead	AFCJB25010	None	None	G3	S3	SSC
<i>Navarretia rosulata</i> Marin County navarretia	PDPLM0C0Z0	None	None	G2	S2	1B.2
<i>Northern Coastal Salt Marsh</i> Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
<i>Northern Maritime Chaparral</i> Northern Maritime Chaparral	CTT37C10CA	None	None	G1	S1.2	
<i>Nycticorax nycticorax</i> black-crowned night heron	ABNGA11010	None	None	G5	S4	
<i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
<i>Oncorhynchus kisutch pop. 4</i> coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G4	S2?	
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
<i>Phalacrocorax auritus</i> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<i>Plagiobothrys chorisianus var. chorisianus</i> Choris' popcornflower	PDBOR0V061	None	None	G3T1Q	S1	1B.2
<i>Plagiobothrys diffusus</i> San Francisco popcornflower	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
<i>Plagiobothrys glaber</i> hairless popcornflower	PDBOR0V0B0	None	None	GH	SH	1A
<i>Plebejus icarioides missionensis</i> Mission blue butterfly	IILEPG801A	Endangered	None	G5T1	S1	
<i>Pleuropogon hooverianus</i> North Coast semaphore grass	PMPOA4Y070	None	Threatened	G2	S2	1B.1
<i>Polemonium carneum</i> Oregon polemonium	PDPLM0E050	None	None	G3G4	S2	2B.2
<i>Polygonum marinense</i> Marin knotweed	PDPGN0L1C0	None	None	G2Q	S2	3.1
<i>Pomatiopsis binneyi</i> robust walker	IMGASJ9010	None	None	G1	S1	
<i>Quercus parvula var. tamalpaisensis</i> Tamalpais oak	PDFAG051Q3	None	None	G4T2	S2	1B.3
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	ABNME05011	Endangered	Endangered	G5T1	S1	FP



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



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<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Sanicula maritima</i> adobe sanicle	PDAP11Z0D0	None	Rare	G2	S2	1B.1
<i>Scapanus latimanus insularis</i> Angel Island mole	AMABB02032	None	None	G5THQ	SH	
<i>Scapanus latimanus parvus</i> Alameda Island mole	AMABB02031	None	None	G5THQ	SH	SSC
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
<i>Sidalcea calycosa ssp. rhizomata</i> Point Reyes checkerbloom	PDMAL11012	None	None	G5T2	S2	1B.2
<i>Sidalcea hickmanii ssp. viridis</i> Marin checkerbloom	PDMAL110A4	None	None	G3TH	SH	1B.1
<i>Silene scouleri ssp. scouleri</i> Scouler's catchfly	PDCAR0U1MC	None	None	G5T4T5	S2S3	2B.2
<i>Silene verecunda ssp. verecunda</i> San Francisco campion	PDCAR0U213	None	None	G5T1	S1	1B.2
<i>Sorex vagrans halicoetes</i> salt-marsh wandering shrew	AMABA01071	None	None	G5T1	S1	SSC
<i>Spergularia macrotheca var. longistyla</i> long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
<i>Speyeria callippe callippe</i> callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	PDAST6E050	None	None	G2	S2	1B.2
<i>Sternula antillarum browni</i> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<i>Streptanthus batrachopus</i> Tamalpais jewelflower	PDBRA2G050	None	None	G2	S2	1B.3
<i>Streptanthus glandulosus ssp. niger</i> Tiburon jewelflower	PDBRA2G0T0	Endangered	Endangered	G4T1	S1	1B.1



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



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<i>Streptanthus glandulosus ssp. pulchellus</i> Mt. Tamalpais bristly jewelflower	PDBRA2G0J2	None	None	G4T2	S2	1B.2
<i>Suaeda californica</i> California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
<i>Symphyotrichum lentum</i> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thaleichthys pacificus</i> eulachon	AFCHB04010	Threatened	None	G5	S3	
<i>Thamnophis sirtalis tetrataenia</i> San Francisco gartersnake	ARADB3613B	Endangered	Endangered	G5T2Q	S2	FP
<i>Trachusa gummiifera</i> San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	G1	S1	
<i>Trifolium amoenum</i> two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
<i>Trifolium hydrophilum</i> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<i>Triphysaria floribunda</i> San Francisco owl's-clover	PDSCR2T010	None	None	G2?	S2?	1B.2
<i>Triquetrella californica</i> coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
<i>Vespericola marinensis</i> Marin hesperian	IMGASA4140	None	None	G2	S2	
<i>Viburnum ellipticum</i> oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3
<i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC
<i>Zapus trinotatus orarius</i> Point Reyes jumping mouse	AMAFH01031	None	None	G5T1T3Q	S1S3	SSC

Record Count: 162

*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

Plant List

112 matches found. [Click on scientific name for details](#)

Search Criteria

Found in Quads 3712285, 3712284, 3712283, 3712275, 3712274, 3712273 3712264 and 3712263;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank	State Listing Status	Federal Listing Status	Habitats	Lowest Elevation	Highest Elevation	CA Endemic
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	Apr-Jul	1B.2	S2	G4T2			• Broadleaved upland forest (openings) • Chaparral • Cismontane woodland • Coastal bluff scrub	120 m	2000 m	yes
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3			• Cismontane woodland • Valley and foothill grassland	3 m	500 m	yes
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	Feb-May	4.3	S4	G4			• Broadleaved upland forest • Coastal bluff scrub • Coastal prairie • Coastal scrub	3 m	1100 m	yes
Arctostaphylos franciscana	Franciscan manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	1B.1	S1	G1		FE	• Coastal scrub (serpentine)	60 m	300 m	yes
Arctostaphylos imbricata	San Bruno Mountain manzanita	Ericaceae	perennial evergreen shrub	Feb-May	1B.1	S1	G1		CE	• Chaparral • Coastal scrub	275 m	370 m	yes
Arctostaphylos montana ssp. montana	Mt. Tamalpais manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	1B.3	S3	G3T3			• Chaparral • Valley and foothill grassland	160 m	760 m	yes
Arctostaphylos montana ssp. ravenii	Presidio manzanita	Ericaceae	perennial evergreen shrub	Feb-Mar	1B.1	S1	G3T1		CE FE	• Chaparral • Coastal prairie • Coastal scrub	45 m	215 m	yes
Arctostaphylos montaraensis	Montara manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	1B.2	S1	G1			• Chaparral (maritime) • Coastal scrub	80 m	500 m	yes
Arctostaphylos pacifica	Pacific manzanita	Ericaceae	evergreen shrub	Feb-Apr	1B.1	S1	G1		CE	• Chaparral • Coastal scrub	330 m	330 m	yes
Arctostaphylos pallida	pallid manzanita	Ericaceae	perennial evergreen	Dec-Mar	1B.1	S1	G1		CE FT	• Broadleaved	185 m	465 m	yes

shrub

upland forest

- Closed-cone coniferous forest
- Chaparral
- Cismontane woodland
- Coastal scrub

- Broadleaved upland forest
- Closed-cone coniferous forest
- Chaparral
- North Coast coniferous forest

[Arctostaphylos virgata](#)

Marin manzanita

Ericaceae

perennial evergreen shrub

Jan-Mar

1B.2

S2

G2

60 m

700 m

yes

[Arenaria paludicola](#)

marsh sandwort

Caryophyllaceae

perennial stoloniferous herb

May-Aug

1B.1

S1

G1

CE

FE

3 m

170 m

- Marshes and swamps (freshwater or brackish)

[Aspidotis carlotta-halliae](#)

Carlotta Hall's lace fern

Pteridaceae

perennial rhizomatous herb

Jan-Dec

4.2

S3

G3

100 m

1400 m

yes

- Chaparral
- Cismontane woodland

[Astragalus breweri](#)

Brewer's milk-vetch

Fabaceae

annual herb

Apr-Jun

4.2

S3

G3

90 m

730 m

yes

- Chaparral
- Cismontane woodland
- Meadows and seeps
- Valley and foothill grassland (open, often gravelly)

[Astragalus nuttallii var. nuttallii](#)

ocean bluff milk-vetch

Fabaceae

perennial herb

Jan-Nov

4.2

S4

G4T4

3 m

120 m

yes

- Coastal bluff scrub
- Coastal dunes

[Astragalus tener var. tener](#)

alkali milk-vetch

Fabaceae

annual herb

Mar-Jun

1B.2

S1

G2T1

1 m

60 m

yes

- Playas
- Valley and foothill grassland (adobe clay)
- Vernal pools

[Calamagrostis crassiglumis](#)

Thurber's reed grass

Poaceae

perennial rhizomatous herb

May-Aug

2B.1

S2

G3Q

10 m

60 m

- Coastal scrub (mesic)
- Marshes and swamps (freshwater)

[Calamagrostis ophitidis](#)

serpentine reed grass

Poaceae

perennial herb

Apr-Jul

4.3

S3

G3

90 m

1065 m

yes

- Chaparral (open, often north-facing slopes)
- Lower montane coniferous forest
- Meadows and seeps
- Valley and foothill grassland

[Calandrinia breweri](#)

Brewer's calandrinia

Montiaceae

annual herb

(Jan)Mar-Jun

4.2

S4

G4

10 m

1220 m

- Chaparral
- Coastal scrub

[Calochortus tiburonensis](#)

Tiburon mariposa lily

Liliaceae

perennial bulbiferous herb

Mar-Jun

1B.1

S1

G1

CT

FT

50 m

150 m

yes

- Valley and foothill grassland (serpentine)

<u>Calochortus umbellatus</u>	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	4.2	S3?	G3?				<ul style="list-style-type: none"> • Broadleafed upland forest • Chaparral • Cismontane woodland • Lower montane coniferous forest • Valley and foothill grassland • Coastal bluff scrub • Coastal dunes • Coastal scrub • North Coast coniferous forest • Coastal prairie • Marshes and swamps (lake margins) • Valley and foothill grassland • Meadows and seeps (mesic) • Valley and foothill grassland (serpentinite) • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins • Chaparral • Lower montane coniferous forest • Subalpine coniferous forest • Upper montane coniferous forest • Closed-cone coniferous forest • Chaparral • Coastal scrub • Chaparral • Coastal prairie • Meadows and seeps 	100 m	700 m	yes
<u>Calystegia purpurata ssp. saxicola</u>	coastal bluff morning-glory	Convolvulaceae	perennial herb	(Mar)Apr-Sep	1B.2	S2S3	G4T2T3				<ul style="list-style-type: none"> • Coastal scrub • North Coast coniferous forest • Coastal prairie • Marshes and swamps (lake margins) • Valley and foothill grassland • Meadows and seeps (mesic) • Valley and foothill grassland (serpentinite) • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins • Chaparral • Lower montane coniferous forest • Subalpine coniferous forest • Upper montane coniferous forest • Closed-cone coniferous forest • Chaparral • Coastal scrub • Chaparral • Coastal prairie • Meadows and seeps 	0 m	105 m	yes
<u>Carex comosa</u>	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5				<ul style="list-style-type: none"> • Meadows and seeps (mesic) • Valley and foothill grassland (serpentinite) • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins • Chaparral • Lower montane coniferous forest • Subalpine coniferous forest • Upper montane coniferous forest • Closed-cone coniferous forest • Chaparral • Coastal scrub • Chaparral • Coastal prairie • Meadows and seeps 	0 m	625 m	
<u>Carex praticola</u>	northern meadow sedge	Cyperaceae	perennial herb	May-Jul	2B.2	S2	G5				<ul style="list-style-type: none"> • Meadows and seeps (mesic) • Valley and foothill grassland (serpentinite) • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins • Chaparral • Lower montane coniferous forest • Subalpine coniferous forest • Upper montane coniferous forest • Closed-cone coniferous forest • Chaparral • Coastal scrub • Chaparral • Coastal prairie • Meadows and seeps 	0 m	3200 m	
<u>Castilleja affinis var. neglecta</u>	Tiburon paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Jun	1B.2	S1S2	G4G5T1T2	CT	FE		<ul style="list-style-type: none"> • Meadows and seeps (mesic) • Valley and foothill grassland (serpentinite) • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins • Chaparral • Lower montane coniferous forest • Subalpine coniferous forest • Upper montane coniferous forest • Closed-cone coniferous forest • Chaparral • Coastal scrub • Chaparral • Coastal prairie • Meadows and seeps 	60 m	400 m	yes
<u>Castilleja ambigua var. ambigua</u>	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4				<ul style="list-style-type: none"> • Meadows and seeps (mesic) • Valley and foothill grassland (serpentinite) • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins • Chaparral • Lower montane coniferous forest • Subalpine coniferous forest • Upper montane coniferous forest • Closed-cone coniferous forest • Chaparral • Coastal scrub • Chaparral • Coastal prairie • Meadows and seeps 	0 m	435 m	
<u>Ceanothus gloriosus var. exaltatus</u>	glory brush	Rhamnaceae	perennial evergreen shrub	Mar-Jun(Aug)	4.3	S4	G4T4				<ul style="list-style-type: none"> • Meadows and seeps (mesic) • Valley and foothill grassland (serpentinite) • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins • Chaparral • Lower montane coniferous forest • Subalpine coniferous forest • Upper montane coniferous forest • Closed-cone coniferous forest • Chaparral • Coastal scrub • Chaparral • Coastal prairie • Meadows and seeps 	30 m	610 m	yes
<u>Ceanothus pinetorum</u>	Kern ceanothus	Rhamnaceae	perennial evergreen shrub	May-Jul	4.3	S3	G3				<ul style="list-style-type: none"> • Meadows and seeps (mesic) • Valley and foothill grassland (serpentinite) • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins • Chaparral • Lower montane coniferous forest • Subalpine coniferous forest • Upper montane coniferous forest • Closed-cone coniferous forest • Chaparral • Coastal scrub • Chaparral • Coastal prairie • Meadows and seeps 	1600 m	2745 m	yes
<u>Ceanothus rigidus</u>	Monterey ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr(Jun)	4.2	S4	G4				<ul style="list-style-type: none"> • Meadows and seeps (mesic) • Valley and foothill grassland (serpentinite) • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins • Chaparral • Lower montane coniferous forest • Subalpine coniferous forest • Upper montane coniferous forest • Closed-cone coniferous forest • Chaparral • Coastal scrub • Chaparral • Coastal prairie • Meadows and seeps 	3 m	550 m	yes
<u>Centromadia parryi ssp. parryi</u>	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2				<ul style="list-style-type: none"> • Meadows and seeps (mesic) • Valley and foothill grassland (serpentinite) • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins • Chaparral • Lower montane coniferous forest • Subalpine coniferous forest • Upper montane coniferous forest • Closed-cone coniferous forest • Chaparral • Coastal scrub • Chaparral • Coastal prairie • Meadows and seeps 	0 m	420 m	yes

																			<ul style="list-style-type: none"> • Marshes and swamps (coastal salt) • Valley and foothill grassland (vernally mesic)
<u>Chloropyron maritimum ssp. palustre</u>	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	1B.2	S2	G4?T2												<ul style="list-style-type: none"> • Marshes and swamps (coastal salt)
<u>Chorizanthe cuspidata var. cuspidata</u>	San Francisco Bay spineflower	Polygonaceae	annual herb	Apr-Jul(Aug)	1B.2	S1	G2T1												<ul style="list-style-type: none"> • Coastal bluff scrub • Coastal dunes • Coastal prairie • Coastal scrub
<u>Chorizanthe robusta var. robusta</u>	robust spineflower	Polygonaceae	annual herb	Apr-Sep	1B.1	S1	G2T1			FE									<ul style="list-style-type: none"> • Chaparral (maritime) • Cismontane woodland (openings) • Coastal dunes • Coastal scrub
<u>Chorizanthe valida</u>	Sonoma spineflower	Polygonaceae	annual herb	Jun-Aug	1B.1	S1	G1			CE	FE								<ul style="list-style-type: none"> • Coastal prairie (sandy)
<u>Cirsium andrewsii</u>	Franciscan thistle	Asteraceae	perennial herb	Mar-Jul	1B.2	S3	G3												<ul style="list-style-type: none"> • Broadleafed upland forest • Coastal bluff scrub • Coastal prairie • Coastal scrub
<u>Cirsium hydrophilum var. vaseyi</u>	Mt. Tamalpais thistle	Asteraceae	perennial herb	May-Aug	1B.2	S1	G2T1												<ul style="list-style-type: none"> • Broadleafed upland forest • Chaparral • Meadows and seeps
<u>Cirsium occidentale var. compactum</u>	compact cobwebby thistle	Asteraceae	perennial herb	Apr-Jun	1B.2	S2	G3G4T2												<ul style="list-style-type: none"> • Chaparral • Coastal dunes • Coastal prairie • Coastal scrub
<u>Cistanthe maritima</u>	seaside cistanthe	Montiaceae	annual herb	(Feb)Mar-Jun(Aug)	4.2	S3	G3G4												<ul style="list-style-type: none"> • Coastal bluff scrub • Coastal scrub • Valley and foothill grassland
<u>Clarkia franciscana</u>	Presidio clarkia	Onagraceae	annual herb	May-Jul	1B.1	S1	G1			CE	FE								<ul style="list-style-type: none"> • Coastal scrub • Valley and foothill grassland (serpentine)
<u>Collinsia corymbosa</u>	round-headed Chinese-houses	Plantaginaceae	annual herb	Apr-Jun	1B.2	S1	G1												<ul style="list-style-type: none"> • Coastal dunes
<u>Collinsia multicolor</u>	San Francisco collinsia	Plantaginaceae	annual herb	(Feb)Mar-May	1B.2	S2	G2												<ul style="list-style-type: none"> • Closed-cone coniferous forest • Coastal scrub
<u>Cypripedium californicum</u>	California lady's-slipper	Orchidaceae	perennial rhizomatous	Apr-Aug(Sep)	4.2	S4	G4												<ul style="list-style-type: none"> • Bogs and fens

herb

								<ul style="list-style-type: none"> • Lower montane coniferous forest • Broadleaved upland forest • Closed-cone coniferous forest • Chaparral 				
<u>Dirca occidentalis</u>	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	1B.2	S2	G2	Cismontane woodland	25 m	425 m	yes	<ul style="list-style-type: none"> • North Coast coniferous forest • Riparian forest • Riparian woodland • Broadleaved upland forest
<u>Elymus californicus</u>	California bottle-brush grass	Poaceae	perennial herb	May-Aug(Nov)	4.3	S4	G4	Cismontane woodland	15 m	470 m	yes	<ul style="list-style-type: none"> • North Coast coniferous forest • Riparian woodland
<u>Equisetum palustre</u>	marsh horsetail	Equisetaceae	perennial rhizomatous herb	unk	3	S1S3	G5	Marshes and swamps	45 m	1000 m		<ul style="list-style-type: none"> • Chaparral
<u>Eriogonum luteolum var. caninum</u>	Tiburon buckwheat	Polygonaceae	annual herb	May-Sep	1B.2	S2	G5T2	Cismontane woodland	0 m	700 m	yes	<ul style="list-style-type: none"> • Coastal prairie • Valley and foothill grassland • Bogs and fens • Meadows and seeps • Upper montane coniferous forest
<u>Eriophorum gracile</u>	slender cottongrass	Cyperaceae	perennial rhizomatous herb (emergent)	May-Sep	4.3	S4	G5	Chaparral	1280 m	2900 m		<ul style="list-style-type: none"> • Coastal dunes • Coastal scrub • Valley and foothill grassland • Chenopod scrub • Meadows and seeps • Playas • Valley and foothill grassland
<u>Erysimum franciscanum</u>	San Francisco wallflower	Brassicaceae	perennial herb	Mar-Jun	4.2	S3	G3	Chaparral	0 m	550 m	yes	<ul style="list-style-type: none"> • Coastal scrub • Valley and foothill grassland
<u>Extriplex joaquinana</u>	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2	Chaparral	1 m	835 m	yes	<ul style="list-style-type: none"> • Coastal scrub • Meadows and seeps • Playas • Valley and foothill grassland
<u>Fissidens pauperculus</u>	minute pocket moss	Fissidentaceae	moss		1B.2	S2	G3?	North Coast coniferous forest (damp coastal soil)	10 m	1024 m		
<u>Fritillaria lanceolata var. tristulis</u>	Marin checker lily	Liliaceae	perennial bulbiferous herb	Feb-May	1B.1	S2	G5T2	Coastal bluff scrub	15 m	150 m	yes	<ul style="list-style-type: none"> • Coastal prairie

Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2										<ul style="list-style-type: none"> • Coastal scrub • Cismontane woodland • Coastal prairie • Coastal scrub • Valley and foothill grassland 	3 m	410 m	yes
Gilia capitata ssp. chamissonis	blue coast gilia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G5T2										<ul style="list-style-type: none"> • Coastal dunes • Coastal scrub 	2 m	200 m	yes
Gilia capitata ssp. tomentosa	woolly-headed gilia	Polemoniaceae	annual herb	May-Jul	1B.1	S1	G5T1										<ul style="list-style-type: none"> • Coastal bluff scrub • Valley and foothill grassland 	10 m	220 m	yes
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	1B.2	S2	G2										<ul style="list-style-type: none"> • Coastal dunes 	2 m	30 m	
Grindelia hirsutula var. maritima	San Francisco gumplant	Asteraceae	perennial herb	Jun-Sep	3.2	S1	G5T1Q										<ul style="list-style-type: none"> • Coastal bluff scrub • Coastal scrub • Valley and foothill grassland • Broadleafed upland forest • Chaparral • Cismontane woodland • Coastal scrub • Riparian woodland • Valley and foothill grassland 	15 m	400 m	yes
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2										<ul style="list-style-type: none"> • Valley and foothill grassland 	60 m	1300 m	yes
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	1B.2	S2	G5T2										<ul style="list-style-type: none"> • Coastal bluff scrub (sandy) • Coastal dunes • Coastal prairie 	20 m	560 m	yes
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Asteraceae	annual herb	Mar-Jun	1B.2	S2	G4T3										<ul style="list-style-type: none"> • Chaparral • Valley and foothill grassland 	5 m	370 m	yes
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	Apr-Jul	1B.1	S1	G1		CT	FT							<ul style="list-style-type: none"> • Marshes and swamps (alkaline, still or slow-moving water) • Chaparral • Cismontane woodland • Riparian woodland 	30 m	1495 m	
Heteranthera dubia	water star-grass	Pontederiaceae	perennial herb (aquatic)	Jul-Oct	2B.2	S2	G5													
Hoita strobilina	Loma Prieta hoita	Fabaceae	perennial herb	May-Jul(Aug-Oct)	1B.1	S2?	G2?										<ul style="list-style-type: none"> • Coastal prairie • Coastal scrub • Valley and foothill grassland 	10 m	220 m	yes
Holocarpha macradenia	Santa Cruz tarplant	Asteraceae	annual herb	Jun-Oct	1B.1	S1	G1		CE	FT										

1/2/2020

CNPS Inventory Results

Horkelia cuneata var. sericea	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.1	S1?	G4T1?				<ul style="list-style-type: none"> • Closed-cone coniferous forest • Chaparral (maritime) • Coastal dunes • Coastal scrub 	10 m	200 m	yes
Horkelia marinensis	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	1B.2	S2	G2				<ul style="list-style-type: none"> • Coastal dunes • Coastal prairie • Coastal scrub 	5 m	755 m	yes
Horkelia tenuiloba	thin-lobed horkelia	Rosaceae	perennial herb	May-Jul(Aug)	1B.2	S2	G2				<ul style="list-style-type: none"> • Broadleaved upland forest • Chaparral • Valley and foothill grassland 	50 m	500 m	yes
Hypogymnia schizidiata	island rock lichen	Parmeliaceae	foliose lichen (null)		1B.3	S1	G2				<ul style="list-style-type: none"> • Closed-cone coniferous forest • Chaparral 	360 m	405 m	
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May	4.2	S3	G3				<ul style="list-style-type: none"> • Coastal prairie • Lower montane coniferous forest • Meadows and seeps 	0 m	600 m	yes
Kopsiopsis hookeri	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	2B.3	S1S2	G4?				<ul style="list-style-type: none"> • North Coast coniferous forest 	90 m	885 m	
Layia carnosa	beach layia	Asteraceae	annual herb	Mar-Jul	1B.1	S2	G2	CE	FE		<ul style="list-style-type: none"> • Coastal dunes • Coastal scrub (sandy) • Chaparral 	0 m	60 m	
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	4.2	S4?	G4?				<ul style="list-style-type: none"> • Cismontane woodland • Coastal prairie • Valley and foothill grassland 	55 m	1500 m	yes
Leptosiphon grandiflorus	large-flowered leptosiphon	Polemoniaceae	annual herb	Apr-Aug	4.2	S3S4	G3G4				<ul style="list-style-type: none"> • Coastal bluff scrub • Closed-cone coniferous forest • Cismontane woodland • Coastal dunes • Coastal prairie • Coastal scrub • Valley and foothill grassland 	5 m	1220 m	yes
Leptosiphon rosaceus	rose leptosiphon	Polemoniaceae	annual herb	Apr-Jul	1B.1	S1	G1				<ul style="list-style-type: none"> • Coastal bluff scrub 	0 m	100 m	yes
Lessingia germanorum	San Francisco lessingia	Asteraceae	annual herb	(Jun)Jul-Nov	1B.1	S1	G1	CE	FE		<ul style="list-style-type: none"> • Coastal scrub (remnant dunes) 	25 m	110 m	yes
	woolly-	Asteraceae	annual herb	Jun-Oct	3	S2S3	G3?				<ul style="list-style-type: none"> • 	15 m	305 m	yes

CNPS Inventory Results

www.rareplants.cnps.org/result.html?adv=t&quad=3712285:3712284:3712283:3712275:3712274:3712273:3712264:3712263#cdisp=1,2,3,4,5,6,7,8,... 8/11

										woodland • Valley and foothill grassland (often serpentine)				
<u>Perideridia gairdneri ssp. gairdneri</u>	Gairdner's yampah	Apiaceae	perennial herb	Jun-Oct	4.2	S3S4	G5T3T4			• Broadleafed upland forest • Chaparral • Coastal prairie • Valley and foothill grassland • Vernal pools • Coastal bluff scrub • Closed- cone coniferous forest • Chaparral • Cismontane woodland • Coastal scrub • Lower montane coniferous forest • Chaparral • Coastal prairie • Coastal scrub	0 m	610 m	yes	
<u>Piperia michaelii</u>	Michael's rein orchid	Orchidaceae	perennial herb	Apr-Aug	4.2	S3	G3			• Cismontane woodland • Coastal scrub • Lower montane coniferous forest • Chaparral • Coastal prairie • Coastal scrub	3 m	915 m	yes	
<u>Plagiobothrys chorisianus var. chorisianus</u>	Choris' popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.2	S1	G3T1Q			• Coastal prairie • Coastal scrub	3 m	160 m	yes	
<u>Plagiobothrys diffusus</u>	San Francisco popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.1	S1	G1Q	CE		• Coastal prairie • Valley and foothill grassland • Meadows and seeps (alkaline) • Marshes and swamps (coastal salt)	60 m	360 m	yes	
<u>Plagiobothrys glaber</u>	hairless popcornflower	Boraginaceae	annual herb	Mar-May	1A	SH	GH			• Broadleafed upland forest • Meadows and seeps • North Coast coniferous forest • Coastal prairie • Coastal scrub • Lower montane coniferous forest	15 m	180 m	yes	
<u>Pleuropogon hooverianus</u>	North Coast semaphore grass	Poaceae	perennial rhizomatous herb	Apr-Jun	1B.1	S2	G2	CT		• Broadleafed upland forest • Meadows and seeps • North Coast coniferous forest • Coastal prairie • Coastal scrub • Lower montane coniferous forest	10 m	671 m	yes	
<u>Polemonium carneum</u>	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	2B.2	S2	G3G4			• Marshes and swamps (coastal salt or brackish)	0 m	1830 m		
<u>Polygonum marinense</u>	Marin knotweed	Polygonaceae	annual herb	(Apr)May- Aug(Oct)	3.1	S2	G2Q			• Lower montane coniferous forest	0 m	10 m	yes	
<u>Quercus parvula var. tamalpaisensis</u>	Tamalpais oak	Fagaceae	perennial evergreen shrub	Mar-Apr	1B.3	S2	G4T2			• Cismontane woodland • North Coast	100 m	750 m	yes	
<u>Ranunculus lobbii</u>	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4				15 m	470 m		

										coniferous forest			
										• Valley and foothill grassland			
										• Vernal pools			
										• Chaparral			
										• Coastal prairie			
										• Meadows and seeps	30 m	240 m	yes
										• Valley and foothill grassland			
										• Chaparral			
										•			
										Cismontane woodland	15 m	800 m	
										• Coastal scrub			
										• Marshes and swamps (freshwater, near coast)	3 m	75 m	yes
										• Coastal bluff scrub			
										• Coastal prairie	0 m	600 m	
										• Valley and foothill grassland			
										• Coastal bluff scrub			
										• Chaparral			
										• Coastal prairie	30 m	645 m	yes
										• Coastal scrub			
										• Valley and foothill grassland			
										• Meadows and seeps	0 m	255 m	yes
										• Marshes and swamps			
										•			
										Broadleaved upland forest			
										• Closed-cone coniferous forest			
										• Chaparral	10 m	500 m	yes
										• Coastal prairie			
										• Coastal scrub			
										• Valley and foothill grassland			
										• Chaparral			
										•			
										Cismontane woodland	95 m	1000 m	yes
										• Valley and foothill grassland			
										• Closed-cone coniferous forest	305 m	650 m	yes
										• Chaparral			
										• Valley and foothill grassland (serpentine)	30 m	150 m	yes
										• Chaparral	150 m	800 m	yes
										• Valley and			

pulchellus	jewelflower								foothill grassland			
Suaeda californica	California seablite	Chenopodiaceae	perennial evergreen shrub	Jul-Oct	1B.1	S1	G1	FE	• Marshes and swamps (coastal salt)	0 m	15 m	yes
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2		• Marshes and swamps (brackish and freshwater)	0 m	3 m	yes
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1	G1	FE	• Coastal bluff scrub • Valley and foothill grassland (sometimes serpentinite)	5 m	415 m	yes
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2		• Marshes and swamps • Valley and foothill grassland (mesic, alkaline) • Vernal pools	0 m	300 m	yes
Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	Apr-Jun	1B.2	S2?	G2?		• Coastal prairie • Coastal scrub • Valley and foothill grassland	10 m	160 m	yes
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		1B.2	S2	G2		• Coastal bluff scrub • Coastal scrub • Chaparral	10 m	100 m	
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5		Cismontane woodland • Lower montane coniferous forest	215 m	1400 m	

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IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Marin County, California



Local offices

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📠 (916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

San Francisco Bay-Delta Fish And Wildlife

☎ (916) 930-5603

📠 (916) 930-5654

650 Capitol Mall

Suite 8-300

Sacramento, CA 95814

[http://kim_squires@fws.gov](mailto:kim_squires@fws.gov)

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
------	--------

Salt Marsh Harvest Mouse *Reithrodontomys raviventris*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/613>Southern Sea Otter *Enhydra lutris nereis*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/8560>

Marine mammal

Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered
Short-tailed Albatross <i>Phoebastria (=Diomedea) albatrus</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/433	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
------	--------

Delta Smelt *Hypomesus transpacificus*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/321>

Tidewater Goby *Eucyclogobius newberryi*

Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/57>

Insects

NAME	STATUS
Bay Checkerspot Butterfly <i>Euphydryas editha bayensis</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2320	Threatened
Callippe Silverspot Butterfly <i>Speyeria callippe callippe</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3779	Endangered
Mission Blue Butterfly <i>Icaricia icarioides missionensis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/6928	Endangered
San Bruno Elfin Butterfly <i>Callophrys mossii bayensis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3394	Endangered

Flowering Plants

NAME	STATUS
Franciscan Manzanita <i>Arctostaphylos franciscana</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5350	Endangered
Marin Dwarf-flax <i>Hesperolinon congestum</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5363	Threatened

Marsh Sandwort <i>Arenaria paludicola</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2229	Endangered
Presidio Clarkia <i>Clarkia franciscana</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3890	Endangered
Presidio Manzanita <i>Arctostaphylos hookeri</i> var. <i>ravenii</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7216	Endangered
San Francisco Lessingia <i>Lessingia germanorum</i> (=L.g. var. <i>germanorum</i>) No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8174	Endangered
Sonoma Sunshine <i>Blennosperma bakeri</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1260	Endangered
White-rayed Pentachaeta <i>Pentachaeta bellidiflora</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7782	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird *Selasphorus sasin*

Breeds Feb 1 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9637>

Bald Eagle *Haliaeetus leucocephalus*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Black Oystercatcher *Haematopus bachmani*

Breeds Apr 15 to Oct 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9591>

Black Rail *Laterallus jamaicensis*

Breeds Mar 1 to Sep 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/7717>

Black Turnstone *Arenaria melanocephala*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Burrowing Owl *Athene cunicularia*

Breeds Mar 15 to Aug 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9737>

California Spotted Owl *Strix occidentalis occidentalis*

Breeds Mar 10 to Jun 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/7266>

Clark's Grebe *Aechmophorus clarkii*

Breeds Jan 1 to Dec 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat *Geothlypis trichas sinuosa*

Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Golden Eagle *Aquila chrysaetos*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Long-billed Curlew <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Marbled Godwit <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Nuttall's Woodpecker <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Red-throated Loon <i>Gavia stellata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Rufous Hummingbird <i>Selasphorus rufus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Song Sparrow <i>Melospiza melodia</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee <i>Pipilo maculatus clementae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Whimbrel <i>Numenius phaeopus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere

Willet *Tringa semipalmata*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

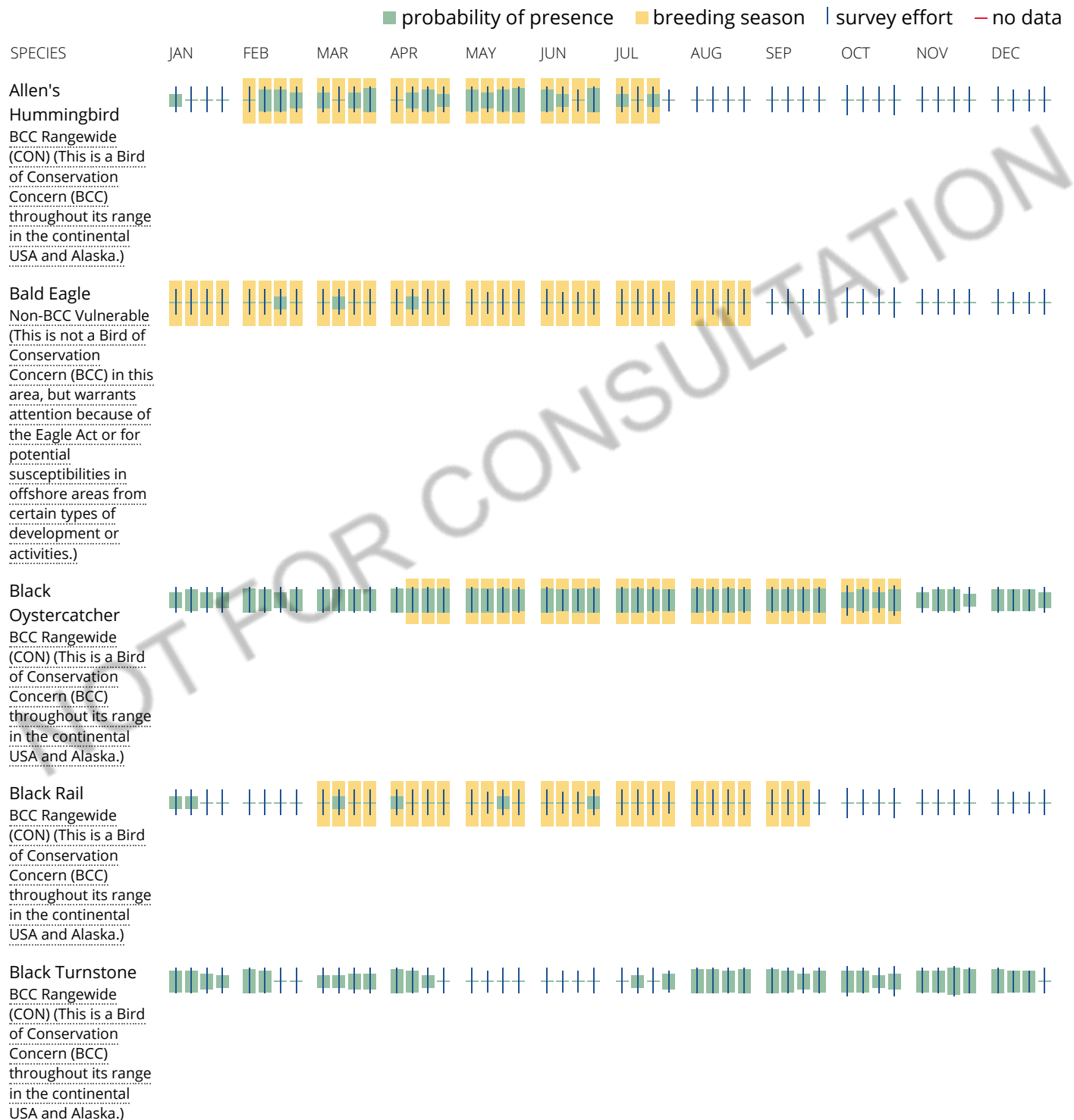
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

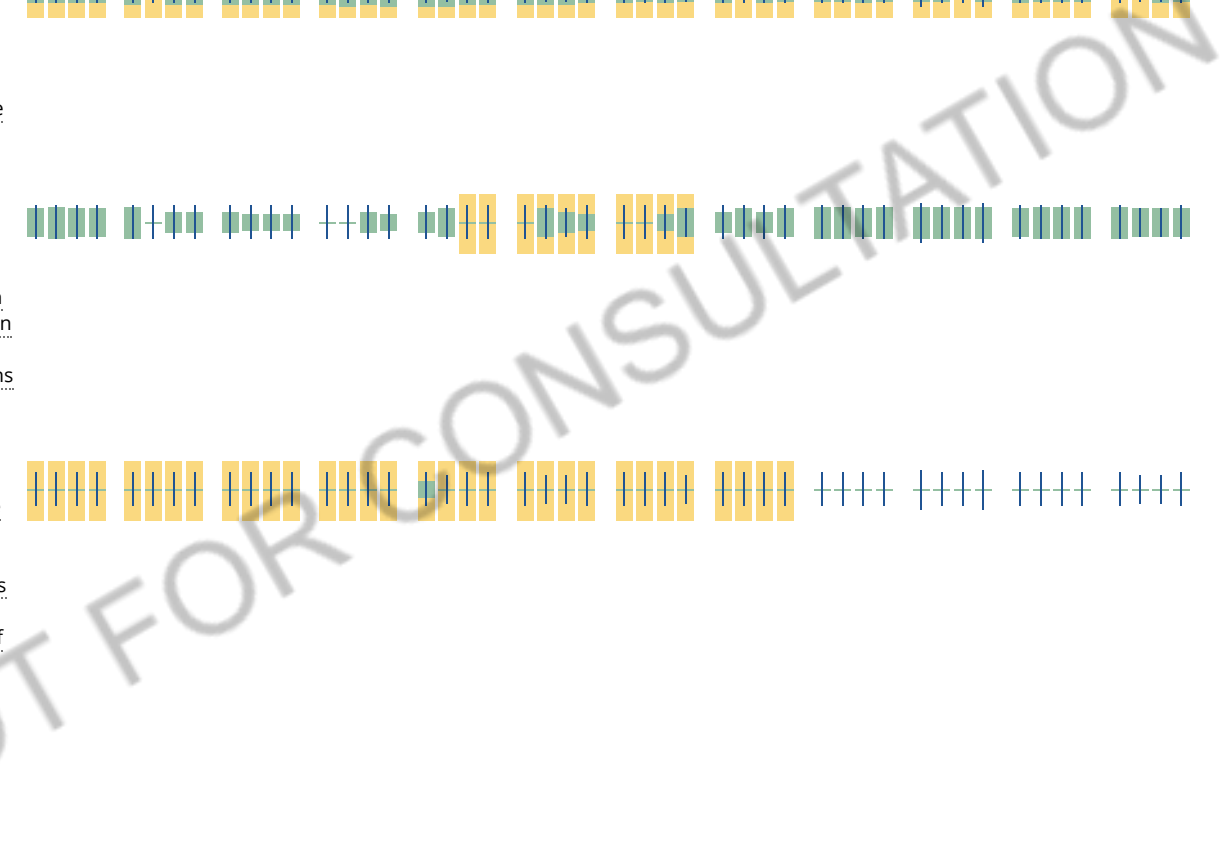
No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.







Whimbrel
BCC Rangewide
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Willet
BCC Rangewide
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Wrentit
BCC Rangewide
(CON) (This is a Bird
of Conservation
Concern (BCC)
throughout its range
in the continental
USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10

km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

NOT FOR CONSULTATION

Marine mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act¹ and the Convention on International Trade in Endangered Species of Wild Fauna and Flora².

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries³ [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take (to harass, hunt, capture, kill, or attempt to harass, hunt, capture or kill) of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The [Endangered Species Act](#) (ESA) of 1973.
2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

Southern Sea Otter *Enhydra lutris nereis*
<https://ecos.fws.gov/ecp/species/8560>

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

ESTUARINE AND MARINE DEEPWATER

[E1UBL](#)

ESTUARINE AND MARINE WETLAND

[E2USN](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Appendix C

Cultural Resources Report

January 28, 2020

Brad Evanson
City of Sausalito
420 Litho Street
Sausalito, California 94965

Subject: Cultural and Paleontological Resources Letter Report for the 70-74 Liberty Ship Way Project, City of Sausalito, California

Dear Mr. Evanson:

This letter report documents the cultural and paleontological resources study conducted by Dudek for the 70-74 Liberty Ship Way Project (proposed Project). The proposed Project would construct three two-story industrial buildings on the Project site. The City of Sausalito (City) is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). This cultural and paleontological resources study included a Northwest Information Center (NWIC) records search, Native American Heritage Commission (NAHC) Sacred Lands File search, tribal outreach to NAHC-listed tribes, a paleontological search at the Natural History Museum of Los Angeles County (LACM) and the University of California, Berkeley Museum of Paleontology (UCMP), and an intensive pedestrian survey for cultural and paleontological resources. The cultural and paleontological resources study was conducted by Dudek in accordance with the standards and guidelines defined by the California Office of Historic Preservation and CEQA.

PROJECT LOCATION AND DESCRIPTION

The Project site is located in Section 11 of Township 1 South, Range 6 West, of the San Francisco North, California 7.5' USGS Quadrangle map (Figure 1). The Project site is located at 70-74 Liberty Ship Way on an approximately 3.9-acre site located on the waterfront of the east side of the City, along the shore of Richardson Bay (Figure 2). The Project site consists of one parcel, Assessor's Parcel Number 063-080-06.

The 170,205-square-foot site is predominantly flat and is approximately 12 feet above mean sea level. The Project site currently contains dry boat storage for approximately 85 small vessels and

containerized storage. An adjacent restaurant uses approximately 10,000 square feet of the site for parking.

The proposed project would construct three two-story industrial buildings totaling approximately 50,000 square feet and up to 32 feet in height. The building footprint of Building A is proposed as 9,376 square feet (18,752 gross square feet). Building B is proposed as 9,057 square feet (16,970 gross square feet), and Building C is proposed as 5,963 square feet (11,518 gross square feet). The potential uses for Building A include dry boat storage, manufacturing, and storage/warehouse; Building B would include manufacturing, repair and maintenance, and medical services; and Building C would include marine industrial and marine commercial space.

Construction activities would consist of excavation and shoring, foundation and below-grade construction, and construction of the building and finishing interiors. The project would not involve demolition as there are no permanent structures on site. The project site would be excavated approximately 24 to 30 inches below grade and up to 5 feet in select places. Excavation would remove approximately 2,380 cubic yards of soil. Of the excavated soil, 430 cubic yards would be used as fill; a net 1,950 cubic yards of soil would be hauled off site. There would be a total of 2,790 tons of material exported off site, which would include concrete slab and curbs, asphalt, and the chain-link fence.

No soils are anticipated to be imported to the site. Groundwater on the site is likely to be encountered approximately 6 feet below ground surface and could fluctuate several feet depending on the season and rainfall. Dewatering will not be required. Pile driving would be required for Buildings A, B, and C. The concrete piles would be drilled to depths ranging from 62 feet to 100 feet. Approximately 42,500 square feet of the project site would be paved.

REGULATORY FRAMEWORK

State Regulations

The California Register of Historical Resources

In California, the term “historical resource” includes but is not limited to “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (California Public Resources Code [PRC] Section 5020.1(j)). In 1992, the California legislature established the California Register of Historical Resources (CRHR) “to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse

change” (PRC Section 5024.1(a)). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains “substantial integrity,” and (ii) meets at least one of the following criteria:

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

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see California Code Regulations, Title 14, Section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC Section 21083.2(g) defines “unique archaeological resource.”
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines “historical resources.” In addition, CEQA Guidelines Section 15064.5(b) defines the phrase “substantial adverse change in the significance of an historical resource;” it also defines the circumstances when a project would materially impair the significance of an historical resource.

- PRC Section 21074(a) defines “tribal cultural resources.”
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e): Set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4: Provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an historical resource” (PRC Section 21084.1; CEQA Guidelines Section 15064.5(b)). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(q)), it is a “historical resource” and is presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)).

A “substantial adverse change in the significance of an historical resource” reflecting a significant effect under CEQA means “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired” (CEQA Guidelines Section 15064.5(b)(1); PRC Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project:

- (1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- (2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project

establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

- (3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA (CEQA Guidelines Section 15064.5(b)(2)).

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any “historical resources,” then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource’s historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b], and [c]).

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC Sections 21074(c); 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC Section 5097.98.

Native American Historic Cultural Sites

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the Heritage Commission to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy a Native American historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (Section 7050.5b). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Section 7050.5c). The NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

Paleontological Resources

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state laws and regulations (CEQA). This report satisfies project requirements in accordance with CEQA (PRC Section 21000 et seq.) and PRC Section 5097.5. This analysis also complies with guidelines and significance criteria specified by the Society of Vertebrate Paleontology (SVP 2010).

Paleontological resources are explicitly afforded protection by CEQA, specifically in Section VII(f) of CEQA Guidelines Appendix G, the Environmental Checklist Form, which addresses the potential for adverse impacts to “unique paleontological resource[s] or site[s] or ... unique geological feature[s]” (14 CCR 15000 et seq.). This provision covers fossils of signal importance—remains of species or genera new to science, for example, or fossils exhibiting

features not previously recognized for a given animal group—as well as localities that yield fossils significant in their abundance, diversity, preservation, and so forth. Further, CEQA provides that, generally, a resource shall be considered “historically significant” if it has yielded or may be likely to yield information important in prehistory (14 CCR 15064.5 [a][3][D]). Paleontological resources would fall within this category. The California Public Resources Code, Chapter 1.7, Sections 5097.5 and 30244, also regulates removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites.

BACKGROUND RESEARCH

Cultural Records Search Results

A records search was completed for the current proposed Project site and a 1/4-mile radius by Dudek staff at the NWIC at Sonoma State University on January 7, 2019 (Appendix A). This search included a review of their collection of mapped prehistoric, historical, and built-environment resources, Department of Parks and Recreation Site Records, technical reports, historical maps, and local inventories. Additional consulted sources included the NRHP, California Inventory of Historical Resources/CRHR and listed Office of Historic Preservation Archaeological Determinations of Eligibility, California Points of Historical Interest, and California Historical Landmarks.

Previously Conducted Studies

NWIC records indicate that 10 previous cultural resources technical investigations have been conducted within 1/4-mile of the proposed Project site (Table 1). Of these studies, none have included any portion the proposed Project site.

Table 1.
Previous Technical Studies

Report Number	Date	Title	Author
<i>Reports within the Project Site</i>			
No previously recorded reports.			
<i>Reports within the 1/4-Mile Search Site</i>			
S-002150	1980	Cultural Resources Investigation of Operating Projects, Corps of Engineers Base Yard Facility, Sausalito.	Stephen A. Brandt
S-011565	1990	Historical Overview and National Register of Historical Places Significance Evaluation of the Napa Street Pier, Sausalito, California	Laurence H. Shoup
S-011565a	1990	COE891211A: Re: Napa Street Pier, Sausalito	Thompson F. Keesling and

Table 1.
Previous Technical Studies

Report Number	Date	Title	Author
			Kathryn Gualtieri
S-013217	1990	An Archaeological Survey for the AT&T Fiber Optics Cable, San Francisco to Point Arena, California	Thomas M. Origer
S-013217a	1990	Archaeological Findings Regarding a Selection of a Route through Novato for the AT&T Fiber Optics Cable (letter report)	Thomas M. Origer
S-013217b	1991	An Archaeological Study of Revised Portions of the AT&T Route near Santa Rosa and Sausalito (letter report)	Thomas M. Origer
S-013217c	1991	Archaeological Study of AT&T Revised Fiber Cable Routes (letter report)	Thomas M. Origer
S-013217d	1992	Archaeological Survey of Alternative Fiber Optics Cable Routes, Point Arena (letter report)	Thomas M. Origer
S-024767	2001	A Cultural Resources Evaluation of the Sausalito Marine Land Exchange and Development Project, Bridgeway Boulevard, Sausalito, Marin County, California	William Roop
S-036164	2009	A Cultural Resources Evaluation of 300 Locust Street, Sausalito, Marin County, California	Cassandra Chattan and Sally Evans

Previously Identified Cultural Resources

NWIC records indicate that no archaeological or built-environment resources are on file within or adjacent to the Project site. One resource, P-21-000501, was on file within the records search area (Table 2). P-21-000501 is the remains of a historic pier located at the end of Napa Street and lies approximately 450 feet east of the Project site.

Table 2.
Previously Recorded Cultural Resources

Trinomial	Period	Name	Type	NRHP/CRHR Status
<i>Resources within the Project Site</i>				
No previously recorded resources				
<i>Resources within the 1/4-Mile Search Site</i>				
P-21-000501	Historic	Napa Street Pier	Wharf/Pier	Unevaluated

Archival and Building Development Research

Dudek consulted historic maps and aerial photographs to understand development of the proposed Project site and surrounding properties. Historic aerial photographs were available from 1946 to 2016; historic maps were available from 1895 to 2018 (NETR 2020). As indicated by both historical maps and aerial images, the Project site has only been used as a storage yard.

In addition, the historical maps and aerial images indicate the Project site is completely composed of imported fill. Between 1947 and 1950, most of the Project site was created by imported fill placed in Richardson Bay. Between 1964 and 1968, more fill was added to create the current waterfront coastline.

Paleontological Records Search

Dudek requested a paleontological records search from the LACM on January 9, 2020, and a response was received on January 23, 2020. The records search request included the proposed Project site and a 1/4-mile-radius buffer. The LACM reported that there are no paleontological localities within the proposed Project site. The closest locality is LACM 4626 located in Martinez on the Suisun Bay. Older Quaternary deposits (Schlocker 1958) at this locality produced the holotype specimen (a specimen used as the name bearer for a species new to science) of the fossil horse, *Equus pacificus*. This specimen is now housed at the Harvard University Museum of Comparative Zoology. Further east, near Port Chicago the University of California at Berkeley locality UCMP V45005 yielded a specimen of tapir, *Tapirus merriami*, which has been published in the scientific literature (Jefferson 1989). (Appendix C).

Dudek also conducted a search of the University of California Museum of Paleontology (UCMP) online specimen database for the project. Over 300 fossil localities were listed from Marin County (UCMP 2020). Of these localities, a single locality was from Sausalito, and consisted of a modern invertebrate, the snail *Nassarius mendicus*, which is not significant paleontologically (Appendix C).

NAHC and Tribal Correspondence

Dudek requested a NAHC search of their Sacred Lands File on January 7, 2020 for the Project site. The NAHC results, received January 15, 2020, indicated the Sacred Lands File search identified possible cultural resources within the records search area. The NAHC then provided a list of Native American tribes culturally affiliated with the location of the Project site and recommended contacted them for further information. Letters were sent to each of the contacts to request information on resources in the area on January 16, 2020. No responses to Dudek's requests for information were received. NAHC and Tribal correspondence documents are included in Appendix B. If any responses are received in the future, they will be forwarded to the City of Sausalito.

The proposed Project is subject to compliance with Assembly Bill 52 (PRC Section 21074), which requires consideration of impacts to "tribal cultural resources" as part of the CEQA process and requires the CEQA lead agency to notify any groups (who have requested notification) of the Project

who are traditionally or culturally affiliated with the geographic area of the Project. Because AB 52 is a government-to government process, all records of correspondence related to AB 52 notification and any subsequent consultation are on file with the City of Sausalito.

Intensive Pedestrian Survey

Dudek archaeologist/paleontologist William Burns inspected all portions of the 3.9-acre Project site on January 7, 2020, using standard archaeological and paleontological procedures and techniques that meet the Secretary of Interior's Standards and Guidelines for cultural and paleontological resources inventory. The entirety of the Project site is a dirt, gravel, and asphalt lot used for storage of boats and container units. Exposed ground surfaces were observed for surface artifacts, undisturbed areas, archaeological deposits, historic structures, and geological exposures. Ground visibility was excellent except in asphalted sections, nearly 75%. The entirety of the Project site appears to be artificial and imported fill. No geologic outcrops were observed. No historic structures were observed. No archaeological or paleontological resources were identified within the Project site during the field survey.

SUMMARY AND MANAGEMENT RECOMMENDATIONS

Paleontological Resources

As the project is presently designed, no paleontological monitoring or additional management requirements would be required. The project area is located within the Coast Ranges Geomorphic Province within California (Norris and Webb 1990; California Geological Survey [CGS] 2002). Artificial fill underlays the project site; the project would not impact native soils with potential to support the presence of fossilized material. Recent (map units Qaf and Qm respectively; less than ~11,700 years old) bay mud and clay are mapped in areas adjacent to the project site. Modern shell fragments may be encountered within these geological units, but due to their young age, these shells would not be considered to be paleontologically significant. Older, Pleistocene age deposits (2.58 million to 11,700 years old) are anticipated to underlie these Holocene age deposits at an unknown depth (Schlocker 1958).

The graywacke and mélangé (map unit KJss; Cretaceous and Jurassic; ~80 million to 200 years old) mapped to the south has low potential also, due to any potentially preserved fossilized remains being destroyed during the tectonic processes in this area, as they are part of the greater Franciscan complex geology exposed within the project area (Schlocker 1958). Although there are other bedrock units in this area that contain fossils, such as the Cretaceous- Jurassic radiolarian cherts (map unit KJc; Cretaceous and Jurassic; ~80 million to 200 years old), these

fossils would be considered redundant (Schlocker 1958). These bedrock units are not anticipated to be impacted during construction.

The archival search of recorded paleontological localities stated no localities have been recorded within the proposed Project site; however, localities nearby have produced fossils specimens of extinct horse and tapir (Appendix C). Although no paleontological resources were observed during the pedestrian survey, the surrounding area is considered to have the potential to yield significant paleontological resources should the Project site extend outside the current limits, Pleistocene age sedimentary deposits may be encountered during grading activities. Therefore, if the Project footprint changes to extending into the south and west outside of the current footprint, the following measure is recommended to reduce impacts to paleontological resources.

Prior to the commencement of any grading activity, the applicant shall retain a qualified paleontologist, subject to the review and approval of the lead agency to ensure the implementation of a paleontological monitoring program. The Society of Vertebrate Paleontology (SVP 2010) defines a qualified paleontologist as having:

- (1) A graduate degree in paleontology or geology, and/or a publication record in peer reviewed journals; and demonstrated competence in field techniques, preparation, identification, curation, and reporting in the state or geologic province in which the project occurs. An advanced degree is less important than demonstrated competence and regional experience.
- (2) At least two full years professional experience as assistant to a Project Paleontologist with administration and project management experience; supported by a list of projects and referral contacts.
- (3) Proficiency in recognizing fossils in the field and determining significance.
- (4) Expertise in local geology, stratigraphy, and biostratigraphy.
- (5) Experience collecting vertebrate fossils in the field.

The qualified paleontologist shall attend, or call in to, any pre-construction meetings and manage the paleontological monitor(s) if he or she is not doing the monitoring. A paleontological monitor should be on site during all excavations below the depth of previously disturbed sediments. The SVP (2010) defines a qualified paleontological monitor as having:

- (1) BS or BA degree in geology or paleontology and one year experience monitoring in the state or geologic province of the specific project. An associate degree and/or demonstrated experience showing ability to recognize fossils in a biostratigraphic context and recover vertebrate fossils in the field

- may be substituted for a degree. An undergraduate degree in geology or paleontology is preferable, but is less important than documented experience performing paleontological monitoring, or
- (2) AS or AA in geology, paleontology, or biology and demonstrated two years experience collecting and salvaging fossil materials in the state or geologic province of the specific project, or
 - (3) Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in the state or geologic province of the specific project.
 - (4) Monitors must demonstrate proficiency in recognizing various types of fossils, in collection methods, and in other paleontological field techniques.

The paleontological monitor shall monitor construction excavations below a depth of 5 feet in areas underlain by Quaternary alluvium and all excavations in areas underlain by elevated Quaternary alluvium as determined by the Qualified Paleontologist based on the construction plans. The paleontological monitor shall be equipped with necessary tools for the collection of fossils and associated geological and paleontological data. The monitor shall complete daily logs detailing the day's excavation activities and pertinent geological and paleontological data. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find.

Following the paleontological monitoring program, a final monitoring report shall be submitted to the City, for approval. The report should summarize the monitoring program and include geological observations and any paleontological resources recovered during paleontological monitoring for the project.

Archaeological Resources

Observation of the present conditions within the proposed Project indicate that all areas of the Project site are composed of fill imported in several stages between 1947 and 1968. No newly identified archaeological resources were recorded during the pedestrian survey of the proposed Project site. Further, a NWIC records search did not identify the presence of cultural resources within the proposed Project site. An NAHC Sacred Lands File search did identify Native American resources within the search area, which included the proposed Project site and the surrounding 1/4-mile buffer. Subsequent tribal outreach with the NAHC-listed tribe has been initiated by Dudek on

behalf of the City; information pertaining to any potential Native American resources in the vicinity of the proposed Project has not been received. The proposed Project, as currently designed, appears to have a very low potential for encountering intact cultural deposits during ground-disturbing activities and would have no impact to known cultural resources. Based on these negative findings and the observed conditions of the present proposed Project site, no additional cultural resources efforts, including archaeological monitoring, are recommended to be necessary beyond standard protection measures for unanticipated discoveries of cultural resources and human remains.

Unanticipated Discovery of Archaeological Resources

In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the proposed Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under CEQA (14 CCR 15064.5(f); PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.

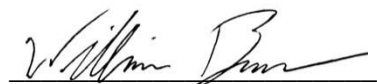
Unanticipated Discovery of Human Remains

In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within 2 working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the MLD from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

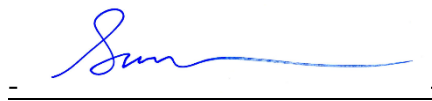
Subject: Cultural and Paleontological Resources Letter Report for the 70-74 Liberty Ship Way Project, City of Sausalito, California

If you have any questions about this report, please contact me at wburns@dudek.com.

Respectfully submitted,



William Burns, MSc, RPA
Archaeologist



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Senior Paleontologist

cc: Adam Giacinto, Dudek
Michael Williams, Dudek
Hannah Young, Dudek
Kara Laurenson-Wright, Dudek

Att: NADB Information
Figure 1. Project Location
Figure 2. Project Site
Appendix A: NWIC Records Search Results - Confidential
Appendix B: NAHC and Tribal Correspondence
Appendix C: Museum Records Search Results

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NATIONAL ARCHAEOLOGICAL DATABASE (NADB) INFORMATION

Authors: William Burns, MSc, RPA, Sarah Siren, MS, Michael Williams, PhD, and Adam Giacinto, MA, RPA

Firm: Dudek

Project Proponent: City of Sausalito

Report Date: January 2020

Report Title: Cultural and Paleontological Resources Letter Report for the 70-74 Liberty Ship Way Project, City of Sausalito, California

Type of Study: Archaeological Inventory, Paleontological Inventory, Intensive Pedestrian Survey

Acreage: 3.9 acres

Resources: None

USGS Quads: Section 11, Township 1 South, Range 6 West, San Francisco Quadrangle USGS map

Keywords: Sausalito, Archaeological Inventory, Paleontological Inventory, Intensive Pedestrian Survey

*Subject: Cultural and Paleontological Resources Letter Report for the 70-74 Liberty Ship Way
Project, City of Sausalito, California*

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Subject: Cultural and Paleontological Resources Letter Report for the 70-74 Liberty Ship Way Project, City of Sausalito, California



SOURCE: USGS 7.5-Minute Series San Francisco North Quadrangle

DUDEK 0 1,000 2,000 Feet

FIGURE 1

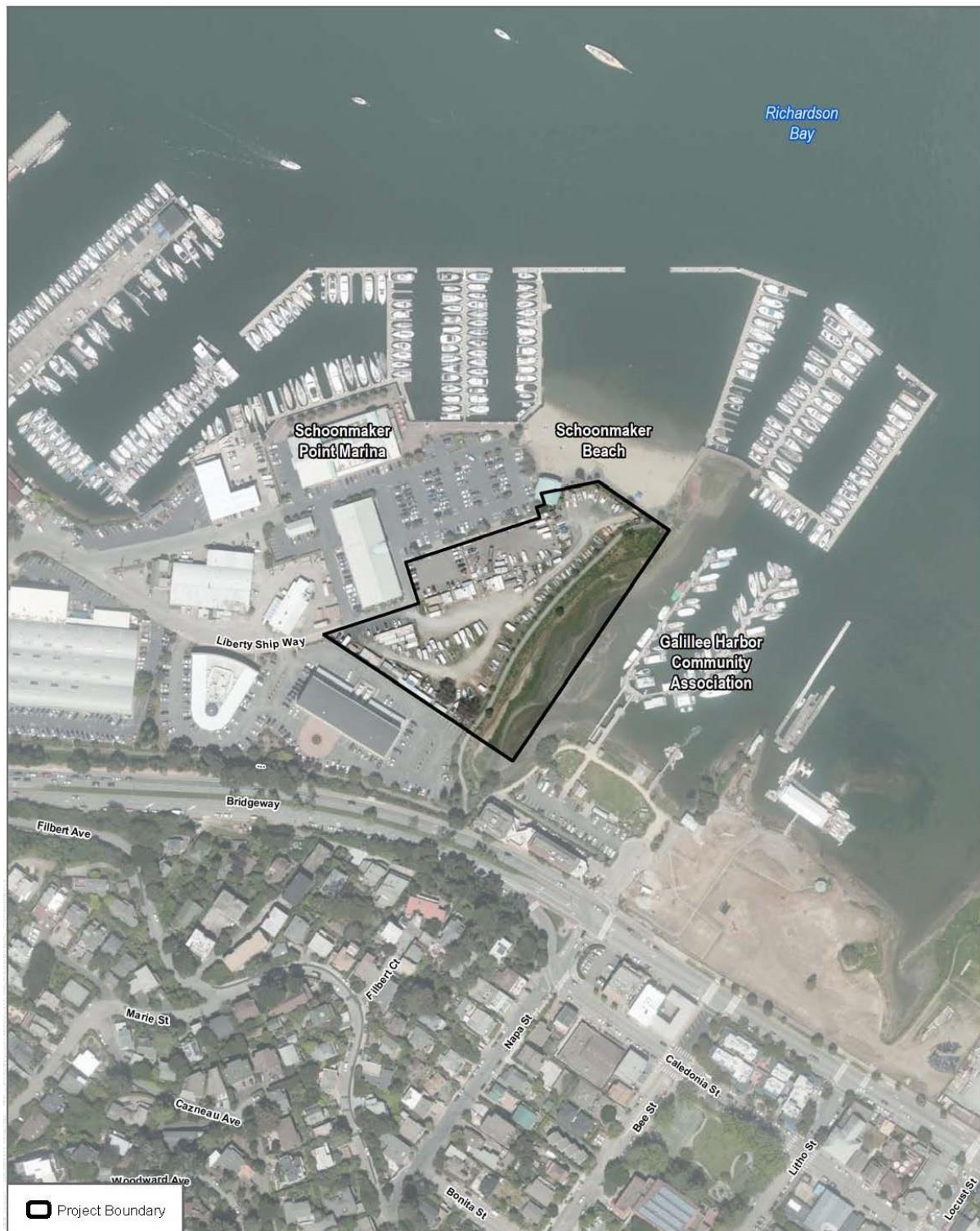
Project Location

70-74 Liberty Ship Way Project

*Subject: Cultural and Paleontological Resources Letter Report for the 70-74 Liberty Ship Way
Project, City of Sausalito, California*

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SOURCE: Bing Maps 2019; Marin County 2018



FIGURE 2

Project Vicinity

70-74 Liberty Ship Way Project

APPENDIX A
CONFIDENTIAL
NWIC Records Search Results

APPENDIX B

NAHC and Tribal Correspondence

APPENDIX C

Museum Records Search Results

Appendix D

Traffic Impact Analysis

Traffic Impact Study 70–74 Liberty Ship Way Project

Prepared for:

City of Sausalito

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*Contact: Tricia Stevens
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JANUARY 2021

Table of Contents

<u>SECTION</u>	<u>PAGE NO.</u>
1 INTRODUCTION	1
1.1 Purpose and Scope of the TIS	1
1.2 Project Description, Location and Study Area	2
1.3 Significance Thresholds.....	7
1.3.1 City of Sausalito	7
1.3.2 Congestion Management Program.....	8
1.4 Analysis Methodology.....	8
1.4.1 Levels of Service.....	8
1.4.2 Vehicle Miles Traveled.....	9
2 EXISTING CONDITIONS.....	11
2.1 Roadway System	11
2.2 Traffic Volumes.....	12
2.3 Intersection Operations.....	12
2.4 Transit System	12
2.5 Pedestrian and Bicycle Facilities.....	13
3 TRIP GENERATION	19
3.1 Trip Generation.....	19
3.2 Trip Distribution and Assignment	20
4 EXISTING PLUS PROJECT	27
4.1 Traffic Volumes.....	27
4.2 Intersection Operations.....	27
5 OPENING YEAR CONDITIONS	31
5.1 Cumulative Projects	31
5.1.1 Trip Generation	31
5.1.2 Trip Distribution and Assignment.....	32
5.2 Traffic Volumes.....	32
5.3 Intersection Operations.....	32
6 OPENING YEAR PLUS PROJECT.....	37
6.1 Traffic Volumes.....	37
6.2 Intersection Operations.....	37
7 2040 CONDITIONS.....	41
7.1 Traffic Volumes.....	41
7.2 Intersection Operations.....	41

8	2040 PLUS PROJECT	45
8.1	Traffic Volumes.....	45
8.2	Intersection Operations.....	45
9	PROJECT ACCESS AND QUEUING ANALYSIS	49
9.1	Project Access.....	49
9.2	Queuing Analysis	49
10	VEHICLE MILES TRAVLED (VMT) ANALYSIS.....	55
10.1	Background.....	55
10.2	City of Sausalito General Plan VMT	55
10.3	VMT Screening Analysis	55
10.4	VMT Reduction	57
11	MITIGATION MEASURES.....	59
12	FINDINGS AND RECOMMENDATIONS	61

APPENDICES

A	Traffic Data from 2018 Analysis
B	LOS and Queuing Worksheets
C	Circulation Exhibits

FIGURES

1	Regional Location and Study Area	3
2	Project Site Plan	5
3	Existing Traffic Controls and Geometrics.....	15
4	Existing Traffic Volumes.....	17
5	Project Trip Distribution and Assignment – Commercial/Restaurant/Medical Uses	21
6	Project Trip Distribution and Assignment – Industrial/Manufacturing/Warehousing Uses.....	23
7	Project Trip Assignment – Total	25
8	Existing plus Project Traffic Volumes.....	29
9	Locations of Cumulative Projects.....	33
10	Opening Year 2023 Traffic Volumes.....	35
11	Opening Year 2023 plus Project Traffic Volumes	39
12	2040 Traffic Volumes	43
13	2040 plus Project Traffic Volumes.....	47
14	Bridgeway Median and Left Turn Pocket Concept at Marinship Way.....	53

TABLES

1	Levels of Service for Intersections using HCM Methodology	8
2	Existing Weekday Peak Hour Intersection LOS	12
3	Project Trip Generation	19
4	Existing plus Project Intersection Level of Service	27
5	Cumulative Projects Trip Generation Summary	31
6	Opening Year 2023 Peak Hour Intersection LOS.....	32
7	Opening Year 2023 plus Project Intersection Level of Service	37
8	2040 Peak Hour Intersection LOS	41
9	2040 plus Project Intersection Level of Service	45
10	Opening Year 2023 plus Project Queuing Summary	50
11	2040 plus Project Queuing Summary.....	51

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1 Introduction

1.1 Purpose and Scope of the TIS

The purpose of this Traffic Impact Study (TIS) is to identify traffic impacts associated with the proposed 70–74 Liberty Ship Way Project (proposed project) in the City of Sausalito (City). All facilities analyzed within this study lie within the jurisdiction of the City and therefore the TIS has been prepared per the City of Sausalito’s *1995 General Plan Circulation Element*, last updated in 1999, as well as the City of Sausalito’s *2020 General Plan Circulation Element*, the final draft which was published in October 2020.

The objectives of this TIS are:

- Document existing traffic conditions, including intersection levels of service in the study area;
- Estimate trip generation, distribution, and assignment characteristics for the proposed project;
- Analyze the traffic impacts that would occur as a result of project traffic under the Existing, Opening Year (Cumulative), and 2040 (Horizon Year) conditions;
- Describe the significance of the potential impacts under the Existing, Opening Year (Cumulative), and 2040 (Horizon Year) Conditions;
- Identify mitigation measures for significantly impacted transportation facilities (if any);
- Describe the adequacy of project access locations and site circulation;
- Address Vehicle-Miles Traveled (VMT) impacts and;
- Describe active transportation and transit facilities in the vicinity of the project site.

The major highways in the project vicinity are U.S. Highway 101 (US-101), also identified as State Route 1 (SR-1), which provides regional connections to Interstate 580 (I-580) to the north, and Interstate 280 (I-280) and Interstate 80 (I-80) to the south. As illustrated in Figure 1, the study area is comprised of the following two intersections within the City of Sausalito:

Intersections

1. Marinship Way – Easterby Street/Bridgeway
2. Spring Street/Bridgeway

Existing Conditions

The TIS includes a description of existing traffic conditions in the site vicinity, including the existing roadway system, existing weekday AM and PM peak hour traffic volumes, and traffic operations. The existing conditions are representative of the year 2020. All traffic volume information is intended to represent pre-Covid-19 conditions.

Existing plus Project

This condition includes analysis of traffic operations under existing conditions with project related traffic added to the AM and PM peak hour traffic volumes. The traffic impacts specific to these conditions are the basis for determining the project-specific impacts, any necessary mitigation measures, and probable conditions of approval.

Opening Year 2023 Baseline (Existing + Ambient Background Growth + Cumulative Projects)

This condition includes a description of traffic conditions and operations within a short-term period where the proposed project is constructed and fully occupied. It is estimated by increasing the existing traffic volumes by an appropriate growth rate that is projected up to the year 2023. This condition also includes traffic generated by other approved and pending projects in the study area. These approved or pending projects are developments in the review process, but not yet fully approved; or, projects that have been approved, but not fully constructed or occupied. The project impacts identified under this scenario are contributions to cumulative impacts, and potential necessary mitigation identified for such impacts can include existing impact fees or other approved funding sources applicable to the project.

Opening Year 2023 plus Project

This condition includes analysis of traffic operations under Opening Year 2023 conditions with project-related traffic added to the study intersections' AM and PM peak hour traffic volumes. The traffic impacts specific to the project under this condition are the basis for determining project's contribution to cumulative impacts and its fair-share responsibility towards proposed mitigation measures.

2040 Baseline

This condition includes a description of traffic conditions and operations within a long-term period where the proposed project is constructed, fully occupied, and the addition of background traffic from the long-term projections in the General Plan. Currently, the 2020 General Plan analyzed the year 2040 as the year for future growth. The project impacts identified under this scenario are contributions to long-term impacts, and potential necessary mitigation identified for such impacts can include existing impact fees or other approved funding sources applicable to the project.

2040 plus Project

This condition includes analysis of traffic operations under 2040 conditions with project-related traffic added to the study intersections' AM and PM peak hour traffic volumes. The traffic impacts specific to the project under this condition are the basis for determining project's contribution to long-term impacts and its fair-share responsibility towards proposed mitigation measures.

1.2 Project Description, Location and Study Area

Figure 1 shows the project's regional location and the study area. Figure 2 illustrates the project's site plan.

The proposed project is located on an approximately 3.9-acre site located on the east side of the City, along the Richardson Bay shore. The proposed project involves the construction of three two-story buildings. The building footprint of Building A is proposed as 9,376 square feet (18,752 gross square feet). Building B is proposed as 9,057 square feet (18,114 gross square feet), and Building C is proposed as 5,963 square feet (11,518 gross square feet) (Figure 4, Overall Site Plan). The potential uses for Building A include dry boat storage, manufacturing, and storage/warehouse; Building B would include manufacturing, repair and maintenance, and medical services; and Building C would include marine industrial, marine commercial space, and restaurant uses.



SOURCE: Google Earth 2019

FIGURE 1

Regional Location and Study Area

70-74 Liberty Ship Way Project

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The proposed project would provide an approximately 48,979-square-foot surface parking lot with up to 108 parking spaces, including six handicap spaces; 12 bicycle parking spaces; and five motorcycle spaces. Nine of these spaces would be available for public use on weekdays from 8 a.m. to 5 p.m. in the southwestern portion of the site. An additional eight spaces would be available for public use on weekends and extended evening hours. A truck loading space would be located adjacent to Building A. All pedestrian and accessible path of travel information, as well as additional exhibits that detail truck turning radii, and circulation is provided in Appendix C.

Access to the project site would be made available along Liberty Ship Way, which is configured into a loop. Primary ingress would be provided via a converted one-way 20-foot entryway along the southern portion of the Liberty Ship Way loop, while egress will be provided via a two-way internal circulation system that leads to the northern portion of the Liberty Ship Way loop. The proposed project would also enhance access and improve pedestrian and bicycle access for the existing Bay Trail that proceeds along the shoreline of the City. Project construction is expected to occur over approximately 42 months, with construction scheduled to commence in 2021 and be completed in 2023.

1.3 Significance Thresholds

The significance criteria set forth in this analysis pertains to the standards and methodology adopted by the City's Circulation Element for all facilities analyzed. The significance criteria are described below.

1.3.1 City of Sausalito

The City until recently has used the following level of service (LOS) thresholds contained in the City's 1995 Circulation Element.

Policy CP-1.2

Level of Service Standards. Maintain a letter grade Level of Service of "C" for signalized intersections from the P.M. weekday peak hour except for Johnson, Bay and Princess Streets.

However, with the recent draft 2020 General Plan Circulation Element, the following LOS threshold is also provided:

Policy CP-1.6

Level of Service (LOS) Standard. Maintain a letter grade level of service of "D" for signalized intersections during the P.M. weekday peak hour except on Johnson, Bay, and Princess Streets (which are not given an LOS standard).

For the purposes of this analysis, LOS C is the significance threshold for all intersections analyzed since the draft 2020 General Plan has not yet been adopted. There are no listed criteria for intersections already operating at unacceptable LOS, and therefore for the purposes of this analysis, any intersection that is operating at unacceptable LOS with the addition of project traffic will create a significant impact. If the above thresholds are exceeded a significant impact would occur, and construction of improvements or project modifications to reduce the impact level to insignificance would be required.

The City of Sausalito has not yet adopted significance thresholds for vehicle miles traveled (VMT); therefore, in the interim, the Office of Planning and Research's recommended threshold of 15% below existing per capita

VMT per service population for the region has been used in the General Plan Update for the City, and will be used in this analysis.

1.3.2 Congestion Management Program

The Congestion Management Program (CMP) addresses the problem of increasing congestion on regional highways and principal arterials through a coordinated approach involving the State, County, Cities, and transit providers. The Transportation Authority of Marin (TAM) has been designated as the Congestion Management Agency (CMA) for the County of Marin, which also encapsulates the City of Sausalito.

The CMP identifies arterial roadways and freeway segments within the study area that may require specialized analysis according to the procedures outlined in TAM's *Final Report 2015 CMP Update* (2015). The nearest CMP facilities identified within the City of Sausalito and nearest to the project study area, include, US-10 between Spencer Avenue and the Golden Gate Bridge, and the arterial roadway segment of Bridgeway between Gate 5 Road and Gate 6 Road. Additionally, if a major development results in a net increase of 100 or more PM peak hour vehicle trips, then the TAM county traffic model requires the project be analyzed and amended if necessary. As will be discussed in Chapter 3, the proposed project will generate fewer than 100 PM peak hour vehicle trips, and will not generate substantial traffic along CMP facilities, and is therefore exempt from any further CMP analysis.

1.4 Analysis Methodology

1.4.1 Levels of Service

Level of service (LOS) is commonly used as a qualitative description of roadway segments and intersection operations and is based on the design capacity of the roadway segment or intersection configuration, compared to the volume of traffic using the roadway segment or intersection.

Intersections

For the study area unsignalized intersections, the *Highway Capacity Manual* (HCM) methodology (Transportation Research Board 2017) was used. LOS software, and unsignalized intersections were analyzed per HCM 6th Edition methodology using Synchro LOS software (version 10).

Table 1 shows the LOS values by delay ranges for unsignalized intersections under the HCM methodology.

Table 1. Levels of Service for Intersections using HCM Methodology

Level of Service	Signalized Intersections Control Delay (in seconds)
A	< 10.0
B	> 10.0 to < 20.0
C	> 20.0 to < 35.0
D	> 35.0 to < 55.0
E	> 55.0 to < 80.0
F	> 80.0

Source: HCM 2017.

1.4.2 Vehicle Miles Traveled

A change to transportation analysis in CEQA environmental review occurred when Governor Jerry Brown signed Senate Bill (SB) 743 into a law that required an update in the metric of transportation impact from Level of Service (LOS) and automobile delay to one that promotes the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses for transit priority areas. SB 743 required the Governor's Office of Planning and Research to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts. Under the new transportation guidelines, LOS, or vehicle delay, will no longer be considered an environmental impact under CEQA.

The updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. Under the new guidelines, VMT has been adopted as the most appropriate measure of transportation impacts under CEQA. The OPR's regulatory text indicates that a public agency may immediately commence implementation of the new transportation impact guidelines, and that the guidelines must be implemented statewide by July 1, 2020. The City of Sausalito has not yet adopted VMT specific guidelines however, the General Plan Update EIR provides the City's approach for VMT analysis for projects. Therefore, the guidance from the OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018 and the General Plan Update *EIR Appendix F Transportation Supporting Information* has been used for the proposed project's VMT analysis to determine its CEQA specific transportation impact. The details of applicable screening and VMT analysis methodology has been provided in Chapter 10 of the TIA.

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2 Existing Conditions

This section describes existing conditions within the study area. Characteristics are provided for the existing roadway system, peak hour traffic volumes, and traffic operations.

2.1 Roadway System

The existing traffic controls and geometrics at the study area intersections are shown in Figure 3. Characteristics of the existing street system in the study area are described below. All characteristics are intended to represent pre-Covid-19 conditions.

U.S. Highway 101 (US-101) extends along the Pacific Coast of California. Within Marin County and the City of Sausalito, US-101 co-identified as State Route 1 (SR-1), and is an eight lane highway that serves as the principal route between Sausalito, and the City of San Francisco to the south; and, Marin, San Rafael, and Santa Rosa to the north. Access between U.S. Highway 101 and the proposed project site is provided via an interchange with Rodeo Avenue (restricted to the northbound direction only) and with the Bridge Boulevard/Donahue Street interchange.

Bridgeway is generally a four-lane primary arterial roadway and intersects with two of the study area intersections analyzed in this study (Spring Street and Easterby Street – Marinship Way). Bridgeway serves as the primary connection point to the Marinship area, including a majority of the marine related activities within the City. In the project area, Bridgeway is a four-lane divided roadway, however, it is reduced to two-lanes without a median south of Napa Street. There is a Class II bicycle lane on both sides of the road, however east of Easterby Street – Marinship Way the bicycle lane is reduced to a class III bicycle route on the southern portion as the roadway narrows from two lanes to one. Bridgeway is classified as a primary arterial within the City's circulation element and the posted speed limit is 30 miles per hour (MPH). Parking is generally provided on both sides of the roadway.

Spring Street is a two-lane undivided roadway and intersects Bridgeway. Spring Street connects Bridgeway to Woodward Avenue which can be utilized to reach US-101. Spring Street is classified as a local street within the City's circulation element and the posted speed limit is 25 MPH. Parking is generally provided on both sides of the roadway.

Easterby Street is a two-lane undivided roadway and intersects Bridgeway and turns into Marinship Way north of Bridgeway. Easterby Street also turns into Woodward Avenue and its southern terminus, which can be utilized to reach US-101. Easterby Street is classified as a local street within the City's circulation element and the posted speed limit is 25 MPH. Parking is generally provided on both sides of the roadway.

Marinship Way is generally a two-lane undivided roadway and intersects Bridgeway and Liberty Ship Way. Marinship Way is partially a public roadway, however transitions into a private roadway west of Liberty Ship Way. Marinship Way is classified as a local street within the City's circulation element and the posted speed limit is 25 MPH. Parking is generally not provided on either side of the roadway.

Liberty Ship Way is generally a two-lane undivided roadway and intersects Bridgeway and Marinship Way. Liberty Ship Way is the main access roadway to the project site and serves many of the waterfront and marine uses in the Marinship area of the City. Liberty Ship Way is unlisted within the City's circulation element and the posted speed limit is 25 MPH. Parking is generally not provided on either side of the roadway.

2.2 Traffic Volumes

A prior traffic and parking analysis conducted by Robert L. Harrison Transportation Planning (2018) was utilized to derive the existing weekday peak hour turning movement counts at the study intersections. Counts were collected on April 18, 2018 during a typical non-holiday week. For purposes of this study and analysis, the traffic counts were developed with a conservative growth rate of 2% per year to create conditions representative of the year 2020. All traffic volume information is intended to represent pre-Covid-19 conditions. The original traffic counts are provided in Appendix A. For the purposes of consistency, the year 2020 counts were compared to those utilized within the 2020 General Plan Circulation Element and were deemed to be adequately consistent for both intersections.

Existing weekday segment PM peak hour directional volume and intersection AM and PM peak hour volumes are summarized on Figure 4. This analysis focuses on the weekday segment PM peak hour directional flow of traffic (4:00 to 6:00 p.m.), as well as intersection AM (7:00 to 9:00 a.m.) and the PM (4:00 to 6:00 p.m.) peak periods. The peak periods represent the highest volume of traffic for the adjacent street system.

2.3 Intersection Operations

An intersection LOS analysis was prepared using the HCM 6th Edition methodology for signalized intersections. As described in Chapter 1, Synchro (version 10) was utilized to calculate delay for signalized intersections. Signal timing for both intersections was obtained from the City. Table 2 shows the results of the existing conditions LOS analysis, detailed LOS worksheets are included in Appendix B.

Table 2. Existing Weekday Peak Hour Intersection LOS

No.	Intersection	Traffic Control	LOS Method	AM Peak Hour		PM Peak Hour	
				Delay ¹	LOS ²	Delay ¹	LOS ²
1	Marinship Way-Easterby Street/Bridgeway	Signalized	HCM	14.7	B	13.4	B
2	Spring Street/Bridgeway	Signalized	HCM	4.6	A	3.4	A

Source: Dudek 2020

Note: HCM = Highway Capacity Manual

¹ Delay in seconds per vehicle

² Level of Service (LOS)

BOLD – Intersection is operating with unsatisfactory LOS

As shown in Table 2, all of the study area intersections are currently operating with satisfactory LOS (LOS C/D¹ or better) under existing conditions during both peak hours.

2.4 Transit System

Both Marin Transit and Golden Gate Transit provide service to the Marinship Way-Easterby Street/Bridgeway intersection as well as the Napa Street/Bridgeway intersection. Both bus stop locations are approximately a quarter mile distance from the project site. All transit information is based on pre-Covid-19 conditions.

¹ For purposes of this analysis, LOS C is the minimum satisfactory LOS based on the current General Plan. Upon adoption of the 2020 General Plan, LOS D will become the minimum satisfactory LOS.

Marin Transit Routes 17 and 61 provide daily service, while Routes 71X and 115 provide weekday service only. Route 17 provides frequent service to the City of San Rafael every 15-30 minutes during peak hours and every hour on weekends. Route 61 provides service to Bolinas on an hourly basis on weekdays, and every 2 hours generally on weekends (weekend service limited to the months of March and October only). Route 71X provides weekday only service to the City of Novato every 30 minutes during peak hours and hourly thereafter. Route 115 provides limited weekday service to the communities of Mill Valley and Strawberry with one coach in service during both the AM and PM peak periods.

Golden Gate Transit Routes 2, 4, and 92 provide only weekday service, while Route 30 provides weekday and weekend service as well. Route 2 is generally a commuter route that provides service between Marin City and the City of San Francisco only during the AM and PM peak periods with a headway of 20 minutes. Route 4 is a commuter route that provides service between Strawberry Village and the City of San Francisco with 15-20-minute headways during the AM and PM peak period, and hourly service thereafter. Route 92 is a commuter route that provides service between the Manzanita Park & Ride and the City of San Francisco with hourly service throughout the day, ending during the PM peak period commute. Route 30 provides service between the San Rafael Transit Center and the Salesforce Transit Center within the City of San Francisco with service generally provided on an hourly basis on both weekdays and weekends.

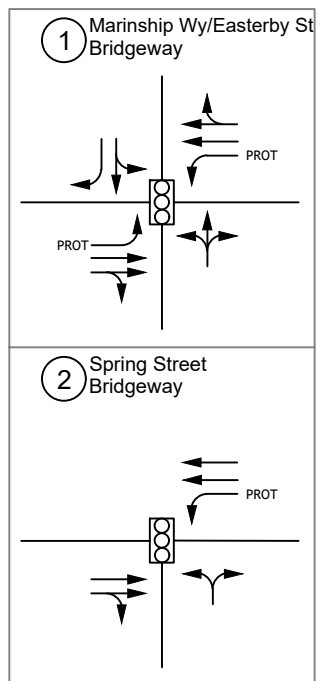
Golden Gate Transit also manages the Sausalito Ferry, which is approximately 1-mile south of the project site and provides service to the City of San Francisco Ferry Building. Service is provided every weekday on an hourly basis during the AM and PM peak period and thereafter every two to three hours. Weekend service is limited generally to afternoon arrivals and departures.

2.5 Pedestrian and Bicycle Facilities

An existing Class II bicycle lane is provided along both side of Bridgeway, however the southern portion of the roadway narrows south of Marinship Way and is therefore reduced to a Class III bicycle route, the northern portion of which remains a Class II bicycle lane.

Additionally, the Bay Trail along the boundary of the project site provides a separate Class I bicycle path as well as separate pedestrian facilities. The proposed project will improve the section of the Bay Trail along its frontage with improved lighting and safety elements. All pedestrian and accessible path of travel information is provided in Appendix C. Due to the industrial history of the Marinship area, Liberty Ship Way generally lacks sidewalks and adequate pedestrian amenities.

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- | | |
|---|-------------------------------------|
|  | Project |
|  | Study Intersection |
|  | Lane Geometrics |
| PROT | Protected Left Turn Phasing |
| XD | Number of lanes (divided roadway) |
| XU | Number of lanes (undivided roadway) |

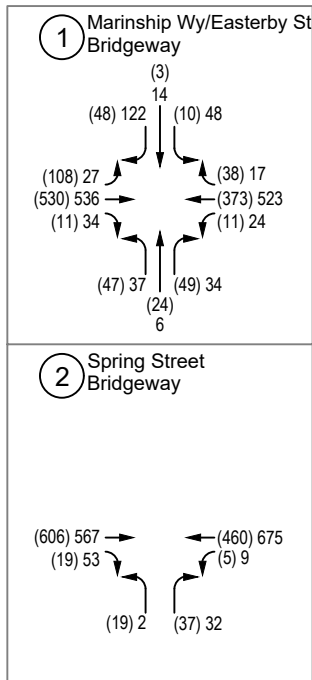
FIGURE 3

Existing Traffic Controls and Geometrics



70-74 Liberty Ship Way Project

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Jul 03, 2020 12:25pm 12353 70-74 Liberty Ship Way - Project DOCUMENT PREPARED BY: AUSTIN CAT - FINAL ILLUSTRATION 03/03/2020/400 - 100001-000000



Legend

-  Project
-  Study Intersection
- (X) Weekday AM Peak Hour Traffic Volumes
- X Weekday PM Peak Hour Traffic Volumes



SOURCE: Google Earth 2019

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3 Trip Generation

This section documents the trip generation, distribution, and assignment of project traffic.

3.1 Trip Generation

Trip generation estimates were based on the project description and characteristics, and the expected land uses associated within each of the three buildings proposed as part of the project. The square footage for each building was calculated utilizing the full building square footage. Trip generation was estimated by using trip rates from the Institute of Transportation Engineers 10th Edition *Trip Generation* book (2017). Accordingly, AM and PM peak hour trip generation volumes were computed. Table 3 presents the trip generation estimates for the proposed project.

Table 3. Project Trip Generation

Land Use ¹	Quantity	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Building A - Manufacturing	3.176 TSF	12	2	0	2	1	1	2
Building A - Warehousing	15.576 TSF	27	2	1	3	1	2	3
Building A - Total		39	4	1	5	2	3	5
Building B - Manufacturing	13.561 TSF	53	6	2	8	3	6	9
Building B - Medical Clinic	4.553 TSF	174	13	4	17	4	11	15
Building B - Total		227	19	6	25	7	17	24
Building C - Marine Industrial	4.767 TSF	24	3	0	3	0	3	3
Building C - Marine Commercial	4.585 TSF	173	3	1	4	9	9	18
Building C - Restaurant	2.166 TSF	243	12	10	22	13	8	21
Building C - Total		440	18	11	29	22	20	42
Project Total		706	41	18	59	31	40	71

Notes:

¹ Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017.

As shown in Table 3, Building A may contain land uses such as Manufacturing and Warehousing, and would generate approximately 39 daily trips, 5 AM peak hour trips (4 inbound and 1 outbound), and 5 PM peak hour trips (2 inbound and 3 outbound). Building B may contain land uses such as Manufacturing and Medical Clinics, and would generate approximately 227 daily trips, 25 AM peak hour trips (19 inbound and 6 outbound), and 24 PM peak hour trips (7 inbound and 17 outbound). Building C may contain land uses such as Industrial, Commercial, and Restaurant and would generate approximately 440 daily trips, 29 AM peak hour trips (18 inbound and 11 outbound), and 42 PM peak hour trips (22 inbound and 20 outbound). In total the proposed project consisting of all three buildings would generate 706 daily trips, 59 AM peak hour trips (41 inbound and 18 outbound), and 71 PM peak hour trips (31 inbound and 40 outbound).

3.2 Trip Distribution and Assignment

Project trips were distributed to the study area intersections using the regional location of the project and logical commute routes. Project traffic distribution and assignment was divided according to the expected commute patterns for each of the project's land uses. Commercial, Restaurant, and Medical Uses are expected to generate slightly more localized traffic from within the City, while the remaining uses (Industrial, Manufacturing, and Warehousing) are expected to draw a greater degree of regional traffic.

All project traffic is expected to utilize Liberty Ship Way and Marinship Way, to access Bridgeway, the only roadway that allows access to the Marinship area. Project traffic assigned towards US-101 is expected to utilize Bridgeway and the interchanges of US-101 at Bridge Boulevard or at Rodeo Avenue. The project trip distribution and assignment for Commercial, Restaurant, and Medical Uses is shown in Figure 5, while the project trip distribution and assignment and for Industrial, Manufacturing, and Warehousing uses is shown in Figure 6. The project trip assignment for the entire project is shown in Figure 7.

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4 Existing Plus Project

This section describes project-specific impacts under Existing plus Project conditions within the study area for intersection operations. For any significant project impacts identified by the analysis, mitigation measures will be provided to offset impacts to less than significant levels.

4.1 Traffic Volumes

As stated previously, all traffic volume information is intended to represent pre-Covid-19 conditions. The existing intersection configurations (shown in Figure 3) have been assumed to be preserved under the Existing plus Project conditions. Project traffic volumes shown in Figure 7 were added to the Existing traffic volumes shown in Figure 4. Figure 8 shows the Existing plus Project traffic volumes.

4.2 Intersection Operations

An intersection LOS analysis was prepared using the HCM 6th Edition methodology for signalized intersections. As described in Chapter 1, Synchro (version 10) was utilized to calculate delay for signalized intersections. Table 4 shows the results of the Existing plus Project conditions LOS analysis, detailed LOS worksheets are included in Appendix B.

As shown in Table 4, all of the study area intersections will continue to operate with satisfactory LOS (LOS C/D or better) under Existing plus Project conditions during both peak hours.

Table 4. Existing plus Project Intersection Level of Service

No.	Intersection	Control	LOS Method	Existing Conditions				Existing plus Project				Change in Delay		Significant Impact	
				AM Peak		PM Peak		AM Peak		PM Peak					
				Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	AM	PM	AM	PM
1	Marinship Way-Easterby Street/ Bridgeway	Signalized	HCM	14.7	B	13.4	B	16.7	B	15.3	B	2.0	1.9	No	No
2	Spring Street/ Bridgeway	Signalized	HCM	4.6	A	3.4	A	4.6	A	3.5	A	0.0	0.1	No	No

Source: Dudek 2020

Note: HCM = Highway Capacity Manual

¹ Delay in seconds per vehicle

² Level of Service (LOS)

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5 Opening Year Conditions

This section presents the results of the Opening Year condition analysis that was conducted for a short-term horizon year (2023) where the proposed project would be fully constructed and occupied. The cumulative conditions are based on the addition of traffic from approved and pending projects in the study area, along with the application of an annual growth rate, to the existing 2020 traffic volumes.

5.1 Cumulative Projects

A list of cumulative projects was obtained from the City of Sausalito Community Development Department. The cumulative projects are projects that are proposed and in the review process, but not yet fully approved; or, projects that have been approved, but not fully constructed or occupied. Based on review of the data and discussions with City staff, three cumulative projects were identified that would potentially add traffic to the roadways and intersections within the study area by year 2023. Figure 9 shows the locations of these cumulative projects.

5.1.1 Trip Generation

Project trip generation estimates for the cumulative projects were prepared using trip rates from the *Institute of Transportation Engineers, Trip Generation* (2017) and from information obtained from City staff. Table 5 provides the summary of trip generation estimates for the cumulative projects. As shown in Table 5, the cumulative projects are forecast to generate approximately 588 daily trips, 52 AM peak hour trips, and 75 PM peak hour trips.

Table 5. Cumulative Projects Trip Generation Summary

No.	Land Use	Quantity	Units	Daily Trips	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
1	Bridgeway Commons (Multi-Family) ¹	16	DU	131	2	10	12	9	4	13
2	Marin Theater Remodel and Conversion ²	-	-	-	-	-	-	-	-	-
	Theater	1	Screen	220	6	8	14	20	18	38
	Restaurant	1.196	TSF	134	7	5	12	7	4	11
	Office	6.749	TSF	66	7	1	8	1	7	8
3	265 Gate 5 Road – Artist Commercial/Industrial Space ³	7.400	TSF	37	5	1	6	1	4	5
Total Trip Generation				588	27	25	52	38	37	75

Notes:

DU – Dwelling Unit; TSF – 1,000 square feet.

Cumulative projects information obtained from the City of Sausalito Community Development Department.

¹ Trip generation data derived from Bridgeway Commons Circulation Study, Parisi Transportation Consulting, 2016.

² Trip generation data derived from City of Sausalito Planning Division Project Plans for Marin Theater - 1010 Caledonia Street (DR-CUP-SP EA 16-214), 2016.

³ Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017

5.1.2 Trip Distribution and Assignment

Trip distributions and assignments for the cumulative projects were analyzed assuming logical commute corridors. The trips generated by the cumulative projects were distributed through the study area network, and then added to the existing traffic volumes.

5.2 Traffic Volumes

Opening Year 2023 traffic volumes were estimated by applying an annual ambient growth rate to the existing (2020) traffic volumes, plus, the addition of traffic from cumulative projects (discussed above).

The ambient growth rate represents traffic expected in the short term and is a conservative reflection of traffic increases in the region. An annual growth rate of 2% per year for a period of three years (2020 – 2023), plus the addition of traffic from cumulative projects, was added to the existing traffic volumes. Figure 10 illustrates the Opening Year 2023 baseline (no project) traffic volumes for the intersection peak hour conditions.

5.3 Intersection Operations

An intersection LOS analysis was prepared using the HCM 6th Edition methodology for signalized intersections. As described in Chapter 1, Synchro (version 10) was utilized to calculate delay for signalized intersections. Table 6 shows the results of the existing conditions LOS analysis, detailed LOS worksheets are included in Appendix B.

Table 6. Opening Year 2023 Peak Hour Intersection LOS

No.	Intersection	Traffic Control	LOS Method	AM Peak Hour		PM Peak Hour	
				Delay ¹	LOS ²	Delay ¹	LOS ²
1	Marinship Way-Easterby Street/Bridgeway	Signalized	HCM	14.7	B	13.6	B
2	Spring Street/Bridgeway	Signalized	HCM	4.6	A	3.5	A

Source: Dudek 2020

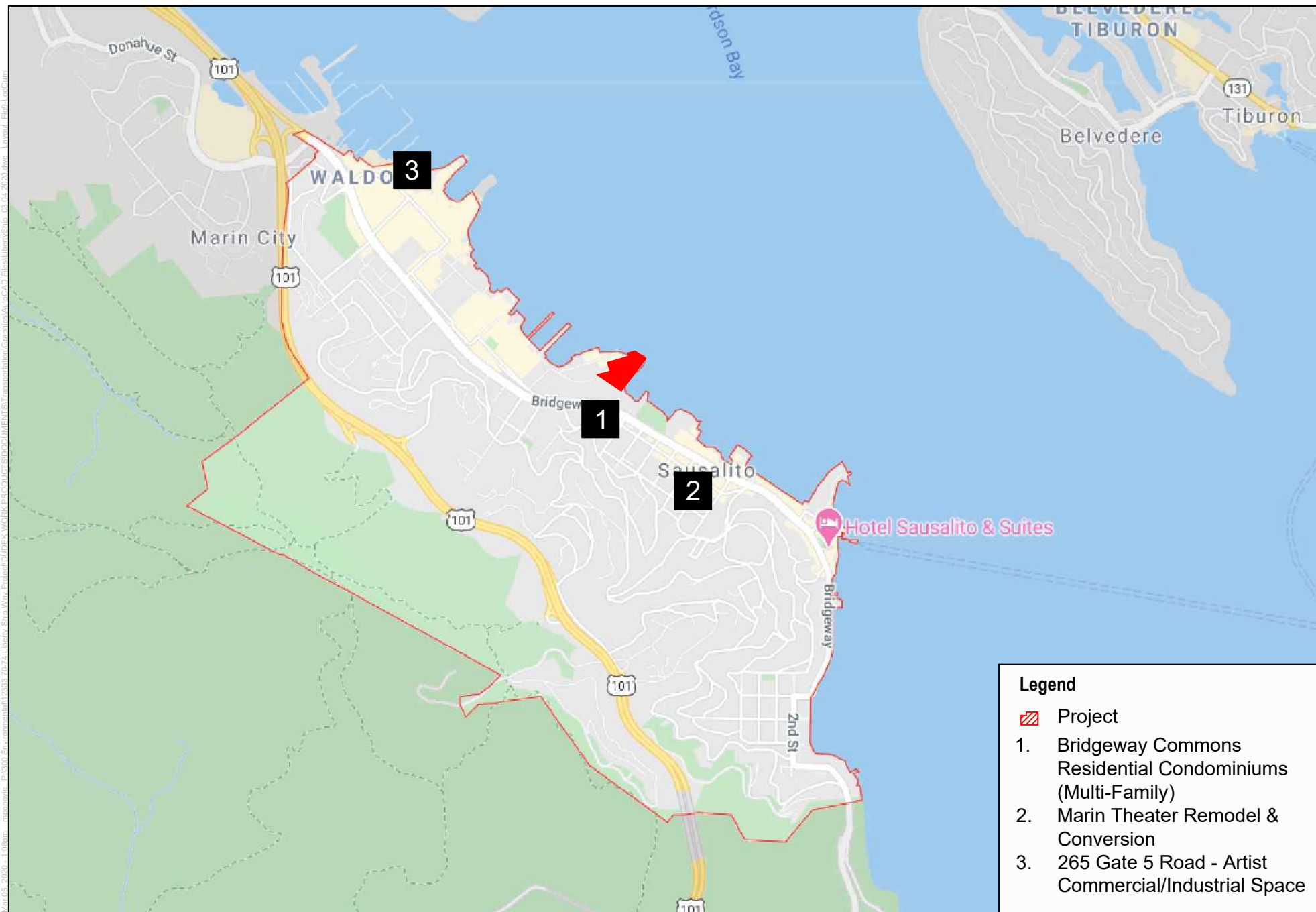
Note: HCM = Highway Capacity Manual

¹ Delay in seconds per vehicle

² Level of Service (LOS)

BOLD – Intersection is operating with unsatisfactory LOS

As shown in Table 6, all of the study area intersections are forecast to continue operating with satisfactory LOS (LOS C/D or better) under Opening Year 2023 conditions during both peak hours.



SOURCE: Google Maps 2020



FIGURE 9

Locations of Cumulative Projects

70-74 Liberty Ship Way Project

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-  Project
-  Study Intersection
- (X) Weekday AM Peak Hour Traffic Volumes
- X Weekday PM Peak Hour Traffic Volumes

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FIGURE 10
Opening Year 2023 Traffic Volumes
70–74 Liberty Ship Way Project

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6 Opening Year Plus Project

This section describes impacts under Opening Year 2023 plus Project conditions within the study area for intersection operations. For any significant project impacts identified in the analysis, mitigation measures will be provided to offset impacts to less than significant levels.

6.1 Traffic Volumes

The project trip assignment, as shown in Figure 7, was added to the Opening Year 2023 baseline traffic volumes, as shown in Figure 10, to derive the Opening Year 2023 plus Project traffic volumes. Figure 11 shows the Opening Year 2023 plus Project traffic volumes.

6.2 Intersection Operations

An intersection LOS analysis was prepared using the HCM 6th Edition methodology for signalized intersections. As described in Chapter 1, Synchro (version 10) was utilized to calculate delay for signalized intersections. Table 7 shows the results of the Opening Year 2023 plus Project conditions LOS analysis, detailed LOS worksheets are included in Appendix B.

As shown in Table 7, all of the study area intersections will continue to operate with satisfactory LOS (LOS C/D or better) under Opening Year 2023 plus Project conditions during both peak hours.

Table 7. Opening Year 2023 plus Project Intersection Level of Service

No.	Intersection	Control	LOS Method	Opening Year 2023				Opening Year 2023 plus Project				Change in Delay		Significant Impact	
				AM Peak		PM Peak		AM Peak		PM Peak					
				Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	AM	PM	AM	PM
1	Marinship Way-Easterby Street/Bridgeway	Signalized	HCM	14.7	B	13.6	B	16.9	B	15.4	B	2.2	1.8	No	No
2	Spring Street/Bridgeway	Signalized	HCM	4.6	A	3.5	A	4.7	A	3.7	A	0.1	0.2	No	No

Source: Dudek 2020

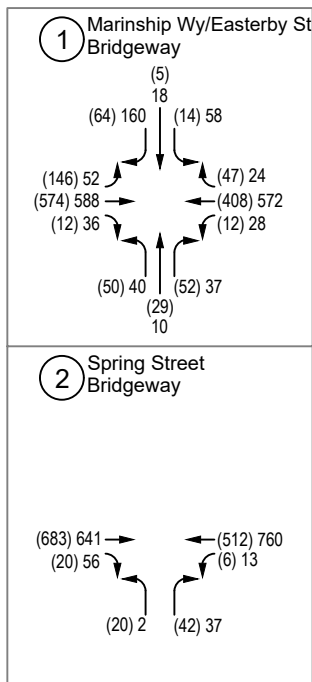
Note: HCM = Highway Capacity Manual

¹ Delay in seconds per vehicle

² Level of Service (LOS)

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 File: 03-2020-2-34pm
 Folder: WORK PROJECT DOCUMENTS\03-2020-2-34pm
 Project: 70-74 Liberty Ship Way Project
 User: E:\03-2020-2-34pm



- Legend**
- Project
 - Study Intersection
 - (X) Weekday AM Peak Hour Traffic Volumes
 - X Weekday PM Peak Hour Traffic Volumes



SOURCE: Google Earth 2019

FIGURE 11
 Opening Year 2023 plus Project Traffic Volumes
 70-74 Liberty Ship Way Project

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7 2040 Conditions

This section presents the results of the 2040 baseline condition analysis that was conducted for a long-term horizon year (2040) where the proposed project would be fully constructed and occupied, and background growth as depicted in the 2020 General Plan would be produced.

7.1 Traffic Volumes

The 2040 baseline traffic volumes were obtained directly from the 2020 General Plan Circulation Element and from the General Plan's Appendix F Transportation Supporting Information document.

Figure 12 illustrates the 2040 baseline (no project) traffic volumes for the intersection peak hour conditions.

7.2 Intersection Operations

An intersection LOS analysis was prepared using the HCM 6th Edition methodology for signalized intersections. As described in Chapter 1, Synchro (version 10) was utilized to calculate delay for signalized intersections. Table 6 shows the results of the existing conditions LOS analysis, detailed LOS worksheets are included in Appendix B.

Table 8. 2040 Peak Hour Intersection LOS

No.	Intersection	Traffic Control	LOS Method	AM Peak Hour		PM Peak Hour	
				Delay ¹	LOS ²	Delay ¹	LOS ²
1	Marinship Way-Easterby Street/Bridgeway	Signalized	HCM	12.7	B	12.8	B
2	Spring Street/Bridgeway	Signalized	HCM	4.6	A	4.4	A

Source: Dudek 2020

Note: HCM = Highway Capacity Manual

¹ Delay in seconds per vehicle

² Level of Service (LOS)

BOLD – Intersection is operating with unsatisfactory LOS

As shown in Table 8, all of the study area intersections are forecast to continue operating with satisfactory LOS (LOS C/D or better) under 2040 baseline conditions during both peak hours.

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8 2040 Plus Project

This section describes impacts under 2040 plus Project conditions within the study area for intersection operations. For any significant project impacts identified in the analysis, mitigation measures will be provided to offset impacts to less than significant levels.

8.1 Traffic Volumes

The project trip assignment, as shown in Figure 7, was added to the 2040 baseline traffic volumes, as shown in Figure 12, to derive the 2040 plus Project traffic volumes. Figure 13 shows the 2040 plus Project traffic volumes.

8.2 Intersection Operations

An intersection LOS analysis was prepared using the HCM 6th Edition methodology for signalized intersections. As described in Chapter 1, Synchro (version 10) was utilized to calculate delay for signalized intersections. Table 9 shows the results of the 2040 plus Project conditions LOS analysis, detailed LOS worksheets are included in Appendix B.

Table 9. 2040 plus Project Intersection Level of Service

No.	Intersection	Control	LOS Method	2040 Baseline				2040 plus Project				Change in Delay		Significant Impact	
				AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
				Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²				
1	Marinship Way-Easterby Street/Bridgeway	Signalized	HCM	12.7	B	12.8	B	14.5	B	14.4	B	1.8	1.6	No	No
2	Spring Street/Bridgeway	Signalized	HCM	4.6	A	4.4	A	4.7	A	4.5	A	0.1	0.1	No	No

Source: Dudek 2020

Note: HCM = Highway Capacity Manual

¹ Delay in seconds per vehicle

² Level of Service (LOS)

As shown in Table 9, all of the study area intersections are forecast to continue operating with satisfactory LOS (LOS C/D or better) under 2040 plus Project conditions during both peak hours.

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9 Project Access and Queuing Analysis

9.1 Project Access

As shown on the project site plan (Figure 2), the existing Liberty Ship Way roadway provides primary site access, which creates a loop at the western edge of the project site that connects to Marinship Way. The primary ingress to the site would be via a one-way entry way from the southern portion of Liberty Ship Way, with a 20-foot wide path of vehicular travel. Although the ingress path along Liberty Ship Way provides sufficient roadway width per City requirements, the southernmost corner of the 60D Liberty Ship Way building abuts the northern edge of the roadway. A curb and guardrail system will be added to the northern edge of the roadway to reduce potential hazards, as shown in Appendix C. Additionally, pavement conditions along a segment adjacent to this building, west of the driveway to 30 Liberty Ship Way and east to the proposed project parking lot, are deteriorated and include visible old railroad tracks. It is recommended that this section of roadway be repaved to address existing pavement conditions. The internal circulation of the site would then transform into two-way traffic and facilitate parking lot drive aisles large enough to adequately accommodate delivery vehicles and have been approved by the fire department and emergency services for access.

Egress from the site would be possible via the parking lot and drive aisles of the existing parking areas north of the site, before connecting back to the northern section of the Liberty Ship Way loop. Building A would be accessed directly via the most western drive aisle of the site and with the center drive aisles that would also connect Building B and Building C. Parking would be provided on all sides of Building A, and all sides of Building B except for the southern edge where the center drive aisle would be located. Building C would have parking primarily located along its western edge, and would have access to both parking areas near Building B and Building A. Additionally, accessible pedestrian routes, consistent with Americans with Disabilities Act (ADA) requirements, are provided throughout the project site.

All supporting information for project access, including truck turning radii, site circulation, and accessible path of travel is provided in Appendix C.

9.2 Queuing Analysis

A queuing analysis was prepared using SimTraffic 10 software, for all vehicular movements, to and from the project site, at the study area intersections. All Queuing reports are provided in Appendix B.

As shown in Tables 10 and 11, the calculated 95th percentile (design) queue for the Opening Year 2023 plus Project and 2040 plus Project conditions at all intersections do not exceed the storage lengths provided, except for the eastbound left turn lane at the Marinship Way-Easterby Street/Bridgeway intersection. The longest forecast queue exceeds the available storage length of 75 feet by 5 feet (less than one car length) in the AM and by 21 feet (approximately one car length) in the PM peak hour. In both baseline conditions, the queue exceedance is nearly identical when compared to the plus Project condition.

The City does not have a relevant significance criterion in place, however the exceedance of a storage lane may potentially create hazardous conditions for drivers proceeding eastbound at the intersection as the eastbound left turn lane overflows into the nearest through lane. Therefore, the project would contribute to this potentially unsafe condition. It is important to note that the General Plan's Appendix F Transportation Supporting Information document identifies the same queuing issue in both its existing and future year 2040 scenario. The recommendation concluded is the extension of the median at the intersection.

Therefore, a solution analyzed in this report (Appendix B), and identified as a recommended solution within the previous analysis conducted for the project (Appendix A), would be to extend the existing median in the eastbound approach approximately 55-feet, to create a 130-foot storage length for the eastbound left turn lane. The mitigation reports (Appendix B) show that the 95th percentile queue would not exceed the storage length under this mitigation. Since the project would contribute to the deficient condition, the project would be responsible for paying its fair share to enact this mitigation. A conceptual figure is shown with this mitigation as Figure 14.

Table 10. Opening Year 2023 plus Project Queuing Summary

Intersection	Movement	Vehicle Storage Length ¹	Opening Year 2023 ²		Opening Year 2023 plus Project ²		Change in Queue		Exceeds Vehicle Storage Length?	
			AM	PM	AM	PM	AM	PM	AM	PM
Marinship Way-Easterby Street/Bridgeway	EBL	75	111	60	116	81	5	21	Yes	Yes
	EBT ³	240	183	125	220	150	37	25	No	No
	WBL	100	39	57	46	67	7	10	No	No
	WBT ³	1,200	135	132	139	151	4	19	No	No
	NBLTR ³	500	135	110	143	99	8	-11	No	No
	SBLT ³	190	36	97	45	108	9	11	No	No
	SBR	150	52	70	49	74	-3	4	No	No
Spring Street/Bridgeway	EBT ³	250	121	119	139	118	18	-1	No	No
	WBL	75	25	32	27	35	2	3	No	No
	WBT ³	215	112	117	103	109	-9	-8	No	No
	NBLR ³	400	69	50	64	52	-5	2	No	No

Notes:

- ¹ Measured in feet.
- ² Based on 95th percentile (design) queue length in SimTraffic 10.
- ³ Length measured to nearest intersection.

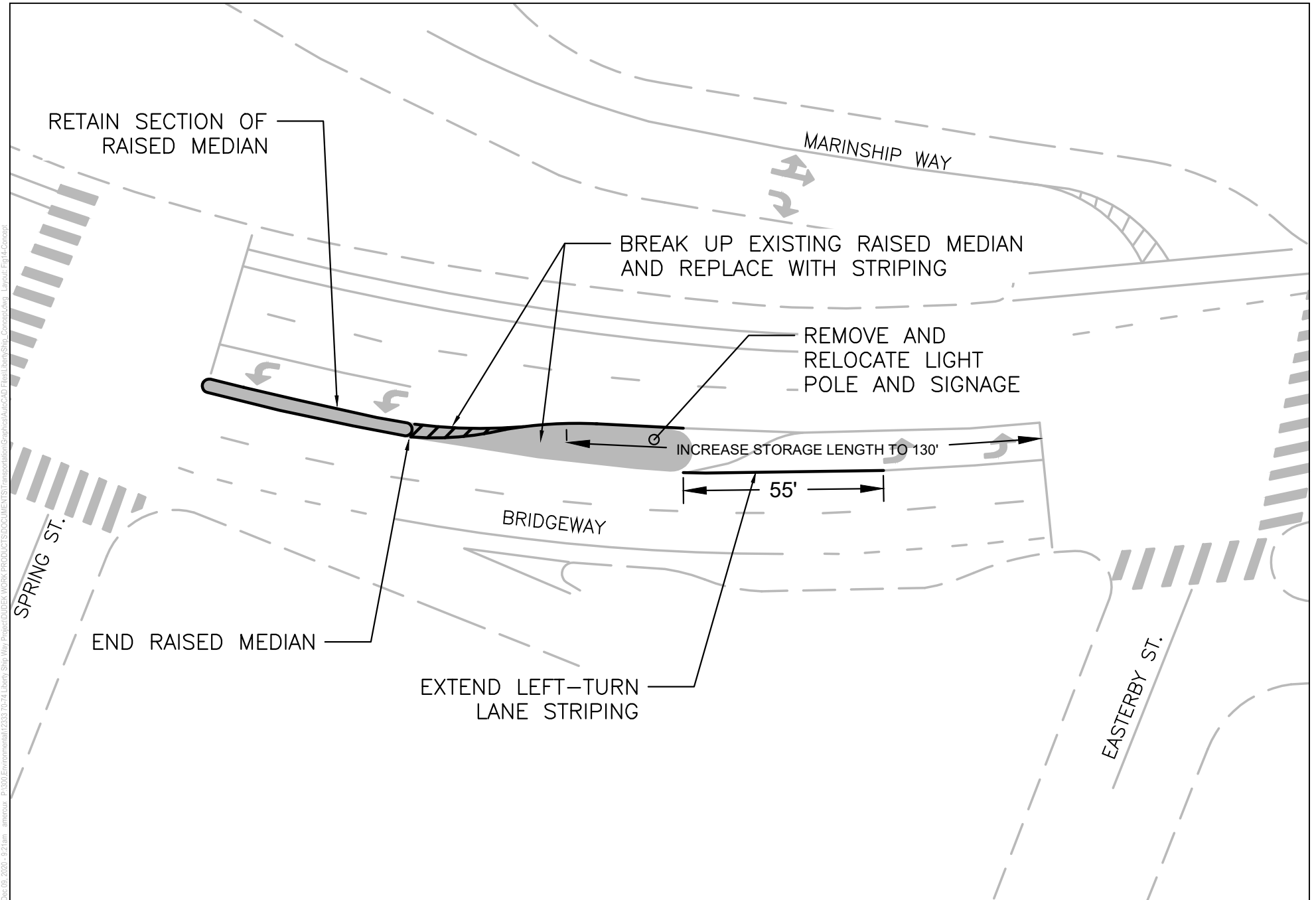
Table 11. 2040 plus Project Queuing Summary

Intersection	Movement	Vehicle Storage Length ¹	2040 Baseline ²		2040 plus Project ²		Change in Queue		Exceeds Vehicle Storage Length?	
			AM	PM	AM	PM	AM	PM	AM	PM
Marinship Way-Easterby Street/Bridgeway	EBL	75	112	81	115	96	3	15	Yes	Yes
	EBT ³	240	221	167	232	188	11	21	No	No
	WBL	100	38	68	41	59	3	-9	No	No
	WBT ³	1,200	193	168	204	179	11	11	No	No
	NBLTR ³	500	120	74	130	92	10	18	No	No
	SBLT ³	190	72	155	67	141	-5	-14	No	No
	SBR	150	48	85	53	75	5	-10	No	No
Spring Street/Bridgeway	EBT ³	250	177	182	204	180	27	-2	No	No
	WBL	75	53	52	48	60	-5	8	No	No
	WBT ³	215	139	146	148	157	9	11	No	No
	NBLR ³	400	75	80	87	83	12	3	No	No

Notes:

- ¹ Measured in feet.
- ² Based on 95th percentile (design) queue length in SimTraffic 10.
- ³ Length measured to nearest intersection.

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SOURCE: Bing Maps 2020

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FIGURE 14
Bridgeway Median and Left Turn Pocket Concept at Marinship Way

70-74 Liberty Ship Way Project

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10 Vehicle Miles Traveled (VMT) Analysis

10.1 Background

OPR has approved the addition of new Section 15064.3, “Determining the Significance of Transportation Impacts” to the state’s CEQA Guidelines, compliance with which is required beginning July 1, 2020. The Updated CEQA Guidelines state that “generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts” and define VMT as “the amount and distance of automobile travel attributable to a project.” Per OPR, heavy vehicle traffic is not required to be included in the estimation of a project’s VMT.

Section 15064.3 (b)(1) *Criteria for Analyzing Transportation Impacts* includes presumptions that certain projects (including residential, retail, office, and mixed-use projects) proposed within one-half mile of an existing major transit stop or along a high-quality transit corridor will have a less-than-significant impact on VMT. If the specified presumption does not apply, VMT should be analyzed through a qualitative or quantitative analysis.

The process to evaluate projects against a VMT standard for CEQA-based traffic impact assessment is the same as the current process under an LOS-based approach; it involves defining a VMT baseline; setting thresholds for significant impacts; preparing traffic projections and evaluating projects against thresholds.

10.2 City of Sausalito General Plan VMT

The City of Sausalito is currently in the process of adopting VMT metric and formulating guidelines and significance criteria for transportation impact analysis. However, as part of City of Sausalito General Plan Update, the existing and projected VMT for the City per service population is provided using the Transportation Authority of Marin Demand Model (TAMDM). Based on TAMDM model, on an average, the City of Sausalito VMT per service population is 29.1 for the base year 2015 and 28.8 VMT per service population for the General Plan buildout year 2040.

Approximately 95% of the land uses under the 2020 General Plan would be located within 0.5 mile of the Bridgeway and Highway 101 corridors that provide high-quality transit service, it was assumed that implementation of the General Plan would result in less than significant VMT impacts. Any development facilitated by the General Plan is expected to result in a decrease in VMT per capita within the Sausalito Planning Area. Additionally, compliance with OPR guidance regarding the location of proposed development and compliance with the General Plan policies and programs in the Circulation and Parking Element would result in VMT per capita impacts that are below the applicable threshold of significance.

10.3 VMT Screening Analysis

The Technical Advisory and the General Plan Update suggests that the City may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing. The applicability of each of these screening criteria to the proposed project is described below.

- **Screening Threshold for Small Projects** (110 daily trips or less): Since the project generates more than 110 trips per day, it cannot be assumed to cause a less-than-significant transportation impact.

- **Map Based Screening for Residential and Office Projects:** Currently, the City does not have VMT maps that can be utilized to identify areas with low VMT for projects.
- **Presumption of Less Than Significant Impact for Affordable Residential Development:** The project does not propose affordable residential units and is not a residential development.
- **Presumption of Less Than Significant Impact Near Transit Stations:** Proposed CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop² or an existing stop along a high quality transit corridor³ will have a less-than-significant impact on VMT. This presumption would not apply, if the project:
 - Has a Floor Area Ratio (FAR) of less than 0.75
 - Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
 - Is inconsistent with the Plan Bay Area 2040 and/or
 - Replaces affordable residential units with a smaller number of moderate- or high-income residential units

The project site is located within one-half mile of several bus routes however, the service intervals of most of them are greater than 15 minutes during peak commute hours and therefore the project cannot be screened using the proximity to transit availability criteria. Although as mentioned above, the 2020 General Plan development has screened out of a significant VMT impact since approximately 95% of the land uses under the General Plan would be located within 0.5 mile of the Bridgeway and Highway 101 corridors that provide high-quality transit service.

- **Presumption of Less Than Significant Impact for Local Serving Retail and Other Uses:** For development projects, if the project leads to a net increase in provision of locally-serving retail and public facility uses, transportation impacts from such uses can be presumed to be less than significant. Generally, local-serving retail and similar uses less than 50,000 square feet can be assumed to cause a less-than-significant transportation impact because by improving destination proximity, local-serving developments tend to shorten trips and therefore reduce VMT. Since the project proposes a high percentage of local-serving uses such as marine commercial, restaurant and medical offices, it is not anticipated to increase VMT significantly. Further, since overall square footage of the project is less than 50,000 square feet, it would be screened out from further VMT analysis.

The above mentioned VMT screening criteria for local serving retail and other uses, would apply to the project in addition to the high-quality transit screening applicable to the City's General Plan. Therefore, a detailed VMT analysis is not required.

2 Pub. Resources Code, § 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.”)

3 Pub. Resources Code, § 21155 (“For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.”).

10.4 VMT Reduction

Although the project does not require a detailed VMT analysis and would result in a less than significant impact, it is anticipated that it would have 84 employees. Therefore, the following program contained in the Circulation and Parking Element of the General Plan that assists in reducing VMT could apply to the project.

- Program CP-2.4.3 Requires the City to update the adopted Trip Reduction Ordinance to require employers with 50 or more employees to provide incentives for their employees to use transportation alternatives to get to work.

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11 Mitigation Measures

Based on the traffic analyses of the Existing plus Project and Opening Year 2023 plus Project conditions above, there are no significant intersection operations impacts identified. However, there are potentially hazardous conditions identified that would result in an exceedance of the storage length of the eastbound left turn lane at the Marinship Way-Easterby Street/Bridgeway intersection, therefore, mitigation measures are required.

TRAF-1 Prior to the issuance of a Certificate of Occupancy, the applicant shall pay its fair share towards, or construct the following improvement and be reimbursed based on its fair share costs of the improvement, as determined by the Public Works Director:

- Extend the existing median on the eastbound approach, approximately 55-feet, for a total eastbound left turn storage length of 130-feet.
- Re-optimize the signal timing and phasing for both intersections.

With the implementation of mitigation measure TRAF-1, the maximum 95th percentile queue of 129 feet would be accommodated within the newly extended 130-foot storage lane.

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12 Findings and Recommendations

Based on the traffic analysis of the proposed project, the following findings apply to study area intersection levels of service, project trip generation, project access, and project impacts:

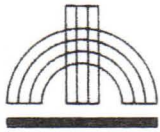
- The proposed project would consist of three buildings, and would generate 706 daily trips, 59 AM peak hour trips (41 inbound and 18 outbound), and 71 PM peak hour trips (31 inbound and 40 outbound).
- Under Existing plus Project conditions, all study area intersections would continue to operate at acceptable LOS (LOS C/D or better)⁴ under Existing plus Project conditions. Therefore, no inconsistencies with LOS policies would occur in the Existing plus Project condition for study area intersections.
- Under Opening Year 2023 plus Project conditions, all study area intersections are forecast to operate at acceptable LOS (LOS C/D or better) under Opening Year 2023 plus Project conditions. Therefore, no inconsistencies with LOS policies would occur in the Opening Year 2023 plus Project condition for study area intersections.
- Under 2040 plus Project conditions, all study area intersections are forecast to operate at acceptable LOS (LOS C/D or better) under 2040 plus Project conditions. Therefore, no inconsistencies with LOS policies would occur in the 2040 plus Project condition for study area intersections.
- No significant issues exist with the proposed project's ability to provide access to the site, and egress/ingress is adequate. As noted in the analysis, pavement conditions along one segment, west of the driveway to 30 Liberty Ship Way and east to the proposed project parking lot, are deteriorated and include visible (inoperable) railroad tracks. It is recommended that this section of roadway require street paving to address existing pavement conditions.
- As shown in the VMT screening analysis, the criteria for local serving retail and other uses would apply to the project in addition to its proximity to high-quality transit services per the City's General Plan. Therefore, a detailed VMT analysis is not required and the project can be presumed to have a less than significant impact to VMT.
- The 95th percentile queues forecast that in the Opening Year 2023 plus Project condition, will generally not exceed vehicle storage lengths, except for the eastbound left turn lane in both the AM and PM peak hours. While there are no significance criteria for queuing impacts, the queue can create potentially hazardous traffic conditions, especially for vehicles that block the eastbound through lane during a green light for through movements. Therefore, this is a potentially significant impact. The following mitigation measures have been evaluated. Either mitigation measure evaluated will safely reduce the impact of the project to a less than significant impact, however the recommended mitigation measure requires a less substantial change to the existing function of the intersection as a whole.
 - **TRAF-1** Prior to the issuance of a Certificate of Occupancy, the applicant shall pay its fair share towards, or construct the following improvement and be reimbursed based on its fair share costs of the improvement, as determined by the Public Works Director:
 - Extend the existing median on the eastbound approach, approximately 55-feet, for a total eastbound left turn storage length of 130-feet. The median shall be reconfigured per the City's specifications.

⁴ For purposes of this analysis, LOS C is the minimum satisfactory LOS based on the current General Plan. Upon adoption of the 2020 General Plan, LOS D will become the minimum satisfactory LOS.

With the implementation of mitigation measure TRAF-1, the 95th percentile queue of 129 feet would be accommodated within the newly extended 130-foot storage lane.

Appendix A

Traffic Data from 2018 Analysis



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70 – 74 Libertyship Way

Traffic and Parking Analysis

Prepared for

ONDAROSA ARCHITECTS

Prepared by

Robert L. Harrison Transportation Planning

July 2018

Table 1 70-74 Libertyship Way Project Project Trip Generation							
Project Trips	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Vehicle Trip Generation	30	6	36	7	30	37	321
Person Trip Generation							
In Motor Vehicles	---	---	41	---	---	43	369
Transit	---	---	2	---	---	2	17
Bicycle	---	---	4	---	---	2	28
Walking	---	---	1	---	---	1	10
Total Person Trips	---	---	48	---	---	48	424
Source: Robert L. Harrison Transportation Planning							

Traffic Operations

Traffic Volumes

Traffic was counted at the intersections of Bridgeway with Marinship Way / Easterby Street and with Spring Street on Wednesday April 18, 2018. The result of that traffic count is shown in Table 2. Also shown on Table 2 are the vehicle trips that would be added by the project to both of these intersections.

Intersection Level of Service

Level of Service (LOS) is a qualitative assessment of traffic conditions as perceived by motorists. LOS is reported in a range of letter grades from A to F. LOS A and B indicate little or no delay while LOS E and F indicate excessive congestion and delay.

Signalized Intersections. LOS at signalized intersections is determined using the methods as described in the Highway Capacity Manual (HCM) 2010 Chapter 18. The LOS operations analysis uses various characteristics such as traffic volume, lane geometry and signal phasing to estimate control delay per vehicle. Control delay is the portion of total delay attributed to signal operations and includes initial deceleration, queue move up time, stopped delay, and acceleration delay. The relationship between control delay at signalized intersections and LOS letter grade is shown in Table 3.

The calculation of LOS is shown in the Appendix to this report. The resultant existing condition and existing plus project condition LOS at the study intersections are shown in Table 4.

Table 2 70-74 Libertyship Way Project Existing and Projected Traffic Volumes						
Intersection	AM Peak Hour			PM Peak Hour		
	Existing April 2018	Project	Existing + Project	Existing April 2018	Project	Existing + Project
Bridgeway at Marinship Way / Easterby Street						
Northbound Left	11	---	11	23	---	23
Northbound Through	359	---	359	503	---	503
Northbound Right	37	7	44	16	2	18
Westbound Left	10	1	11	46	8	54
Westbound Through	3	0	3	13	2	15
Westbound Right	46	5	51	117	20	137
Southbound Left	104	19	123	24	4	28
Southbound Through	510	---	510	496	---	496
Southbound Right	11	---	11	30	---	30
Eastbound Left	45	---	45	36	---	36
Eastbound Through	23	4	27	6	0	6
Eastbound Right	47	---	47	33	---	33
Bridgeway at Spring Street						
Northbound Left	4	0	4	9	0	9
Northbound Through	421	5	426	649	20	669
Southbound Through	583	18	601	545	3	548
Southbound Right	18	---	18	51	---	51
Eastbound Left	18	---	18	2	---	2
Eastbound Right	36	1	37	31	0	31
Source: Robert L. Harrison Transportation Planning						

Table 3 Definition of Level of Service Signalized Intersections		
Level of Service	Description	Delay per Vehicle (Sec.)
A	Very short or minimal delay with short cycle lengths.	<10.0
B	Short delay with good progression and/or short cycle lengths.	>10.0 to 20.0
C	Average delay with fair progression and average cycle lengths.	>20.0 to 35.0
D	Significant delay with unfavorable progression, many cycles fail to clear.	>35.0 to 55.0
E	Excessive delay, poor progression, long cycle lengths, frequent cycle failures.	>55.0 to 80.0
F	Unacceptable delay, very long cycle lengths, nearly continuous cycle failures.	>80.0
Source: Transportation Research Board. <i>Highway Capacity Manual</i> 2010.		




















Appendix B

LOS and Queuing Worksheets

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

Existing Conditions
Timing Plan: AM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	530	11	11	373	38	47	24	49	10	3	48
Future Volume (veh/h)	108	530	11	11	373	38	47	24	49	10	3	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	616	13	13	434	44	55	28	57	12	3	56
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	2646	56	22	2178	220	108	45	70	171	36	175
Arrive On Green	0.09	0.74	0.74	0.01	0.67	0.67	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	3559	75	1781	3259	329	512	411	633	946	324	1585
Grp Volume(v), veh/h	126	307	322	13	236	242	140	0	0	15	0	56
Grp Sat Flow(s),veh/h/ln	1781	1777	1857	1781	1777	1811	1556	0	0	1269	0	1585
Q Serve(g_s), s	6.7	5.2	5.2	0.7	4.9	5.0	6.9	0.0	0.0	0.0	0.0	3.2
Cycle Q Clear(g_c), s	6.7	5.2	5.2	0.7	4.9	5.0	8.5	0.0	0.0	0.8	0.0	3.2
Prop In Lane	1.00		0.04	1.00		0.18	0.39		0.41	0.80		1.00
Lane Grp Cap(c), veh/h	156	1321	1381	22	1188	1210	223	0	0	207	0	175
V/C Ratio(X)	0.81	0.23	0.23	0.60	0.20	0.20	0.63	0.00	0.00	0.07	0.00	0.32
Avail Cap(c_a), veh/h	275	1321	1381	275	1188	1210	448	0	0	413	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.5	3.9	3.9	47.7	6.2	6.2	42.1	0.0	0.0	38.7	0.0	39.8
Incr Delay (d2), s/veh	3.7	0.4	0.4	9.4	0.4	0.4	1.1	0.0	0.0	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.6	1.7	0.4	1.8	1.8	3.3	0.0	0.0	0.3	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	4.3	4.2	57.1	6.5	6.5	43.2	0.0	0.0	38.8	0.0	40.2
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h		755			491			140			71	
Approach Delay, s/veh		11.4			7.9			43.2			39.9	
Approach LOS		B			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	77.1		14.7	12.5	69.8		14.7				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+l1), s	2.7	7.2		5.2	8.7	7.0		10.5				
Green Ext Time (p_c), s	0.0	7.3		0.0	0.0	5.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				14.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway




















Existing Conditions
Timing Plan: AM PEAK HOUR

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↔	↑↑	↔	
Traffic Volume (veh/h)	606	19	5	460	19	37
Future Volume (veh/h)	606	19	5	460	19	37
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	645	20	5	489	20	39
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2848	88	9	3048	25	49
Arrive On Green	0.81	0.81	0.01	0.86	0.05	0.05
Sat Flow, veh/h	3612	109	1781	3647	550	1072
Grp Volume(v), veh/h	326	339	5	489	60	0
Grp Sat Flow(s),veh/h/ln	1777	1851	1781	1777	1650	0
Q Serve(g_s), s	4.0	4.0	0.3	2.1	3.4	0.0
Cycle Q Clear(g_c), s	4.0	4.0	0.3	2.1	3.4	0.0
Prop In Lane		0.06	1.00		0.33	0.65
Lane Grp Cap(c), veh/h	1438	1498	9	3048	75	0
V/C Ratio(X)	0.23	0.23	0.54	0.16	0.80	0.00
Avail Cap(c_a), veh/h	1438	1498	287	3048	444	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.99	0.99	1.00	0.00
Uniform Delay (d), s/veh	2.1	2.1	46.1	1.1	44.0	0.0
Incr Delay (d2), s/veh	0.4	0.4	16.6	0.1	7.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.0	0.2	0.3	1.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.4	2.4	62.7	1.2	51.0	0.0
LnGrp LOS	A	A	E	A	D	A
Approach Vol, veh/h	665			494	60	
Approach Delay, s/veh	2.4			1.8	51.0	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.5	80.3		8.2		84.8
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	2.3	6.0		5.4		4.1
Green Ext Time (p_c), s	0.0	7.9		0.0		6.2
Intersection Summary						
HCM 6th Ctrl Delay			4.6			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

Existing Conditions
Timing Plan: PM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	536	34	24	523	17	37	6	34	48	14	122
Future Volume (veh/h)	27	536	34	24	523	17	37	6	34	48	14	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	576	37	26	562	18	40	6	37	52	15	131
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	2516	161	37	2602	83	96	27	54	172	42	164
Arrive On Green	0.02	0.74	0.74	0.02	0.74	0.74	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1781	3391	217	1781	3514	112	393	257	523	1024	403	1585
Grp Volume(v), veh/h	29	301	312	26	284	296	83	0	0	67	0	131
Grp Sat Flow(s),veh/h/ln	1781	1777	1831	1781	1777	1850	1173	0	0	1427	0	1585
Q Serve(g_s), s	1.6	5.1	5.1	1.4	4.8	4.8	3.0	0.0	0.0	0.0	0.0	7.8
Cycle Q Clear(g_c), s	1.6	5.1	5.1	1.4	4.8	4.8	7.2	0.0	0.0	4.2	0.0	7.8
Prop In Lane	1.00		0.12	1.00		0.06	0.48		0.45	0.78		1.00
Lane Grp Cap(c), veh/h	40	1318	1359	37	1316	1370	176	0	0	213	0	164
V/C Ratio(X)	0.73	0.23	0.23	0.70	0.22	0.22	0.47	0.00	0.00	0.31	0.00	0.80
Avail Cap(c_a), veh/h	275	1318	1359	275	1316	1370	394	0	0	438	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.1	3.9	3.9	47.2	3.9	3.9	42.2	0.0	0.0	40.8	0.0	42.5
Incr Delay (d2), s/veh	8.8	0.4	0.4	8.6	0.4	0.4	0.7	0.0	0.0	0.3	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.6	1.7	0.7	1.5	1.6	2.0	0.0	0.0	1.5	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	4.3	4.3	55.8	4.3	4.3	42.9	0.0	0.0	41.1	0.0	45.9
LnGrp LOS	E	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h		642			606			83			198	
Approach Delay, s/veh		6.6			6.5			42.9			44.3	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	77.0		14.0	6.2	76.8		14.0				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+I1), s	3.4	7.1		9.8	3.6	6.8		9.2				
Green Ext Time (p_c), s	0.0	7.1		0.2	0.0	6.8		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			13.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway




















Existing Conditions
Timing Plan: PM PEAK HOUR

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (veh/h)	567	53	9	675	2	32
Future Volume (veh/h)	567	53	9	675	2	32
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	591	55	9	703	2	33
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2711	252	16	3115	2	39
Arrive On Green	0.82	0.82	0.01	0.88	0.03	0.03
Sat Flow, veh/h	3380	305	1781	3647	89	1468
Grp Volume(v), veh/h	319	327	9	703	36	0
Grp Sat Flow(s),veh/h/ln	1777	1815	1781	1777	1602	0
Q Serve(g_s), s	3.6	3.6	0.5	2.8	2.1	0.0
Cycle Q Clear(g_c), s	3.6	3.6	0.5	2.8	2.1	0.0
Prop In Lane		0.17	1.00		0.06	0.92
Lane Grp Cap(c), veh/h	1465	1497	16	3115	43	0
V/C Ratio(X)	0.22	0.22	0.57	0.23	0.84	0.00
Avail Cap(c_a), veh/h	1465	1497	287	3115	431	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.97	0.97	1.00	0.00
Uniform Delay (d), s/veh	1.7	1.7	45.9	0.9	45.1	0.0
Incr Delay (d2), s/veh	0.3	0.3	10.9	0.2	15.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.8	0.3	0.2	1.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.1	2.1	56.8	1.0	60.0	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	646			712	36	
Approach Delay, s/veh	2.1			1.8	60.0	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.8	81.7		6.5		86.5
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	2.5	5.6		4.1		4.8
Green Ext Time (p_c), s	0.0	7.7		0.0		9.5
Intersection Summary						
HCM 6th Ctrl Delay			3.4			
HCM 6th LOS			A			
Notes						
User approved volume balancing among the lanes for turning movement.						

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

Existing plus Project
Timing Plan: AM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	530	11	11	373	44	47	28	49	13	5	61
Future Volume (veh/h)	139	530	11	11	373	44	47	28	49	13	5	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	616	13	13	434	51	55	33	57	15	6	71
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	2634	56	22	2063	241	107	52	70	160	54	180
Arrive On Green	0.11	0.74	0.74	0.01	0.64	0.64	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	3559	75	1781	3205	375	491	454	612	847	474	1585
Grp Volume(v), veh/h	162	307	322	13	240	245	145	0	0	21	0	71
Grp Sat Flow(s),veh/h/ln	1781	1777	1857	1781	1777	1803	1557	0	0	1321	0	1585
Q Serve(g_s), s	8.6	5.3	5.3	0.7	5.4	5.4	7.1	0.0	0.0	0.0	0.0	4.0
Cycle Q Clear(g_c), s	8.6	5.3	5.3	0.7	5.4	5.4	8.8	0.0	0.0	1.1	0.0	4.0
Prop In Lane	1.00		0.04	1.00		0.21	0.38		0.39	0.71		1.00
Lane Grp Cap(c), veh/h	194	1315	1374	22	1144	1160	228	0	0	214	0	180
V/C Ratio(X)	0.84	0.23	0.23	0.60	0.21	0.21	0.64	0.00	0.00	0.10	0.00	0.39
Avail Cap(c_a), veh/h	275	1315	1374	275	1144	1160	448	0	0	420	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.4	4.0	4.0	47.7	7.1	7.1	41.9	0.0	0.0	38.5	0.0	39.9
Incr Delay (d2), s/veh	10.0	0.4	0.4	9.4	0.4	0.4	1.1	0.0	0.0	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	1.7	1.8	0.4	2.0	2.0	3.5	0.0	0.0	0.5	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	4.4	4.4	57.1	7.5	7.5	43.0	0.0	0.0	38.6	0.0	40.4
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h		791			498			145			92	
Approach Delay, s/veh		14.2			8.8			43.0			40.0	
Approach LOS		B			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	76.8		15.0	14.5	67.4		15.0				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+I1), s	2.7	7.3		6.0	10.6	7.4		10.8				
Green Ext Time (p_c), s	0.0	7.3		0.1	0.0	5.5		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				16.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway




















Existing plus Project
Timing Plan: AM PEAK HOUR

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↔	↑↑	↔	
Traffic Volume (veh/h)	635	19	6	472	19	39
Future Volume (veh/h)	635	19	6	472	19	39
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	676	20	6	502	20	41
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2844	84	11	3042	25	51
Arrive On Green	0.81	0.81	0.01	0.86	0.05	0.05
Sat Flow, veh/h	3618	104	1781	3647	532	1090
Grp Volume(v), veh/h	341	355	6	502	62	0
Grp Sat Flow(s),veh/h/ln	1777	1852	1781	1777	1648	0
Q Serve(g_s), s	4.3	4.3	0.3	2.2	3.5	0.0
Cycle Q Clear(g_c), s	4.3	4.3	0.3	2.2	3.5	0.0
Prop In Lane		0.06	1.00		0.32	0.66
Lane Grp Cap(c), veh/h	1434	1494	11	3042	78	0
V/C Ratio(X)	0.24	0.24	0.55	0.17	0.80	0.00
Avail Cap(c_a), veh/h	1434	1494	287	3042	443	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.98	0.98	1.00	0.00
Uniform Delay (d), s/veh	2.1	2.1	46.1	1.1	43.9	0.0
Incr Delay (d2), s/veh	0.4	0.4	14.4	0.1	6.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.1	0.2	0.3	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.5	2.5	60.5	1.2	50.7	0.0
LnGrp LOS	A	A	E	A	D	A
Approach Vol, veh/h	696			508	62	
Approach Delay, s/veh	2.5			1.9	50.7	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.6	80.0		8.4		84.6
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	2.3	6.3		5.5		4.2
Green Ext Time (p_c), s	0.0	8.3		0.0		6.4
Intersection Summary						
HCM 6th Ctrl Delay			4.6			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

Existing plus Project
Timing Plan: PM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	536	34	24	523	22	37	9	34	54	18	153
Future Volume (veh/h)	50	536	34	24	523	22	37	9	34	54	18	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	576	37	26	562	24	40	10	37	58	19	165
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	2443	157	37	2439	104	102	35	61	187	53	197
Arrive On Green	0.04	0.72	0.72	0.02	0.70	0.70	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	3391	217	1781	3472	148	381	285	493	981	423	1585
Grp Volume(v), veh/h	54	301	312	26	287	299	87	0	0	77	0	165
Grp Sat Flow(s),veh/h/ln	1781	1777	1831	1781	1777	1844	1159	0	0	1404	0	1585
Q Serve(g_s), s	2.9	5.5	5.6	1.4	5.6	5.6	2.9	0.0	0.0	0.0	0.0	9.9
Cycle Q Clear(g_c), s	2.9	5.5	5.6	1.4	5.6	5.6	7.8	0.0	0.0	4.9	0.0	9.9
Prop In Lane	1.00		0.12	1.00		0.08	0.46		0.43	0.75		1.00
Lane Grp Cap(c), veh/h	69	1280	1320	37	1248	1295	199	0	0	240	0	197
V/C Ratio(X)	0.78	0.24	0.24	0.70	0.23	0.23	0.44	0.00	0.00	0.32	0.00	0.84
Avail Cap(c_a), veh/h	275	1280	1320	275	1248	1295	385	0	0	434	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.2	4.6	4.6	47.2	5.1	5.1	40.5	0.0	0.0	39.2	0.0	41.5
Incr Delay (d2), s/veh	6.7	0.4	0.4	8.6	0.4	0.4	0.6	0.0	0.0	0.3	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.8	1.9	0.7	1.9	2.0	2.0	0.0	0.0	1.7	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	5.0	5.0	55.8	5.6	5.5	41.1	0.0	0.0	39.5	0.0	45.0
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h	667			612			87			242		
Approach Delay, s/veh	8.9			7.7			41.1			43.3		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	74.9		16.1	7.8	73.1		16.1				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+I1), s	3.4	7.6		11.9	4.9	7.6		9.8				
Green Ext Time (p_c), s	0.0	7.1		0.2	0.0	6.9		0.1				
Intersection Summary												
HCM 6th Ctrl Delay	15.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway

Existing plus Project
Timing Plan: PM PEAK HOUR

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (veh/h)	588	53	11	704	2	34
Future Volume (veh/h)	588	53	11	704	2	34
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	612	55	11	733	2	35
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2709	243	19	3109	2	42
Arrive On Green	0.82	0.82	0.01	0.87	0.03	0.03
Sat Flow, veh/h	3392	296	1781	3647	84	1474
Grp Volume(v), veh/h	329	338	11	733	38	0
Grp Sat Flow(s),veh/h/ln	1777	1817	1781	1777	1601	0
Q Serve(g_s), s	3.8	3.8	0.6	3.0	2.2	0.0
Cycle Q Clear(g_c), s	3.8	3.8	0.6	3.0	2.2	0.0
Prop In Lane		0.16	1.00		0.05	0.92
Lane Grp Cap(c), veh/h	1459	1492	19	3109	45	0
V/C Ratio(X)	0.23	0.23	0.58	0.24	0.84	0.00
Avail Cap(c_a), veh/h	1459	1492	287	3109	430	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.97	0.97	1.00	0.00
Uniform Delay (d), s/veh	1.8	1.8	45.8	0.9	45.0	0.0
Incr Delay (d2), s/veh	0.4	0.4	9.7	0.2	13.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.9	0.3	0.2	1.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.2	2.2	55.5	1.1	58.8	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	667			744	38	
Approach Delay, s/veh	2.2			1.9	58.8	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.0	81.4		6.6		86.4
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	2.6	5.8		4.2		5.0
Green Ext Time (p_c), s	0.0	8.0		0.0		10.0
Intersection Summary						
HCM 6th Ctrl Delay			3.5			
HCM 6th LOS			A			




















Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

Opening Year 2023
Timing Plan: AM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	574	12	12	408	41	50	25	52	11	3	51
Future Volume (veh/h)	115	574	12	12	408	41	50	25	52	11	3	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	667	14	14	474	48	58	29	60	13	3	59
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	2626	55	23	2147	217	111	46	73	175	34	182
Arrive On Green	0.09	0.74	0.74	0.01	0.66	0.66	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	3559	75	1781	3259	329	516	403	634	940	294	1585
Grp Volume(v), veh/h	134	333	348	14	258	264	147	0	0	16	0	59
Grp Sat Flow(s),veh/h/ln	1781	1777	1857	1781	1777	1811	1552	0	0	1234	0	1585
Q Serve(g_s), s	7.2	5.9	5.9	0.8	5.6	5.7	7.4	0.0	0.0	0.0	0.0	3.3
Cycle Q Clear(g_c), s	7.2	5.9	5.9	0.8	5.6	5.7	8.9	0.0	0.0	0.9	0.0	3.3
Prop In Lane	1.00		0.04	1.00		0.18	0.39		0.41	0.81		1.00
Lane Grp Cap(c), veh/h	164	1311	1370	23	1170	1193	230	0	0	209	0	182
V/C Ratio(X)	0.82	0.25	0.25	0.61	0.22	0.22	0.64	0.00	0.00	0.08	0.00	0.32
Avail Cap(c_a), veh/h	275	1311	1370	275	1170	1193	447	0	0	407	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	4.1	4.1	47.6	6.6	6.6	41.8	0.0	0.0	38.3	0.0	39.4
Incr Delay (d2), s/veh	3.7	0.5	0.4	9.1	0.4	0.4	1.1	0.0	0.0	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	1.9	2.0	0.4	2.0	2.1	3.5	0.0	0.0	0.3	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	4.6	4.5	56.8	7.0	7.0	42.9	0.0	0.0	38.4	0.0	39.8
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h		815			536			147			75	
Approach Delay, s/veh		11.5			8.3			42.9			39.5	
Approach LOS		B			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	76.6		15.2	12.9	68.9		15.2				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+I1), s	2.8	7.9		5.3	9.2	7.7		10.9				
Green Ext Time (p_c), s	0.0	8.0		0.1	0.0	6.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				14.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway




















Opening Year 2023
Timing Plan: AM PEAK HOUR

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↔	↑↑	↔	
Traffic Volume (veh/h)	654	20	5	500	20	40
Future Volume (veh/h)	654	20	5	500	20	40
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	696	21	5	532	21	43
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2837	86	9	3034	26	54
Arrive On Green	0.81	0.81	0.01	0.85	0.05	0.05
Sat Flow, veh/h	3615	106	1781	3647	532	1090
Grp Volume(v), veh/h	351	366	5	532	65	0
Grp Sat Flow(s),veh/h/ln	1777	1851	1781	1777	1648	0
Q Serve(g_s), s	4.5	4.5	0.3	2.4	3.6	0.0
Cycle Q Clear(g_c), s	4.5	4.5	0.3	2.4	3.6	0.0
Prop In Lane		0.06	1.00		0.32	0.66
Lane Grp Cap(c), veh/h	1431	1491	9	3034	82	0
V/C Ratio(X)	0.25	0.25	0.54	0.18	0.80	0.00
Avail Cap(c_a), veh/h	1431	1491	287	3034	443	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.98	0.98	1.00	0.00
Uniform Delay (d), s/veh	2.2	2.2	46.1	1.2	43.7	0.0
Incr Delay (d2), s/veh	0.4	0.4	16.4	0.1	6.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.1	0.2	0.3	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.6	2.6	62.6	1.3	50.2	0.0
LnGrp LOS	A	A	E	A	D	A
Approach Vol, veh/h	717			537	65	
Approach Delay, s/veh	2.6			1.9	50.2	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.5	79.9		8.6		84.4
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	2.3	6.5		5.6		4.4
Green Ext Time (p_c), s	0.0	8.6		0.0		6.8
Intersection Summary						
HCM 6th Ctrl Delay			4.6			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

Opening Year 2023
Timing Plan: PM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	588	36	28	572	19	40	7	37	52	14	129
Future Volume (veh/h)	29	588	36	28	572	19	40	7	37	52	14	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	632	39	30	615	20	43	8	40	56	15	139
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	2498	154	41	2579	84	94	28	53	173	39	172
Arrive On Green	0.02	0.73	0.73	0.02	0.73	0.73	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	3400	210	1781	3513	114	361	261	488	982	358	1585
Grp Volume(v), veh/h	31	330	341	30	311	324	91	0	0	71	0	139
Grp Sat Flow(s),veh/h/ln	1781	1777	1833	1781	1777	1850	1109	0	0	1340	0	1585
Q Serve(g_s), s	1.7	5.9	5.9	1.6	5.5	5.5	3.5	0.0	0.0	0.0	0.0	8.3
Cycle Q Clear(g_c), s	1.7	5.9	5.9	1.6	5.5	5.5	8.4	0.0	0.0	4.8	0.0	8.3
Prop In Lane	1.00		0.11	1.00		0.06	0.47		0.44	0.79		1.00
Lane Grp Cap(c), veh/h	42	1305	1346	41	1305	1358	175	0	0	212	0	172
V/C Ratio(X)	0.75	0.25	0.25	0.74	0.24	0.24	0.52	0.00	0.00	0.34	0.00	0.81
Avail Cap(c_a), veh/h	275	1305	1346	275	1305	1358	386	0	0	427	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.1	4.2	4.2	47.1	4.2	4.2	42.4	0.0	0.0	40.6	0.0	42.3
Incr Delay (d2), s/veh	9.2	0.5	0.4	9.2	0.4	0.4	0.9	0.0	0.0	0.3	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.9	2.0	0.8	1.8	1.8	2.2	0.0	0.0	1.6	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	4.6	4.6	56.3	4.6	4.6	43.2	0.0	0.0	40.9	0.0	45.7
LnGrp LOS	E	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h	702			665			91			210		
Approach Delay, s/veh	6.9			6.9			43.2			44.1		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	76.3		14.5	6.3	76.2		14.5				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+I1), s	3.6	7.9		10.3	3.7	7.5		10.4				
Green Ext Time (p_c), s	0.0	7.9		0.2	0.0	7.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	13.6											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway

Opening Year 2023
Timing Plan: PM PEAK HOUR

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (veh/h)	620	56	11	731	2	35
Future Volume (veh/h)	620	56	11	731	2	35
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	646	58	11	761	2	36
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2706	243	19	3106	2	43
Arrive On Green	0.82	0.82	0.01	0.87	0.03	0.03
Sat Flow, veh/h	3392	296	1781	3647	82	1477
Grp Volume(v), veh/h	348	356	11	761	39	0
Grp Sat Flow(s),veh/h/ln	1777	1817	1781	1777	1600	0
Q Serve(g_s), s	4.1	4.1	0.6	3.2	2.3	0.0
Cycle Q Clear(g_c), s	4.1	4.1	0.6	3.2	2.3	0.0
Prop In Lane		0.16	1.00		0.05	0.92
Lane Grp Cap(c), veh/h	1458	1491	19	3106	47	0
V/C Ratio(X)	0.24	0.24	0.58	0.24	0.84	0.00
Avail Cap(c_a), veh/h	1458	1491	287	3106	430	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.97	0.97	1.00	0.00
Uniform Delay (d), s/veh	1.9	1.9	45.8	0.9	44.9	0.0
Incr Delay (d2), s/veh	0.4	0.4	9.7	0.2	13.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.9	0.3	0.3	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.3	2.2	55.5	1.1	58.3	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	704			772	39	
Approach Delay, s/veh	2.2			1.9	58.3	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.0	81.3		6.7		86.3
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	2.6	6.1		4.3		5.2
Green Ext Time (p_c), s	0.0	8.5		0.0		10.5
Intersection Summary						
HCM 6th Ctrl Delay			3.5			
HCM 6th LOS			A			

Notes




















User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

Opening Year 2023 plus Project

Timing Plan: AM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	574	12	12	408	47	50	29	52	14	5	64
Future Volume (veh/h)	146	574	12	12	408	47	50	29	52	14	5	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	667	14	14	474	55	58	34	60	16	6	74
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	2614	55	23	2036	235	110	53	73	164	52	188
Arrive On Green	0.11	0.73	0.73	0.01	0.63	0.63	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	3559	75	1781	3210	371	495	445	613	845	439	1585
Grp Volume(v), veh/h	170	333	348	14	262	267	152	0	0	22	0	74
Grp Sat Flow(s),veh/h/ln	1781	1777	1857	1781	1777	1804	1553	0	0	1284	0	1585
Q Serve(g_s), s	9.1	5.9	5.9	0.8	6.1	6.2	7.5	0.0	0.0	0.0	0.0	4.2
Cycle Q Clear(g_c), s	9.1	5.9	5.9	0.8	6.1	6.2	9.2	0.0	0.0	1.2	0.0	4.2
Prop In Lane	1.00		0.04	1.00		0.21	0.38		0.39	0.73		1.00
Lane Grp Cap(c), veh/h	202	1305	1364	23	1127	1144	235	0	0	216	0	188
V/C Ratio(X)	0.84	0.26	0.26	0.61	0.23	0.23	0.65	0.00	0.00	0.10	0.00	0.39
Avail Cap(c_a), veh/h	275	1305	1364	275	1127	1144	447	0	0	414	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.2	4.2	4.2	47.6	7.6	7.6	41.7	0.0	0.0	38.2	0.0	39.5
Incr Delay (d2), s/veh	11.8	0.5	0.4	9.1	0.5	0.5	1.1	0.0	0.0	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	1.9	2.0	0.4	2.3	2.3	3.6	0.0	0.0	0.5	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	4.7	4.6	56.8	8.1	8.1	42.8	0.0	0.0	38.2	0.0	40.0
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h	851			543			152			96		
Approach Delay, s/veh	14.5			9.3			42.8			39.6		
Approach LOS	B			A			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	76.3		15.5	15.0	66.5		15.5				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+I1), s	2.8	7.9		6.2	11.1	8.2		11.2				
Green Ext Time (p_c), s	0.0	8.0		0.1	0.0	6.1		0.3				
Intersection Summary												
HCM 6th Ctrl Delay	16.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway

Opening Year 2023 plus Project
Timing Plan: AM PEAK HOUR




















	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↔	↑↑	↔	
Traffic Volume (veh/h)	683	20	6	512	20	42
Future Volume (veh/h)	683	20	6	512	20	42
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	727	21	6	545	21	45
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2832	82	11	3028	26	56
Arrive On Green	0.80	0.80	0.01	0.85	0.05	0.05
Sat Flow, veh/h	3621	102	1781	3647	516	1105
Grp Volume(v), veh/h	366	382	6	545	67	0
Grp Sat Flow(s),veh/h/ln	1777	1852	1781	1777	1646	0
Q Serve(g_s), s	4.8	4.8	0.3	2.5	3.7	0.0
Cycle Q Clear(g_c), s	4.8	4.8	0.3	2.5	3.7	0.0
Prop In Lane		0.05	1.00		0.31	0.67
Lane Grp Cap(c), veh/h	1427	1487	11	3028	84	0
V/C Ratio(X)	0.26	0.26	0.55	0.18	0.80	0.00
Avail Cap(c_a), veh/h	1427	1487	287	3028	442	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.98	0.98	1.00	0.00
Uniform Delay (d), s/veh	2.3	2.3	46.1	1.2	43.6	0.0
Incr Delay (d2), s/veh	0.4	0.4	14.4	0.1	6.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.2	0.2	0.4	1.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.7	2.7	60.5	1.3	49.9	0.0
LnGrp LOS	A	A	E	A	D	A
Approach Vol, veh/h	748			551	67	
Approach Delay, s/veh	2.7			2.0	49.9	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.6	79.7		8.8		84.2
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	2.3	6.8		5.7		4.5
Green Ext Time (p_c), s	0.0	9.1		0.0		7.0
Intersection Summary						
HCM 6th Ctrl Delay			4.7			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

Opening Year 2023 plus Project

Timing Plan: PM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	588	36	28	572	24	40	10	37	58	18	160
Future Volume (veh/h)	52	588	36	28	572	24	40	10	37	58	18	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	632	39	30	615	26	43	11	40	62	19	172
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	2428	150	41	2420	102	100	36	60	188	49	204
Arrive On Green	0.04	0.71	0.71	0.02	0.70	0.70	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1781	3400	210	1781	3474	147	356	276	469	951	383	1585
Grp Volume(v), veh/h	56	330	341	30	314	327	94	0	0	81	0	172
Grp Sat Flow(s),veh/h/ln	1781	1777	1833	1781	1777	1844	1101	0	0	1334	0	1585
Q Serve(g_s), s	3.0	6.3	6.3	1.6	6.3	6.3	3.4	0.0	0.0	0.0	0.0	10.3
Cycle Q Clear(g_c), s	3.0	6.3	6.3	1.6	6.3	6.3	8.9	0.0	0.0	5.5	0.0	10.3
Prop In Lane	1.00		0.11	1.00		0.08	0.46		0.43	0.77		1.00
Lane Grp Cap(c), veh/h	72	1269	1309	41	1238	1284	196	0	0	238	0	204
V/C Ratio(X)	0.78	0.26	0.26	0.74	0.25	0.25	0.48	0.00	0.00	0.34	0.00	0.84
Avail Cap(c_a), veh/h	275	1269	1309	275	1238	1284	376	0	0	424	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.1	4.9	4.9	47.1	5.4	5.4	40.7	0.0	0.0	39.1	0.0	41.3
Incr Delay (d2), s/veh	6.5	0.5	0.5	9.2	0.5	0.5	0.7	0.0	0.0	0.3	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	2.1	2.2	0.8	2.2	2.3	2.2	0.0	0.0	1.8	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	5.4	5.3	56.3	5.9	5.9	41.3	0.0	0.0	39.4	0.0	44.8
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h	727			671			94			253		
Approach Delay, s/veh	9.0			8.2			41.3			43.1		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	74.3		16.5	7.9	72.6		16.5				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+I1), s	3.6	8.3		12.3	5.0	8.3		10.9				
Green Ext Time (p_c), s	0.0	7.8		0.2	0.0	7.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	15.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway

Opening Year 2023 plus Project
Timing Plan: PM PEAK HOUR

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (veh/h)	641	56	13	760	2	37
Future Volume (veh/h)	641	56	13	760	2	37
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	668	58	14	792	2	39
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2698	234	23	3097	2	47
Arrive On Green	0.82	0.82	0.01	0.87	0.03	0.03
Sat Flow, veh/h	3402	287	1781	3647	76	1485
Grp Volume(v), veh/h	358	368	14	792	42	0
Grp Sat Flow(s),veh/h/ln	1777	1819	1781	1777	1599	0
Q Serve(g_s), s	4.3	4.3	0.7	3.4	2.4	0.0
Cycle Q Clear(g_c), s	4.3	4.3	0.7	3.4	2.4	0.0
Prop In Lane		0.16	1.00		0.05	0.93
Lane Grp Cap(c), veh/h	1449	1483	23	3097	51	0
V/C Ratio(X)	0.25	0.25	0.60	0.26	0.83	0.00
Avail Cap(c_a), veh/h	1449	1483	287	3097	430	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.96	0.96	1.00	0.00
Uniform Delay (d), s/veh	2.0	2.0	45.7	1.0	44.8	0.0
Incr Delay (d2), s/veh	0.4	0.4	8.6	0.2	12.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.0	0.4	0.3	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.4	2.4	54.2	1.2	56.8	0.0
LnGrp LOS	A	A	D	A	E	A
Approach Vol, veh/h	726			806	42	
Approach Delay, s/veh	2.4			2.1	56.8	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.2	80.8		6.9		86.1
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	2.7	6.3		4.4		5.4
Green Ext Time (p_c), s	0.0	8.8		0.0		11.1
Intersection Summary						
HCM 6th Ctrl Delay			3.7			
HCM 6th LOS			A			

Notes




















User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

2040

Timing Plan: AM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	787	23	11	711	47	45	24	40	32	7	44
Future Volume (veh/h)	106	787	23	11	711	47	45	24	40	32	7	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	915	27	13	827	55	52	28	47	37	8	51
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	2604	77	22	2251	150	104	49	59	178	32	182
Arrive On Green	0.09	0.74	0.74	0.01	0.67	0.67	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	3524	104	1781	3382	225	446	423	511	957	279	1585
Grp Volume(v), veh/h	123	461	481	13	434	448	127	0	0	45	0	51
Grp Sat Flow(s),veh/h/ln	1781	1777	1852	1781	1777	1830	1380	0	0	1236	0	1585
Q Serve(g_s), s	6.6	8.9	8.9	0.7	10.5	10.5	5.8	0.0	0.0	0.0	0.0	2.9
Cycle Q Clear(g_c), s	6.6	8.9	8.9	0.7	10.5	10.5	9.0	0.0	0.0	3.2	0.0	2.9
Prop In Lane	1.00		0.06	1.00		0.12	0.41		0.37	0.82		1.00
Lane Grp Cap(c), veh/h	152	1313	1368	22	1183	1218	211	0	0	210	0	182
V/C Ratio(X)	0.81	0.35	0.35	0.60	0.37	0.37	0.60	0.00	0.00	0.21	0.00	0.28
Avail Cap(c_a), veh/h	275	1313	1368	275	1183	1218	429	0	0	409	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.6	4.5	4.5	47.7	7.2	7.2	42.2	0.0	0.0	39.3	0.0	39.3
Incr Delay (d2), s/veh	3.6	0.7	0.7	9.4	0.9	0.9	1.0	0.0	0.0	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.8	3.0	0.4	3.8	3.9	3.0	0.0	0.0	1.0	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	5.2	5.1	57.1	8.1	8.0	43.2	0.0	0.0	39.5	0.0	39.6
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h	1065				895				127			
Approach Delay, s/veh	10.0				8.8				43.2			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	76.7		15.1	12.3	69.6		15.1				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+I1), s	2.7	10.9		5.2	8.6	12.5		11.0				
Green Ext Time (p_c), s	0.0	11.6		0.1	0.0	11.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	12.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway

2040
Timing Plan: AM PEAK HOUR




















	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↔	↑↑	↔	
Traffic Volume (veh/h)	937	36	18	785	28	30
Future Volume (veh/h)	937	36	18	785	28	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	997	38	19	835	30	32
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2779	106	30	3041	38	40
Arrive On Green	0.80	0.80	0.02	0.86	0.05	0.05
Sat Flow, veh/h	3584	133	1781	3647	799	852
Grp Volume(v), veh/h	508	527	19	835	63	0
Grp Sat Flow(s),veh/h/ln	1777	1846	1781	1777	1677	0
Q Serve(g_s), s	7.6	7.6	1.0	4.1	3.5	0.0
Cycle Q Clear(g_c), s	7.6	7.6	1.0	4.1	3.5	0.0
Prop In Lane		0.07	1.00		0.48	0.51
Lane Grp Cap(c), veh/h	1415	1470	30	3041	79	0
V/C Ratio(X)	0.36	0.36	0.64	0.27	0.79	0.00
Avail Cap(c_a), veh/h	1415	1470	287	3041	451	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.93	0.93	1.00	0.00
Uniform Delay (d), s/veh	2.7	2.7	45.4	1.3	43.8	0.0
Incr Delay (d2), s/veh	0.7	0.7	7.6	0.2	6.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.0	0.5	0.6	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.4	3.4	53.1	1.5	50.3	0.0
LnGrp LOS	A	A	D	A	D	A
Approach Vol, veh/h	1035			854	63	
Approach Delay, s/veh	3.4			2.6	50.3	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.6	79.0		8.4		84.6
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	3.0	9.6		5.5		6.1
Green Ext Time (p_c), s	0.0	13.3		0.0		11.8
Intersection Summary						
HCM 6th Ctrl Delay			4.6			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

2040

Timing Plan: PM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	752	28	30	712	24	33	5	29	98	10	67
Future Volume (veh/h)	39	752	28	30	712	24	33	5	29	98	10	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	809	30	32	766	26	35	5	31	105	11	72
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	2435	90	42	2422	82	87	25	44	217	19	230
Arrive On Green	0.03	0.70	0.70	0.02	0.69	0.69	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3494	130	1781	3507	119	217	172	302	1006	132	1585
Grp Volume(v), veh/h	42	411	428	32	388	404	71	0	0	116	0	72
Grp Sat Flow(s),veh/h/ln	1781	1777	1847	1781	1777	1849	691	0	0	1138	0	1585
Q Serve(g_s), s	2.3	8.9	8.9	1.7	8.4	8.4	2.2	0.0	0.0	0.0	0.0	3.9
Cycle Q Clear(g_c), s	2.3	8.9	8.9	1.7	8.4	8.4	12.0	0.0	0.0	9.8	0.0	3.9
Prop In Lane	1.00		0.07	1.00		0.06	0.49		0.44	0.91		1.00
Lane Grp Cap(c), veh/h	53	1238	1287	42	1227	1277	156	0	0	236	0	230
V/C Ratio(X)	0.79	0.33	0.33	0.75	0.32	0.32	0.46	0.00	0.00	0.49	0.00	0.31
Avail Cap(c_a), veh/h	275	1238	1287	275	1227	1277	319	0	0	394	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.7	5.8	5.8	47.1	5.9	5.9	40.3	0.0	0.0	39.6	0.0	37.1
Incr Delay (d2), s/veh	8.7	0.7	0.7	9.6	0.7	0.7	0.8	0.0	0.0	0.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.1	3.2	0.9	2.9	3.1	1.7	0.0	0.0	2.7	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	6.5	6.5	56.6	6.6	6.6	41.1	0.0	0.0	40.1	0.0	37.4
LnGrp LOS	E	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h	881			824			71			188		
Approach Delay, s/veh	8.8			8.5			41.1			39.1		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	72.6		18.1	6.9	72.0		18.1				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+I1), s	3.7	10.9		11.8	4.3	10.4		14.0				
Green Ext Time (p_c), s	0.0	10.0		0.2	0.0	9.8		0.1				
Intersection Summary												
HCM 6th Ctrl Delay	12.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway

2040
Timing Plan: PM PEAK HOUR

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (veh/h)	886	55	18	834	33	24
Future Volume (veh/h)	886	55	18	834	33	24
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	923	57	19	869	34	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2715	168	30	3051	43	32
Arrive On Green	0.80	0.80	0.02	0.86	0.04	0.04
Sat Flow, veh/h	3493	210	1781	3647	961	706
Grp Volume(v), veh/h	482	498	19	869	60	0
Grp Sat Flow(s),veh/h/ln	1777	1833	1781	1777	1695	0
Q Serve(g_s), s	7.0	7.0	1.0	4.3	3.3	0.0
Cycle Q Clear(g_c), s	7.0	7.0	1.0	4.3	3.3	0.0
Prop In Lane		0.11	1.00		0.57	0.42
Lane Grp Cap(c), veh/h	1419	1464	30	3051	76	0
V/C Ratio(X)	0.34	0.34	0.64	0.28	0.79	0.00
Avail Cap(c_a), veh/h	1419	1464	287	3051	456	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.96	0.96	1.00	0.00
Uniform Delay (d), s/veh	2.6	2.6	45.4	1.2	44.0	0.0
Incr Delay (d2), s/veh	0.7	0.6	7.9	0.2	6.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.8	0.5	0.5	1.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.2	3.2	53.3	1.5	50.7	0.0
LnGrp LOS	A	A	D	A	D	A
Approach Vol, veh/h	980			888	60	
Approach Delay, s/veh	3.2			2.6	50.7	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.6	79.3		8.2		84.8
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	3.0	9.0		5.3		6.3
Green Ext Time (p_c), s	0.0	12.5		0.0		12.4
Intersection Summary						
HCM 6th Ctrl Delay			4.4			
HCM 6th LOS			A			




















Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

2040 plus Project
Timing Plan: AM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	787	23	11	711	53	45	28	40	35	9	57
Future Volume (veh/h)	137	787	23	11	711	53	45	28	40	35	9	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	159	915	27	13	827	62	52	33	47	41	10	66
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	2582	76	22	2138	160	102	56	58	177	36	192
Arrive On Green	0.11	0.73	0.73	0.01	0.64	0.64	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	3524	104	1781	3351	251	411	459	481	911	300	1585
Grp Volume(v), veh/h	159	461	481	13	438	451	132	0	0	51	0	66
Grp Sat Flow(s),veh/h/ln	1781	1777	1852	1781	1777	1825	1352	0	0	1210	0	1585
Q Serve(g_s), s	8.5	9.1	9.1	0.7	11.5	11.5	5.8	0.0	0.0	0.0	0.0	3.7
Cycle Q Clear(g_c), s	8.5	9.1	9.1	0.7	11.5	11.5	9.5	0.0	0.0	3.7	0.0	3.7
Prop In Lane	1.00		0.06	1.00		0.14	0.39		0.36	0.80		1.00
Lane Grp Cap(c), veh/h	191	1302	1357	22	1134	1164	215	0	0	214	0	192
V/C Ratio(X)	0.83	0.35	0.35	0.60	0.39	0.39	0.61	0.00	0.00	0.24	0.00	0.34
Avail Cap(c_a), veh/h	275	1302	1357	275	1134	1164	424	0	0	405	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.5	4.7	4.7	47.7	8.4	8.4	41.9	0.0	0.0	39.0	0.0	39.1
Incr Delay (d2), s/veh	8.8	0.7	0.7	9.4	1.0	1.0	1.1	0.0	0.0	0.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.9	3.1	0.4	4.3	4.4	3.2	0.0	0.0	1.1	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	5.4	5.4	57.1	9.4	9.4	42.9	0.0	0.0	39.2	0.0	39.5
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h		1101			902			132			117	
Approach Delay, s/veh		12.0			10.1			42.9			39.4	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	76.1		15.7	14.4	66.9		15.7				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+I1), s	2.7	11.1		5.7	10.5	13.5		11.5				
Green Ext Time (p_c), s	0.0	11.5		0.1	0.0	11.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				14.5								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway




















2040 plus Project
Timing Plan: AM PEAK HOUR

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↔	↑↑	↔	
Traffic Volume (veh/h)	966	36	19	797	28	32
Future Volume (veh/h)	966	36	19	797	28	32
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1028	38	20	848	30	34
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2774	103	31	3036	38	43
Arrive On Green	0.79	0.79	0.02	0.85	0.05	0.05
Sat Flow, veh/h	3588	129	1781	3647	773	876
Grp Volume(v), veh/h	523	543	20	848	65	0
Grp Sat Flow(s),veh/h/ln	1777	1847	1781	1777	1674	0
Q Serve(g_s), s	8.0	8.0	1.0	4.2	3.6	0.0
Cycle Q Clear(g_c), s	8.0	8.0	1.0	4.2	3.6	0.0
Prop In Lane		0.07	1.00		0.46	0.52
Lane Grp Cap(c), veh/h	1411	1466	31	3036	82	0
V/C Ratio(X)	0.37	0.37	0.65	0.28	0.79	0.00
Avail Cap(c_a), veh/h	1411	1466	287	3036	450	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.92	0.92	1.00	0.00
Uniform Delay (d), s/veh	2.8	2.8	45.4	1.3	43.8	0.0
Incr Delay (d2), s/veh	0.7	0.7	7.5	0.2	6.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.2	0.5	0.6	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.5	3.5	52.9	1.5	50.1	0.0
LnGrp LOS	A	A	D	A	D	A
Approach Vol, veh/h	1066			868	65	
Approach Delay, s/veh	3.5			2.7	50.1	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.6	78.8		8.6		84.4
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	3.0	10.0		5.6		6.2
Green Ext Time (p_c), s	0.0	13.7		0.0		12.0
Intersection Summary						
HCM 6th Ctrl Delay			4.7			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary

1: Easterby Street/Marinship Way & Bridgeway

2040 plus Project
Timing Plan: PM PEAK HOUR

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	752	28	30	712	29	33	8	29	104	14	98
Future Volume (veh/h)	62	752	28	30	712	29	33	8	29	104	14	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	809	30	32	766	31	35	9	31	112	15	105
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	2382	88	42	2288	93	84	32	43	220	24	254
Arrive On Green	0.05	0.68	0.68	0.02	0.66	0.66	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1781	3494	130	1781	3481	141	185	197	269	938	152	1585
Grp Volume(v), veh/h	67	411	428	32	391	406	75	0	0	127	0	105
Grp Sat Flow(s),veh/h/ln	1781	1777	1847	1781	1777	1845	651	0	0	1090	0	1585
Q Serve(g_s), s	3.6	9.3	9.3	1.7	9.4	9.4	2.2	0.0	0.0	0.0	0.0	5.8
Cycle Q Clear(g_c), s	3.6	9.3	9.3	1.7	9.4	9.4	13.5	0.0	0.0	11.3	0.0	5.8
Prop In Lane	1.00		0.07	1.00		0.08	0.47		0.41	0.88		1.00
Lane Grp Cap(c), veh/h	86	1211	1259	42	1168	1212	159	0	0	245	0	254
V/C Ratio(X)	0.78	0.34	0.34	0.75	0.33	0.33	0.47	0.00	0.00	0.52	0.00	0.41
Avail Cap(c_a), veh/h	275	1211	1259	275	1168	1212	299	0	0	382	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.6	6.4	6.4	47.1	7.3	7.3	39.3	0.0	0.0	38.8	0.0	36.6
Incr Delay (d2), s/veh	5.2	0.7	0.7	9.6	0.8	0.7	0.8	0.0	0.0	0.6	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.3	3.4	0.9	3.4	3.6	1.8	0.0	0.0	2.9	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	7.1	7.1	56.6	8.1	8.1	40.1	0.0	0.0	39.5	0.0	37.0
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	D
Approach Vol, veh/h	906			829			75			232		
Approach Delay, s/veh	10.3			9.9			40.1			38.4		
Approach LOS	B			A			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	71.1		19.6	8.7	68.7		19.6				
Change Period (Y+Rc), s	4.0	5.0		4.0	4.0	5.0		4.0				
Max Green Setting (Gmax), s	15.0	40.0		25.0	15.0	44.0		25.0				
Max Q Clear Time (g_c+l1), s	3.7	11.3		13.3	5.6	11.4		15.5				
Green Ext Time (p_c), s	0.0	10.0		0.3	0.0	9.8		0.1				
Intersection Summary												
HCM 6th Ctrl Delay	14.4											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

2: Spring Street & Bridgeway

2040 plus Project
Timing Plan: PM PEAK HOUR

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (veh/h)	907	55	20	863	33	26
Future Volume (veh/h)	907	55	20	863	33	26
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	945	57	21	899	34	27
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2710	163	32	3045	43	34
Arrive On Green	0.80	0.80	0.02	0.86	0.05	0.05
Sat Flow, veh/h	3498	205	1781	3647	928	737
Grp Volume(v), veh/h	493	509	21	899	62	0
Grp Sat Flow(s),veh/h/ln	1777	1833	1781	1777	1691	0
Q Serve(g_s), s	7.3	7.3	1.1	4.5	3.4	0.0
Cycle Q Clear(g_c), s	7.3	7.3	1.1	4.5	3.4	0.0
Prop In Lane		0.11	1.00		0.55	0.44
Lane Grp Cap(c), veh/h	1414	1459	32	3045	78	0
V/C Ratio(X)	0.35	0.35	0.65	0.30	0.79	0.00
Avail Cap(c_a), veh/h	1414	1459	287	3045	455	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.95	0.95	1.00	0.00
Uniform Delay (d), s/veh	2.7	2.7	45.4	1.3	43.9	0.0
Incr Delay (d2), s/veh	0.7	0.7	7.7	0.2	6.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.9	0.5	0.6	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.4	3.3	53.1	1.5	50.4	0.0
LnGrp LOS	A	A	D	A	D	A
Approach Vol, veh/h	1002			920	62	
Approach Delay, s/veh	3.4			2.7	50.4	
Approach LOS	A			A	D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.7	79.0		8.3		84.7
Change Period (Y+Rc), s	4.0	5.0		4.0		5.0
Max Green Setting (Gmax), s	15.0	40.0		25.0		44.0
Max Q Clear Time (g_c+I1), s	3.1	9.3		5.4		6.5
Green Ext Time (p_c), s	0.0	12.8		0.0		12.9
Intersection Summary						
HCM 6th Ctrl Delay			4.5			
HCM 6th LOS			A			
Notes						
User approved volume balancing among the lanes for turning movement.						

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	99	238	215	71	163	131	172	43	63
Average Queue (ft)	70	76	45	10	68	32	71	12	25
95th Queue (ft)	111	183	133	39	135	88	135	36	52
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)		0	0						
Queuing Penalty (veh)		1	0						
Storage Bay Dist (ft)	75			100					150
Storage Blk Time (%)	18	2			3				
Queuing Penalty (veh)	52	3			0				

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	UL	T	T	LR
Maximum Queue (ft)	138	93	48	166	136	86
Average Queue (ft)	53	19	4	38	27	33
95th Queue (ft)	121	60	25	112	90	69
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)			95			
Storage Blk Time (%)				2		
Queuing Penalty (veh)				0		

Network Summary

Network wide Queuing Penalty: 56

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	86	150	131	81	163	131	142	124	85
Average Queue (ft)	24	56	38	23	67	27	54	48	41
95th Queue (ft)	60	125	100	57	132	83	110	97	70
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	75			100					150
Storage Blk Time (%)	1	3		0	2			0	
Queuing Penalty (veh)	3	1		0	1			0	

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (ft)	150	109	34	172	137	58
Average Queue (ft)	48	25	9	40	32	21
95th Queue (ft)	119	77	32	117	101	50
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)			95			
Storage Blk Time (%)				1		
Queuing Penalty (veh)				0		

Network Summary

Network wide Queuing Penalty: 5

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	99	244	220	69	169	133	180	55	58
Average Queue (ft)	80	110	67	12	74	37	75	16	26
95th Queue (ft)	116	252	188	46	139	92	143	45	49
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)		1	0						
Queuing Penalty (veh)		5	0						
Storage Bay Dist (ft)	75			100					150
Storage Blk Time (%)	29	2			3				
Queuing Penalty (veh)	84	3			0				

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	UL	T	T	LR
Maximum Queue (ft)	161	107	43	132	114	73
Average Queue (ft)	68	24	6	37	24	34
95th Queue (ft)	139	74	27	103	79	64
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			95			
Storage Blk Time (%)				1		
Queuing Penalty (veh)				0		

Network Summary

Network wide Queuing Penalty: 93

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	97	180	167	115	192	131	125	130	94
Average Queue (ft)	41	68	44	25	74	31	47	60	46
95th Queue (ft)	81	150	116	67	151	85	99	108	74
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)		0	0					0	
Queuing Penalty (veh)		0	0					0	
Storage Bay Dist (ft)	75			100					150
Storage Blk Time (%)	3	4			3			0	
Queuing Penalty (veh)	9	2			1			0	

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (ft)	167	114	39	148	130	59
Average Queue (ft)	46	24	10	35	30	25
95th Queue (ft)	118	76	35	109	93	52
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			95			
Storage Blk Time (%)				1		
Queuing Penalty (veh)				0		

Network Summary

Network wide Queuing Penalty: 13

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	100	249	228	76	236	180	153	97	50
Average Queue (ft)	71	99	68	9	105	60	62	33	22
95th Queue (ft)	112	221	171	38	193	145	120	72	48
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)		1	0						
Queuing Penalty (veh)		4	0						
Storage Bay Dist (ft)	75			100					150
Storage Blk Time (%)	18	5			7				
Queuing Penalty (veh)	73	6			1				

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	UL	T	T	LR
Maximum Queue (ft)	219	187	78	187	168	101
Average Queue (ft)	88	49	18	54	42	36
95th Queue (ft)	177	131	53	139	120	75
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)			95			
Storage Blk Time (%)				2		
Queuing Penalty (veh)				0		

Network Summary

Network wide Queuing Penalty: 84

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	99	204	177	106	200	160	99	190	138
Average Queue (ft)	37	76	59	25	86	42	34	82	34
95th Queue (ft)	81	167	139	68	168	113	74	155	85
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)		0	0					0	
Queuing Penalty (veh)		1	0					0	
Storage Bay Dist (ft)	75			100					150
Storage Blk Time (%)	2	6		0	4			1	0
Queuing Penalty (veh)	8	2		0	1			1	0

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (ft)	220	165	91	186	179	104
Average Queue (ft)	83	47	16	57	41	40
95th Queue (ft)	182	129	52	146	120	80
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)			95			
Storage Blk Time (%)				3		
Queuing Penalty (veh)				1		

Network Summary

Network wide Queuing Penalty: 14

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	100	245	221	75	232	200	153	85	61
Average Queue (ft)	81	120	83	10	116	75	69	31	26
95th Queue (ft)	115	256	208	41	204	164	130	67	53
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)		1	0						
Queuing Penalty (veh)		6	0						
Storage Bay Dist (ft)	75			100					150
Storage Blk Time (%)	27	4			10				
Queuing Penalty (veh)	108	6			1				

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	UL	T	T	LR
Maximum Queue (ft)	287	205	56	226	208	122
Average Queue (ft)	91	46	18	53	44	41
95th Queue (ft)	204	148	48	148	136	87
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)			95			
Storage Blk Time (%)				2		
Queuing Penalty (veh)				0		

Network Summary

Network wide Queuing Penalty: 123

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	98	226	221	96	219	167	108	189	115
Average Queue (ft)	47	87	63	20	96	49	46	78	37
95th Queue (ft)	96	188	152	59	179	128	92	141	75
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)		0	0					0	
Queuing Penalty (veh)		1	1					0	
Storage Bay Dist (ft)	75			100					150
Storage Blk Time (%)	5	7		0	6			1	0
Queuing Penalty (veh)	20	4		0	2			1	0

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (ft)	210	165	83	214	211	101
Average Queue (ft)	87	49	22	62	50	44
95th Queue (ft)	180	124	60	157	138	83
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)			95			
Storage Blk Time (%)				3		
Queuing Penalty (veh)				1		

Network Summary

Network wide Queuing Penalty: 30

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	142	139	112	36	175	117	150	57	61
Average Queue (ft)	74	43	25	8	74	32	62	17	28
95th Queue (ft)	129	106	79	28	138	83	119	46	52
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		0							
Storage Bay Dist (ft)	130			100					150
Storage Blk Time (%)	1	0			3				
Queuing Penalty (veh)	4	0			0				

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	UL	T	T	LR
Maximum Queue (ft)	158	93	40	147	124	79
Average Queue (ft)	60	23	7	31	24	33
95th Queue (ft)	138	65	28	96	78	63
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			50			
Storage Blk Time (%)			0	3		
Queuing Penalty (veh)			0	0		

Network Summary

Network wide Queuing Penalty: 5

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	89	158	124	58	175	162	106	112	93
Average Queue (ft)	33	59	37	17	72	34	46	46	45
95th Queue (ft)	69	121	95	42	136	90	86	95	77
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	130			100					150
Storage Blk Time (%)		1			2				
Queuing Penalty (veh)		0			1				

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (ft)	172	133	46	142	142	54
Average Queue (ft)	50	29	13	40	35	27
95th Queue (ft)	132	93	39	119	104	52
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			50			
Storage Blk Time (%)			0	4		
Queuing Penalty (veh)			1	1		

Network Summary

Network wide Queuing Penalty: 3

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	143	167	162	115	214	181	128	70	71
Average Queue (ft)	69	51	36	12	111	65	56	29	27
95th Queue (ft)	125	136	107	56	189	147	100	63	54
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)		0	0						
Queuing Penalty (veh)		0	0						
Storage Bay Dist (ft)	130			100					150
Storage Blk Time (%)	1	0		0	9				
Queuing Penalty (veh)	4	1		0	1				

Intersection: 2: Spring Street & Bridgeway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	UL	T	T	LR
Maximum Queue (ft)	235	190	60	157	146	105
Average Queue (ft)	92	50	17	40	33	39
95th Queue (ft)	192	135	50	118	100	77
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			50			
Storage Blk Time (%)			2	4		
Queuing Penalty (veh)			9	1		

Network Summary

Network wide Queuing Penalty: 16

Intersection: 1: Easterby Street/Marinship Way & Bridgeway

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	102	194	170	71	203	156	92	111	65
Average Queue (ft)	40	58	41	18	92	50	36	63	33
95th Queue (ft)	82	134	114	45	166	112	72	105	57
Link Distance (ft)		241	241		436	436	321	198	
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		0							
Storage Bay Dist (ft)	130			100					150
Storage Blk Time (%)		1		0	4				
Queuing Penalty (veh)		0		0	1				

Intersection: 2: Spring Street & Bridgeway

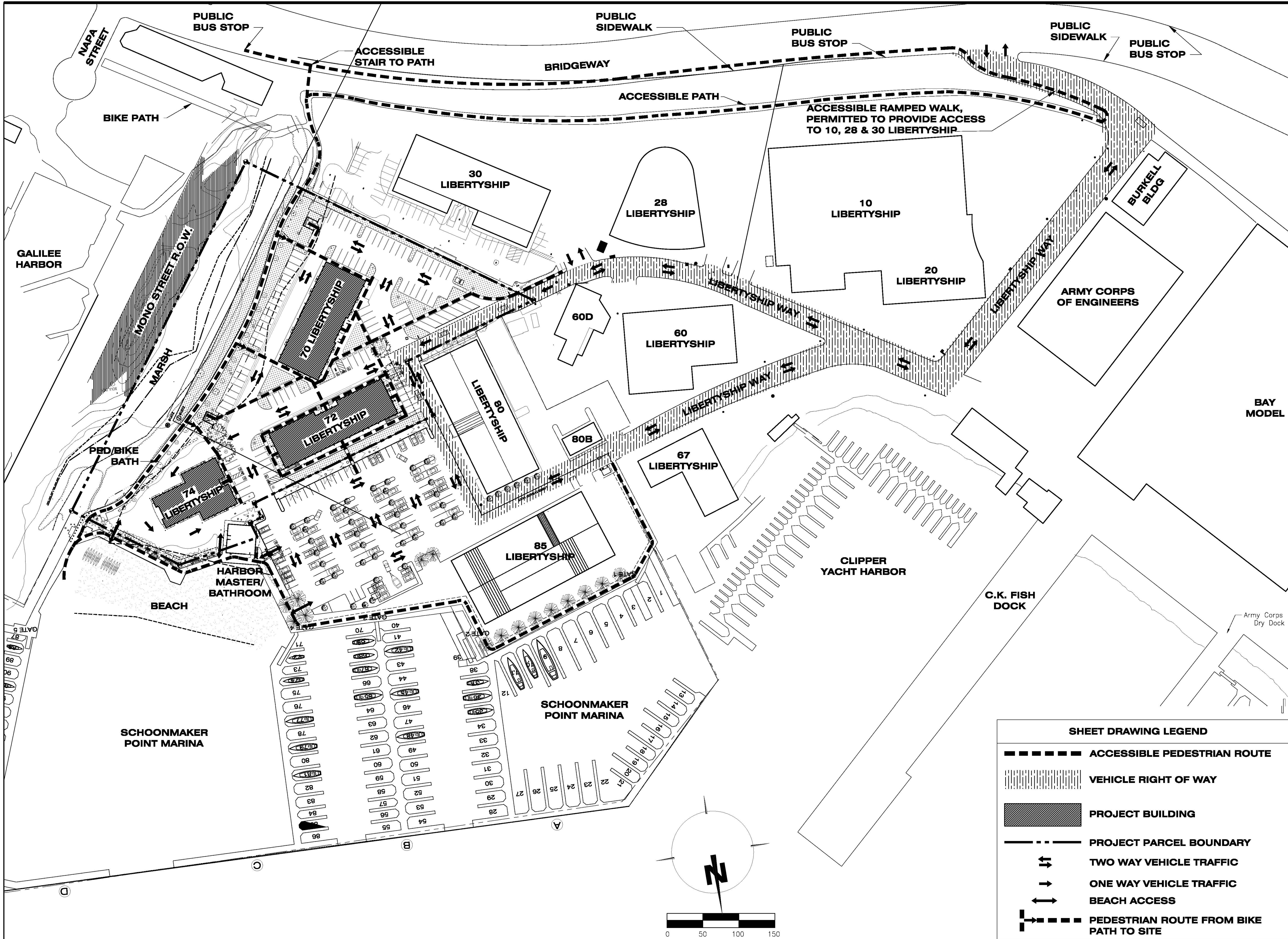
Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (ft)	211	169	57	178	161	100
Average Queue (ft)	97	54	18	51	43	40
95th Queue (ft)	187	131	47	132	118	78
Link Distance (ft)	498	498		241	241	316
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			50			
Storage Blk Time (%)			2	5		
Queuing Penalty (veh)			8	1		

Network Summary

Network wide Queuing Penalty: 10

Appendix C

Circulation Exhibits



ONDA ROSA

Architecture
Urban Design
Space Planning
Interior Design

129 JASPER PLACE
S.F., CA 94133
415.562.7441



LIBERTYSHIP II
PARTNERSHIP

70 - 74
LIBERTYSHIP WAY
SAUSALITO, CA
APN: 063-080-06

PLN'G/PW RESPONSE	09/20/18
PLN'G/PW RESPONSE	11/04/18
S.M.F.D.	11/12/18
SAUSALITO DPW	1/2/19
PLN UPDATE	11/15/20
NO	Date Revision/Issue
Project Number	Scale
2015.11	1" = 60'-0"
Drawn by	
BJM	

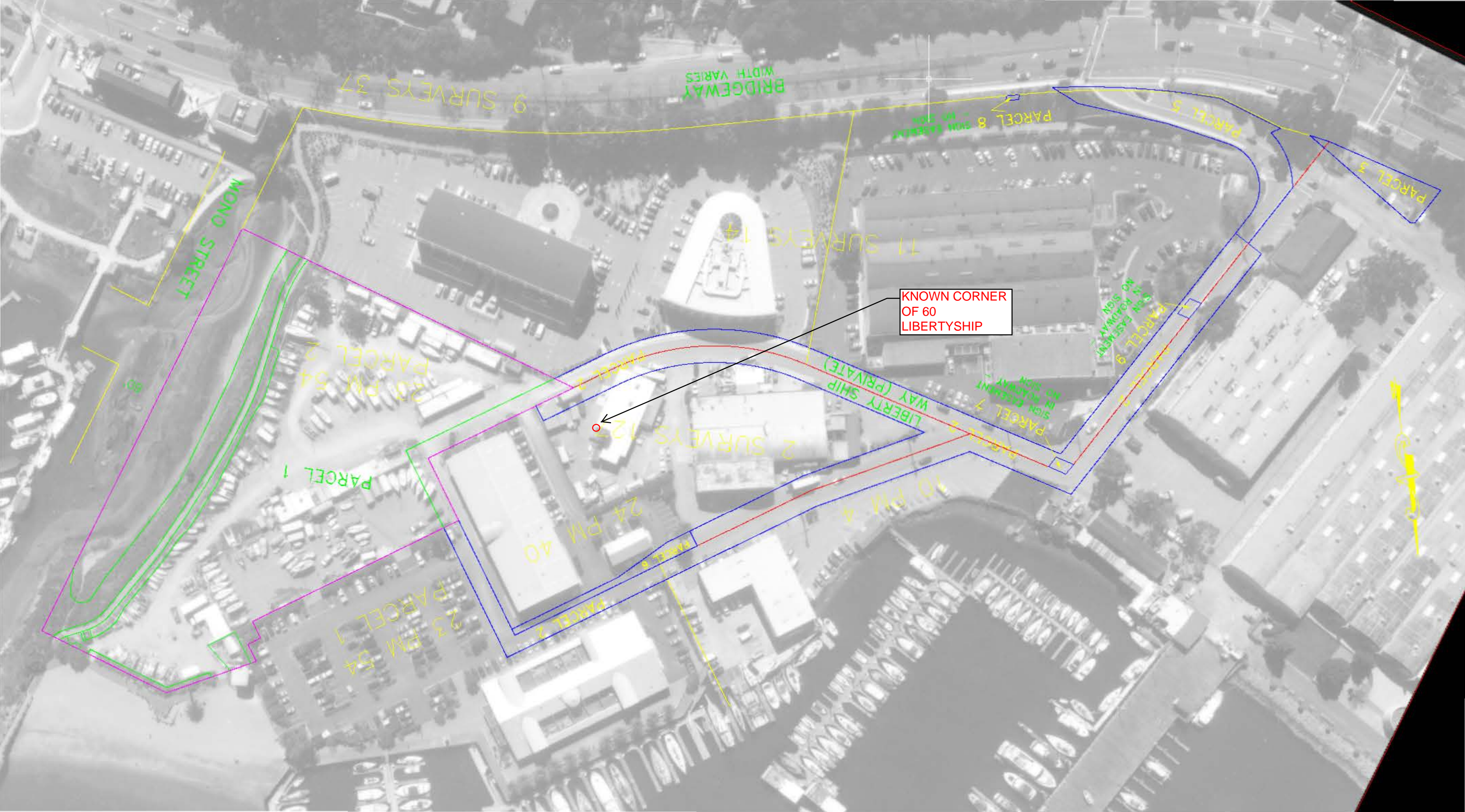
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ACCESSIBLE
PATH

A 1.6

SHEET DRAWING LEGEND

- ACCESSIBLE PEDESTRIAN ROUTE
- VEHICLE RIGHT OF WAY
- PROJECT BUILDING
- PROJECT PARCEL BOUNDARY
- TWO WAY VEHICLE TRAFFIC
- ONE WAY VEHICLE TRAFFIC
- BEACH ACCESS
- PEDESTRIAN ROUTE FROM BIKE PATH TO SITE



KNOWN CORNER
OF 60
LIBERTYSHIP

9 SURVEYS 37

BRIDGEWAY
WIDTH VARIES

PARCEL 8 SIGN EASEMENT
NO SIGN

PARCEL 5

PARCEL 3

11 SURVEYS 14

MONO STREET

PARCEL 9 SIGN EASEMENT
NO SIGN

PARCEL 7 SIGN EASEMENT
NO SIGN

LIBERTY SHIP
WAY (PRIVATE)

2 SURVEYS 125

PARCEL 1

20 PM 54
PARCEL 2

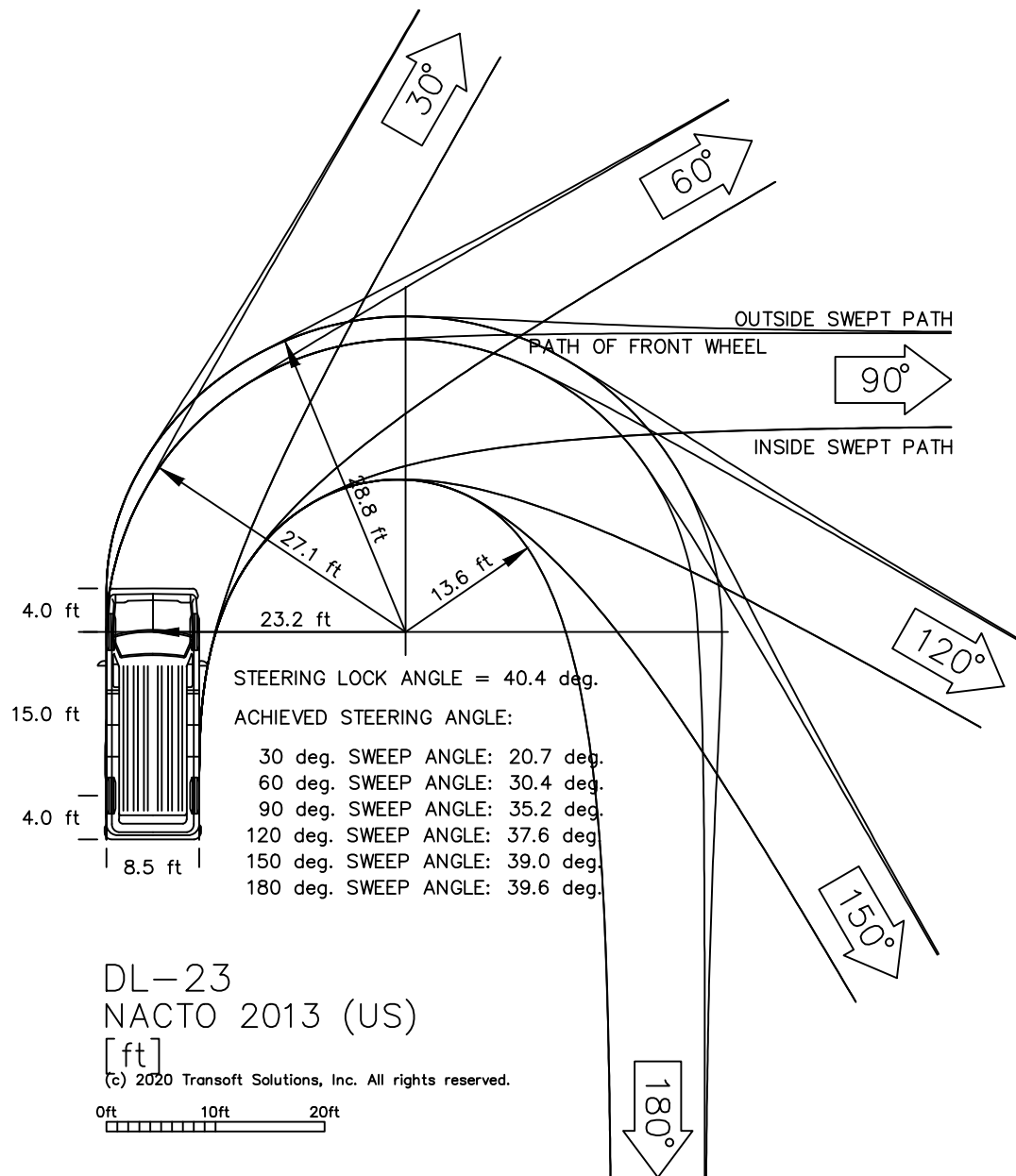
24 PM 40
PARCEL 6

10 PM 4
PARCEL 4

PARCEL 7

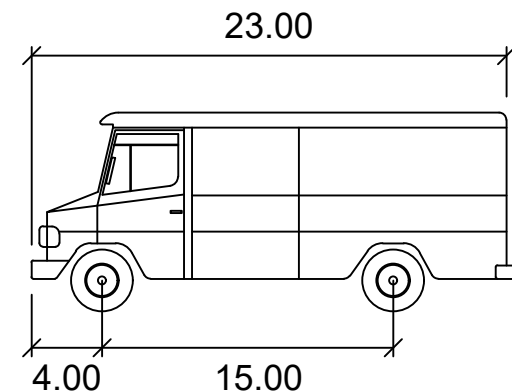
23 PM 54
PARCEL 1

Nov 12, 2020, 4:11pm ip:\301\Environmental\13023 Target Navigation Plan\Transportation\Source\LIBERTY\Ship - TEST - FILE.dwg Layout Page 714 Template



DL-23
NACTO 2013 (US)
[ft]

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DL-23

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 40.4

SOURCE: NACTO, 2013

DUDEK



NOT TO SCALE

DL-23 Design Vehicle Template

70-74 Liberty Ship Way Project

