PUBLIC REVIEW DRAFT

ANTIOCH NATURAL SUPPLEMENTS PROJECT
INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

ANTIOCH, CALIFORNIA

LSA

May 2021

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ANTIOCH
CALIFORNIA

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE ANTIOCH NATURAL SUPPLEMENTS PROJECT

NOTICE IS HEREBY GIVEN that the City of Antioch (City) has completed an Initial Study/Mitigated Negative Declaration for the proposed Antioch Natural Supplements Project in accordance with the California Environmental Quality Act.

Project Location: The approximately 3.96-acre project site consists of an undeveloped parcel located at 2110–2300 Wilbur Avenue in the northern portion of the City of Antioch, Contra Costa County (APN 051-100-028). The project site is bounded by a frontage road providing access to Wilbur Avenue to the north, commercial and light industrial uses to the east, Union Pacific Railroad tracks to the south, and light industrial uses to the west.

Proposed Project: The proposed project would result in development of the site with two new building and associated surface parking and utility improvements to allow operation of a commercial cannabis business. Building A would consist of an approximately 11,200-square-foot commercial use that would include rooms for cannabis sales, products, packaging, labeling, and storage. In total, Building A would include approximately 2,558 square feet of retail space, approximately 2,776 square feet of distribution space, and 792 square feet of manufacturing space. Building B would consist of an approximately 19,500-square-foot industrial use that would include cannabis cultivation, incubation, and processing rooms. It is anticipated that the proposed project would include a total of 36 employees.

Findings: The Initial Study prepared by the City was undertaken for the purpose of deciding whether the proposed project may have a significant effect on the environment. On the basis of the Initial Study, City staff has concluded that the proposed project will not have a significant effect on the environment and, therefore, has prepared a Mitigated Negative Declaration. The project site is not on a list of hazardous waste sites compiled pursuant to Government Code Section 65962.5.

Public Review: The IS/MND is available for review online at: https://www.antiochca.gov/community-development-department/planning-division/environmental-documents/. Written comments will be accepted from **May 7, 2021 to May 26, 2021**. Comments from all Responsible Agencies and interested parties are requested. Any person wishing to comment on the Draft IS/MND must submit written comments to Jose Cortez, Associate Planner, City of Antioch, P.O. Box 5007, Antioch, CA 94531-5007 or by email at: jcortez@antiochca.gov.

In response to the ongoing COVID-19 pandemic, paper copies are available for review by pre-scheduled appointment only. If you'd like to make an appointment, or if you require additional assistance, please contact Jose Cortez at the email listed above or by phone at: phone 925-779-7035.

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PUBLIC REVIEW DRAFT

ANTIOCH NATURAL SUPPLEMENTS PROJECT
INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

ANTIOCH, CALIFORNIA

Submitted to:

City of Antioch Planning Division
200 H Street
Antioch, California 94531

Prepared by:

LSA Associates, Inc.
157 Park Place
Pt. Richmond, California 94801
510.236.6810

Project No. CAN2003

LSA

May 2021

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LIST OF ABBREVIATIONS AND ACRONYMS

µg/m^3	micrograms per cubic meter
ADT	Average Daily Traffic
APD	Antioch Police Department
APN	Assessor's Parcel Number
AST	Aboveground Storage Tank
AUSD	Antioch Unified School District
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CARB	California Air Resources Board
CARP	(City of Antioch) Climate Action and Resilience Plan
CB	Cannabis Business
CBC	California Building Code
CBUP	Cannabis Business Use Permit
CCCFPD	Contra Costa County Fire Protection District
CCWD	Contra Costa Water District
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Antioch

Clean Air Plan	BAAQMD 2017 Clean Air Plan
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalents
dB	decibel
dBA	A-weighted (sound level) decibels
DIF	Development Impact Fee
EPA	(United States) Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GHG	Greenhouse gas
GWh	gigawatt-hours
GWP	Global Warming Potential
HFCs	hydrofluorocarbons
HFSZ	High Fire Hazard Severity Zone
HVAC	heating, ventilation, and air conditioning
in/sec	inches per second
IS/MND	Initial Study/Mitigated Negative Declaration
kWh	kilowatt-hours
L_{dn}	day-night average sound level
L_{eq}	equivalent continuous sound level
LID	Low Impact Development

LOS	Level of Service
LRA	Local Responsibility Area
mpg	miles per gallon
MRZ	Mineral Resource Zone
N_2O	nitrous oxide
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
OPR	Governor's Office of Planning and Research
Pb	lead
PBC	Planned Business Center
PFCs	perfluorocarbons
PG&E	Pacific Gas & Electric
PM	particulate matter
PM_{10}	respirable particulate matter
$PM_{2.5}$	fine particulate matter
POTWs	publicly owned treatment works
PPV	peak particle velocity
project	Antioch Natural Supplements Project
RMS	root-mean-square
ROG	reactive organic gases
SB	Senate Bill
SCP	Storm water Control Plan
SF_6	sulfur hexafluoride
SO_2	sulfur dioxide

SR	State Route
SRA	State Responsibility Area
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TA	Technical Advisory
TACs	toxic air contaminants
UCMP	University of California Museum of Paleontology
UPRR	Union Pacific Railroad
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
VdB	vibration velocity in decibels
VHFSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
Water Board	Central Valley Regional Water Quality Control Board
WTP	Water Treatment Plant
ZE	Zero Emission

1.0 PROJECT INFORMATION

1. **Project Title:**

   Antioch Natural Supplements Project

2. **Lead Agency Name and Address:**

   City of Antioch Planning Division
   200 H Street
   Antioch, California 94531

3. **Contact Person and Phone Number:**

   Jose Cortez, Associate Planner
   (925) 779-7035

4. **Project Location:**

   The approximately 3.96-acre Antioch Natural Supplements Project (herein referred to as the "proposed project" or "project") site is located in the northern portion of the City of Antioch at 2110–2300 Wilbur Avenue (Assessor's Parcel Number [APN] 051-100-028), Contra Costa County.

5. **Project Sponsor's Name and Address:**

   City of Antioch Planning Division
   200 H Street
   Antioch, California 94531

6. **General Plan Designation:**

   Eastern Waterfront Employment Focus Area of the City's General Plan

7. **Zoning:**

   Planned Business Center (PBC) District and Cannabis Business (CB) Overlay District

8. **Description of Project:**

   The proposed project would consist of the construction of two new buildings (Building A, approximately 11,200 square feet, and Building B, approximately 19,500 square feet) and associated parking and site improvements that would accommodate a commercial cannabis business. Please see Section 2.0 for a detailed description of the proposed project.

9. **Surrounding Land Uses and Setting:**

   The currently vacant site is bounded by Wilbur Avenue to the north, a light industrial/ commercial building to the east, Union Pacific Railroad (UPRR) tracks to the south, and light industrial uses to the east.

10. **Other Public Agencies Whose Approval is Required (e.g., permits, financial approval, or participation agreements):**

The following public agencies have discretionary approval authority over the proposed project:

- City of Antioch – Environmental Review, Use Permit, and Design Review.
- Contra Costa County Fire Protection District – Review/Approve fire truck access and site fire flow design.
- California Bureau of Cannabis Control – Type 10 license (Retail Storefront and Delivery), Type 11 license (Distributor).
- California Department of Health – Type 7 license (Manufacturer).
- California Department of Food and Agriculture – Type 3A license (Medium Indoor Cultivation).

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resource 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.??

The Native American Heritage Commission (NAHC) in West Sacramento was provided with information about the proposed project and was requested to provide a list of tribes eligible to consult with the City, pursuant to Public Resources Code Section 21080.3.1. On March 23, 2021, the City sent letters to these tribes via certified mail notifying them of the proposed project. Per Public Resources Code, Section 21080.3.1(d), a request for consultation must be submitted within 30 days of the receipt the letter. No requests for consultation have been received to date. Please see Section 4.18, Tribal Cultural Resources of this Initial Study for a detailed discussion.

2.0 PROJECT DESCRIPTION

The following describes the proposed Antioch Natural Supplements Project (herein referred to as the "project" or "proposed project") that is the subject of this Initial Study/Mitigated Negative Declaration (IS/MND) prepared pursuant to the California Environmental Quality Act (CEQA). The proposed project would result in the construction of two new buildings and associated site improvements that would accommodate a commercial cannabis business. The City of Antioch (City) is the Lead Agency for review of the proposed project under CEQA.

2.1 PROJECT SITE

This section describes the project location, existing conditions, surrounding land uses, and the regulatory context.

2.1.1 Project Location

The approximately 3.96-acre project site consists of an undeveloped parcel located at 2110–2300 Wilbur Avenue in the northern portion of the City of Antioch, Contra Costa County (APN 051-100-028). The project site is bounded by a frontage road providing access to Wilbur Avenue to the north, commercial and light industrial uses to the east, UPRR tracks to the south, and light industrial uses to the west.

Regional vehicular access to the project site is provided by State Route 4 (SR 4), which is located south of the project site, and SR 160, which is located east of the project site. The closest on- and off-ramps for SR 160 are approximately 1.4 miles east of the project site along Wilbur Avenue and the closest on- and off-ramps for SR 4 are approximately 2 miles south of the site along Hillcrest Avenue. Figure 2-1 shows the regional and local context of the project site.

2.1.2 Existing Conditions

The rectangular project site is generally flat and is currently vacant. Vegetation on the project site consists of sparse ruderal vegetation and 16 mature ornamental trees along the western edge.[1] A frontage road provides access from Wilbur Avenue to the project site and the adjacent parcels to the west.

2.1.3 Surrounding Land Uses

As shown in Figure 2-2, the project site is generally surrounded by light industrial uses. To the north, the project site is bordered by the frontage road, across which are abandoned railroad tracks and Wilbur Avenue. Across Wilbur Avenue are various industrial uses and vacant land. The project site is immediately bordered to the east by a surface parking lot for the adjacent commercial uses, past which are Wilbur Lane and additional commercial and light industrial uses.

[1] Natural Investigations Co. 2020. *Technical Memo: Arborist Survey for 2100–2300 Wilbur Avenue, Antioch, CA.* April 9.

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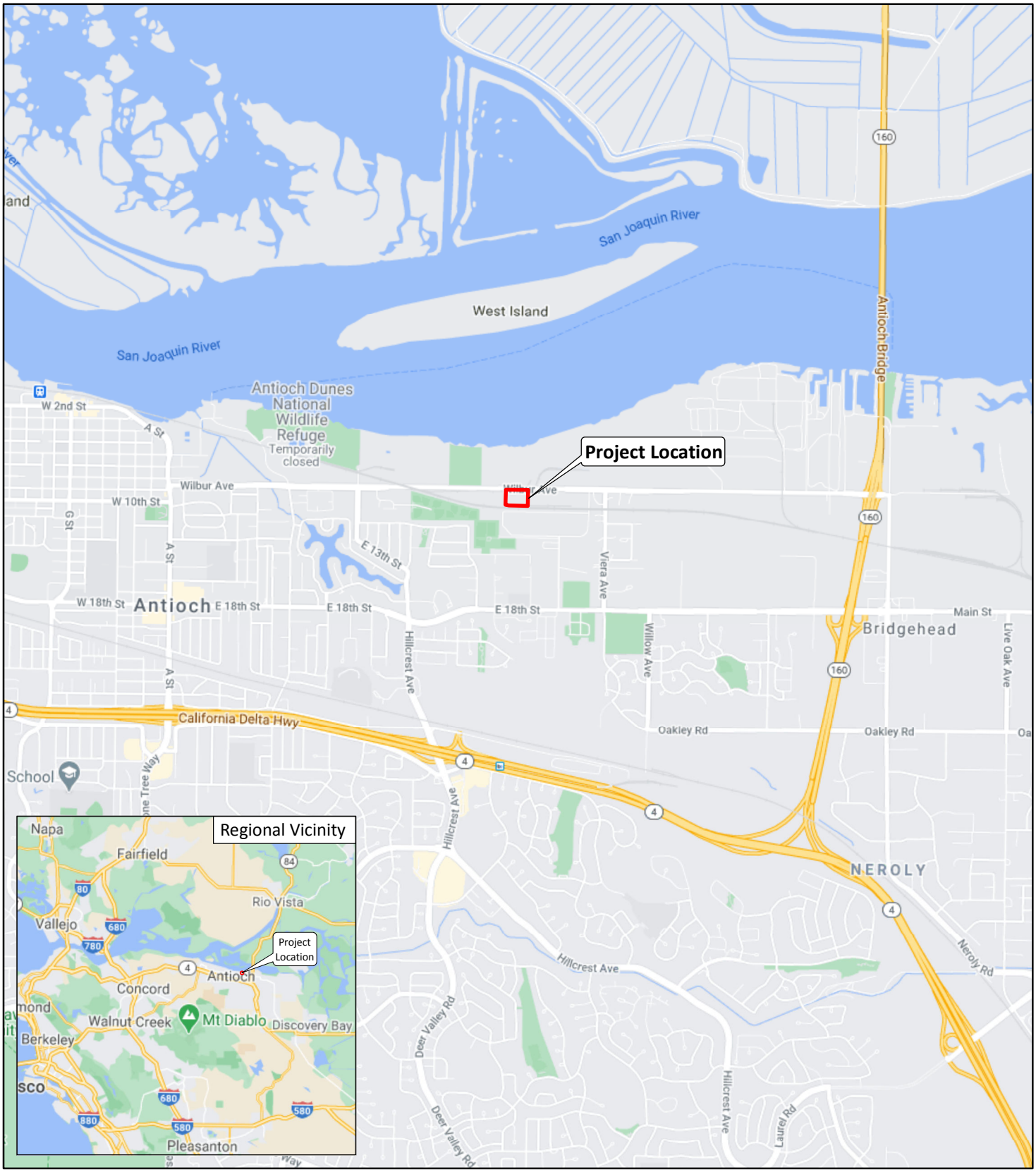

LSA

LEGEND

Project Location

FIGURE 2-1

N

0 1500 3000

FEET

SOURCE: Google Streets (2020)

I:\CAN2003\GIS\Maps\PD\Figure 2-1_Project Location and Regional Vicinity.mxd (12/2/2020)

Antioch Natural Supplements Project

Project Location and Regional Vicinity

LSA

FIGURE 2-2

N

0 300 600

FEET

Project Location

Antioch Natural Supplements Project

Aerial Photograph of the Project Site and Surrounding Land Uses

SOURCES: Google Earth, 2/11/2020; LSA, 2020

P:\CAN2003 Antioch Natural Supplements\PRODUCTS\Graphics\Figure 2-2.ai (2/25/2021)

UPRR tracks border the project site to the south, across which are commercial and light industrial uses, as well as the Antioch Youth Sports Complex and residential uses. The project site is immediately bordered to the west by a light industrial use and two vacant parcels. Further east of the project site are recreational fields that are a part of the Antioch Youth Sports Complex, and commercial and residential uses.

2.1.4 Regulatory Context

The City of Antioch General Plan Land Use Map designates the project site as Eastern Waterfront Employment Focus Area. The primary function of this Focus Area is to provide employment opportunities and assist the City in achieving its goal of a balance between local housing and employment.[2] The project site is located within the PBC zoning district and CB overlay district. The PBC zoning district provides sites in landscaped settings for office centers, research and development facilities, limited industrial activities, limited warehouse type retail and commercial activities, and small-scale warehousing distribution. The CB overlay district provides sites suitable for the establishment of a cannabis business.

2.2 PROPOSED PROJECT

The proposed project would include the development of two buildings that would accommodate a commercial cannabis business, as well as associated surface parking and utility infrastructure site improvements. Individual components of the proposed project are discussed below. Figure 2-3 shows the conceptual site plan for the proposed project. Figure 2-4 and Figure 2-5 show the conceptual floor plans for the two buildings (Buildings A and B), respectively. Figures 2-6 and 2-7 show the conceptual building elevations. Figure 2-8 depicts the conceptual landscape and fencing plan.

2.2.1 Building Program

The proposed project would include both a commercial building (Building A) and an industrial building (Building B). Building A would be approximately 22 feet in height and Building B would be approximately 25 feet in height. Building A would be located on the eastern edge of the project site, would be approximately 11,200 square feet, and would include rooms for cannabis sales, products, packaging, labeling, and storage. In total, Building A would include approximately 2,558 square feet of retail space, approximately 2,776 square feet of distribution space, and 792 square feet of manufacturing space. The primary function of Building A would include the retail sale, delivery, and manufacturing of cannabis goods. Building B would be located on the western edge of the project site, would be approximately 19,500 square feet and would include cannabis cultivation, incubation, and processing rooms. The primary function of Building B would include cultivation activities. It is anticipated that the proposed project would include a total of 36 employees.

[2] Antioch, City of. 2003. *City of Antioch General Plan*. Prepared by LSA Associates, Inc. November 24.

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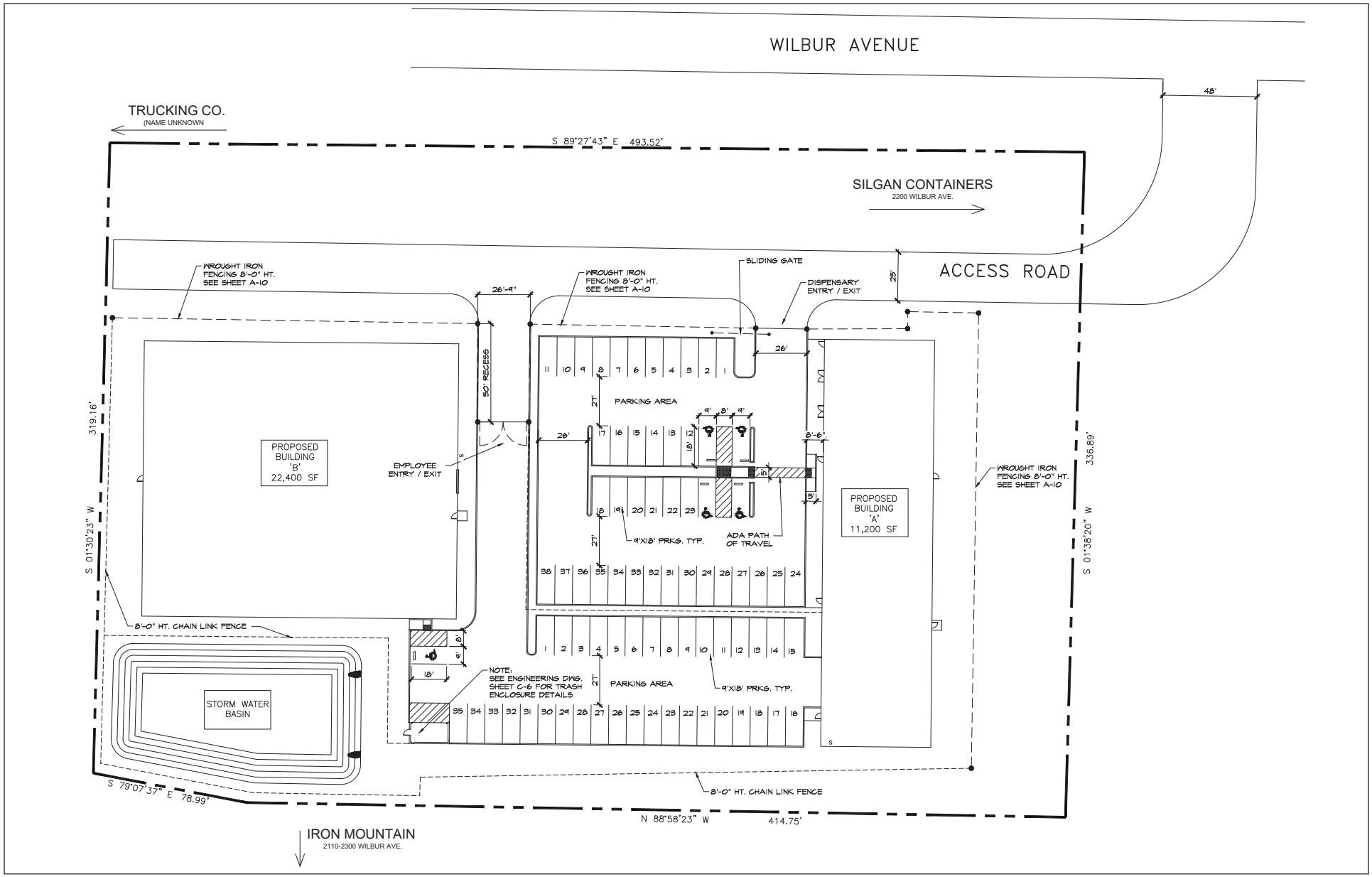

LSA

FIGURE 2-3

NOT TO SCALE

SOURCE: David Vizcarra, Architect, April 2020.

Antioch Natural Supplements Project
Conceptual Site Plan

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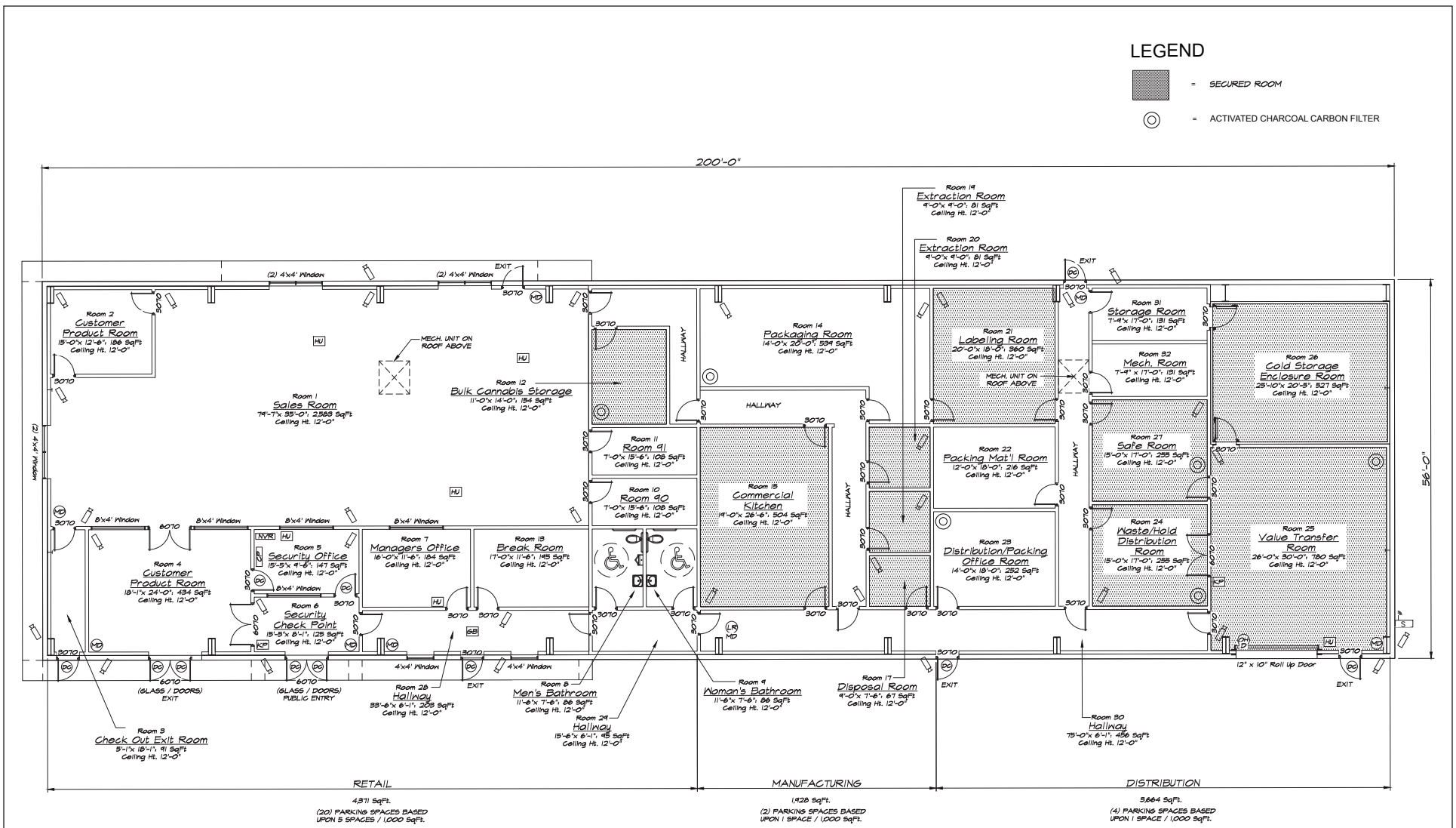

BLDG 'A' FLOOR PLAN 11,200 SQFT.

LSA

FIGURE 2-4

NOT TO SCALE

SOURCE: David Vizcarra, Architect, April 2020.

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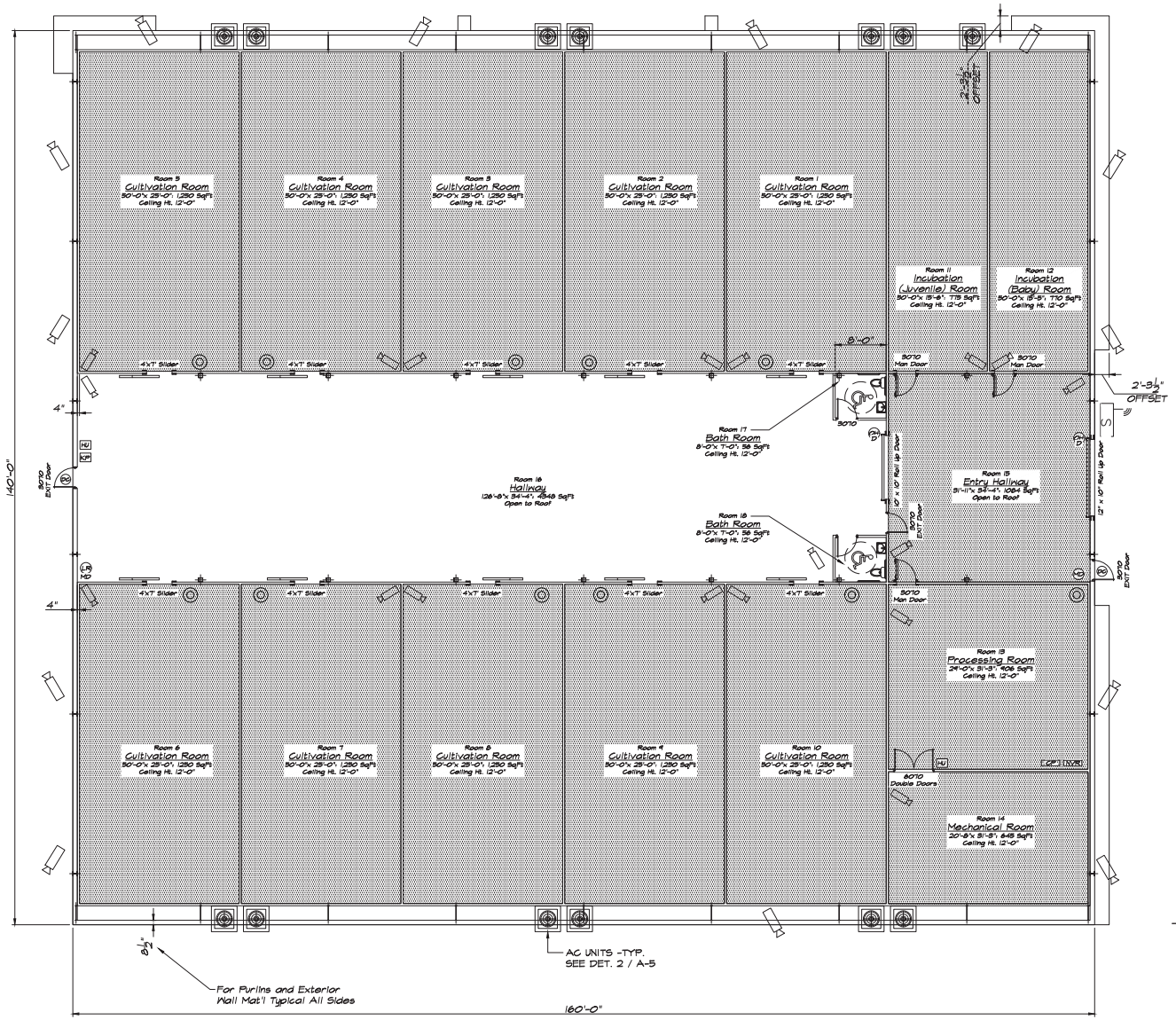
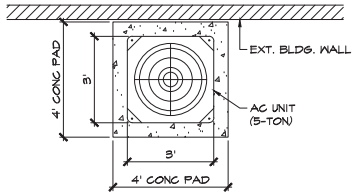
Antioch Natural Supplements Project
Building A - Conceptual Floor Plan



LEGEND

= SECURED ROOM

= Activated Charcoal Carbon Filter



AC UNIT ON CONC. PAD

BLDG. 'B' FLOOR PLAN 22,400 SQFT.

LSA

FIGURE 2-5

NOT TO SCALE

SOURCE: David Vizcarra, Architect, April 2020.

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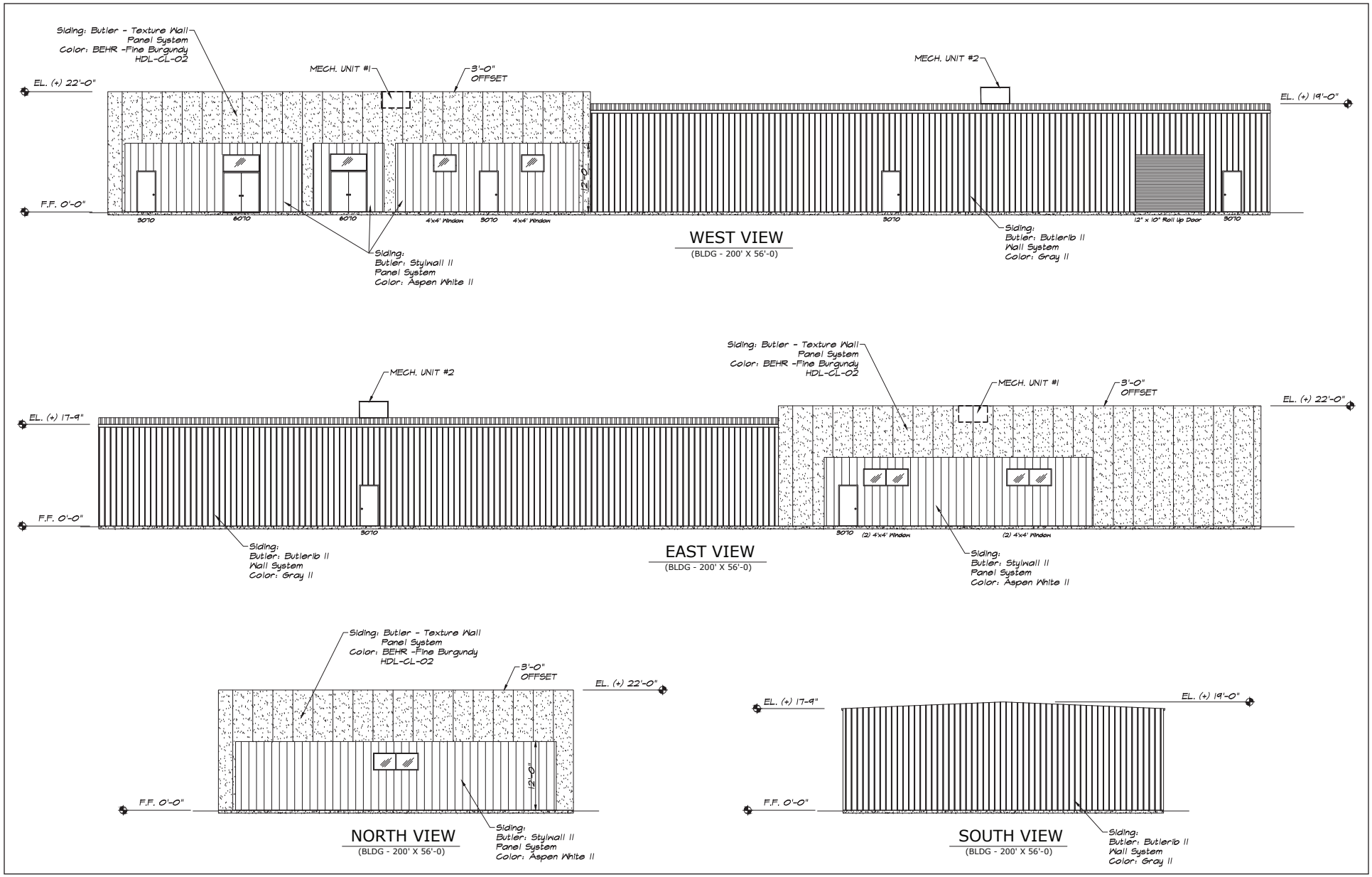
Antioch Natural Supplements Project
Building B - Conceptual Floor Plan



LSA

FIGURE 2-6

NOT TO SCALE

SOURCE: David Vizcarra, Architect, April 2020.

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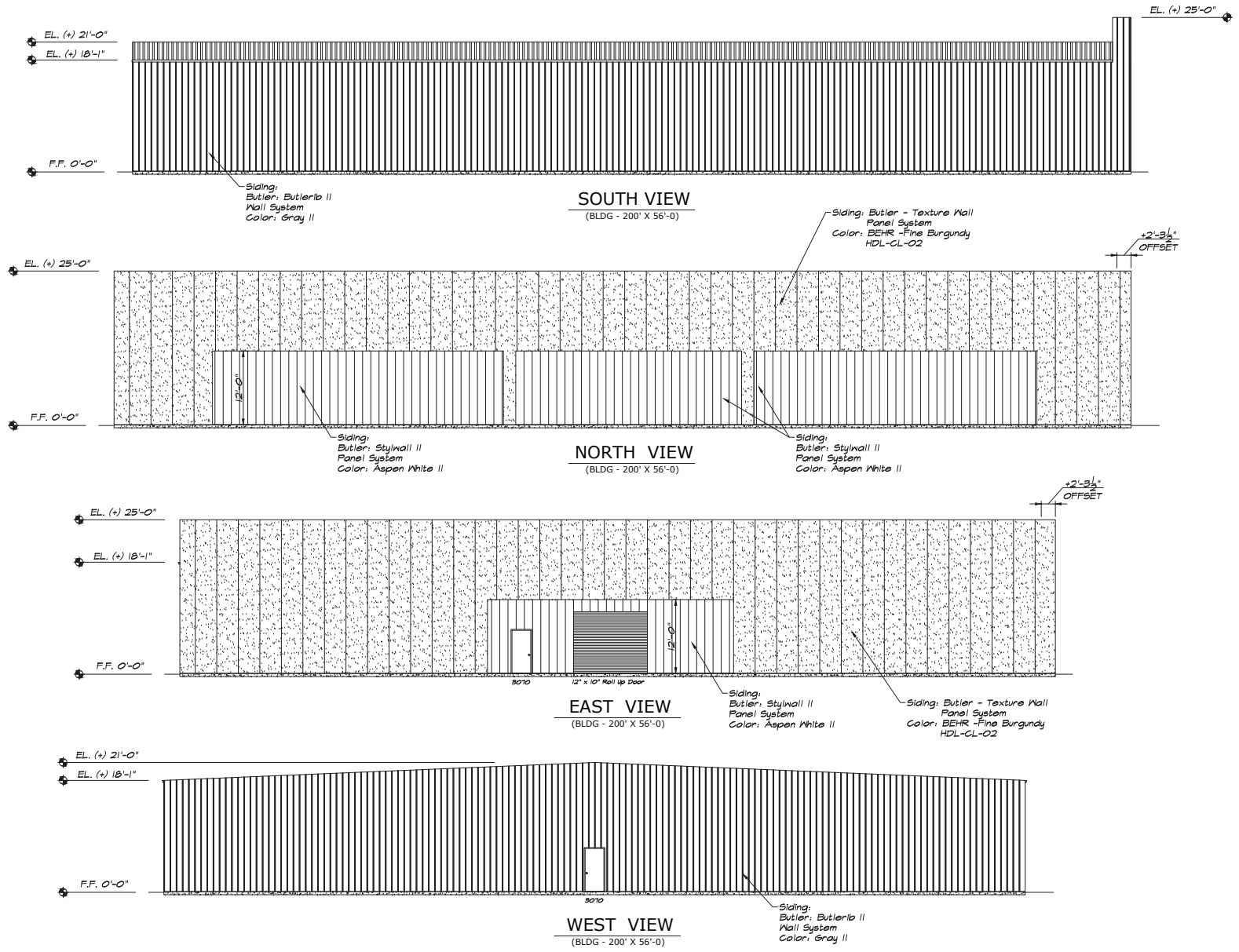
Antioch Natural Supplements Project
Building A - Conceptual Elevations



LSA

FIGURE 2-7

NOT TO SCALE

SOURCE: David Vizcarra, Architect, April 2020.

P:\CAN2003 Antioch Natural Supplements\PRODUCTS\Graphics\Figure 2-7.ai (12/1/2020)

Antioch Natural Supplements Project
Building B - Conceptual Elevations

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2.2.2 Access, Circulation, and Parking

As Figure 2-3 shows, access to the project site would be provided by a frontage road (that connects to Wilbur Avenue) at two points along the northern border of the project site. The proposed project would develop a surface parking lot between Buildings A and B that would total 79 parking spaces (75 standard-sized stalls and 4 handicap/van accessible stalls).

2.2.3 Open Space and Landscaping

The proposed project would result in the removal of a total of 16 existing trees on the site and include a total of 11,336 square feet of landscaped area, which would consist of ornamental landscaping and trees, as well as an approximately 8,350-square-foot storm water bioretention basin. The proposed project would also include an approximately 8-foot-tall wrought iron fence around the perimeter of the project site and internal landscaping, as shown in Figure 2-8.

2.2.4 Odor Management Plan

The proposed project would include an Odor Mitigation Plan that would include the following elements:

- Building A would be equipped with a 20-ton commercial heating, ventilation, and air conditioning (HVAC) system to provide constant air ventilation for customers, employees, visitors, and third-party vendors.
- All cannabis products provided to customers for retail would be contained in sealed, tamper-evident, smell-proof packaging prior to leaving the facility.
- Areas housing bulk cannabis product, or utilized for the processing of cannabis products, would be equipped with industrial carbon filters.
- Processing and cannabis storage rooms would be equipped with 14-inch filtered exhaust fans.
- Once effective odor control has been established, periodic testing would be conducted to ensure that the odor control systems are operating correctly. Carbon filtered and other filtration equipment would be frequently monitored and replaced as necessary.
- The Operations Manager would inspect the interior and exterior of the facilities daily to verify the effectiveness of the odor control measures.

2.2.5 Utilities and Infrastructure

The project site is located in a developed area that is currently served by existing utilities, including water, sanitary sewer, storm drainage, electricity, gas, and telecommunications infrastructure. The proposed project would connect to an existing 12-inch water line and 15-inch sewer line on Wilbur Avenue or an 8-inch sewer line on Viera Avenue. On-site electrical lines will be undergrounded.

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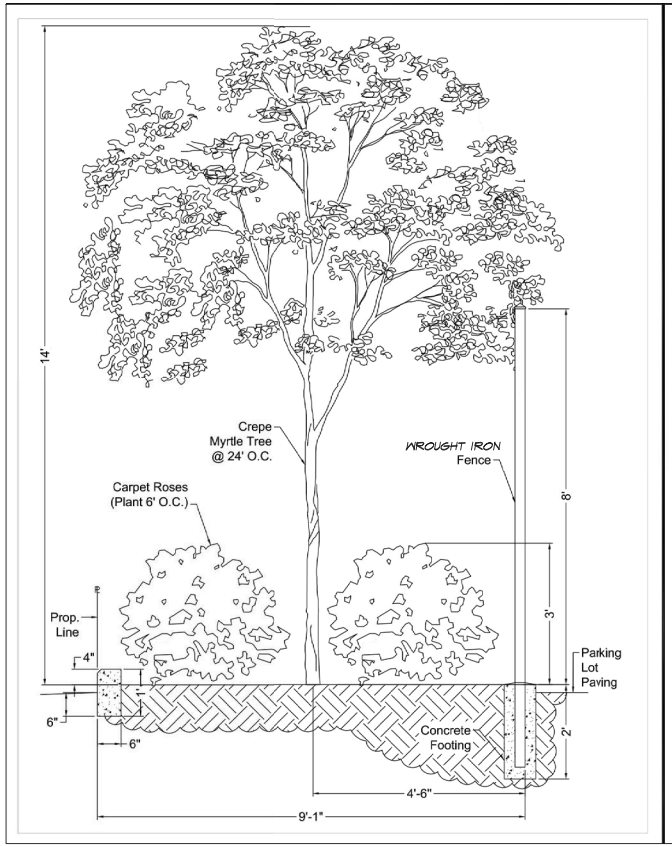
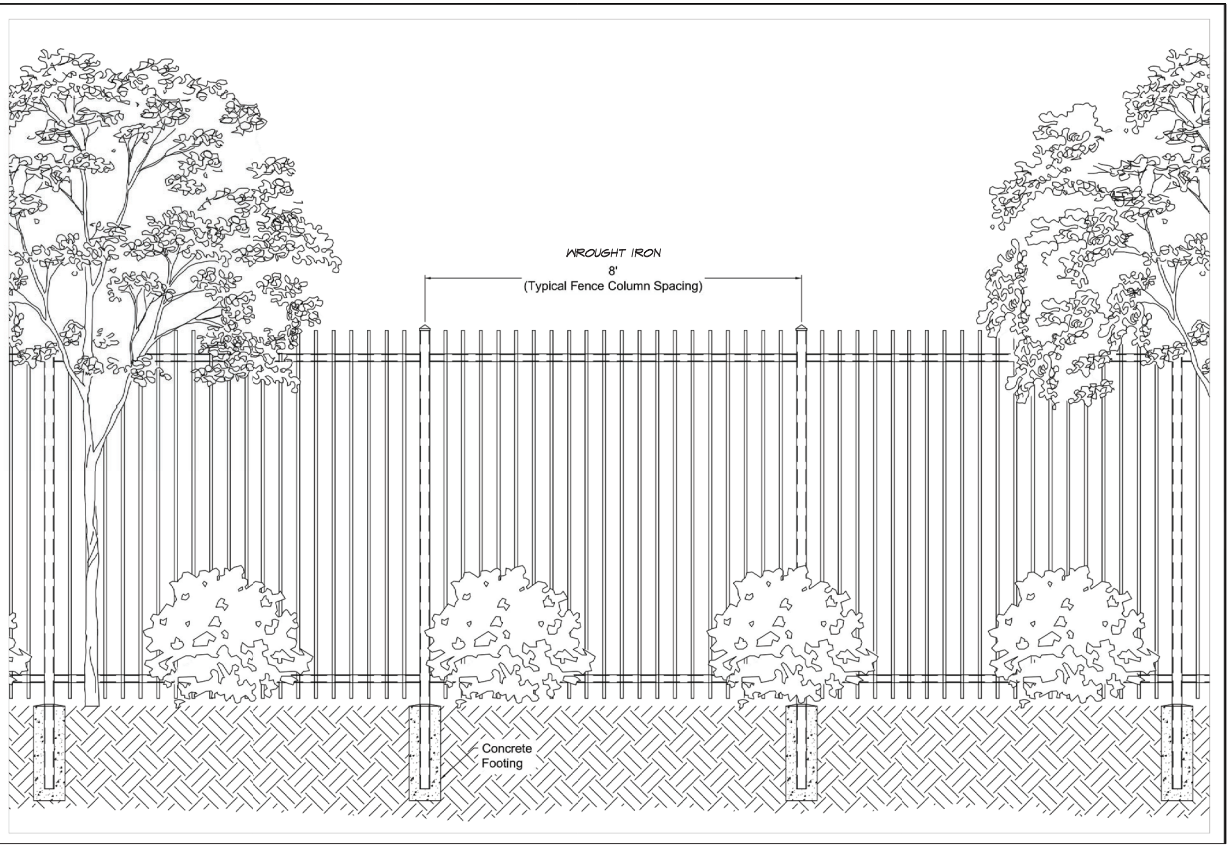


LANDSCAPE ELEVATION



WROUGHT IRON FENCE COLUMN SPACING

LSA

FIGURE 2-8

NOT TO SCALE

SOURCE: David Vizcarra, Architect, April 2020.

P:\CAN2003 Antioch Natural Supplements\PRODUCTS\Graphics\Figure 2-8.ai (12/1/2020)

Antioch Natural Supplements Project
Conceptual Landscaping and Fence Elevations

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2.2.5.1 Water

Water service is provided by the City. The proposed project would include the installation of new 8-inch water lines on the site that would connect to the existing 12-inch mains located on the north side of Wilbur Avenue across from the Project site.

The proposed project is estimated to demand 7,568.6 gallons of water per day (2,762,539 gallons of water annually or 8.5 acre-feet of water annually).[3,4]

2.2.5.2 Wastewater

The City maintains existing sanitary sewer lines within the vicinity of the project site, including a 15-inch line within Wilbur Avenue. New lines would be installed throughout the project site and tie into the existing 15-inch line. Both Buildings A and B of the proposed project would generate wastewater that would be conveyed to the City's existing wastewater infrastructure located in Wilbur Avenue. In addition to the wastewater generated by both buildings on the project site, approximately 171 gallons of wastewater per week would be generated by the cannabis cultivation process. The wastewater generated by the cultivation process would be manually collected as needed, stored on site, and hauled off by a waste collection contractor once the on-site storage tank nears capacity. As such, this specific wastewater would not be conveyed into the City's wastewater infrastructure system.

2.2.5.3 Storm Water

As previously noted, the project site is currently undeveloped and covered in sparse ruderal vegetation and bare ground, and therefore does not contain any impervious surfaces. Storm water currently sheet flows across the project site to the south and into offsite storm drain lines.

The proposed project would improve the drainage pattern of the site so that surface flows are conveyed to the surface parking lot into drainage inlets. The drainage inlets will connect to underground infrastructure that would convey the storm water generated on site to a retention basin that would be developed in the southwest corner of the project site. The retention basin would be designed to accommodate 0.68 acre-feet of storm water which would exceed the storm water volume anticipated to be generated by the proposed project. The retention basin would consist of natural soil and vegetation native to the area allowing for filtration of storm water before storm water percolates naturally into the ground.

2.2.5.4 Electricity and Gas

Electricity and gas service is provided to the project site by Pacific Gas & Electric (PG&E). The proposed project would connect to existing electrical lines located along the boundaries of the

[3] The water demand for the project is based on 0.2 gallon per square foot of commercial use (30,700 square feet × 0.2 gallons per square foot per day = 6,140 gallons per day or 2,241,100 gallons of water annually) plus 1,428.6 gallons of non-potable water per day (521,428.6 gallons of water annually) for the cultivation process occurring in Building B.

[4] The water demand rate for commercial uses was obtained from the City of Antioch Water Supply Assessment for the Ranch Project, August 2017.

proposed project and a natural gas line located in Wilbur Avenue, north of the project boundary. It should be noted that power poles that are located on the project site would be undergrounded in coordination with the service provider.

2.2.6 Construction

In order to create a level building pad, approximately 158 cubic yards of soil would be cut and exported from the site. It is anticipated that the maximum depth of excavation for building pads would be approximately 5 feet, 6 inches and the maximum depth of utility trenching would be approximately 6 feet. Construction of the proposed project is anticipated to begin immediately upon City approval of the Cannabis Business Use Permit (CBUP) and building permits and last approximately six months. Initial occupancy of the site could occur by the end of 2021.

2.3 PROJECT APPROVALS

While the City is the CEQA Lead Agency for the proposed project, other agencies also have discretionary authority related to the project and approvals, or serve as a responsible and/or trustee agency in connection to the proposed project. A list of these agencies and potential permits and approvals that may be required is provided in Table 2.A: Potential Permits and Approvals.

Table 2.A: Potential Permits and Approvals

Lead Agency	Permits/Approvals
City of Antioch	● Environmental Review ● Use Permit ● Design Review
Other Agencies	
Contra Costa County Fire Protection District	● Review/Approve fire truck access and site fire flow design
California Bureau of Cannabis Control	● Type 10 license (Retail Storefront and Delivery) ● Type 11 license (Distributor)
California Department of Health	● Type 7 license (Manufacturer)
California Department of Food and Agriculture	● Type 3A license (Medium Indoor Cultivation)
California Water Boards Central Valley	● Compliance with Cannabis Cultivation Policy

Source: LSA (2021).

3.0 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 in Chapter 3.0.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

☒ No Potentially Significant Impacts with Mitigation Implemented

3.1 DETERMINATION

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

05/05/2021

Date

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4.0 CEQA ENVIRONMENTAL CHECKLIST

4.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway	☐	☐	☐	☒
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 a 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?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

a. Would the project have a substantial effect on a scenic vista?

Scenic vistas are generally defined as publicly-accessible viewpoints that provide expansive or panoramic views of scenic resources. The City of Antioch has a varied natural setting, consisting of the San Joaquin River, moderate to steep hills, broad valleys, narrow canyons, and lakes. Views of Mt. Diablo, ridgelines, and the San Joaquin River are important visual resources and scenic vistas of Antioch.

The project site is located 0.20 mile south of the San Joaquin River and views of the river from the project site are available. Views of foothills and Mt. Diablo from the project site are available to the south and southwest. Although these scenic vistas are visible from the project site, open and direct views are mostly obstructed by intervening topography, trees, and commercial/industrial uses in the area. It should be noted, the proposed project is located in an area consisting of industrial and commercial uses, and sensitive visual receptors (i.e., residents in residential units) are not located adjacent to the proposed project site. People driving along Wilbur Avenue have limited views of the San Joaquin River, foothills, and Mt. Diablo due to the interviewing topography, vegetation (trees), and industrial and commercial uses in the area.

The proposed project would include the development of two buildings (Building A and Building B) on the site that would accommodate a commercial cannabis business. Neither building would exceed 25 feet in height (see Figures 6 and 7), which is consistent with the heights of buildings to the east and south of the project site. Implementation of the proposed project would not substantially affect the availability of existing views of the San Joaquin River, foothills, or Mt. Diablo. The proposed project would not have a substantial effect on a scenic vista and this impact 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?

The vacant project site is not located within view of a State scenic highway, a City-designated scenic road, or a County-designated scenic road. The site is located in a portion of Antioch that is composed of mostly commercial and industrial uses. There are no designated State scenic highways near the proposed project. SR 160 from mile marker 0 to mile marker 35, approximately 1.5 miles east of the project site, is a State eligible scenic highway;[5] however, this highway is not visible from the project site. Implementation of the proposed project would not substantially damage scenic resources within view of a State scenic highway and **no impact** would occur.

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 a 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?

The proposed project would be located in an urbanized portion of the City of Antioch. The project site is zoned as Planned Business Center (PBC) District and Cannabis Business (CB) Overlay District. The PBC District allows buildings to a height of 35 feet, and requires a 20,000-square foot minimum building site. The PBC District also allows for a maximum lot coverage of 35 percent. The two buildings associated with the proposed project would be no taller than 25 feet, would be approximately 30,700 square feet, and 19.4 percent of building coverage on the site; all of which are within the standards for the PBC District. The CB Overlay District allows commercial cannabis businesses with a use permit issued by the City of Antioch. The commercial cannabis business that would occupy the site under the proposed project would be required to abide by standards in the City's Cannabis Business Land Use and Operational Guidelines (adopted by the City Council on September 11, 2018).

The proposed project would be subject to the City's Design Review process, which would provide for the review of the physical improvements to the site, including the overall scale of the buildings, setbacks, massing, and design. The Design Review of the proposed project would ensure compatibility and compliance with City requirements governing aesthetic quality. Since the proposed project would be consistent with the development standards set forth by the City's Zoning Ordinance and it would go through required Design Review, the proposed project would not conflict with applicable zoning or other regulations governing scenic quality; therefore, this impact 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?

The project site is located in an area of Antioch that has existing lighting and glare mostly generated by the commercial and industrial uses in the area. Light in the area is generated by road lighting,

[5] California Department of Transportation, California State Scenic Highways Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways (accessed February 15, 2021).

building façade lighting, parking lot lighting, delivery truck bay lighting, and general security lighting in the area. The proposed project would develop two buildings on a parcel that is currently vacant. Parking lot lighting and lighting on the façades of the buildings would be included as design features of the proposed project. The exterior of the buildings would also be equipped with security lighting with 360-degree motion activated security lighting, illuminating the exterior premises of the buildings within 25 feet whenever there is movement within close-proximity. All of the lighting on the premises would be positioned to avoid spillover onto adjacent parcels. Review of the building elevations (Figures 6 and 7) indicate the façades of the buildings and windows would not be developed with glare-generating materials.

To ensure that the proposed project complies with City requirements and the proposed project's final design avoids all excess light and glare, implementation of **Mitigation Measure AES-1** would be required.

Mitigation Measure AES-1: Outdoor lighting (building façade lighting, security lighting, and parking lot lighting) shall be designed to minimize glare and spillover to surrounding properties. The project design and building materials, shall incorporate non-mirrored glass to minimize daylight glare. The lighting plan of the proposed project shall be reviewed and approved by the City's Planning Division during Design Review prior to issuance of a building permit.

With implementation of the design measures identified above, impacts pertaining to potentially significant light and glare issues would be reduced to **less than significant with mitigation incorporated**.

4.2 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 (CDC) 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB).

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
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))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

a. 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?

The project site is currently vacant and is not occupied by agricultural uses. According to the CDC Farmland Mapping and Monitoring Program (FMMP) 2016 (most current) data for Costa Contra County, the project site is classified as Urban and Built-Up Land (D).[6] The site is not classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (collectively known as

[6] California Department of Conservation, Farmland Mapping and Monitoring Program, Contra Costa County 2016 Data, https://gis.conservation.ca.gov/portal/home/group.html?id=b1494c705cb34d01acf78f4927a75b8f#overview (accessed February 10, 2021).

"Important Farmland"). As such, implementation of the proposed project would not convert Important Farmland to non-agricultural use and **no impact** would occur.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The project site is not zoned for agricultural use; however, the site is currently zoned as PBC District within CB Overlay District (which allows for the production of cannabis which is considered an agricultural use). The CB Overlay District allows for the growing, cultivation, and sale of cannabis in a secure environment. Pursuant to Section 9-5.3845 of the Antioch Municipal Code, cannabis businesses are required to obtain a use permit from the City and are not to be any closer than 600 feet from private or public schools; city owned/operated public park; any property occupied by a residential land use; or a childcare center. The proposed project would obtain all necessary use permits in accordance with the CB Overlay District and would be appropriate distances from sensitive uses. As such, the proposed project would not conflict with existing zoning requirements. The project site, according to the City of Antioch, is not under a Williamson Act contract.

Implementation of the proposed project would not conflict with existing zoning for agricultural use, nor would it conflict with a Williamson Act contract. Impacts would be **less than significant**.

c. Would the project 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))?

The project site is zoned as PBC District within a CB Overlay District. No parcels adjacent to or near the project site are zoned for forest land, timberland, or timberland production. As such, implementation of the proposed project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production and **no impact** would occur.

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

The project site is vacant except for ornamental trees on the western portion of the site. Forest land does not exist on the site, adjacent to the site, or in close proximity to the site. As such, implementation of the proposed project would not result in the loss of forest land or conversion of forestland to non-forest use and **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?

The project site is vacant and is not occupied by active agricultural uses or forest land/timberland uses. Parcels adjacent to the site and areas in close proximity to the site are mostly occupied with industrial/commercial uses and no agricultural or forest land/timberland uses exist. The project site is within the CB Overlay District, where production, cultivation and sales of cannabis are permitted by the City. Development and operation of the proposed project would not influence

agricultural/forest land occupied parcels within the City of Antioch to convert to non-agricultural and forest land uses as changes to the site are project specific. Implementation of the proposed project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural land use or conversion of forest land to non-forest use and **no impact** would occur.

4.3 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?	☐	☒	☐	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

The project site is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which regulates air quality in the San Francisco Bay Area. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen substantially. In Antioch, and the rest of the air basin, exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Within the BAAQMD, ambient air quality standards for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM comprising coarse particulate matter [PM_{10}] and fine particulate matter [$PM_{2.5}$]), and lead (Pb) have been set by both the State of California and the federal government. The State has also set standards for sulfate and visibility. The BAAQMD is under State non-attainment status for ozone and PM standards. The BAAQMD is classified as non-attainment for the federal ozone 8-hour standard and non-attainment for the federal $PM_{2.5}$ 24-hour standard.

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

The applicable air quality plan is the BAAQMD 2017 Clean Air Plan (Clean Air Plan),[7] which was adopted on April 19, 2017. The Clean Air Plan is a comprehensive plan to improve Bay Area air quality and protect public health. The Clean Air Plan defines control strategies to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest heath risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce greenhouse gas (GHG) emissions to protect the climate. Consistency with the Clean Air Plan can be determined if the project: 1) supports the goals of the

[7] Bay Area Air Quality Management District. 2017. Clean Air Plan. April 19.

Clean Air Plan; 2) includes applicable control measures from the Clean Air Plan; and 3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan.

Clean Air Plan Goals. The primary goals of the Clean Air Plan are to: attain air quality standards; reduce population exposure and protect public health in the Bay Area; and reduce GHG emissions and protect the climate.

The BAAQMD has established significance thresholds for project construction and operational impacts at a level at which the cumulative impact of exceeding these thresholds would have an adverse impact on the region's attainment of air quality standards. The health and hazards thresholds were established to help protect public health. As discussed below in Section 4.3.b, the proposed project would not exceed the thresholds established by the BAAQMD for construction or operational emissions; therefore, this impact would be **less than significant**.

Clean Air Plan Control Measures. The control strategies of the Clean Air Plan include measures in the following categories: Stationary Source Measures, Transportation Measures, Energy Measures, Building Measures, Agriculture Measures, Natural and Working Lands Measures, Waste Management Measures, Water Measures, and Super-Greenhouse Gas (GHG) Pollutants Measures.

Stationary Source Control Measures. The Stationary Source Measures, which are designed to reduce emissions from stationary sources such as metal melting facilities, cement kilns, refineries, and glass furnaces, are incorporated into rules adopted by the BAAQMD and then enforced by the BAAQMD's Permit and Inspection programs. Since the project would not include any stationary sources, the Stationary Source Measures of the Clean Air Plan are not applicable to the project.

Transportation Control Measures. The BAAQMD identifies Transportation Control Measures as part of the Clean Air Plan to decrease emissions of criteria pollutants, Toxic Air Contaminants (TACs), and GHGs by reducing demand for motor vehicle travel, promoting efficient vehicles and transit service, decarbonizing transportation fuels, and electrifying motor vehicles and equipment. The proposed project involves the construction of two new buildings and associated site improvements on the project site to establish a commercial cannabis business. As discussed in Section 4.17, Transportation, the proposed project would not generate a substantial number of new vehicle trips, such that an impact related to vehicle miles traveled (VMT) would occur; therefore, the proposed project would not conflict with the BAAQMD's initiatives related to vehicle trip reductions.

Energy Control Measures. The Clean Air Plan also includes Energy Control Measures, which are designed to reduce emissions of criteria air pollutants, TACs, and GHGs by decreasing the amount of electricity consumed in the Bay Area, as well as decreasing the carbon intensity of the electricity used by switching to less GHG-intensive fuel sources for electricity generation. Since these measures apply to electrical utility providers and local government agencies (and not individual projects), the Energy Control Measures of the Clean Air Plan are not applicable to the project.

Building Control Measures. The BAAQMD has authority to regulate emissions from certain sources in buildings such as boilers and water heaters, but has limited authority to regulate buildings themselves. Therefore, the strategies in the control measures for this sector focus on working with local governments that do have authority over local building codes, to facilitate adoption of best

GHG control practices and policies. The proposed project would be required to comply with the 2019 California Green Building Standards Code (CALGreen) standards. Therefore, the Building Control Measures of the Clean Air Plan are not applicable to the project.

Agriculture Control Measures. Sources of air pollution from agricultural operations include on- and off-road trucks and farming equipment, aircraft for crop spraying, animal waste, pesticide and fertilizer use, crop residue burning, travel on unpaved roads and soil tillage. The Agriculture Control Measures are designed to reduce emissions of methane (CH_4) primarily related to dairy digesters, enteric fermentation, and livestock waste. Since the project does not include any of these activities, the Agriculture Control Measures of the Clean Air Plan are not applicable to the project.

Natural and Working Lands Control Measures. The Natural and Working Lands Control Measures focus on increasing carbon sequestration on rangelands and wetlands, as well as encouraging local governments to ordinances that promote urban-tree plantings. Since the project does not include the disturbance of any rangelands or wetlands, the Natural and Working Lands Control Measures of the Clean Air Plan are not applicable to the project.

Waste Management Control Measures. The Waste Management Measures focus on reducing or capturing CH_4 emissions from landfills and composting facilities, diverting organic materials away from landfills, and increasing waste diversion rates through efforts to reduce, reuse, and recycle. The project would comply with local requirements for waste management (e.g., recycling and composting services). Therefore, the project would be consistent with the Waste Management Control Measures of the Clean Air Plan.

Water Control Measures. The Water Control Measures focus on reducing emissions of criteria pollutants, TACs, and GHGs by encouraging water conservation, limiting GHG emissions from publicly owned treatment works (POTWs), and promoting the use of biogas recovery systems. Since these measures apply to POTWs and local government agencies (and not individual projects), the Water Control Measures are not applicable to the project.

Super GHG Control Measures. The Super-GHG Control Measures are designed to facilitate the adoption of best GHG control practices and policies through the BAAQMD and local government agencies. Since these measures do not apply to individual projects, the Super-GHG Control Measures are not applicable to the project.

Clean Air Plan Implementation. As discussed above, the proposed project would generally implement the applicable measures outlined in the Clean Air Plan, including Transportation Control Measures. Therefore, the project would not disrupt or hinder implementation of a control measure from the Clean Air Plan and 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?

The BAAQMD is currently designated as a nonattainment area for State and national ozone standards and national PM ambient air quality standards. The BAAQMD's nonattainment status is

attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very 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. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the 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 cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. The following analysis assesses the potential construction- and operation-related air quality impacts and CO impacts.

Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of PM emissions (i.e., fugitive dust) generated by grading, hauling, and other activities. Emissions from construction equipment are also anticipated and would include CO, nitrous oxide (N_2O), reactive organic gases (ROG), directly-emitted PM ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust PM.

Site preparation and project construction would involve grading, paving, and other activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust emissions (PM_{10}). With the implementation of these Basic Construction Mitigation Measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NOx, ROGs and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using the California Emissions Estimator Model (CalEEMod) version 2016.3.2, consistent with BAAQMD recommendations. In order to create a level building pad, approximately 158 cubic yards of soil would be cut and exported from the project site. Construction of the proposed project is anticipated to begin immediately upon City approval of the CBUP and building permits and last approximately six months. Initial occupancy could occur in late 2021, which was included in CalEEMod. This analysis also assumes the use of Tier 2 construction equipment. Construction-related emissions are presented in Table 4.A. CalEEMod output sheets are included in **Appendix A**.

Table 4.A: Project Construction Emissions in Pounds Per Day

Project Construction	ROG	NOx	Exhaust PM_{10}	Fugitive Dust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust $PM_{2.5}$
Average Daily Emissions	2.6	16.4	0.6	0.5	0.6	0.2
BAAQMD Thresholds	54.0	54.0	82.0	BMP	54.0	BMP
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA (March 2021).
BAAQMD Bay Area Air Quality Management District
BMP best management practices
NOx nitrogen oxide
PM_{10} respirable particulate matter
$PM_{2.5}$ fine particulate matter
ROG Reactive organic gases

As shown in Table 4.A, construction emissions associated with the project would not exceed ROG, NOx, $PM_{2.5}$, or PM_{10} exhaust emissions thresholds.

Mitigation Measure AIR-1, as identified below, would be implemented by the proposed Project to further reduce construction emissions and ensure that the proposed project would not conflict with the Clean Air Plan goals.

Mitigation Measure AIR-1: In order to meet the BAAQMD fugitive dust threshold, the following BAAQMD Basic Construction Mitigation Measures shall be implemented:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt tracked-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.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- 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.
- 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.
- 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.
- A publicly-visible sign shall be posted with the telephone number and person to contact at the City of Antioch 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.

Therefore, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standards with implementation of **Mitigation Measure AIR-1.** Construction period impacts would therefore be **less than significant with mitigation incorporated.**

Operational Emissions. Long-term air pollutant emission impacts are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to the proposed project.

PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of PM emissions compared with diesel-powered vehicles.

Energy source emissions result from activities in buildings for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. Major sources of energy demand include building mechanical systems, such as the HVAC system, lighting, and cultivation system. The proposed project would comply with the 2019 CALGreen Code, which was accounted for in the analysis.

Typically, area source emissions consist of direct sources of air emissions located at the project site, including architectural coatings and the use of landscape maintenance equipment. Area source emissions associated with the project would include emissions from the use of landscaping equipment and the use of consumer products.

Emission estimates for operation of the project were calculated using CalEEMod. Table 4.3-2, below, shows the model results. Trip generation rates for the project were based on the project's trip generation estimate, as identified in Section 4.17, Transportation. Based on the trip generation estimates, the proposed project would generate approximately 1,465 average daily trips.

The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the air basin. The daily and annual emissions associated with project operational trip generation, energy, and area sources are identified in Table 4.Bfor ROG, NOx, PM_{10}, and $PM_{2.5}$.

Table 4.B: Project Operational Emissions

	ROG	NOx	PM_{10}	$PM_{2.5}$
Pounds per Day				
Area Source Emissions	0.8	<0.1	<0.1	<0.1
Energy Source Emissions	<0.1	0.3	<0.1	<0.1
Mobile Source Emissions	2.1	7.9	4.0	1.1
Total Emissions	**2.9**	**8.2**	**4.0**	**1.1**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceed Threshold?	**No**	**No**	**No**	**No**
Tons per Year				
Area Source Emissions	0.1	<0.1	0.0	0.0
Energy Source Emissions	<0.1	0.1	<0.1	<0.1
Mobile Source Emissions	0.3	1.4	0.7	0.2
Total Emissions	**0.5**	**1.5**	**0.7**	**0.2**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceed Threshold?	**No**	**No**	**No**	**No**

Source: LSA (March 2021).
BAAQMD Bay Area Air Quality Management District
NOx nitrogen oxide
PM_{10} respirable particulate matter
$PM_{2.5}$ fine particulate matter
ROG Reactive organic gases

The results shown in Table 4.B indicate the project would not exceed the significance criteria for daily or annual ROG, NOx, PM_{10}, or $PM_{2.5}$ emissions. Therefore, operation of the proposed project would not 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 standards. Impacts would be **less than significant**.

Localized CO Impacts. Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area with the introduction of the catalytic converter in 1975. No exceedances of the State or federal CO standards have been recorded at Bay Area monitoring stations since 1991. The BAAQMD's 2017 *CEQA Guidelines* include recommended methodologies for quantifying concentrations of localized CO levels for proposed development projects. A screening level analysis using guidance from the BAAQMD *CEQA Guidelines* was performed to determine the impacts of the project. The screening methodology provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD's *CEQA Guidelines*, a proposed project would result in a less than significant impact to localized CO concentrations if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans.
- Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project 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, or below-grade roadway).

Implementation of the proposed project would not conflict with the Contra Costa Transportation Authority's policies or programs. As identified in Section 4.17, Transportation, the proposed project would generate approximately 61 a.m. peak hour trips and 124 p.m. peak hour trips; therefore, the project's contribution to peak hour traffic volumes at intersections in the vicinity of the project site would be well below 44,000 vehicles per hour. Therefore, the proposed project would not result in localized CO concentrations that exceed State or federal standards and impacts would be **less than significant**.

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

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel PM are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel PM. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks.

According to the BAAQMD, a project would result in a significant impact if it would individually expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10.0 in one million, increased non-cancer risk of greater than 1.0 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 micrograms per cubic meter ($\mu g/m^3$). A significant cumulative impact would occur if the project in combination with other projects located within a 1,000-foot radius of the project site would expose sensitive receptors to TACs resulting in an increased cancer risk greater than 100.0 in one million, an increased non-cancer risk of greater than 10.0 on the hazard index (chronic), or an ambient $PM_{2.5}$ increase greater than 0.8 $\mu g/m^3$ on an annual average basis. Impacts from substantial pollutant concentrations are discussed below.

The closest sensitive receptors to the project site include the single-family residences located approximately 900 feet southwest of the project site along Hargrove Street. Construction of the proposed project may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, project construction would be temporary and substantial air dispersion of construction emissions would not occur beyond 300 feet from the project site. Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during construction. Once the project is constructed, the project would not be a source of substantial emissions. As such, potential impacts would be **less than significant**.

Additionally, construction contractors would be required to implement the Basic Construction Mitigation Measures required in **Mitigation Measure AIR-1**. With implementation of **Mitigation Measure AIR-1**, project construction emissions would be below the BAAQMD's significance thresholds and TACs generated by the proposed project would be even further reduced.

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

During construction of the proposed project, the various diesel powered vehicles and equipment in use on site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. The potential for diesel odor impacts is therefore considered less than significant.

As described in the Section 2.0, Project Description, once operational, the proposed project would implement an Odor Mitigation Plan that would include the following elements:

- Building A would be equipped with a 20-ton commercial HVAC system to provide constant air ventilation for customers, employees, visitors, and third-party vendors.
- All cannabis products provided to customers for retail would be contained in sealed, tamper-evident, smell-proof packaging prior to leaving the facility.
- Areas housing bulk cannabis product, or utilized for the processing of cannabis products, would be equipped with industrial carbon filters.
- Processing and cannabis storage rooms would be equipped with 14-inch filtered exhaust fans.
- Once effective odor control has been established, periodic testing would be conducted to ensure that the odor control systems are operating correctly. Carbon filtered and other filtration equipment would be frequently monitored and replaced as necessary.
- The Operations Manager would inspect the interior and exterior of the facilities daily to verify the effectiveness of the odor control measures.

With implementation of the Odor Mitigation Plan, the proposed project is not expected to produce any offensive odors that would result in frequent odor complaints. Therefore, this impact would be **less than significant**.

4.4 BIOLOGICAL RESOURCES

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

Unless otherwise noted, the information in this section is based on the special-status species/ nesting bird survey[8] prepared for the proposed project (**Appendix B**).

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 Wildlife or U.S. Fish and Wildlife Service?

The proposed project would be located in an industrial/commercial portion of the City on a vacant parcel. The site does not contain natural habitat; however, trees and shrubs do exist on the site. A field survey was conducted on the project site on April 7, 2020, to determine the presence of special-status species and nesting birds on the property. No special-status species were detected on the site during the survey; however, the following birds were detected: Common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), turkey (*Meleagris gallopavo*), turkey vulture (*Cathartes aura*) *(*flying overhead), Swainson's hawk (*Buteo swainsoni*) (flying overhead), northern

[8] Natural Investigations Co. 2020. *Technical Memo: Special-status Species/Nesting Bird Survey for the Wilbur Cannabis Project, Antioch, CA.* April 15.

mockingbird (*Mimus polyglottus*), mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), goldfinch (likely *Spinus lawrencei*), and other common songbirds such as sparrows (*Melospiza* spp.). Based on the in-field findings and condition of the project site, no special-status species are known to occur on the project site and no additional surveys for special-status species are required. Implementation of the proposed project would not have a substantial direct or indirect adverse effect on any species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS). Impacts would be **less than significant**.

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 Wildlife or U.S. Fish and Wildlife Service?

The biological resources field survey conducted on the project site in April 2020 did not identify any riparian or other on-site sensitive natural communities. The project site is primarily ruderal/ urbanized habitat with some shrubs and ornamental trees. As such, implementation of the proposed project would not 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 CDFW or USFWS and **no impact** would occur.

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?

The biological resources field survey conducted on the project site in April 2020 did not identify any State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.). The project site is primarily ruderal/urbanized habitat with some shrubs and ornamental trees. As such, implementation of the proposed project, directly or indirectly, would not adversely affect any on-site State or federally protected wetlands and **no impact** would occur.

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?

The project site is vacant except for some ornamental trees and shrubs that support wildlife species typically associated with urban areas. Because the project site is located within a developed area, and is surrounded by commercial and industrial uses, there are no major wildlife movement corridors that pass through or are adjacent to the project site.

Ornamental trees and shrubs have the potential to support nests of common native bird species. Based on the intensity of background noise and human activity in the area and on the site, nesting bird activity has been determined to be unlikely. In addition, no active/occupied nests were detected on the project site or within a 0.25-mile buffer around the project site during the biological field survey. However, the chance of finding nesting birds on the project site prior to construction cannot be discounted. As such, **Mitigation Measure BIO-1** would be required to reduce impacts to nesting birds if they are found prior to commencement of construction.

Mitigation Measure BIO-1: If feasible, all vegetation removal shall be conducted during the non-breeding season (i.e., September 1 to January 31) to avoid direct impacts to nesting birds. If such work is scheduled during the breeding season, a qualified biologist or ornithologist shall conduct a pre-construction survey to determine if any birds are nesting within the project site. The pre-construction survey shall be conducted within 15 days prior to the start of work from March through May (since there is a higher potential for birds to initiate nesting during this period), and within 30 days prior to the start of work from June through July. If active nests are found during the survey, the biologist or ornithologist shall determine an appropriately sized buffer around the nest in which no work shall be allowed until the young have successfully fledged. The size of the buffer shall be determined by the biologist or ornithologist in consultation with the California Department of Fish and Wildlife, and would be based on the nesting species, its sensitivity to disturbance, and the expected types of disturbance.

With implementation of the measures identified above, potential impacts to nesting birds on the project site would be **less than significant with mitigation**.

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

Article 12, Tree Preservation and Regulation, of the Antioch Code of Ordinances describes the tree preservation and removal requirements for parcels within the City of Antioch. The City prefers that trees within the City are preserved and where feasible incorporated into the design of projects that would be developed on vacant land in the City. However in some instances, the City realizes that tree removal in conjunction with property development is needed and therefore outlines the procedures for this to occur in Section 9-5.1205, Established Tree Preservation and/or Removal in Conjunction with Property Development. The section of the Code allows for project applicants to request removal of trees and the decision of that removal to occur during the regular development application process.

In order for the proposed project to be in compliance with the City's Tree Ordinance, an arborist report (**Appendix B**) was prepared for the project site. The inventory of the arborist report indicated that 16 mature ornamental trees (10 London plane trees, 4 Bishop pines, and 2 ornamental elms) in good to fair condition exist on the project site. None of the trees on site was determined to be a native and/or oak tree. The project applicant would be required to request tree removal from the City and would follow the City's Tree Ordinance to remove any of the trees from the project site. The proposed project would not conflict with the City's tree preservation policy, nor would it conflict with any local policies or ordinance protecting biological resources. This impact 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?

The project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local/regional/State habitat conservation plan. The proposed project is located 0.11 mile southeast of the Antioch Dunes National Wildlife Refuge. Implementation of the proposed project would not conflict with habitat conservation plans as the project site is not subject to such plans. **No impact** would occur.

4.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

The *Cultural Resources Survey and Study*[9] prepared for the proposed project and included in **Appendix C** provides the basis for the information and analysis provided in this section. Background research for cultural resources was conducted for the project site and surrounding area through a records search from the Northwest Information Center (NWIC) and the Sacred Lands File (SLF) from the Native American Heritage Commission (NACH). Background research also included a review of aerial photographs and historic-period maps to assess the potential for subsurface archaeological deposits at the project site. An on-site field survey was conducted on March 29, 2021 to determine if cultural resources were present on the project site.

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

For a cultural resource to be considered a historical resource (i.e., eligible for listing in the California Register of Historical Resources), it generally must be 50 years or older. Under CEQA, historical resources can include precontact (i.e., Native American) archaeological deposits, historic-period archaeological deposits, historic buildings, and historic districts. To identify historical resources on the project site, the following tasks were completed: (1) a records search was conducted at the NWIC of the California Historical Resources Information System and the SLF from the NACH; and (2) a field survey was conducted on the site on March 29, 2021. The project site would have been subjected to some level of disturbance during construction and demolition of on-site tanks identified in the aerial photographs and noted in the Phase I Environmental Site Assessment (Phase I).[10] Additionally, the project site is approximately 1,000 feet from the San Joaquin River and may have been routinely flooded during precontact period high water events, displacing any possible shallowly deposited artifacts.

The project site is currently vacant and has been disturbed from previous construction and demolition of on-site tanks and flooding from the San Joaquin River during precontact period high water events. No historical resources pursuant to Section 15064.5 of the *CEQA Guidelines* were identified on the project site through the conducted field survey or background research. Although no archaeological deposits that qualify as historical resources are known to be present at the project site, the potential for such resources cannot be discounted. If significant archaeological deposits

[9] LSA, Cultural Resources Survey and Study for the Antioch Natural Supplements Project, April 2, 2021.

[10] Blasland, Bouck, & Lee, Inc; Gaylord Container Corporation, Phase I Environmental Assessment, Industrial Lot with Tank, August 2002.

were unearthed during project construction, a substantial adverse change in the significance of a historical resource would occur from its demolition, destruction, relocation, or alteration such that the significance of the resource would be materially impaired pursuant to CEQA Guidelines Section 15064.5(b)(1). The following mitigation measure would reduce potential impacts to unknown archaeological historical resources that may be found onsite during project construction activities.

Mitigation Measure CUL-1: Should an archaeological deposit be encountered during project subsurface construction activities, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the applicant shall be responsible for funding and implementing appropriate mitigation measures. Mitigation measures may include recordation of the archaeological deposit, data recovery and analysis, and public outreach regarding the scientific and cultural importance of the discovery. Upon completion of the selected mitigations, a report documenting methods and findings shall be prepared and submitted to the City for review, and the final report shall be submitted to the Northwest Information Center at Sonoma State University. Significant archaeological materials shall be submitted to an appropriate curation facility and used for public interpretive displays, as appropriate and in coordination with a local Native American tribal representative.

The applicant shall inform its contractor(s) of the sensitivity of the project area for archaeological deposits and shall verify that the following directive has been included in the appropriate contract documents:

"The subsurface of the construction site may be sensitive for Native American archaeological deposits. If archaeological deposits are encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist contacted to assess the situation, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any archaeological materials. Archaeological deposits can include shellfish remains; bones; flakes of, and tools made from, obsidian, chert, and basalt; and mortars and pestles. Contractor acknowledges and understands that excavation or removal of archaeological material is prohibited by

law and constitutes a misdemeanor under California Public Resources Code, Section 5097.5."

With implementation of **Mitigation Measure CUL-1** impacts would be **less than significant with mitigation**.

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

Pursuant to CEQA Guidelines Section 15064.5(c)(1), "When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource." Those archaeological sites that do not qualify as historical resources shall be assessed to determine if they qualify as "unique archaeological resources" pursuant to California Public Resource Code Section 21083.2. Based on the research conducted for the proposed project, no archaeological resources are known to exist on the project site. Unknown archaeological deposits identified during project construction would be treated by the City and applicant—in consultation with a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology—in accordance with Mitigation Measure CUL-1. With implementation of this mitigation measure, the project's potential impacts on archaeological resources would be **less than significant**.

c. Would the project disturb any humans remains, including those interred outside of formal cemeteries?

There are no known human remains at the project site. In the event that human remains are identified during project construction, these remains would be treated in accordance with Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code, as appropriate.

Section 7050.5 of the California Health and Safety Code states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the California NAHC within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendent (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Section 5097.98 of the Public Resources Code states that the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5, shall immediately notify those persons (i.e., the MLD) it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site. With these regulations in place, **no impact** on human remains is anticipated.

4.6 ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

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

The proposed project would increase the demand for electricity, natural gas, and gasoline. The California Energy Commission (CEC) provides electricity and natural gas consumption data for the State and by county. The project site is located within Contra Costa County. Based on the CEC data, in 2019, California consumed approximately 279,401 gigawatt-hours (GWh) or 279,401,879,875 kilowatt-hours (kWh).[11] Of this total, Contra Costa County consumed 9,639 GWh or 9,639,409,434 kWh.[12] In addition, in 2019, California consumed approximately 13,158 million therms or 13,158,207,489 therms, while Contra Costa County consumed approximately 1,205 million therms or approximately 1,205,045,221 therms.[13]

Gasoline is the most used transportation fuel in California with 15.5 billion gallons sold in 2018. Gasoline fuel is used by light-duty cars, pickup trucks, and sport utility vehicles. Diesel is the second most-used fuel in California with 1.8 billion gallons sold in 2018. Diesel fuel is used primarily by heavy-duty trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles.[14]

The discussion and analysis provided below is based on data included in the CalEEMod output, which is included in **Appendix A**.

Construction-Period Energy Use. The anticipated construction schedule assumes that the proposed project would be built over a 6-month period. The proposed project would require grading, site preparation, and building activities during construction.

11 California Energy Commission (CEC). 2021. Energy Consumption Data Management Service. Electricity Consumption by County. www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed February 2021).

12 Ibid.

13 CEC. 2021. Energy Consumption Data Management Service. Gas Consumption by County. www.ecdms.energy.ca.gov/gasbycounty.aspx (accessed February 2021).

14 CEC. 2019. California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets. Available online at: www.energy.ca.gov/almanac/transportation_data/diesel.html.

Construction of the proposed project would require energy for the manufacture and transportation of construction materials, preparation of the site for grading activities, and construction of the buildings. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. Construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. Energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. Therefore, construction energy impacts would be **less than significant**. Furthermore, in order to increase energy efficiency on the site during project construction, the project would restrict equipment idling times to 5 minutes or less and would require construction workers to shut off idle equipment, as required by **Mitigation Measure AIR-1**, which would further reduce energy use.

Operational Energy Use. Energy use consumed by the proposed project would be associated with natural gas use, electricity consumption, and fuel used for vehicle trips associated with the project. Major sources of energy demand associated with the proposed project would include building mechanical systems, such as the HVAC system, lighting, and cultivation system. Building A would generate energy demand associated with typical retail, manufacturing, and distribution land uses and would be serviced by three five-ton HVAC units. Building A would not require an electrical panel with a load greater than a 1,800 amp, 3-phase panel. Building B would include 10 grow rooms, each equipped with 32 high pressure sodium cultivation lamps with a maximum wattage of 1,000 watts, which would be adjusted to the relevant grow cycle phase. The power draw for each room is estimated to be approximately 200 amps. In addition, Building B would be serviced by approximately 11 to 13 five-ton HVAC units, with at least one HVAC unit per grow room. Building B would require a 3,600 amp, 3-phase panel. In addition, the proposed project would also result in an increase in natural gas use associated with the HVAC system and outdoor lighting; however, this potential increase is expected to be minimal.

PG&E is the private utility that would supply the proposed project's electricity and natural gas services. In 2019, a total of 29 percent of PG&E's delivered electricity came from renewable sources, including solar, wind, geothermal, small hydroelectric and various forms of bioenergy.[15] PG&E reached California's 2020 renewable energy goal in 2017, and is positioned to meet the State's 60 percent by 2030 renewable energy mandate set forth in Senate Bill (SB) 100. In addition, PG&E plans to continue to provide reliable service to its customers and upgrade its distribution systems as necessary to meet future demand. In addition, the proposed project would be required to comply with Energy Efficiency Standards (CCR Title 24, Part 6), the CALGreen Code (CCR Title 24, Part 11), and SB 743, which are also aimed at reducing energy consumption.

In addition, the proposed project would result in energy usage associated with gasoline to fuel project-related trips. Based on the CalEEMod analysis, the proposed project would result in approximately 1,847,463 VMT per year. The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 miles per gallon

[15] Pacific Gas & Electric Company (PG&E). 2020. *Exploring Clean Energy Solutions*. June. https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy (accessed March 2021).

(mpg) in 1980 to 22.0 mpg in 2015.[16] Therefore, using the United States Environmental Protection Agency (EPA) fuel economy estimates for 2015, the proposed project would result in the consumption of approximately 83,976 gallons of gasoline per year, which would be a minimal fraction of fuel consumption in California.

Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy or energy efficiency measures into building design, equipment use, and transportation. As such, construction and operation period impacts related to consumption of energy resources would be **less than significant**.

b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

In 2002, the Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission (ZE) vehicles and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The most recently CEC adopted energy report is the 2019 Integrated Energy Policy Report.[17] The 2019 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2019 Integrated Energy Policy Report covers a broad range of topics, including implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to SB 1383), updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

As indicated above, energy usage on the project site during construction would be temporary in nature. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the State's available energy sources and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the project's total impact to regional energy supplies would be minor, the proposed project would not conflict with California's energy conservation plans as described in the CEC's 2019 Integrated Energy Policy Report. Thus, as shown above, the project

[16] U.S. Department of Transportation. "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." https://www.bts.gov/archive/publications/national_transportation_statistics/table_04_23/ (accessed February 2021).

[17] CEC. 2019. *2019 Integrated Energy Policy Report.* California Energy Commission. Docket # 19-IEPR-01.

would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and not result in any irreversible or irretrievable commitments of energy. Therefore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Impacts would be **less than significant**.

4.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☐	☒
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on 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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

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. ii. Strong seismic shaking? iii. Seismic-related ground failure, including liquefaction? iv. Landslides?

The California Supreme Court concluded in its *CBIA v. BAAQMD* decision that "CEQA generally does not require an analysis of how existing environmental conditions will affect a project's future users or residents." With this ruling, CEQA no longer considers the impact of the environment on a project (such as the impact of existing seismic hazards on new project occupants) to be an environmental impact, unless the project could exacerbate an existing environmental hazard. The proposed project would not change existing seismic hazards and, therefore, would not exacerbate existing hazards related to surface fault rupture and seismic ground shaking. As such, the following discussions of seismic hazards related to surface fault rupture and seismic ground shaking are provided for informational purposes only.

Alquist-Priolo Fault Zones. Alquist-Priolo earthquake fault zones are regulatory zones surrounding the surface traces of active faults in California. Wherever an active fault exists, if it has the potential

for surface rupture, a structure for human occupancy cannot be placed over the fault and must be a minimum distance from the fault (generally 50 feet). The proposed project is not located on or within 50 feet of an Alquist-Priolo Earthquake Fault Zone.[18] The proposed project would still be susceptible to seismic events (i.e., shaking) as the San Francisco Bay Area is an active seismic area. The proposed project would be designed to California Building Code (CBC) seismic standards to reduce potential damage during seismic events.

Strong Seismic Ground Shaking. The project site is located in the City of Antioch, in the San Francisco Bay Area. This region is susceptible to intense seismic activity from the numerous active faults in the area. Ground shaking is likely to occur within the life of the project as a result of future earthquakes. The Greenville Fault Zone is located 9.75 miles southwest of the project site. Traces of the Rio Vista Fault are located as close as 5.1 miles west of the project site. The proposed project would be designed to CBC standards, which would reduce potential building damage and collapse during a seismic event. As the proposed project would comply with the CBC seismic design standards, it would be less susceptible to causing injuries to employees and patrons in the event of a seismic event.

Seismic-related Ground Failure. Soil liquefaction is a phenomenon primarily associated with saturated soil layers located close to the ground surface. During ground shaking, these soil lose strength and acquire "mobility" sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that lie relatively close to the ground surface. However, loose sands that contain a significant amount of fines (i.e., silt and clay) may also liquefy. The project site is located in an area that is susceptible to liquefaction.[19] However, the proposed project would be designed to CBC standards, which would reduce potential building damage and collapse due to liquefaction events.

Landslides. A landslide generally occurs on relatively steep slopes and/or on slopes underlain by weak materials. The project would be located on a relatively flat site with elevations ranging from 26 feet above mean sea level on the western portion of the site to 33 feet above mean sea level on the eastern portion. There are no slopes on the site nor are there any slopes adjacent to or within the vicinity of the proposed project site. Review of the California Geological Survey website indicates that the proposed project is not located in an area prone to landslides.[20] The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

[18] California Department of Conservation, California Geologic Survey, CGS Information Warehouse: Regulatory Maps. https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/ (accessed February 11, 2021).

[19] Ibid.

[20] California Department of Conservation, California Geologic Survey, CGS Information Warehouse: Regulatory Maps. https://maps.conservation.ca.gov/cgs/informationwarehouse/landslides/ (accessed February 11, 2021).

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

Topsoil is defined as the upper part of the soil profile that is relatively rich in humus and is technically known as the A-horizon of the soil profile.[21] Soil on the project site is classified as Delhi sand, 2 to 9 percent slopes (DaC) and the first 21 inches of the soil is described as pale brown sand, brown moist; single grained; loose; slightly acid; gradual smooth boundary.[22] Grading and earthmoving during project construction has the potential to result in erosion and loss of topsoil. Exposed soils could be entrained in storm water runoff and transported off the project site. However, this impact would be reduced through compliance with water quality control measures, which include preparation of a Storm Water Pollution Prevention Plan (SWPPP) (refer to Section 4.10, Hydrology and Water Quality). Although designed primarily to protect storm water quality, the SWPPP would incorporate Best Management Practices (BMPs) to minimize erosion. Additional details regarding the SWPPP are provided in Section 4.10, Hydrology and Water Quality, of this Initial Study. Overall, the proposed project would result in minimal soil erosion or loss of topsoil; therefore, 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?

As discussed above in Section 4.7.a, the site would not be subject to lateral spreading or landslides. The site is located in an area susceptible to liquefaction; however, the proposed project would be required to comply with the CBC. Compliance would further ensure that potential risks to people and structures as a result of unstable soils 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?

Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. Shrink-swell potential is influenced by the amount and type of clay minerals present and can be measured by the percent change of the soil volume. The Delhi sand, 2 to 9 percent slopes soil on the site has a low shrink-swell potential.[23] Nevertheless, the proposed project would be designed to meet CBC standards to reduce building impacts from expansive soil. Impacts would be **less than significant**.

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21 California State Mining and Geology Board, 2014. Surface Mining Reclamation Act Regulations. California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1.

22 United States Department of Agriculture, Natural Resource Conservation Service, Websoil Survey. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm (accessed February 11, 2021).

23 Ibid.

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?

The proposed project would connect to the City's existing wastewater infrastructure located in Wilbur Avenue. The design of the project would not include the use of septic tanks or alternative wastewater disposal systems. Therefore, the proposed project would have **no impact** associated with soils incapable of supporting alternative wastewater disposal systems or septic tanks.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Although no paleontological resources or unique geological features are known to exist within or near the project site, according to the locality search through the University of California Museum of Paleontology (UCMP) at the University of California, Berkley, there are 2,569 known localities that have produced 20,107 specimens within Contra Costa County.[24] Therefore, the possibility of accidental discovery of paleontological resources during project construction cannot be dismissed. As such, the proposed project would be required to implement **Mitigation Measure GEO-1**, as described below, which would reduce potential impacts to paleontological resources.

Mitigation Measure GEO-1: Should paleontological resources be encountered during project subsurface construction activities, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. For purposes of this mitigation, a "qualified paleontologist" shall be an individual with the following qualifications: (1) a graduate degree in paleontology or geology and/or a person with a demonstrated publication record in peer-reviewed paleontological journals; (2) at least two years of professional experience related to paleontology; (3) proficiency in recognizing fossils in the field and determining their significance; (4) expertise in local geology, stratigraphy, and biostratigraphy; and (5) experience collecting vertebrate fossils in the field. If the paleontological resources are found to be significant and project activities cannot avoid them, measures shall be implemented to ensure that the project does not cause a substantial adverse change in the significance of the paleontological resource. Measures may include monitoring, recording the fossil locality, data recovery and analysis, a final report, and accessioning the fossil material and technical report to a paleontological repository. Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to the City of

[24] University of California Museum of Paleontology. Databases. https://ucmp.berkeley.edu/collections/databases/ (accessed February 11, 2021).

Antioch for review. If paleontological materials are recovered, this report also shall be submitted to a paleontological repository such as the University of California Museum of Paleontology, along with significant paleontological materials. Public educational outreach may also be appropriate.

The project applicant shall inform its contractor(s) of the sensitivity of the project site for paleontological resources and shall verify that the following directive has been included in the appropriate contract documents:

> *"The subsurface of the construction site may be sensitive for fossils. If fossils are encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any paleontological materials. Fossils can include plants and animals, and such trace fossil evidence of past life as tracks or plant imprints. Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Contractor acknowledges and understands that excavation or removal of paleontological material is prohibited by law and constitutes a misdemeanor under California Public Resources Code, Section 5097.5."*

With implementation of the above identified measures impacts to paleontological resources from implementation of the proposed project would be **less than significant with mitigation.**

4.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Greenhouse gases (GHGs) are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO_2);
- Methane (CH_4);
- Nitrous oxide (N_2O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs); and
- Sulfur Hexafluoride (SF_6).

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as CO_2, CH_4, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of Global Warming Potential (GWP), a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

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

This section describes the proposed project's construction- and operational-related GHG emissions and contribution to global climate change. The BAAQMD has not addressed emission thresholds for construction in its *CEQA Guidelines*; however, the BAAQMD encourages quantification and disclosure. Thus, construction emissions are discussed in this section.

Construction Activities. Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using CalEEMod, it is estimated that construction of the proposed project would generate approximately 164.5 metric tons of CO_2e. Implementation of **Mitigation Measure AIR-1** would reduce GHG emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment. Therefore, project construction impacts associated with GHG emissions would be **less than significant with mitigation incorporated**.

Operational Emissions. Long-term GHG emissions are typically generated from mobile sources (e.g., cars, trucks and buses), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). Mobile-source GHG emissions would include project-generated vehicle trips to and from the project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site. Energy source emissions would be generated at off-site utility providers as a result of increased electricity demand generated by the project. Waste source emissions generated by the proposed project include energy generated by landfilling and other methods of disposal related to transporting and managing project-generated waste. In addition, water source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

Following guidance from the BAAQMD, GHG emissions were estimated using CalEEMod. Table 4.C shows the calculated GHG emissions in metric tons per year for the proposed project. CalEEMod output sheets are included in **Appendix A**.

Table 4.C: GHG Emissions (Metric Tons Per Year)

Emissions Source	Operational Emissions				
	CO_2	CH_4	N_2O	CO_2e	Percent of Total
Area Source Emissions	<0.1	<0.1	0.0	<0.1	<1
Energy Source Emissions	103.9	<0.1	<0.1	104.6	11
Mobile Source Emissions	796.1	<0.1	0.0	797.0	85
Waste Source Emissions	2.4	0.1	0.0	6.0	1
Water Source Emissions	13.7	0.4	<0.1	26.4	3
Total Project Annual Emissions				**933.9**	**100**
BAAQMD Threshold				**1,056**	**—**
Exceed?				**No**	**—**
Total Annual Service Population Emissions (Metric Tons/Year/Service Population)				**25.9**	**—**
Service Population Threshold				**4.4**	**—**
Exceed?				**Yes**	**—**

Source: LSA (March 2021).
CO_2 = carbon dioxide
CH_4 = methane
N_2O = nitrous oxide
CO_2e = carbon dioxide equivalent
BAAQMD = Bay Area Air Quality Management District

The BAAQMD adopted quantitative GHG thresholds of significance for operational emissions in its *CEQA Guidelines*. The numeric thresholds set by the BAAQMD were calculated to achieve the State's 2020 target for GHG emissions levels (and not the SB 32 specified target of 40 percent below the 1990 GHG emissions level). The proposed project would not be fully constructed and operational until late 2021. Because the project would begin operations in the post-2020 timeframe, the 2020 efficiency target of 1,100 metric tons of CO_2e per year threshold and 4.6 metric tons of CO_2e per year per service population, which has been the threshold most recently applied to development projects, would not apply.

The CARB has completed a Scoping Plan, which will be utilized by the BAAQMD to establish the 2030 GHG efficiency threshold. BAAQMD has yet to publish a quantified GHG efficiency threshold for the 2030 target. A scaled threshold consistent with State goals detailed in SB 32, Executive Order B-30-15, and Executive Order S-3-05 to reduce GHG emissions by 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, respectively, was developed for 2021. Though the BAAQMD has not published a quantified threshold beyond 2020, this assessment uses a threshold of 1,056 metric tons of CO_2e per year or 4.4 metric tons of CO_2e per capita service population (employees plus residents) per year, which was calculated for the buildout year of 2021 based on the GHG reduction goals of SB 32 and Executive Order B-30-15.

Therefore, the proposed project would not have a significant effect on the environment if it would meet one of the following criteria:

- Result in operational-related GHG emissions of less than 1,056 metric tons of CO_2e a year; or

- Result in operational-related GHG emissions of less than 4.4 metric tons of CO_2e per capita service population (employees plus residents) per year.

As shown in Table 4.8-A, the proposed project would generate approximately 933.9 metric tons of CO_2e, which would not exceed the numeric threshold of 1,056 metric tons CO_2e. Since the proposed project would not exceed the numeric threshold of 1,056 metric tons CO_2e, operation of the proposed project would not generate GHG emissions that would have a significant effect on the environment and this impact would be **less than significant**.

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

The City of Antioch Climate Action and Resilience Plan (CARP) was adopted on May 12, 2020. The purpose of the CARP is to begin preparing the Antioch community for hazards shocks such as drought, flood, and extreme heat that are expected to intensify in the future and to reduce the community's reliance on carbon-based energy sources. In addition, the CARP identifies GHG reduction strategies that work to reduce emissions associated with transportation, energy, waste, hazard preparedness, and community capacity building. The City of Antioch will be primarily responsible for implementation of the GHG reduction strategies. However, this analysis includes an evaluation of the proposed project's consistency with the goals of the GHG reduction strategies.

The goals of the transportation GHG reduction strategies are to reduce VMT in the Antioch community through encouraging transportation mode shift and reducing the emissions impact of VMT through vehicle electrification. The proposed project involves the construction of two new buildings and associated site improvements on the project site to establish a commercial cannabis business. The proposed project would provide retail and employment located near existing commercial, light industrial, residential, and recreational uses, reducing the demand for travel by single occupancy vehicles. Therefore, the proposed project would not conflict with the transportation GHG reduction strategies to reduce VMT.

The goals of the energy GHG reduction strategies include increasing fuel switching from natural gas to electricity, increasing energy security by reducing energy demand, and reducing the impact of electricity use on GHG emissions. As described in Section 4.6, Energy, PG&E is the private utility that would supply the proposed project's electricity and natural gas services. In 2019, a total of 29 percent of PG&E's delivered electricity came from renewable sources, including solar, wind, geothermal, small hydroelectric and various forms of bioenergy. PG&E reached California's 2020 renewable energy goal in 2017, and is positioned to meet the State's 60 percent by 2030 renewable energy mandate set forth in SB 100. In addition, PG&E plans to continue to provide reliable service to its customers and upgrade its distribution systems as necessary to meet future demand. In addition, the proposed project would be required to comply with Energy Efficiency Standards (CCR Title 24, Part 6), the CALGreen Code (CCR Title 24, Part 11), and SB 743, which are also aimed at reducing energy consumption. Therefore, the proposed project would be consistent with the goals of the energy GHG reduction strategies to reduce energy demand.

In addition, the goals of the waste GHG reduction strategies are to begin building the systems to transform Antioch into a low-carbon, low-waste community, contribute to a circular economy, and

gather community engagement and support for a circular economy. The proposed project would be consistent with the CalRecycle Waste Diversion and Recycling Mandate, which would reduce solid waste production by 75 percent. Therefore, the proposed project would be consistent with the goals of the waste GHG reduction strategies.

The goals of the hazard preparedness GHG reduction strategies include ensuring that the Antioch population is prepared for the increasing likelihood of hazard occurrence, ensuring that Antioch's built environment is prepared for the increasing likelihood of hazard occurrence, and expanding community knowledge of effects of climate change and ensuring effectiveness emergency communication systems. In addition, the goals of the community capacity building GHG reduction strategies include strengthening Antioch's social and economic systems to promote resilience, removing barriers to economic, political, and social participation for low-income communities and communities of color, and expanding engagement between the City of Antioch and the Antioch community. Since these measures apply to the City of Antioch (and not individual projects), the hazard preparedness and community capacity building GHG reduction strategies are not applicable to the project.

As described above, the proposed project would generally be consistent with CARP GHG reduction strategies. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the GHG emissions. This impact would be **less than significant**.

4.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

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

Small quantities of commercially-available hazardous materials could be used and transported during project construction/operational activities (e.g., oil, gasoline, paint) and for landscaping maintenance within the project site. However, these materials would not be used or transported in sufficient quantities to pose a threat to human or environmental health. Therefore, development 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 this impact would be **less than significant**.

The proposed project includes the growth and cultivation of cannabis plants as well as the manufacturing of cannabis goods. Hazardous materials such as hydrocarbons, butane, propane, ethanol, bio-insecticides, fungicides, and bactericides would be used on site during the operational processes. Handling of such hazardous materials would occur in compliance with local, State, and federal laws. The project applicant, as required by law, would have Material Safety Data Sheets (MSDS) on hand and located in the manager's office for all hazardous materials that would be used or stored on the project site. The project applicant has also prepared a Safety and Security Plan that

outlines procedures for employees and patrons to take in the event a hazardous materials spill occurs during project operation. Cannabis waste would be remediated by mixing it with spent soil utilized for delivery of water and nutrients to individual cannabis plants. The soil and cannabis waste would be mixed together and grinded down to produce a uniform mixture such that the cannabis waste is destroyed from its original state. Employees would dispose of cannabis waste in a secured waste container located within the processing room and cultivation technicians would transfer all cannabis waste to an off-site waste disposal facility. All cannabis waste generated on the project site would be identified, weighed, and tracked, both while on the premises and at the time of disposal to account for all hazardous waste. The steps the applicant would take and compliance with local, State and federal laws, to contain hazardous materials on site during operation would reduce the potential hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Impacts would therefore 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?

Workers and/or the public could be exposed to potentially contaminated soil and groundwater during construction of the proposed project. Review of the EnviroStor website indicates that the project site was listed as occupied by an aboveground storage tank (AST) (48 feet tall by 150 feet in diameter) that was filled with fuel oil from the mid- to late-1950s up until the tank was drained and lines were closed in the late 1980s. In August 2003, a small amount of residual product was removed and the tank was permanently closed. A Phase I Environmental Site Assessment[25] (Phase I) was prepared for the project site in association with the AST in August 2002. Visual indications of spills and releases of fuel oil were observed at several locations within the earthen containment structure surrounding the AST during the Phase I reconnaissance. Stained soils were observed in the vicinity of the transfer pumps and at some pipefittings. The Phase I concluded that no polychlorinated biphenyls or radon was found on the site. The former AST and the aboveground portions of steam and fuel lines attached to the AST that occupied the site was jacketed in asbestos insulation. The AST and pipeline was removed from the project site in 2005 and clean-up of the site was certified by the Department of Toxic Substances Control on January 30, 2006. Therefore, contaminated soils and/or groundwater associated with past uses on the site are not anticipated to be encountered during construction. However, the site is located in an industrial area of the City and is adjacent to an active rail line, and site soils and/or groundwater could have become contaminated due to adjacent uses. Therefore, construction-related activities, particularly excavation and grading activities, could result in the release of hazardous materials into the environment. Implementation of **Mitigation Measure HAZ-1** would be required.

Mitigation Measure HAZ-1: Prior to the issuance of grading permits, a limited soil, gas and groundwater investigation shall be conducted at the site to determine whether regulated contaminants are present in the site subsurface at levels above established construction worker

[25] Blasland, Bouck, & Lee, Inc; Gaylord Container Corporation, Phase I Environmental Assessment, Industrial Lot with Tank, August 2002.

screening levels. Any soil with concentration levels that exceed California State Title 26 threshold limits would be classified as a hazardous material. Once the soil sampling analysis is complete, a report of the findings shall be provided to the City of Antioch for review prior to issuance of grading permits. If contaminated soils are found in concentrations above established thresholds for worker safety, a Site Management Plan (SMP) shall be prepared by a qualified hazardous materials consultant to establish management practices for handling contaminated soil or other materials encountered during construction activities.

With implementation of Mitigation Measure HAZ-1, construction and operation of the proposed project is not anticipated to result in upset or accident conditions involving the release of hazardous materials into the environment and this impact would be **less than significant with mitigation**.

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?

Cornerstone Christian School (located at 1745 E 18th Street), a private school, is located approximately 0.37 mile south of the project site. The closest public school, Kimball Elementary School, located at 1310 August Way, is approximately 1.2 miles southwest of the project site. There are no schools planned for development within 0.25 mile of the project site. As such, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school. Impacts would be **less than significant**.

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

Please see Section 4.9.b. The Phase I included a standard environmental records search (federal and State) to determine if the project site was included on a hazardous materials site pursuant to Government Code Section 65962.5. The results of the records search indicated that the project site was not identified or listed in any of the publicly available electronic databases that were searched. As such, the proposed project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. This impact would be **less than significant**.

e. Would the project be located within an airport land use plan or, where such a plan has not been adopted, within 2 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?

There are no airports within two miles of the proposed project, nor is the proposed project located within an airport land use plan. The project site is not within the noise contours of any airport. As such, implementation of the proposed project would not result in a safety hazard or excessive noise

for people residing or working in the project area in association with airports. **No impact** would occur.

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

The improvements that would occur as part of the project are site-specific and do not include any improvements to off-site areas (e.g., roadway improvements, intersection improvements). The project site would be accessible to emergency vehicles in the event a hazardous event occurs on the site. Additionally, the proposed project would implement a Safety and Security Plan that outlines procedures for staff to respond to hazardous conditions in the event they occur on the project site. Overall, the proposed project does not include any features that would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; therefore, this impact would be **less than significant**.

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

Section 4.20, Wildfire of this Initial Study provides discussion and analysis regarding the project's impact pertaining to wildfires. The proposed project site is not located in a State Responsibility Area (SRA) or Local Responsibility Area (LRA) Very High Fire Hazard Severity Zone (VHFSZ).[26] Therefore, the proposed project would not expose people or structures to a significant loss, injury or death involving wildland fires and this impacts would be **less than significant**.

[26] California Department of Forestry and Fire Protection (CAL FIRE), Fire and Resource Assessment Program, FHSZ Viewer Website. https://egis.fire.ca.gov/FHSZ/ (accessed February 12, 2021).

4.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☒	☐	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off site?	☐	☒	☐	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?	☐	☐	☒	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

The California State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards regulate the quality of surface water and groundwater bodies throughout California. For the City of Antioch, including the project site, the Central Valley Regional Water Quality Control Board (Water Board) is responsible for implementation of the Water Quality Control Plan (Basin Plan).

Runoff water quality is regulated by the National Pollutant Discharge Elimination System (NPDES) Program (established through the Federal Clean Water Act). The NPDES program objective is to control and reduce pollutant discharges to surface water bodies. Compliance with NPDES permits is mandated by State and federal statutes and regulations. Locally, the NPDES Program is administered by the Water Board. According to the water quality control plans of the Water Board, any construction activities, including grading, that would result in the disturbance of 1 acre or more would require compliance with the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity (Construction General Permit). The proposed project would result in the disturbance of approximately 3.9 acres, and, as such, would be required to comply with the Construction General Permit.

The City of Antioch has adopted the Contra Costa County C.3 Storm water Standards, which require new development and redevelopment projects that create or alter 10,000 or more square feet of impervious area to contain and treat all storm water runoff from the project site. The proposed project would be subject to the requirements of the SWRCB and the Water Board, including the C.3 Standards, which are included in the City's NPDES General Permit. Compliance with such requirements would ensure that impacts to water quality standards or waste discharge requirements would not occur during operation of the proposed project.

The project site is relatively flat with a gradual slope from northeast to southwest. Existing surface drainage at the project site currently flows to the south to offsite storm water infrastructure. Implementation of the proposed project would result in a total of 1.7 acres of impervious surfaces at the site (75 percent of the 2.4 acre site). Existing surface drainage at the project site currently flows to the south to offsite storm water infrastructure. The proposed project would improve the drainage pattern of the site so that surface flows are conveyed to the surface parking lot into drainage inlets. The drainage inlets would connect to underground infrastructure that would convey the storm water generated on site to a retention basin that would be developed in the southwest corner of the project site. The retention basin would be designed to accommodate 0.68 acre-feet of storm water which would exceed the storm water volume anticipated to be generated by the proposed project. The retention basin would consist of natural soil and vegetation native to the area allowing for filtration of storm water before storm water percolates naturally into the ground.

As the proposed project would accommodate a commercial cannabis business, it would be required to comply with the California State Water Boards Cannabis Cultivation Policy. The Cannabis Policy establishes principles and guidelines (requirements) for cannabis cultivation activities to protect water quality and instream blows. The purpose of the Cannabis Policy is to ensure that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, and springs. The Cannabis Policy requirements are primarily implemented through the Water Boards Cannabis Cultivation General Order and Cannabis Small Irrigation Use Registration permits in addition to the California Department of Food and Agriculture's CalCannabis Cultivation Licensing Program. The Type 3A License that would be obtained by the project applicant through the California Department of Food and Agriculture would ensure the project is in compliance with the Water Boards Cannabis Policy.

Implementation of **Mitigation Measures HYD-1** and **HYD-2** would ensure that the proposed project complies with the Water Board's water quality standards by reducing the potential construction and operation-period impacts to water quality.

Mitigation Measure HYD-1: Prior to construction, the project applicant shall prepare and implement a Final SWPPP, meeting Construction General Permit requirements (State Water Resources Control Board Order No. 2009-000-DWQ, as amended) designed to reduce potential adverse impacts to surface water quality through the project construction period. The Final SWPPP shall be submitted to the Planning Manager of the City of Antioch Planning Department for review and approval prior to the issuance of any permits for ground-disturbing activity.

The Final SWPPP shall be prepared by a Qualified SWPPP Developer in accordance with the requirements of the Construction General Permit. Requirements include BMPs for erosion and sediment control, site management/housekeeping/waste management, management of non-storm water discharges, run-on and runoff controls, and BMP inspection/maintenance/repair activities. BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association *Stormwater Best Management Handbook-Construction*.

The Final SWPPP shall include a construction site monitoring program that identifies requirements for dry weather visual observations of pollutants at all discharge locations, and as appropriate (depending on the Risk Level), sampling of the site effluent and receiving waters. A Qualified SWPPP Practitioner shall be responsible for implementing the BMPs at the site and performing all required monitoring and inspection/maintenance/repair activities.

Mitigation Measure HYD-2: The project applicant shall fully comply with the Water Board storm water permit requirements, including Contra Costa County C.3 Storm water Standards. The project applicant shall prepare and implement a Storm water Control Plan (SCP) for the project. The SCP shall be submitted to the Planning Manager of the City of Antioch Planning Department for review and approval prior to issuance of any permits for ground disturbing activities. The SCP would act as the overall program document designed to provide measures to mitigate potential water quality impacts associated with the operation of the proposed project. The SCP shall provide measures that are consistent with those of the California State Water Boards Cannabis Cultivation Policy to ensure that cannabis production on site mitigates potential water quality issues. At a minimum, the SCP for the project shall include:

- An inventory and accounting of existing and proposed impervious areas.
- Low Impact Development (LID) design details incorporated into the project. Specific LID design may include, but is not limited to using pervious pavements and green roofs, dispersing runoff to landscaped areas, and/or routing runoff to the storm water basin that would be developed on site as part of the project design.
- Measures to address potential storm water contaminants. These may include measures to cover or control potential sources of storm water pollutants at the project site.

- A Final Storm Water Facility Operation and Maintenance Plan for the project site, which shall include periodic inspection and maintenance of the storm drainage system. Persons responsible for performing and funding the requirements of this plan shall be identified. This plan must be finalized prior to issuance of building permits for the project.

Implementation of **Mitigation Measures HYD-1** and **HYD-2** would ensure that the proposed project does not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water capacity. Impacts would be **less than significant with mitigation incorporated**.

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?

The City of Antioch does not use groundwater for water supplies, nor does it expect groundwater to be used for water supplies through the year 2040.[27] The proposed project would therefore not receive water supplies from groundwater. Although no use of groundwater is proposed for the proposed project, some dewatering may be required during construction. Any dewatering activities would be expected to be temporary in nature. Once the project is completed, the previously vacant permeable parcel would be mostly developed with impermeable surfaces. The site would therefore contribute to the reduction of an area in the City where groundwater recharge currently occurs. Portions of the site would be landscaped and a storm water detention basin would be developed on site; as such, small quantities of groundwater recharge would still occur on site. Since the project site is relatively small (3.9 acres) implementation of the proposed project would not interfere substantially with groundwater recharge and this impact 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; ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; iii. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or iv. Impede or redirect flood flows?

The project site is vacant and is not occupied by a stream or river; as such, implementation of the proposed project would not alter the course of such waterbodies. As the project site is vacant, once the project is developed, 75 percent of the site would be occupied by impervious surfaces.

Existing surface drainage at the project site currently flows to the south to off-site storm water infrastructure. The proposed project would improve the drainage pattern of the site so that surface flows are conveyed to the surface parking lot into drainage inlets. The drainage inlets would connect to underground infrastructure that would convey the storm water generated on site to a retention

[27] City of Antioch, *2015 Urban Water Management Plan*, Chapter 6 System Supplies, page 6-4, May 2016.

basin that would be developed in the southwest corner of the project site. The retention basin would be designed to accommodate 0.68 acre-feet of storm water which would exceed the storm water volume anticipated to be generated by the proposed project. The retention basin would consist of natural soil and vegetation native to the area allowing for filtration of storm water before storm water percolates naturally into the ground. Compliance with construction- and operation phase storm water requirements, as set forth in **Mitigation Measures HYD-1** and **HYD-2**, would further ensure that development of the project would not result in substantial erosion or siltation on or off-site. Therefore, impacts would be **less than significant with mitigation incorporated**.

According to the Federal Emergency Management Agency (FEMA), the project site is located in a Zone X Area of Minimal Flood Hazards.[28] As such, flooding would more than likely be minimal on the project site during storm events and the project in itself would not impede or redirect flood flows. Impacts would be less than significant.

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

As stated above, the project site is located in a Zone X Area of Minimal Flood Hazard area.[29]The City of Antioch and project site are not located within a tsunami inundation zone.[30] A seiche is the sloshing of a closed body of water (e.g., lakes, swimming pools, fuel tanks) caused by seismic waves. The proposed project is not located near any closed bodies of water; however, the site is approximately 1,000 feet south of the San Joaquin River, which could generate a seiche during a seismic event. Due to the distance the project is from the San Joaquin River and the low likelihood of a seiche forming, the proposed project would not be susceptible to seiche inundation events. The proposed project would not be located in a flood, tsunami, or seiche hazard zone and therefore would not risk release of pollutants due to project inundation. **No impact** would occur.

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

As discussed in Section 4.10.a, implementation of **Mitigation Measure HYD-1** and **HYD-2** would require preparation and implementation of both an SWPPP and SCP, ensuring that project impacts associated with storm water runoff would be reduced. The proposed project would not receive water from groundwater sources, as the City of Antioch does not use groundwater for potable and non-potable water service. Implementation of the proposed project would not conflict or obstruct a water quality control plan or sustainable groundwater management plan. Impacts would be **less than significant with mitigation incorporated**.

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28 Federal Emergency Management Agency, Flood Insurance Rate Map Website. https://msc.fema.gov/portal/search?AddressQuery=Antioch%2C%20CA#searchresultsanchor (accessed February 16, 2021), FIRM Panel 06013C0144G effective 9/30/2015.

29 Federal Emergency Management Agency, Flood Insurance Rate Map. https://msc.fema.gov/portal/search?AddressQuery=Antioch%2C%20CA#searchresultsanchor (accessed February 16, 2021), FIRM Panel 06013C0144G effective 9/30/2015.

30 California Department of Conservation, Contra Costa County Tsunami Website. https://www.conservation.ca.gov/cgs/tsunami/maps/contra-costa (accessed February 16, 2021).

4.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☒	☐

a. Would the project physically divide an established community?

The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying area. For instance, the construction of an interstate highway or railroad track through an existing community may constrain travel from one side of the community to another; similarly, such construction may also impair travel to areas outside the community.

The project site is located in an urban area of Antioch comprised of mostly commercial and industrial uses. The project site is currently vacant and would be developed with two buildings accommodating a commercial cannabis business. Improvements would only occur on the project site and no infrastructure improvements would need to be made to accommodate the proposed project. The proposed project would not require the construction of any new infrastructure that would divide an established community, and would not remove any means of access. The proposed project would not result in a physical division of an established community or adversely affect the continuity of land uses in the vicinity. Therefore, **no impact** would occur.

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?

The City of Antioch General Plan Land Use Map designates the site as Eastern Waterfront Employment Focus Area and the City's Zoning Map identifies the project site as PBC District within a CB Overlay District. The PBC District provides sites in landscaped settings for office centers, research and development facilities, limited industrial activities (including production and assembly, but no raw materials processing or bulk handling), limited warehouse type retail and commercial activities, and small-scale warehousing distribution. Individual business centers would have a common architectural and landscape treatment, while architectural variation is encouraged between centers. The PBC District limits building heights to a maximum of 35 feet, requires a minimum 20,000 square feet of building to be developed on a site, and allows for a maximum lot coverage of 35 percent. The CB Overlay District allows for the application for a Use Permit from the City Council of Antioch for the establishment of a cannabis business. Prior to issuance of the Use Permit, the following findings would be required to permit a cannabis business in the City:

- A cannabis business shall be located no closer than 600 feet from the following:

  - Any private or public school serving students grade kindergarten through high school;
  - Any public park owned or operated by the city;
  - Any property occupied by a residential land use or with a residential or general plan land use designation or zoning designation; or
  - A child care center.
- The City would also have to find that the location and site characteristics of the proposed cannabis businesses are consistent with all applicable State laws and City standards and guidelines, that all provisions have been made to ensure that the operation of the cannabis business will not create excessive demands for police service or other public services, and that the cannabis business will benefit the City.

The proposed project would develop two buildings on the site that would be no taller than 25 feet. The two buildings would total 30,700 square feet and would be 19.4 percent of the area of the project site. As such, the proposed project would be consistent with the PBC District design standards. Once the project is operational, the commercial cannabis business would be located 1.2 miles from the nearest school, more than 600 feet from any public park owned or operated by the City of Antioch, 800 feet northeast of the closest residential land uses, and over 600 feet from the nearest child care center. It should be noted that the Antioch Youth Sports Complex is located within 400 feet of the project site; however, this facility is privately owned and operated and direct access from the project site to the facility is obstructed by the location of the railroad tracks between the two uses.

Based on requirements of the City and State, the project applicant has prepared a Pest Management Plan, a Neighborhood Responsibility Plan, an Odor Mitigation Plan, and a Safety and Security Plan. As described throughout this Initial Study, implementation of the proposed project would not increase calls for service from law enforcement or fire/rescue personnel serving the site based on the implementation of the Safety and Security Plan. The proposed project would connect to existing utilities serving the project site and would not require the development of new or improvement of existing infrastructure. Finally, the proposed Project would be required to obtain a Type 10 License (retail Storefront and Delivery) and Type 11 License (Distributor) from the California Bureau of Cannabis Control; a Type 7 License (Manufacture) from the California Department of Health; and a Type 3A License (Medium Indoor Cultivation) from the California Department of Food and Agriculture in order to be compliant with California Commercial/Retail Cannabis laws.

It should be noted that according to CEQA, policy conflicts do not, in and of themselves, constitute a significant environmental impact. Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts or where those conflicts relate to avoiding or mitigating environmental impacts. As such, associated physical environmental impacts are discussed in this Initial Study under specific topical sections. The proposed project would not result in any direct physical impacts that cannot be mitigated to a less than significant level.

Although the proposed project would require a Use Permit and several licenses from State agencies, the proposed project would not substantially conflict with the intent of the City's General Plan Land Use or Zoning Regulations. Therefore, the proposed project would not conflict with any land use

plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect and this impact would be **less than significant**.

4.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

a. 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?

The project site is located in an area of Antioch that is dominated by industrial and commercial uses. There are no areas near the project site or on the project site that have previously been used for mineral resource extraction. The CDC Geologic Energy Division does not show any active or inactive oil wells on or adjacent to the proposed project site.[31] Furthermore, the project site is located in a Mineral Resource Zone-3 (MRZ-3)[32] and is not located in a natural gas or oil facility. Areas classified as MRZ-3 contain mineral deposits, but their significance cannot be evaluated from available data. Mining on the project site or near the project site has not occurred in the past, and such activities are not anticipated to occur in the future. Therefore, implementation of the proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State and this impact would be **less than significant**.

b. 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?

Refer to Section 4.12.a. The project site is classified as an MRZ-3. However, the proposed project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Impacts would be **less than significant**.

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31 California Department of Conservation, Geologic Energy Division, WellFinder. https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-121.77879/38.01164/18 (accessed February 10, 2021).

32 California Department of Conservation, California Geologic Survey, SR-146-Plate 2.2. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc (accessed February 11, 2021).

4.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 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?	☐	☐	☐	☒

The discussion and analysis provided in this section describes the potential short-term construction noise and vibration impacts associated with the proposed project, as well as long-term operational noise impacts.

The following provides an overview of the characteristics of sound and vibration as well as the regulatory framework that applies to noise within the vicinity of the project site. The existing noise environment in and around the project site is also described.

Characteristics of Sound. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep.

Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a tenfold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; and similarly, each 10 dB decrease in sound level is perceived as half as loud.

Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements, which better represent how humans are more sensitive to sound at night. As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single-point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous

sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average sound level (L_{dn}) based on dBA. L_{dn}, sometimes denoted as DNL, represents the time varying noise over a 24-hour period, with a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours of 7:00 p.m. to 10:00 p.m.

Characteristics of Vibration. Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible. Typically, there is more adverse reaction to effects associated with the shaking of a building. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as the motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibration of walls, floors, and ceilings that radiate sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of groundborne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with both groundborne vibration and noise from these sources are usually localized to areas within approximately 100 feet from the vibration source, although there are examples of groundborne vibration causing interference out to distances greater than 200 feet.[33] When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed for most projects that the roadway surface will be smooth enough that groundborne vibration from street traffic will not exceed the impact criteria; however, both the construction of the project and train pass-by events could result in groundborne vibration that may be damaging.

Groundborne vibration has the potential to damage buildings. Although it is very rare for typical construction activities to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and pile driving to cause vibration of sufficient amplitudes to damage nearby buildings. Groundborne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). The PPV is used to characterize potential for damage.

Regulatory Framework. Noise Objectives specified in Section 11.6.1 of the Noise Element of the City of Antioch General Plan are used as a guideline to evaluate the acceptability of the noise levels at sensitive uses. These standards are for the assessment of long-term vehicular traffic noise impacts. The City has exterior noise criteria for outdoor living areas associated with single-family and

[33] California Department of Transportation. 2013. *Caltrans Transportation and Construction Vibration Guidance Manual*. September.

multifamily residential uses such that exterior active-use areas should not exceed 60 dBA CNEL and commercial/industrial uses should not exceed 70 dBA CNEL at the front (lot or building) setback.

City of Antioch Municipal Code. In order to assess the potential impact of the proposed project on the surrounding uses, the City addresses noise in Chapter 17 of Title 5 and Chapter 5 of Title 9 of the City's Municipal Code (Noise Ordinance).

Section 5-17.04, Heavy Construction Equipment Noise, of Chapter 17 in Title 5 proved the specific hours of operation for construction:

(B) It shall be unlawful for any person to operate heavy construction equipment during the hours specified below:

(1) On weekdays prior to 7:00 a.m. and after 6:00 p.m.

(2) On weekdays within 300 feet of occupied dwelling space, prior to 8:00 a.m. and after 5:00 p.m.

(3) On weekends and holidays, prior to 9:00 a.m. and after 5:00 p.m., irrespective of the distance from the occupied dwelling."

Section 9-5.1901, Noise Attenuation Requirements, of Chapter 5 in Title 9 provides the exterior noise limits to which a land use can generate noise:

(A) Stationary noise sources. Uses adjacent to outdoor living areas (e.g., backyards for single-family homes and patios for multi-family units) and parks shall not cause an increase in background ambient noise which will exceed 60 CNEL.

(B) Mobile noise sources.

(1) Arterial and street traffic shall not cause an increase in background ambient noise which will exceed 60 CNEL.

(2) Proposed outdoor residential living areas adjacent to the future expressway (State Route 4 Bypass) or to State Route 4, including BART or eBART development, may be allowed up to a maximum of 65 CNEL as approved by the city.

(3) Existing outdoor residential living areas adjacent to the State Route 4 proposed widening, or to BART or eBART development, shall result in no significant increase (5 CNEL or greater) in existing noise levels.

(C) Noise analysis. For new developments adjacent to the future bypass, applicants may be required to provide a noise and/or visual analysis conducted pursuant to the city's development and environmental review process as determined by staff during the project planning/entitlement phase.

(D) Noise attenuation. The city may require noise attenuation measures be incorporated into a project to obtain compliance with this section. Measures outlined in the noise policies of the General Plan should be utilized to mitigate noise to the maximum feasible extent.

(E) Flexible application. The city may allow up to 65 CNEL for residential projects adjacent to the future bypass or to State Route 4, BART or eBART if the applicant has demonstrated that noise attenuation down to 60 CNEL would result in significantly higher walls.

Because the City has yet to establish vibration thresholds related to potential damage, vibration standards included in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* are used in this analysis.[34] The criteria for environmental impact from groundborne vibration are based on the maximum levels for a single event. FTA guidelines show that a vibration level of up to 0.2 inches per second [in/sec] in PPV is considered safe for a nonengineered timber and masonry building and would not result in any construction vibration damage.

Thresholds of Significance. A project would normally have a significant effect on the environment related to noise and vibration if it would substantially increase the ambient noise levels for adjoining areas or conflict with the adopted environmental plans and the goals of the community in which the project is located. The applicable noise standards governing this project site are the criteria in the City's Municipal Code, the City's Noise Element of the General Plan, and the *FTA Manual*.

Existing Noise Environment. The project site is bounded by a frontage road providing access to Wilbur Avenue to the north, commercial and light industrial uses to the east, UPRR tracks to the south, and light industrial uses to the west. Noise levels in the City's General Plan were used to assess the existing noise environment surrounding the project site. The noise environment is dominated by UPRR pass-by events, which would result in a noise level of up to 72 dBA CNEL at the southern property line of the project site and 59 dBA CNEL at the nearest residential use 350 feet from the UPRR tracks. Additionally, traffic noise on Wilbur Avenue contributes to the existing noise environment. The current 65 dBA CNEL contour is approximately 60 feet from the roadway centerline based on traffic volumes from the *Citywide Engineering and Traffic Survey*.[35]

Sensitive Land Uses in the Vicinity. Certain land uses are considered more sensitive to noise than others. Examples of these include residential areas, educational facilities, hospitals, child care facilities, and senior housing. The closest sensitive receptors to the project site are the residential properties located approximately 900 feet southwest of the project site. This neighborhood consists of single-family homes adjacent to the Antioch Youth Sports Complex and Gaylord Sports Fields (see Figure 4-1).

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?

Potential noise impacts associated with the project include noises created during construction and operation of the project.

[34] FTA. 2018. *Transit Noise and Vibration Impact Assessment Transit Noise and Vibration Impact Assessment.* September.

[35] TJKM Traffic Consultants. 2015. *Citywide Engineering and Traffic Survey.* February.

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LSA

FIGURE 4.1

N

0 150 300

FEET

Project Location

Antioch Natural Supplements Project

Nearest Sensitive Receptor Locations

SOURCES: Google Earth, 2/11/2020; LSA, 2020

P:\CAN2003 Antioch Natural Supplements\PRODUCTS\Graphics\working\NOISE\Figure 4-1.ai (2/25/2021)

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Short-Term Construction Noise Impacts. Construction-related noise levels would be higher than existing ambient noise levels in the project area today, but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts would occur during project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the project site, which would incrementally raise noise levels on Wilbur Avenue and the frontage road leading to the project site. Two main categories of trips would be generated by construction activities: (1) worker commute trips and (2) haul/delivery truck trips. Heavy equipment would not be hauled to/from the project site daily; it would be hauled in at the beginning of construction and hauled out upon completion of construction. Construction trips would occur throughout the day, but because the hauling trucks would not pass sensitive uses, there would be no impacts to sensitive uses.

The second type of short-term noise impact is related to noise generated during site preparation and the construction of the two proposed buildings, associated parking, and site improvements. The proposed project would be constructed in five phases over a period of 25 weeks. Construction is undertaken in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated on the project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 4.13-1 lists the maximum noise levels from the *Highway Construction Noise Handbook*[36] recommended for noise impact assessments for the loudest anticipated construction that would be used for the project based on a distance of 50 feet between the equipment and a noise receptor. Typical operating cycles for these types of construction equipment may involve 1 to 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings.

In addition to the reference maximum noise level, the usage factor provided in Table 4.E is utilized to calculate the hourly noise level impact for each piece of equipment based on the following equation:

$$L_{eq}(equip) = E.L. + 10\log(U.F.) - 20\log\left(\frac{D}{50}\right)$$

where: $L_{eq}(equip)$ = L_{eq} at a receiver resulting from the operation of a single piece of equipment over a specified time period

E.L. = noise emission level of the particular piece of equipment at a reference distance of 50 ft

[36] Federal Highway Administration (FHWA). 2006. Highway Construction Noise Handbook. Roadway Construction Noise Model, FHWA-HEP-06-015. DOT-VNTSC-FHWA-06-02. NTIS No. PB2006-109012. August.

U.F. = usage factor that accounts for the fraction of time that the equipment is in use over the specified period of time

D = distance from the receiver to the piece of equipment

Table 4.E: Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA L_{max} at 50 feet)
Air Compressor	40	80
Backhoe	40	80
Crane	16	85
Excavator	40	85
Forklift	20	85
Generator	50	80
Grader	40	85
Loader	40	80
Paver	50	85
Roller	20	85
Scraper	40	85
Skid Steer Loader	40	80
Tractor	40	84
Trencher	50	82
Water Truck	40	84

Source: *Highway Construction Noise Handbook* (FHWA 2006).
dBA = A-weighted decibel
FHWA = Federal Highway Administration
L_{max} = maximum instantaneous noise level

Each piece of construction equipment operates as an individual point source. Utilizing the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$Leq\ (composite) = 10 * \log_{10}\left(\sum_{1}^{n} 10^{\frac{Ln}{10}}\right)$$

Table 4.F shows the composite noise levels of the two loudest pieces of equipment for each construction phase, at a distance of 50 feet from the construction area. Once composite noise levels are calculated, reference noise levels can then be adjusted for distance using the following equation:

$$Leq\ (at\ distance\ X) = Leq\ (at\ 50\ feet) - 20 * \log_{10}\left(\frac{X}{50}\right)$$

In general, this equation shows that doubling the distance would decrease noise levels by 6 dBA while halving the distance would increase noise levels by 6 dBA.

Table 4.F: Construction Phases

Construction Phase	Loudest Equipment	Composite Noise Level at (dBA L_{max} at 50 feet)
Site preparation, Grading	Scraper	88
	Grader	
Building Construction	Scraper	88
	Tractor	
Paving	Paver	88
	Roller	
Architectural Coating	Air Compressors	86

Sources: Natural Supplements, Inc. (2020). *Construction Noise Handbook* (FHWA 2006).
dBA = A-weighted decibel
FHWA = Federal Highway Administration
L_{max} = maximum instantaneous noise level

According to the construction schedule provided by the project applicant, the phases of construction include (1) site preparation, (2) grading, (3) building construction, (4) paving, and (5) architectural coating. To provide a conservative estimate, the noise levels were calculated from the edge of the project site, whereas the construction activities would cover the entire site and often be farther from sensitive receptors.

It is expected that noise levels at the park to the southwest approximately 450 feet away from the site could approach 68.9 dBA L_{eq} while noise levels at the nearest residential property approximately 900 feet to the southwest could approach 62.7 dBA L_{eq} during site preparation, grading, and building construction. Noise levels would be lower during the paving and architectural coatings phases. Temporary construction activities are exempt when they occur between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and from 9:00 a.m. to 5:00 p.m. on weekends and holidays per the City's Municipal Code. While construction-related short-term noise levels have the potential to be higher than existing ambient noise levels in the project area, the noise impacts would no longer occur once project construction is completed.

Implementation of Mitigation Measure NOI-1 would ensure that construction noise does not disturb the residential uses during hours when ambient noise levels are likely to be lower (i.e., at night). Impacts would be **less than significant with mitigation incorporated.**

Mitigation Measure: The following measures would reduce short-term, construction-related noise impacts resulting from the proposed project.

Mitigation Measure NOI-1: **Construction Noise.** Prior to commencement of construction activities, City staff shall verify that grading and construction plans include the following requirements to ensure that the greatest

distance between noise sources and sensitive receptors during construction activities has been achieved:

- Construction activities occurring as part of the project shall be subject to the limitations and requirements of the City of Antioch Municipal Code, which states that construction activities are prohibited between the hours of 6:00 p.m. and 7:00 a.m. on weekdays and between 5:00 p.m. and 9:00 a.m. on weekends and holidays.
- During all project area excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.

Long-term Off-site Traffic-Related Noise Impacts. The proposed project is estimated to generate an average daily traffic (ADT) volume of 2,268 vehicles based on a nursery and dispensary land use in a general urban/suburban setting. The existing ADT volumes on Wilbur Avenue in the project area north of residential uses range from 6,780 to 10,248.[37] While traffic levels have likely increased since this data set, the lower existing ADT volume results in a more conservative assessment. It takes a doubling of traffic to increase traffic noise levels by 3 dBA, which is considered the threshold of a readily perceptible increase in an outdoor setting, per the following equation:

$$\text{Change in CNEL} = 10 \log_{10} [V_{e+pt}/V_{existing}]$$

where: $V_{existing}$ = the existing daily volume
V_{e+pt} = existing daily volumes plus Project trips
Change in CNEL = the increase in noise level due to Project trips

The project-related traffic would increase traffic noise along Wilbur Avenue by up to 1.2 dBA. This noise level increase would not be readily perceptible to the human ear in an outdoor environment (less than 3 dBA); thus, traffic noise impacts from project-related traffic at off-site sensitive receptors would be **less than significant**.

Long-term Off-site Operation-Related Noise Impacts. Noise impacts associated with the long-term operation of the project must comply with a 60 dBA CNEL standard for outdoor living areas at nearby residential units and parks as outlined in the City's Noise Ordinance, described above.

Adjacent off-site land uses would be potentially exposed to stationary-source noise impacts from the proposed HVAC equipment. The project would have two HVAC units at the main building (Processing Facility) of the project site. The HVAC equipment could operate 24 hours per day. One HVAC unit would generate a noise level of 72 dBA L_{eq} at 3.3 feet, based on manufacturer testing.[38] Two units operating simultaneously would generate a noise level of 75 dBA L_{eq} at 3.3 feet. Table 4.G

[37] Ibid.

[38] Rheem. 2020. *Rheem Prestige Series Variable Speed Air Conditioners.* https://s3.amazonaws.com/WebPartners/ProductDocuments/162ff43a-c0ff-4658-ac8d-26787125c737.pdf.

shows the exterior noise levels from the proposed on-site HVAC units at land uses nearest to the project along with the approximate distance from the closest HVAC unit and distance attenuation.

Table 4.G: Summary of HVAC Noise Levels

Land Use (Direction)	Reference Noise Level (dBA L_{eq})	Reference Distance (feet)	Distance[1] (feet)	Distance Attenuation (dBA)	Exterior Noise Level (dBA L_{eq})
Park (Southeast)	75	3.3	550	44	31
Residences (Southeast)			1,020	50	25

Source: Compiled by LSA Associates, Inc. (2021)
[1] Distance from HVAC sources to outdoor activity area at the nearest sensitive receptor.
dBA = A-weighted decibels
L_{eq} = equivalent continuous sound level

Assuming that all of the HVAC equipment would operate continuously for a period of 24 hours, the daily noise level at the nearest single-family homes would be 32 dBA CNEL and the daily noise levels at the existing park would be 38 dBA CNEL and would not exceed the City's noise level standards of 60 dBA CNEL.

As described above, the project would not 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 City's General Plan or Noise Ordinance, or any other applicable standards. Therefore, this impact would be **less than significant**.

Land Use Compatibility Assessment: The City of Antioch General Plan Noise Element contains policies that provide noise level limits for commercial/industrial uses. While exterior noise levels from train pass-by events[39] were approximated to result in a noise level of 72 dBA CNEL at the southern property line of the project, exterior noise levels would be approximately 68.5 dBA CNEL at the setback of the project buildings, which would meet the City's 70 dBA CNEL ambient noise standard for commercial/industrial uses. Additionally, traffic noise from Wilbur Avenue would approach 59.5 dBA CNEL at the northern building façade, which is also well below the City's 70 dBA CNEL standard for commercial/industrial uses. As such, impacts would be **less than significant**.

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

Construction Vibration Impacts. Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. Groundborne noise and vibration from construction activity would be mostly low to moderate. While there is currently limited information regarding vibration source levels, to provide a comparison of vibration levels expected for a project of this size, as shown in Table 4.H, a large bulldozer would generate approximately 87

39 LSA. 2003. City of Antioch, *Draft General Plan Update Environmental Impact Report*. July.

VdB (0.089 PPV in/sec) of groundborne vibration when measured at 25 feet, based on the *FTA Manual*.

Table 4.H: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 feet	
	PPV (in/sec)	L_V (VdB)[1]
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment* (FTA 2018).
[1] RMS VdB re 1 µin/sec.

µin/sec = microinch(es) per second
FTA = Federal Transit Administration
in/sec = inch(es) per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity in decibels

The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary) because vibration impacts normally occur within affected buildings. The formula for vibration transmission is provided below.

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.1}$$

As stated above, it would take a minimum of 0.12 in/sec PPV to cause any potential building damage for extremely susceptible buildings or a minimum of 0.2 in/sec PPV for a non-engineered timber and masonry building.

The closest structure to the project site is the existing warehouse to the south, approximately 225 feet from the project construction area limits. Utilizing the equation above, the operation of typical construction equipment would generate groundborne vibration levels of 0.008 in/sec PPV. Based on this analysis, vibration levels would not exceed any of the established guidelines considered for damage potential. Additionally, the above predicted groundborne vibration levels are below human perceptibility thresholds.

Short-term construction impacts related to groundborne vibration or groundborne noise would be minimal and temporary in nature and would cease upon the completion of construction. Therefore, construction vibration impacts would be considered **less than significant**.

Long-Term Groundborne Noise and Vibration from Vehicular Traffic. Because the rubber tires and suspension systems of the automobiles, trucks, and other on-road vehicles that would access the project site would provide vibration isolation and reduce noise, it is unusual for on-road vehicles to cause groundborne noise or vibration. When on-road vehicles cause such effects as the rattling of

windows, the source is almost always airborne noise at close distances. Most problems with on-road vehicle-related noise and vibration can be directly related to a pothole, bump, expansion joint, or other discontinuity in the road surface. Smoothing the bump or filling the pothole would usually solve the problem. The proposed project would have driveways and a surface parking lot with smooth pavement and would not result in significant groundborne noise or vibration impacts from vehicular traffic. Impacts would be **less than significant**.

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 2 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?

The proposed project is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest public use airport is Rio Vista Municipal Airport in the City of Rio Vista, approximately 12.8 miles northeast of the project site.[40] As a result, the proposed project would not expose people residing or working in the project area to excessive noise levels from aircraft and **no impact** would occur.

[40] Solano County. 2018. *Rio Vista Airport Land Use Compatibility Plan*. May.

4.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

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)?

The proposed project includes the development of two buildings on a vacant site, which would accommodate a commercial cannabis business. No residential units are proposed. The proposed project is anticipated to employ 36 people. The City of Antioch has a current (December 2020) unemployment rate of 11.5 percent and the balance of Contra Costa County has a current unemployment rate of 7.5 percent.[41] Based on the current unemployment rates, it is anticipated that employees of the proposed project would be hired from the existing population within the City of Antioch or nearby unincorporated areas of Contra Costa County. The proposed project would not include development of new infrastructure or the extension of roads as it would be a site-specific action. Based on this, the proposed project would not induce substantial unplanned population growth in the area, either directly or indirectly. 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?

The proposed project would be developed on a vacant lot and no residential units are located on the site. As such, the proposed project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. **No impact** would occur.

[41] California Employment Development Department, Unemployment Rate and Labor Force. https://www.labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html (accessed February 10, 2021).

4.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☐	☒

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: i. Fire protection? ii. Police protection? iii. Schools? iv. Parks? v. Other public facilities?

Fire Protection. Fire suppression, emergency medical, and rescue services are provided to the project area and the site by the Contra Costa County Fire Protection District (CCCFPD). The jurisdiction of the CCCFPD is served by 26 fire stations and 1 reserve state, 294 firefighters, and 147 administrative staff. The average response time for CCCFPD is 7 minutes and 18 seconds.[42] Station 88, located at 4288 Folsom Drive, approximately 4.1 miles from the project site, is the nearest station serving the site.

The proposed project would develop two buildings on a vacant parcel that would accommodate a commercial cannabis business. The project, once operational, has the potential to increase response calls from CCCFPD. However, the buildings would be designed to comply with Fire Code standards of the CBC. Design features would include, but are not limited to, a fire sprinkler system in both buildings, storage of fire extinguishers where needed, a fire alarm system in both buildings, aptly spaced fire hydrants to adequately serve the site, and fire rated construction materials specific for the type of use that would occupy the two buildings. Adequate emergency access to the site and two buildings would also be designed as part of the proposed project. The CCCFPD would review and approve the site plans for the proposed project to ensure that appropriate design features that conform to Fire Code standards of the CBC are implemented. In addition, as a condition of approval, the applicant of the proposed project would need to pay Fire Protection Facilities Fees in accordance with Chapter 7, Section 3-7.05 of the City's Municipal Code. The existing fee schedule that would

[42] Personal communication between Chris Graham, LSA, and Tracie Dutter, Contra Costa County Fire Protection District, April, 9 2021.

apply to the proposed project is as follows: $568 per 1,000 square feet of office space; $649 per 1,000 square feet of commercial space, and $379 per 1,000 square feet of industrial space.

The proposed project would also implement a Safety and Security Plan that outlines Fire Prevention and Suppression procedures for employees of the proposed project. In the event of a fire, employees would be trained in the following procedures:

- **Alert** others by activating one of the manual fire alarm pull stations throughout the facility and direct them to begin immediate evacuation.
- **Report** the fire to 911 and business management as soon as possible from a safe location.
- **Attempt to Extinguish** the fire only if trained and feel comfortable doing so. Do not attempt to extinguish a fire which is larger than a trash can. Always leave a good escape route from the area while attempting to extinguish the fire. If the fire cannot be safely and quickly contained, leave the area immediately and close all doors upon exit.
- **Evacuation:** During business hours, security and key personnel would assist with a quick and orderly evacuation, search of the facility, and assist disabled customers, vendors, and staff members. Upon evacuation, employees would proceed to the parking lot, which would serve as the designated evacuation area.

With implementation of design features in compliance with Fire Code standards of the CBC, payment of Fire Protection Facilities Fees, and implementation of a Safety and Security Plan for the occupants of the proposed project, the CCCFPD would continue to adequately provide fire service at the site. It should be noted that the proposed project would also handle hazardous materials associated with cannabis production. The CCCFPD can adequately serve the project in the event of a hazardous materials release/leak. See Section 4.9, Hazards and Hazardous Materials, for further discussion. Implementation of the proposed project would not 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. Impacts would be **less than significant**.

Police Protection. The Antioch Police Department (APD) provides law enforcement service to the City as well as to the proposed project site. The APD employs 104 sworn officers and 33 non-sworn employees, which include Administration Support staff, Dispatchers, and Community Service Officers. In 2020, crime statistics within the APD's jurisdiction included: 9 HOMI (Murder and Non-negligent Manslaughter); 40 rape cases; 142 robbery incidents; 402 aggravated assault incidents; 464 burglary incidents; 1,682 theft incidents; 573 motor vehicle theft incidents; 47 arson incidents; 3,174 adult arrests; and, 213 juvenile arrests.[43] Between the week of January 31 and February 6,

[43] Antioch Police Department. 2020 Crime Statistics. https://www.antiochca.gov/fc/police/crime-maps/this-months-stats.pdf (accessed February 11, 2021).

2021, the APD had 124 calls for service with police reports written.[44] The APD Station, located at 300 L Street, is approximately 2.5 miles west of the project site.

The proposed project would increase law enforcement calls for service to the site as it would be developed on vacant land. The proposed project includes the development of two buildings on a vacant parcel that would accommodate a commercial cannabis business. Due to type of use that would be present on site, it is estimated that calls for law enforcement service could be higher than those of a non-cannabis use. However, the proposed project would implement Crime Prevention through Environmental Design (CPTED) techniques that would discourage and or reduce crime from occurring on site.

The parking lot of the proposed project would be well lit and the buildings would include lighting on their façades. The exterior of the building would be equipped with 360-degree motion-activated security lighting, illuminating the exterior premises within 25-feet whenever there is movement within close-proximity.

The site would be secured by a wrought iron fence running across the front of the property, connecting to an 8-foot tall chain link fence surrounding the remainder of the facility perimeter. Access to the employee and vendor parking lot on the property's south side would be facilitated by a sliding gate located on the northwest west side of the site near Building B. Access to the distribution loading bay would be provided on the west side of Building A for transfer of products and currency. Secure Access would be provided to the loading bay on the east side of Building B for transfer of finished cannabis flower, and cannabis trim to the Distribution Premises at Building A's. The perimeter fence would be equipped with a motion activated surveillance lighting system. When this system is active, any motion occurring near the facility's perimeter would initiate the illumination of the relevant area with a notification alert to a dispatch facility for security administrators to determine the presence of security threat via security camera verification. Upon verification of an actual threat, security administrators would immediately notify the APD to request a dispatch, as well as employees. Cannabis plants and goods would not be visible from the exterior of the facility, as the cultivation of cannabis plants and all ancillary operations would take place inside of the project structures. There would be no signs or visual markers indicating cannabis cultivation would be conducted on the project site.

The exterior premises of both Buildings A and B would be covered by 360-degree camera surveillance 24 hours a day, with remote viewing accessible by the Security and Operations Managers, Security Administrators, and Natural Supplements Executives business. The camera resolution would be 1,280 × 1,024-Pixel HD picture quality capable of monitoring activity within 20 feet of all entrances and exits on the premises, and the ability to capture a clear view of individual facial features as well as license plates as vehicles enter and exit the premises. Except for the restrooms, all areas within the building would be monitored by interior surveillance cameras accessible to the Security and Operations Managers, Security Administrators, and business

[44] Antioch Police Department. 2020 Crime Statistics. https://www.antiochca.gov/fc/police/crime-maps/this-weeks-cfs.pdf (accessed February 11, 2021).

Executives. The interior surveillance camera resolution would be 1,280 × 1,024-Pixel HD picture quality capable of clearly identifying any person and all activities within the buildings of the project.

The buildings would also be equipped with panic buttons that would connect to the APD in the event of an emergency. Security and Operations Managers of the business would establish contact with the APD area watch commander to provide notification of any security issues. The Security Manager would also serve as the 24-hour "on call" point of contact to receive, log, and respond to complaints, with contact information posted on the front window of the facility.

A staff of at least two on-site uniformed, licensed security personnel would be provided by the business during all hours of operation. One security staff member would be located at the entrance and periodically circulate the premises to maintain a constant security presence throughout. One Security Manager would have the ability to coordinate and monitor security from an interior office within the buildings 24 hours a day.

The security team would monitor site activity, control loitering and site access, prevent sampling or use of product in the parking areas and general vicinity, and serve as a visual and actual deterrent to unlawful activities.

The site security features described above would be part of a Security Plan that would be implemented as part of the proposed project as a condition of approval. The Security Plan would also provide greater detailed security measures associated with the commercial cannabis business, which would reduce calls for service from the APD. Finally, as a condition of approval prior to the issuance of building permits, the project applicant would be required to pay the Development Impact Fee (DIF) of $0.30 per square foot of non-residential use, which would equate to a total DIF of $9,210 the applicant would pay to the City (30,700 square feet of Building A and B × $0.30 per square foot of non-residential use).[45] The APD would receive 56.7 percent ($0.17 per square foot of the $0.30 per square foot DIF) of the DIF pursuant to the Master Fee Schedule of the City of Antioch.

Based on the security measures that would be implemented as part of the proposed project as well as payment of the DIF that would support the APD, implementation of the proposed project would not increase calls for law enforcement to the point where new facilities or existing facilities would need to be developed. Impacts would be **less than significant**.

Schools. The Antioch Unified School District (AUSD), which provides kindergarten through high school education, serves the educational needs in the City of Antioch. The AUSD had a 2020 enrollment of 17,167 students.[46] The closest elementary school to the proposed project is Kimball Elementary School (1310 August Way; approximately 1.2 miles southwest of the project), which had a 2020 enrollment of 474 students; Park Middle School (1 Spartan Way approximately 2.2 miles southwest of the project) is the closest middle school to the proposed project and had a 2020 enrollment of 1,123 students; and the closet high school to the proposed project is Antioch High

[45] City of Antioch. Master Fee Schedule, Development Impact Fee. https://www.antiochca.gov/fc/finance/Master-Fee-Schedule-09-24-2018.pdf (accessed February 11, 2021), page 6, September 24, 2018.

[46] California Department of Education, Data Quest. https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdLevels.aspx?cds=0761648&agglevel=district&year=2019-20 (accessed February 12, 2021).

School (700 W 18th Street; approximately 1.9 miles west of the project), which had a 2020 enrollment of 2,042 students.[47]

The proposed project does not include the development of residential units; as such, it would not add to the population of the City of Antioch and would not generate students that would attend schools in the AUSD. The proposed project includes the development of two buildings on a vacant parcel that would accommodate a commercial cannabis business. Employees of the proposed project are anticipated to come from the existing population pool in the City of Antioch or surrounding areas as the unemployment rate is high in the area (see Section 4.14, Population and Housing of this Initial Study). As such, it is assumed that children of employees would already be enrolled in AUSD or other nearby school districts. Based on this, implementation of the proposed project would not increase a school-aged population in the City of Antioch or nearby areas to the point where new educational facilities or existing educational facilities would need to be developed. **No impact** would.

Parks. Section 4.16, Recreation of this Initial Study provides a discussion and analysis of the project's potential impact on parks and recreational facilities. As discussed, this impact would be **less than significant**.

Other Public Facilities. Development of the proposed project could incrementally increase the demand for other public services, including libraries, community centers, and public health care facilities. However, the proposed project is not a population-generating use, and employees of the proposed project are anticipated to come from the existing population of the City of Antioch or nearby jurisdictions. As such, it can be assumed that employees of the proposed project already use other public facilities within the City of Antioch. Based on this, implementation of the proposed project would not increase a population to the point where new public facilities or existing public facilities would need to be developed. **No impact** would occur.

47 Ibid.

4.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒

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?

Jacobsen Park, a 1.3-acre neighborhood park, is located in the residential neighborhood to the southwest, approximately 0.34 mile from the project site. This park offers BBQ pits, basketball courts, picnic tables, tot play area, turf/landscaping, and a youth play area. Gaylord Sports Fields, located 0.07 mile southwest of the project site, is a large regional sports complex, offering nine baseball/softball diamonds, and a large grass field for turf sports. The proposed project would not generate a population of people (through the development of residential units) that would use these facilities and contribute to their physical deterioration; however, employees may visit these facilities during work breaks. The anticipated use of these facilities by employees associated with the proposed project would be low and minimal physical deterioration would occur from such usage. As such, the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated and this impact would be **less than significant**.

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?

The proposed project would develop two buildings on a vacant site that would accommodate a commercial cannabis business. The project does not include recreational facilities as part of its design nor does it include the expansion of existing recreational facilities. As such, implementation of the proposed project would not include the development of recreational facilities which may have an adverse physical effect on the environment and **no impact** would occur.

4.17 TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate 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?

The proposed project would be developed on a vacant parcel within the City of Antioch. The project would include the development of two buildings that would accommodate a commercial cannabis business. Improvements would only occur on the project site and no improvements would occur at off-site locations (e.g., new infrastructure installation in City-owned road right-of-way, development of a new access road, installation of new lights at nearby intersections, or intersection improvements). The proposed project would not include features that would change (improve or degrade) the existing transit system, bicycle and pedestrian facilities, or roadways in the City of Antioch. As such, implementation of the proposed project would not conflict with a program plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle and pedestrian facilities. Impacts would be **less than significant**.

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

The information in this section is based on the *Vehicle Miles Traveled Analysis Memorandum*[48] (**Appendix D**) prepared for the project in January 2021.

On December 28, 2018, the California Office of Administrative Law cleared the revised *CEQA Guidelines* for use. Among the changes to the guidelines was removal of vehicle delay and level of service (LOS) from consideration under CEQA. With the adopted guidelines, transportation impacts were required to be evaluated based on a project's generation of VMT. The City of Antioch does not have its own VMT analysis guidelines; therefore, the VMT analysis for the proposed project was prepared consistent with the Governor's Office of Planning and Research (OPR) *Technical Advisory* (TA).[49] The OPR TA does not state any definite thresholds for land uses other than residential, office, and retail. Therefore, for purposes of this analysis, the project's VMT per employee is compared

48 LSA. Antioch Natural Supplements Project Vehicle Miles Traveled Analysis, January 19, 2021.

49 State of California, Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.

with the regional VMT per employee to determine VMT impacts. Contra Costa County is considered the region for the VMT analysis comparison to the proposed project. As a conservative approach, since the OPR TA does not have definite thresholds for the project's use type, a threshold of 15 percent below the region's existing VMT per employee has been considered. Table 4.I shows the VMT per employee estimates for the proposed project and Contra Costa County.

Table 4.I: Regional and Project VMT per Employee Comparison

Analysis Scenario	Region(Contra Costa County) (miles)	Project (miles)	Percentage Difference
Existing (2021)	13.61	8.29	-39.09

Source: LSA, *Antioch Natural Supplements Project Vehicle Miles Traveled Analysis*, January 19, 2021.

As shown in Table 4.I, the VMT per employee for the project is 39.09 percent lower than the corresponding regional average under existing conditions. The proposed project would therefore not exceed the 15 percent difference threshold used in this analysis. Therefore, per the guidelines in the OPR TA, the proposed project would not have a significant VMT impact and this impact 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)?

The proposed project site plan indicates that access to the project site would occur from an access road that connects to Wilbur Avenue. The access road entrance at Wilbur Avenue would be 48 feet wide and be designed in compliance with City of Antioch and CCCFPD standards. Line of site distances where the access road meets Wilbur Avenue would be designed in compliance with City of Antioch standards. The access road would connect to a 26-foot wide dispensary entry/exit way that would lead to a surface parking lot that would accommodate 24 standard parking stalls and four handicap parking stalls. A second, 26-foot, 9-inch wide entry/exit way to the west of the dispensary entry/exit, would provide access to an employee surface parking lot that would accommodate 35 standard parking stalls and one handicap parking stall. Both of the entry ways on the project site would be gated for security measures. No off-site improvements (e.g., development of a new access road, installation of new lights at nearby intersections, intersection improvements) would occur with implementation of the proposed project. Overall, the proposed project would not include geometric design features that would substantially increase transportation hazards. The proposed project would be located in an area of Antioch where industrial and commercial uses exist. The parcel where the project site would be located is zoned PBC District and CB Overlay District. The commercial cannabis business that would occupy the proposed project site is allowed in the CB Overlay District with a Use Permit issued by the City of Antioch. Development of the proposed project would not include incompatible uses that would substantially increase transportation hazards. Impacts would be **less than significant**.

d. Would the project result in inadequate emergency access?

The proposed project site is located in the City of Antioch and is accessed via Wilbur Avenue. An access road entry/exit way, 48 feet in width, would connect the project site to Wilbur Avenue. The access road would provide entry/exit to a dispensary surface parking lot and an employee surface parking lot. Both of these entry/exit ways to the surface parking lots would be secured by access gates that would be operated by security personnel in the event of an on-site emergency. The entry/exit for the dispensary surface parking lot would be approximately 26 feet wide and the entry/exit for the employee surface parking lot would be approximately 27 feet wide. The proposed project would be designed to allow for emergency vehicle access in compliance with City of Antioch and CCCFPD standards. No off-site roadway improvements would occur under the proposed project; as such, emergency access via local and regional roads would still occur without any detours or disruptions. Finally, prior to issuance of building permits, during final plan check, the City of Antioch and CCCFPD would review the proposed project to ensure that adequate emergency access is provided. As such, implementation of the proposed project would not result in inadequate emergency access and this impact would be **less than significant**.

4.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? Or	☐	☐	☒	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in 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.	☐	☐	☒	☐

a. 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: i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? Or ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in 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.

Assembly Bill 52 (AB 52), which became law on January 1, 2015, provides for consultation with California Native American tribes during the CEQA environmental review process, and equates significant impacts to "tribal cultural resources" with significant environmental impacts. Public Resources Code (PRC) Section 21074 states that "tribal cultural resources" are:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and are one of the following:
    - Included or determined to be eligible for inclusion in the California Register of Historical Resources.

- Included in a local register of historical resources as defined in subdivision (k) of PRC Section 5020.1.

- 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The consultation provisions of the law require that a public agency consult with local Native American tribes that have requested placement on that agency's notification list for CEQA projects. Within 14 days of determining that a project application is complete, or a decision by a public agency to undertake a project, the lead agency must notify tribes of the opportunity to consult on the project, should a tribe have previously requested to be on the agency's notification list. California Native American tribes must be recognized by the California Native American Heritage Commission as traditionally and culturally affiliated with the project site, and must have previously requested that the lead agency notify them of projects. Tribes have 30 days following notification of a project to request consultation with the lead agency.

The purpose of consultation is to inform the lead agency in its identification and determination of the significance of tribal cultural resources. If a project is determined to result in a significant impact on an identified tribal cultural resource, the consultation process must occur and conclude prior to adoption of a Negative Declaration or Mitigated Negative Declaration, or certification of an Environmental Impact Report (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

The City sent letters describing the project and maps depicting the project site via certified mail on March 23, 2021 to Native American contacts that had previously requested to be contacted by the City for potential consultation pursuant to AB 52. No requests for consultation have been received to date.

As discussed in Section 4.5, Cultural Resources, of this Initial Study, the NWIC records search and the archaeological survey completed for the project did not identify evidence of Native American archaeological deposits or ancestral remains. The proposed project would have no impact on known tribal cultural resources that are listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources, nor has the City identified a tribal cultural resource at the project site. With implementation of **Mitigation Measure CUL-1**, and compliance with Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resource Code, the potential construction-period discovery of previously unidentified human remains, which may be of tribal origin, would be reduced to a **less-than-significant** level.

4.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

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?

The City of Antioch maintains existing sanitary sewer lines within the vicinity of the site, including an 8-inch line within Viera Avenue and a 15-inch line within Wilbur Avenue. The proposed project includes the installation of new 4-inch lines that would be installed within the drive aisles of the surface parking lot and would connect to the City's existing lines. The new sanitary sewer line installed on the project site would be constructed in conformance with City standards, and its construction would not cause significant environmental effects. It should be noted that wastewater from the cannabis growth, production and product manufacturing would be collected and stored on-site and transported to an off-site facility for treatment and disposal.[50]

As described below, the City provides both potable and non-potable water to the project site through a 12-inch water line in Wilbur Avenue. The City's current 2015 Urban Water Management Plan (UWMP) describes the existing and planned sources of water available in the water system service area through the year 2040. The City's UWMP has determined that water supplies would be adequate during normal year, single-dry year, and multiple-dry year scenarios through the 2040 based on the development of the land uses within the City.[51] The proposed project would not

[50] This type of wastewater is not the same as human generated wastewater. The human generated wastewater would be conveyed off-site into existing infrastructure.

[51] City of Antioch, 2015 Urban Water Management Plan. https://www.antiochca.gov/fc/environment/UWMP-2015.pdf (accessed February 17, 2021) Tables 7-3, 7-4, and 7-5, pages 7-4 through 7-8, May 2016.

substantially increase demand for water and would therefore not exceed the capacity of existing water treatment facilities. The proposed project would not require the construction of new water treatment facilities, or the expansion of existing facilities, other than those already planned as part of the City's UWMP. The proposed project would include the installation of new water lines connecting to the existing 12-inch water service line located within Wilbur Avenue. The proposed project would connect directly to existing mains, which have sufficient capacity to accommodate the proposed project. Therefore, the impact of the proposed project on water infrastructure would be less than significant. The proposed storm water drainage system on the project site would be composed of inlets in the surface parking lot which would connect and convey storm water to a proposed retention basin on the southwest corner of the site. The retention basin would be developed to accommodate 0.68 acre feet of water which exceeds the estimated about of storm water the proposed project would generate. The retention basin would provide appropriate vegetation and water quality treatment as to not expel untreated storm water off the project site. In addition, the on-site drainage would be designed to be consistent with the Contra Costa County National Pollutant Discharge Elimination System (NPDES) C.3 requirements for Low Impact Development (LID). Therefore, the impact of the proposed project on storm water infrastructure would be less than significant.

The project site is currently occupied by power poles and electrical lines. This infrastructure would be undergrounded as part of the proposed project in coordination with the service providers. Both buildings included in the proposed project would include connections to the existing electricity lines that would be undergrounded. Additionally, the two new buildings would connect to the natural gas line running below Wilbur Avenue.

Therefore, because the proposed project would connect to existing utility services within or adjacent to the project site, the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities would not be required. Impacts would be **less than significant**.

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?

The City would provide both potable and non-potable water to the project site through infrastructure located in Wilbur Avenue. The City's principal sources of surface water are the Sacramento-San Joaquin Rivers Delta and the Contra Costa Canal, which can be stored in the Antioch Municipal Reservoir. Canal water, purchased from the Contra Costa Water District (CCWD) is pumped from the Victoria Canal, Rock Slough, and Old River in the western Delta and stored in the Los Vaqueros Reservoir. The pipelines from the Contra Costa Canal to the water treatment plant (WTP) have a capacity of over 60 million gallons of water per day. Water from the Canal can be pumped into the City municipal reservoir or directly to the WTP, which has a maximum capacity of 38 million gallons of water per day. Treated water flows into two 1 million gallon clearwells and then is distributed into the City of Antioch water conveyance system.

The City's current 2015 Urban Water Management Plan (UWMP) describes the existing and planned sources of water available in the water system service area through the year 2040. The City's UWMP has determined that water supplies would be adequate during normal year, single-dry year, and

multiple-dry year scenarios through the 2040 based on the development of the land uses within the City. The UWMP, which identifies water system improvements necessary to meet future water demand, did not identify any deficiencies in the vicinity of the project site.

As described in Section 2.0, Project Description, the estimated demand for water at the project site would be 7,568.6 gallons of water per day (2,762,539 gallons of water annually or 8.5 acre-feet of water annually). The existing water system infrastructure has adequate capacity to serve the proposed project. In addition, the proposed project would be required to use recycled water to the maximum extent feasible and coordinate with the CCCFPD to assess fire flow requirements and comply with them as part of the proposed project. Based on the above, the City would provide sufficient water supplies to the proposed project for the foreseeable future during normal, dry, and multiple dry year scenarios and this impact 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?

The Delta Diablo Sanitation District (DDSD) provides sewer treatment service to Antioch, Pittsburg, and Bay Point. The City is within the DDSD service boundaries, which are conterminous with the City of Antioch limits. The DDSD is responsible for conveyance of wastewater from the point of discharge from City of Antioch pipes to interceptor stations, which convey the sewage to the Bridgehead and Antioch pump stations, located in southeast Antioch and at Fulton Shipyard Road, respectively. The wastewater is treated at the DDSD wastewater treatment plant, located near the border of Antioch and Pittsburg. The DDSD currently serves a population of 210,000 residents and has a current average dry weather flow capacity of 19.5 million gallons per day (mgd).[52] The DDSD treats an average of 12.4 million gallons of wastewater per day, which is about 64 percent of its 19.5 mgd capacity.[53] Based on a wastewater generation rate of 59 gallons/per person/per day[54] and an estimated project employment of 36 staff, the proposed project is estimated to generate 2,124 gallons of domestic wastewater per day that would be treated at the DDSD. As the DDSD's wastewater flow capacity equates to 19.5 mgd, domestic wastewater generated by the proposed project would be adequately served by the DDSD. Therefore, wastewater generated from the proposed project would not cause the DDSD to violate any wastewater treatment requirements. It should be noted that wastewater from the cannabis growth, production and product manufacturing would be collected and stored on-site and transported to an off-site facility for treatment and disposal. Impacts would be **less than significant**.

52 Delta Diablo, Comprehensive Annual Financial Report, Website: https://www.deltadiablo.org/files/48d84d84f/DeltaDiabloCAFR2019.pdf (accessed April 8, 2021).

53 Delta Diablo Website: https://www.deltadiablo.org/faqs (accessed April 8, 2021).

54 The 60 gallons of wastewater per person per day is derived from dividing the residents served by the average daily flow rate into the DDSD (12,400,000 gallons per day/210,000 residents = 59.0 gallons per person per day).

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?

Republic Services provides solid waste and recycling pickup and disposal at the project site and at other uses within the City. Solid waste and recyclables are taken from Antioch to the Contra Costa Transfer and Recovery Station located in the City of Martinez, where recyclables are separated out and stored before shipment to recycling markets. Remaining solid waste is transferred to the Keller Canyon Landfill in the City of Pittsburg. The Keller Canyon Landfill has a permitted lifetime capacity of 75,018,280 cubic yards, estimated remaining capacity of 63,408,410 cubic yards, and an estimated life span to beyond 2060. The facility has a daily maximum permitted disposal rate of 3,500 tons of solid waste.

Solid waste generated by the proposed project would be disposed of at the Keller Canyon Landfill. However, due to the proposed commercial cannabis use, special disposal techniques of cannabis products must be taken into consideration. Overall, the proposed project is estimated to generate 0.35 ton (700 pounds) of general solid waste per day (255,500 pounds or 127.75 tons annually)[55] and 0.005 ton of cannabis related waste per day, for a total waste generation of 0.355 tons per day, or 129.58 tons annually. Based on the remaining capacity and the daily maximum intake of the facility, the Keller Canyon Landfill would be able to accommodate the daily and annual general solid waste generated by the proposed project.

The disposal of commercial cannabis products and byproducts is regulated by the California Bureau of Cannabis Control, California Department of Food and Agriculture, and the California Department of Public Health. All three regulatory agencies provide specific guidelines on how cannabis byproducts are to be disposed of and require a Cannabis Disposal Plan for companies in the commercial cannabis business. The proposed project would incorporate specific techniques to dispose of cannabis waste properly and in compliance with regulatory agencies. Upon accumulation, cannabis waste would be remediated by mixing it with the spent soil utilized for delivery of water and nutrients to individual cannabis plants. The soil and cannabis would be co-mingled and grinded down to a uniform mixture, such that the cannabis waste is destroyed and unrecognizable from its original state. In the event that a finished cannabis flower batch is not fit for distribution, it would be deemed cannabis waste and become subject to destruction and disposal.

The business associated with the proposed project would dispose of cannabis waste in a secured waste container located within the building's processing room. As organic waste accumulates on site, Cultivation Technicians would be responsible for collecting, remediating and placing the cannabis waste into specific containers. Once the containers have reached capacity, the organic waste would be transferred by select Cultivation Technicians to an off-site waste disposal facility (more than likely Keller Canyon Landfill). All cannabis waste would be identified, weighed and

[55] The Antioch General Plan EIR indicates that the City does not have a solid waste generation rate for commercial uses; however, the City uses the State's standard solid waste generation rate of 20 pounds per employee per day. The proposed project is expected to employ 36 people; as such, the proposed project would generate 700 pounds (0.35 tons) of solid waste per day or 255,500 pounds (131.4 tons) of general solid waste annually.

tracked, both while on the premises and at the time of disposal. As required by regulations, the proposed project would implement a track-and-trace system to monitor the processing of cannabis waste and disposal. The regulatory agencies would require monthly reporting to be submitted to ensure the track-and-trace system is accurately tracing the disposal of cannabis waste from on-site operations.

Overall, the proposed project would not 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. 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?

The proposed project would be developed to accommodate a commercial cannabis business. The City of Antioch, California Bureau of Cannabis Control, California Department of Food and Agriculture, and the California Department of Public Health, are all agencies that regulate cannabis waste disposal from such types of businesses. All of these agencies would require the proposed project to comply with management and reduction statutes and regulations related to disposal of cannabis byproducts. Each of the agencies would review the proposed project and its disposal plans prior to the development of the project to ensure compliance. Furthermore, the tracking-and-tracing system would be reviewed on a monthly basis (by the State) to ensure compliance with solid waste regulations. It should be noted that the proposed project is a private development in California; as such, federal management and reduction statutes and regulations related to solid waste would not be applicable. This impact would be **less than significant**.

4.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

The project site is not located within or near a SRA for fire service, and is not located in a VHFSZ.[56] An SRA HFSZ is located approximately 3.9 miles southwest of the project site.

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

The proposed project would be designed to provide adequate access to the site for fire/police/emergency medical service personnel in the event of an emergency at the project site. In the event of an emergency on the site, employees and patrons could exit the site via an on-site access road connecting to Wilbur Avenue. Once off the project site, employees and patrons could exit the area via traveling east on Wilbur Avenue and accessing State Route 160 to exit the City and region. As the proposed project would be site specific with no improvements occurring to the local roadway system, it would not substantially impair an adopted emergency response plan or emergency evacuation plan. Furthermore, the proposed project would be subject to a site-specific Safety and Security Plan, which would ensure procedures for employees to take in the event of an on-site emergency or off-site emergency threatening the project site. Impacts would be **less than significant**.

b. Would the project, 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?

The project site would be located on a parcel that is relatively flat and not near any slopes. The proposed project is located in an area of Antioch that is predominantly occupied by commercial and

[56] California Department of Forestry and Fire Protection (CAL FIRE), Fire and Resource Assessment Program, FHSZ Viewer. https://egis.fire.ca.gov/FHSZ/ (accessed February 12, 2021).

industrial uses. Prevailing winds are typically offshore during the summer months and onshore during the winter months in the City. Finally, the proposed project would not include any design features that would increase the potential for a wildfire. The proposed project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be **less than significant**.

c. 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?

The proposed project would be developed on a vacant parcel within the City of Antioch in an area that is mainly occupied by industrial and commercial businesses. The project would develop two buildings that would accommodate a commercial cannabis business and no off-site improvements would occur with implementation of the proposed project. The proposed project would connect to existing off-site utility infrastructure. There are some power poles located on the project site that may have to be relocated; if relocation is required, the City, project applicant, and utility provider would coordinate in the relocation effort. Due to the type of business that would occupy the proposed project (commercial cannabis business) a Safety and Security Plan would be implemented that provides directions for employees in the event a fire occurs on site. Overall, the proposed project would not 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. Impacts would be **less than significant**.

d. 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?

The proposed project is located on a parcel that is relatively flat and the surrounding off-site area is relatively flat as well. Prominent sloped areas are located approximately 4.5 miles to the south-southwest of the project site. Based on the location of the proposed project, the site's susceptibility to downstream flooding or landslides as a result of runoff from post-fire slope instability or post-fire drainage changes would be low. As such, the proposed project would not expose people or structures to such significant risks associated with post-fire conditions and this impact would be **less than significant**.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
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.)	☐	☒	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

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?

Implementation of **Mitigation Measures CUL-1** and **GEO-1** would ensure that potential impacts to historic, archaeological, tribal, and paleontological resources that could be uncovered during construction activities would be reduced to a less than significant level. Implementation of **Mitigation Measure BIO-1** would ensure that potential impacts to nesting birds are reduced to a less than significant level. Therefore, with the incorporation of mitigation measures, development of the proposed project would not: 1) degrade the quality of the environment; 2) substantially reduce the habitat of a fish or wildlife species; 3) cause a fish or wildlife species population to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history. This impact would be **less than significant with mitigation incorporated**.

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.)

The proposed project's impacts would be individually limited and not cumulatively considerable. The potentially significant impacts that can be reduced to a less than significant level with implementation of recommended mitigation measures include the topics of aesthetics, air quality,

biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality. These impacts would primarily be related to construction-period activities, would be temporary in nature, and would not substantially contribute to any potential cumulative impacts associated with these topics. For the topic of aesthetics, potentially significant light and glare impacts would be reduced to less than significant levels with implementation of **Mitigation Measure AES-1**. For the topic of air quality, potentially significant impacts to air quality standards associated with project construction would be reduced to less than significant levels with implementation of **Mitigation Measure AIR-1**. For the topic of biological resources, implementation of **Mitigation Measure BIO-1** would ensure that impacts to nesting birds are reduced to a less than significant level. For the topic of cultural resources, potentially significant impacts to archaeological and cultural resources would be reduced to less than significant levels with implementation of **Mitigation Measure CUL-1**. For the topic of geology and soils, potentially significant impacts related to paleontological resources would be reduced to less than significant levels with implementation of **Mitigation Measure GEO-1**. For the topic of hazards and hazardous materials, implementation of **Mitigation Measure HAZ-1** would ensure that potential impacts associated with the release of hazardous materials, which could in turn degrade the quality of the environment, would be reduced to a less than significant level. For the topic of hydrology and water quality, implementation of **Mitigation Measures HYD-1** and **HYD-2** would ensure that potential water quality impacts are reduced to a less than significant level. For the topic of construction noise, implementation of **Mitigation Measure NOI-1** would ensure that sensitive noise receptors are not impacted during project construction activities.

For the topics of agricultural and forestry resources, GHG emissions, land use and planning, mineral resources, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire, the project would have no impacts or less than significant impacts and, therefore, would not substantially contribute to any potential cumulative impacts for these topics. All environmental impacts that could occur as a result of the proposed project would be reduced to a less than significant level through the implementation of the mitigation measures recommended in this document.

Implementation of these measures would ensure that the impacts of the project would be below established thresholds of significance and that these impacts would not combine with the impacts of other cumulative projects to result in a cumulatively considerable impact on the environment as a result of project development. Therefore, this impact would be **less than significant with mitigation incorporated**.

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

The proposed project would not result in environmental effects that would cause substantial direct or indirect adverse effects to human beings. **No impact** would occur.

5.0 LIST OF PREPARERS

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APPENDIX A

AIR QUALITY CALCULATIONS

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Antioch Natural Supplements

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Pharmacy/Drugstore w/o Drive Thru	5.42	1000sqft	0.20	5,420.00	0
Manufacturing	25.28	1000sqft	3.70	25,280.00	0
Parking Lot	78.00	Space	0.60	31,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Antioch Natural Supplements - Bay Area AQMD Air District, Annual

Project Characteristics - CO2e intensity based on 5-year average (PG&E 2015)

Land Use - The proposed project would include a commercial building (Building A) and an industrial building (Building B).

Construction Phase - Assuming a 6-month construction period with occupancy in 2021.

Grading - Approximately 158 cubic yards of soil would be cut and exported from the project site.

Vehicle Trips - Based on the trip generation prepared for the project.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and use of Tier 2 construction equipment.

Mobile Land Use Mitigation -

Energy Mitigation - Assuming compliance with the 2019 CALGreen Code and installation of high efficiency lighting.

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate which will reduce solid waste production by 75 percent.

Energy Use - Assuming increased energy usage associated with the cultivation.

Water And Wastewater - Assuming increased water usage associated with cultivation.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	8.00	5.00
tblConstructionPhase	NumDays	230.00	100.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	PhaseEndDate	5/19/2021	5/14/2021
tblConstructionPhase	PhaseEndDate	4/6/2022	10/1/2021
tblConstructionPhase	PhaseEndDate	5/2/2022	10/15/2021
tblConstructionPhase	PhaseEndDate	5/26/2022	10/29/2021
tblConstructionPhase	PhaseStartDate	5/20/2021	5/17/2021
tblConstructionPhase	PhaseStartDate	4/7/2022	10/4/2021
tblConstructionPhase	PhaseStartDate	5/3/2022	10/16/2021
tblEnergyUse	LightingElect	3.08	6.16
tblEnergyUse	NT24E	3.70	7.40
tblEnergyUse	NT24NG	6.67	13.34

tblEnergyUse	T24E	1.48	2.96
tblEnergyUse	T24NG	19.71	39.42
tblGrading	AcresOfGrading	2.50	3.96
tblGrading	MaterialExported	0.00	158.00
tblLandUse	LotAcreage	0.12	0.20
tblLandUse	LotAcreage	0.58	3.70
tblLandUse	LotAcreage	0.70	0.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblVehicleTrips	ST_TR	1.49	3.76
tblVehicleTrips	ST_TR	90.06	252.70
tblVehicleTrips	SU_TR	0.62	3.76
tblVehicleTrips	SU_TR	90.06	252.70
tblVehicleTrips	WD_TR	3.82	3.76
tblVehicleTrips	WD_TR	90.06	252.70
tblWater	IndoorWaterUseRate	5,846,000.00	11,692,000.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2906	1.1545	1.0380	1.8700e-003	0.0773	0.0595	0.1368	0.0374	0.0558	0.0932	0.0000	163.6126	163.6126	0.0363	0.0000	164.5203
Maximum	**0.2906**	**1.1545**	**1.0380**	**1.8700e-003**	**0.0773**	**0.0595**	**0.1368**	**0.0374**	**0.0558**	**0.0932**	**0.0000**	**163.6126**	**163.6126**	**0.0363**	**0.0000**	**164.5203**

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					
2021	0.2374	1.4779	1.1217	1.8700e-003	0.0430	0.0530	0.0960	0.0191	0.0529	0.0720	0.0000	163.6125	163.6125	0.0363	0.0000	164.5201
Maximum	**0.2374**	**1.4779**	**1.1217**	**1.8700e-003**	**0.0430**	**0.0530**	**0.0960**	**0.0191**	**0.0529**	**0.0720**	**0.0000**	**163.6125**	**163.6125**	**0.0363**	**0.0000**	**164.5201**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**18.28**	**-28.01**	**-8.06**	**0.00**	**44.35**	**11.01**	**29.85**	**49.02**	**5.06**	**22.72**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-3-2021	8-2-2021	0.7217	0.8531
2	8-3-2021	9-30-2021	0.4325	0.5442
		Highest	0.7217	0.8531

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	0.1387	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9400e-003	1.9400e-003	1.0000e-005	0.0000	2.0700e-003
Energy	7.2600e-003	0.0660	0.0555	4.0000e-004		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003	0.0000	144.4157	144.4157	7.7800e-003	2.6400e-003	145.3972
Mobile	0.3299	1.4329	3.0015	8.8300e-003	0.7017	8.5200e-003	0.7102	0.1883	7.9800e-003	0.1963	0.0000	810.3064	810.3064	0.0362	0.0000	811.2113
Waste						0.0000	0.0000		0.0000	0.0000	9.6725	0.0000	9.6725	0.5716	0.0000	23.9633
Water						0.0000	0.0000		0.0000	0.0000	3.8305	9.8658	13.6962	0.3943	9.4700e-003	26.3756
Total	**0.4758**	**1.4989**	**3.0579**	**9.2300e-003**	**0.7017**	**0.0135**	**0.7152**	**0.1883**	**0.0130**	**0.2013**	**13.5030**	**964.5898**	**978.0928**	**1.0099**	**0.0121**	**1,006.9495**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1387	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9400e-003	1.9400e-003	1.0000e-005	0.0000	2.0700e-003
Energy	5.6300e-003	0.0512	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	103.8708	103.8708	5.3200e-003	1.9000e-003	104.5700
Mobile	0.3283	1.4214	2.9659	8.6700e-003	0.6876	8.3800e-003	0.6960	0.1846	7.8500e-003	0.1924	0.0000	796.0991	796.0991	0.0358	0.0000	796.9938
Waste						0.0000	0.0000		0.0000	0.0000	2.4181	0.0000	2.4181	0.1429	0.0000	5.9908
Water						0.0000	0.0000		0.0000	0.0000	3.8305	9.8658	13.6962	0.3943	9.4700e-003	26.3756
Total	**0.4726**	**1.4726**	**3.0099**	**8.9800e-003**	**0.6876**	**0.0123**	**0.6999**	**0.1846**	**0.0117**	**0.1963**	**6.2486**	**909.8377**	**916.0863**	**0.5783**	**0.0114**	**933.9323**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.67**	**1.76**	**1.57**	**2.71**	**2.00**	**9.38**	**2.14**	**2.00**	**9.69**	**2.50**	**53.72**	**5.68**	**6.34**	**42.74**	**6.11**	**7.25**

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 Preparation	Site Preparation	5/3/2021	5/7/2021	5	5	
2	Grading	Grading	5/8/2021	5/14/2021	5	5	
3	Building Construction	Building Construction	5/17/2021	10/1/2021	5	100	
4	Paving	Paving	10/4/2021	10/15/2021	5	10	
5	Architectural Coating	Architectural Coating	10/16/2021	10/29/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.96

Acres of Paving: 0.6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 46,050; Non-Residential Outdoor: 15,350; Striped Parking Area: 1,872 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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 Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	20.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	25.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1012	0.0529	1.0000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	**9.7200e-003**	**0.1012**	**0.0529**	**1.0000e-004**	**0.0452**	**5.1100e-003**	**0.0503**	**0.0248**	**4.7000e-003**	**0.0295**	**0.0000**	**8.3589**	**8.3589**	**2.7000e-003**	**0.0000**	**8.4265**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.0100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3006	0.3006	1.0000e-005	0.0000	0.3008
Total	**1.4000e-004**	**1.0000e-004**	**1.0100e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3006**	**0.3006**	**1.0000e-005**	**0.0000**	**0.3008**

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					0.0203	0.0000	0.0203	0.0112	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0200e-003	0.0843	0.0574	1.0000e-004		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	**3.0200e-003**	**0.0843**	**0.0574**	**1.0000e-004**	**0.0203**	**2.3700e-003**	**0.0227**	**0.0112**	**2.3700e-003**	**0.0135**	**0.0000**	**8.3589**	**8.3589**	**2.7000e-003**	**0.0000**	**8.4265**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.0100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3006	0.3006	1.0000e-005	0.0000	0.3008
Total	**1.4000e-004**	**1.0000e-004**	**1.0100e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3006**	**0.3006**	**1.0000e-005**	**0.0000**	**0.3008**

3.3 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					0.0172	0.0000	0.0172	8.5000e-003	0.0000	8.5000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7300e-003	0.0618	0.0396	7.0000e-005		2.9000e-003	2.9000e-003		2.6700e-003	2.6700e-003	0.0000	6.5134	6.5134	2.1100e-003	0.0000	6.5661
Total	**5.7300e-003**	**0.0618**	**0.0396**	**7.0000e-005**	**0.0172**	**2.9000e-003**	**0.0201**	**8.5000e-003**	**2.6700e-003**	**0.0112**	**0.0000**	**6.5134**	**6.5134**	**2.1100e-003**	**0.0000**	**6.5661**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.7000e-003	5.8000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.7565	0.7565	4.0000e-005	0.0000	0.7575
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	1.2000e-004	8.0000e-005	8.4000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2505	0.2505	1.0000e-005	0.0000	0.2506
Total	**2.0000e-004**	**2.7800e-003**	**1.4200e-003**	**1.0000e-005**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**1.3000e-004**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**1.0070**	**1.0070**	**5.0000e-005**	**0.0000**	**1.0082**

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					7.7200e-003	0.0000	7.7200e-003	3.8300e-003	0.0000	3.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5200e-003	0.0657	0.0475	7.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	6.5134	6.5134	2.1100e-003	0.0000	6.5661
Total	**2.5200e-003**	**0.0657**	**0.0475**	**7.0000e-005**	**7.7200e-003**	**1.9300e-003**	**9.6500e-003**	**3.8300e-003**	**1.9300e-003**	**5.7600e-003**	**0.0000**	**6.5134**	**6.5134**	**2.1100e-003**	**0.0000**	**6.5661**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.7000e-003	5.8000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.7565	0.7565	4.0000e-005	0.0000	0.7575
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	1.2000e-004	8.0000e-005	8.4000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2505	0.2505	1.0000e-005	0.0000	0.2506
Total	**2.0000e-004**	**2.7800e-003**	**1.4200e-003**	**1.0000e-005**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**1.3000e-004**	**1.0000e-005**	**1.3000e-004**	**0.0000**	**1.0070**	**1.0070**	**5.0000e-005**	**0.0000**	**1.0082**

3.4 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	0.0951	0.8716	0.8288	1.3500e-003		0.0479	0.0479		0.0451	0.0451	0.0000	115.8186	115.8186	0.0279	0.0000	116.5172
Total	**0.0951**	**0.8716**	**0.8288**	**1.3500e-003**		**0.0479**	**0.0479**		**0.0451**	**0.0451**	**0.0000**	**115.8186**	**115.8186**	**0.0279**	**0.0000**	**116.5172**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5900e-003	0.0522	0.0130	1.3000e-004	3.2800e-003	1.1000e-004	3.3900e-003	9.5000e-004	1.1000e-004	1.0600e-003	0.0000	12.9672	12.9672	6.4000e-004	0.0000	12.9831
Worker	3.8400e-003	2.6500e-003	0.0280	9.0000e-005	9.8800e-003	6.0000e-005	9.9400e-003	2.6300e-003	6.0000e-005	2.6900e-003	0.0000	8.3499	8.3499	1.9000e-004	0.0000	8.3546
Total	**5.4300e-003**	**0.0549**	**0.0411**	**2.2000e-004**	**0.0132**	**1.7000e-004**	**0.0133**	**3.5800e-003**	**1.7000e-004**	**3.7500e-003**	**0.0000**	**21.3171**	**21.3171**	**8.3000e-004**	**0.0000**	**21.3377**

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	0.0540	1.1777	0.8937	1.3500e-003		0.0452	0.0452		0.0452	0.0452	0.0000	115.8185	115.8185	0.0279	0.0000	116.5171
Total	**0.0540**	**1.1777**	**0.8937**	**1.3500e-003**		**0.0452**	**0.0452**		**0.0452**	**0.0452**	**0.0000**	**115.8185**	**115.8185**	**0.0279**	**0.0000**	**116.5171**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5900e-003	0.0522	0.0130	1.3000e-004	3.2800e-003	1.1000e-004	3.3900e-003	9.5000e-004	1.1000e-004	1.0600e-003	0.0000	12.9672	12.9672	6.4000e-004	0.0000	12.9831
Worker	3.8400e-003	2.6500e-003	0.0280	9.0000e-005	9.8800e-003	6.0000e-005	9.9400e-003	2.6300e-003	6.0000e-005	2.6900e-003	0.0000	8.3499	8.3499	1.9000e-004	0.0000	8.3546
Total	**5.4300e-003**	**0.0549**	**0.0411**	**2.2000e-004**	**0.0132**	**1.7000e-004**	**0.0133**	**3.5800e-003**	**1.7000e-004**	**3.7500e-003**	**0.0000**	**21.3171**	**21.3171**	**8.3000e-004**	**0.0000**	**21.3377**

3.5 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	5.4700e-003	0.0542	0.0613	9.0000e-005		2.8900e-003	2.8900e-003		2.6700e-003	2.6700e-003	0.0000	8.1853	8.1853	2.5700e-003	0.0000	8.2496
Paving	7.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2600e-003**	**0.0542**	**0.0613**	**9.0000e-005**		**2.8900e-003**	**2.8900e-003**		**2.6700e-003**	**2.6700e-003**	**0.0000**	**8.1853**	**8.1853**	**2.5700e-003**	**0.0000**	**8.2496**

3.5 Paving - 2021

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	2.2400e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6680	0.6680	1.0000e-005	0.0000	0.6684
Total	**3.1000e-004**	**2.1000e-004**	**2.2400e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6680**	**0.6680**	**1.0000e-005**	**0.0000**	**0.6684**

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	3.7600e-003	0.0804	0.0677	9.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	8.1853	8.1853	2.5700e-003	0.0000	8.2496
Paving	7.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.5500e-003**	**0.0804**	**0.0677**	**9.0000e-005**		**2.8000e-003**	**2.8000e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**8.1853**	**8.1853**	**2.5700e-003**	**0.0000**	**8.2496**

3.5 Paving - 2021

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	2.2400e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6680	0.6680	1.0000e-005	0.0000	0.6684
Total	**3.1000e-004**	**2.1000e-004**	**2.2400e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6680**	**0.6680**	**1.0000e-005**	**0.0000**	**0.6684**

3.6 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	0.1666					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.1677**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.6 Architectural Coating - 2021

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	8.0000e-005	5.0000e-005	5.6000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1670	0.1670	0.0000	0.0000	0.1671
Total	**8.0000e-005**	**5.0000e-005**	**5.6000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1670**	**0.1670**	**0.0000**	**0.0000**	**0.1671**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1666					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7000e-004	0.0118	9.1600e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.1672**	**0.0118**	**9.1600e-003**	**1.0000e-005**		**4.8000e-004**	**4.8000e-004**		**4.8000e-004**	**4.8000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.6 Architectural Coating - 2021

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	8.0000e-005	5.0000e-005	5.6000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1670	0.1670	0.0000	0.0000	0.1671
Total	**8.0000e-005**	**5.0000e-005**	**5.6000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1670**	**0.1670**	**0.0000**	**0.0000**	**0.1671**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive 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	0.3283	1.4214	2.9659	8.6700e-003	0.6876	8.3800e-003	0.6960	0.1846	7.8500e-003	0.1924	0.0000	796.0991	796.0991	0.0358	0.0000	796.9938
Unmitigated	0.3299	1.4329	3.0015	8.8300e-003	0.7017	8.5200e-003	0.7102	0.1883	7.9800e-003	0.1963	0.0000	810.3064	810.3064	0.0362	0.0000	811.2113

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	95.05	95.05	95.05	277,508	271,958
Parking Lot	0.00	0.00	0.00		
Pharmacy/Drugstore w/o Drive Thru	1,369.63	1,369.63	1369.63	1,607,659	1,575,506
Total	1,464.69	1,464.69	1,464.69	1,885,167	1,847,463

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Pharmacy/Drugstore w/o Drive	9.50	7.30	7.30	7.40	73.60	19.00	41	6	53

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Parking Lot	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Pharmacy/Drugstore w/o Drive Thru	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive 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	48.1695	48.1695	4.2500e-003	8.8000e-004	48.5376
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	72.5550	72.5550	6.4000e-003	1.3200e-003	73.1095
NaturalGas Mitigated	5.6300e-003	0.0512	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	55.7013	55.7013	1.0700e-003	1.0200e-003	56.0323
NaturalGas Unmitigated	7.2600e-003	0.0660	0.0555	4.0000e-004		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003	0.0000	71.8607	71.8607	1.3800e-003	1.3200e-003	72.2877

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					
Manufacturing	1.33377e+006	7.1900e-003	0.0654	0.0549	3.9000e-004		4.9700e-003	4.9700e-003		4.9700e-003	4.9700e-003	0.0000	71.1752	71.1752	1.3600e-003	1.3000e-003	71.5982
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
Pharmacy/Drugstore w/o Drive Thru	12845.4	7.0000e-005	6.3000e-004	5.3000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6855	0.6855	1.0000e-005	1.0000e-005	0.6896
Total		**7.2600e-003**	**0.0660**	**0.0555**	**3.9000e-004**		**5.0200e-003**	**5.0200e-003**		**5.0200e-003**	**5.0200e-003**	**0.0000**	**71.8607**	**71.8607**	**1.3700e-003**	**1.3100e-003**	**72.2877**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Manufacturing	1.03481e+006	5.5800e-003	0.0507	0.0426	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003	0.0000	55.2215	55.2215	1.0600e-003	1.0100e-003	55.5496
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
Pharmacy/Drugstore w/o Drive Thru	8991.78	5.0000e-005	4.4000e-004	3.7000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4798	0.4798	1.0000e-005	1.0000e-005	0.4827
Total		**5.6300e-003**	**0.0512**	**0.0430**	**3.0000e-004**		**3.8900e-003**	**3.8900e-003**		**3.8900e-003**	**3.8900e-003**	**0.0000**	**55.7013**	**55.7013**	**1.0700e-003**	**1.0200e-003**	**56.0323**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	417626	62.2852	5.4900e-003	1.1400e-003	62.7612
Parking Lot	10920	1.6286	1.4000e-004	3.0000e-005	1.6411
Pharmacy/Drugstore w/o Drive Thru	57939.8	8.6412	7.6000e-004	1.6000e-004	8.7073
Total		**72.5550**	**6.3900e-003**	**1.3300e-003**	**73.1095**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	286170	42.6797	3.7600e-003	7.8000e-004	43.0059
Parking Lot	3276	0.4886	4.0000e-005	1.0000e-005	0.4923
Pharmacy/Drugstore w/o Drive Thru	33533.5	5.0012	4.4000e-004	9.0000e-005	5.0395
Total		**48.1695**	**4.2400e-003**	**8.8000e-004**	**48.5377**

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	0.1387	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9400e-003	1.9400e-003	1.0000e-005	0.0000	2.0700e-003
Unmitigated	0.1387	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9400e-003	1.9400e-003	1.0000e-005	0.0000	2.0700e-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	0.0167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1219					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9400e-003	1.9400e-003	1.0000e-005	0.0000	2.0700e-003
Total	**0.1387**	**1.0000e-005**	**1.0000e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.9400e-003**	**1.9400e-003**	**1.0000e-005**	**0.0000**	**2.0700e-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	0.0167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1219					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	1.0000e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.9400e-003	1.9400e-003	1.0000e-005	0.0000	2.0700e-003
Total	**0.1387**	**1.0000e-005**	**1.0000e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.9400e-003**	**1.9400e-003**	**1.0000e-005**	**0.0000**	**2.0700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	13.6962	0.3943	9.4700e-003	26.3756
Unmitigated	13.6962	0.3943	9.4700e-003	26.3756

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	11.692 / 0	13.1448	0.3818	9.1700e-003	25.4223
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Pharmacy/Drugstore w/o Drive Thru	0.381826 / 0.234022	0.5514	0.0125	3.0000e-004	0.9533
Total		**13.6962**	**0.3943**	**9.4700e-003**	**26.3756**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	11.692 / 0	13.1448	0.3818	9.1700e-003	25.4223
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Pharmacy/Drugstore w/o Drive Thru	0.381826 / 0.234022	0.5514	0.0125	3.0000e-004	0.9533
Total		**13.6962**	**0.3943**	**9.4700e-003**	**26.3756**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.4181	0.1429	0.0000	5.9908
Unmitigated	9.6725	0.5716	0.0000	23.9633

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	31.35	6.3638	0.3761	0.0000	15.7660
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Pharmacy/Drugstore w/o Drive Thru	16.3	3.3088	0.1955	0.0000	8.1973
Total		**9.6725**	**0.5716**	**0.0000**	**23.9633**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	7.8375	1.5909	0.0940	0.0000	3.9415
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Pharmacy/Drugstore w/o Drive Thru	4.075	0.8272	0.0489	0.0000	2.0493
Total		**2.4181**	**0.1429**	**0.0000**	**5.9908**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Antioch Natural Supplements

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Pharmacy/Drugstore w/o Drive Thru	5.42	1000sqft	0.20	5,420.00	0
Manufacturing	25.28	1000sqft	3.70	25,280.00	0
Parking Lot	78.00	Space	0.60	31,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Antioch Natural Supplements - Bay Area AQMD Air District, Summer

Project Characteristics - CO2e intensity based on 5-year average (PG&E 2015)

Land Use - The proposed project would include a commercial building (Building A) and an industrial building (Building B).

Construction Phase - Assuming a 6-month construction period with occupancy in 2021.

Grading - Approximately 158 cubic yards of soil would be cut and exported from the project site.

Vehicle Trips - Based on the trip generation prepared for the project.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and use of Tier 2 construction equipment.

Mobile Land Use Mitigation -

Energy Mitigation - Assuming compliance with the 2019 CALGreen Code and installation of high efficiency lighting.

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate which will reduce solid waste production by 75 percent.

Energy Use - Assuming increased energy usage associated with the cultivation.

Water And Wastewater - Assuming increased water usage associated with cultivation.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	8.00	5.00
tblConstructionPhase	NumDays	230.00	100.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	PhaseEndDate	5/19/2021	5/14/2021
tblConstructionPhase	PhaseEndDate	4/6/2022	10/1/2021
tblConstructionPhase	PhaseEndDate	5/2/2022	10/15/2021
tblConstructionPhase	PhaseEndDate	5/26/2022	10/29/2021
tblConstructionPhase	PhaseStartDate	5/20/2021	5/17/2021
tblConstructionPhase	PhaseStartDate	4/7/2022	10/4/2021
tblConstructionPhase	PhaseStartDate	5/3/2022	10/16/2021
tblEnergyUse	LightingElect	3.08	6.16
tblEnergyUse	NT24E	3.70	7.40
tblEnergyUse	NT24NG	6.67	13.34

tblEnergyUse	T24E	1.48	2.96
tblEnergyUse	T24NG	19.71	39.42
tblGrading	AcresOfGrading	2.50	3.96
tblGrading	MaterialExported	0.00	158.00
tblLandUse	LotAcreage	0.12	0.20
tblLandUse	LotAcreage	0.58	3.70
tblLandUse	LotAcreage	0.70	0.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblVehicleTrips	ST_TR	1.49	3.76
tblVehicleTrips	ST_TR	90.06	252.70
tblVehicleTrips	SU_TR	0.62	3.76
tblVehicleTrips	SU_TR	90.06	252.70
tblVehicleTrips	WD_TR	3.82	3.76
tblVehicleTrips	WD_TR	90.06	252.70
tblWater	IndoorWaterUseRate	5,846,000.00	11,692,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	33.5528	40.5309	21.5964	0.0395	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	3,828.2096	3,828.2096	1.1952	0.0000	3,858.0897
Maximum	**33.5528**	**40.5309**	**21.5964**	**0.0395**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**3,828.2096**	**3,828.2096**	**1.1952**	**0.0000**	**3,858.0897**

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					
2021	33.4478	33.7552	23.4022	0.0395	8.2777	0.9471	9.2248	4.5080	0.9470	5.4551	0.0000	3,828.2096	3,828.2096	1.1952	0.0000	3,858.0897
Maximum	**33.4478**	**33.7552**	**23.4022**	**0.0395**	**8.2777**	**0.9471**	**9.2248**	**4.5080**	**0.9470**	**5.4551**	**0.0000**	**3,828.2096**	**3,828.2096**	**1.1952**	**0.0000**	**3,858.0897**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.31**	**16.72**	**-8.36**	**0.00**	**54.55**	**53.70**	**54.47**	**54.78**	**49.67**	**53.97**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7604	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254
Energy	0.0398	0.3617	0.3038	2.1700e-003		0.0275	0.0275		0.0275	0.0275		434.0429	434.0429	8.3200e-003	7.9600e-003	436.6222
Mobile	2.1140	7.6941	16.3990	0.0513	4.0053	0.0466	4.0519	1.0717	0.0437	1.1153		5,189.9850	5,189.9850	0.2163		5,195.3914
Total	**2.9142**	**8.0559**	**16.7140**	**0.0535**	**4.0053**	**0.0742**	**4.0795**	**1.0717**	**0.0712**	**1.1429**		**5,624.0517**	**5,624.0517**	**0.2246**	**7.9600e-003**	**5,632.0390**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7604	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254
Energy	0.0308	0.2804	0.2355	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.4394	336.4394	6.4500e-003	6.1700e-003	338.4387
Mobile	2.1053	7.6345	16.1786	0.0504	3.9252	0.0459	3.9711	1.0502	0.0429	1.0932		5,098.7612	5,098.7612	0.2137		5,104.1030
Total	**2.8965**	**7.9150**	**16.4252**	**0.0521**	**3.9252**	**0.0672**	**3.9924**	**1.0502**	**0.0643**	**1.1145**		**5,435.2245**	**5,435.2245**	**0.2202**	**6.1700e-003**	**5,442.5671**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.60**	**1.75**	**1.73**	**2.62**	**2.00**	**9.36**	**2.13**	**2.00**	**9.68**	**2.48**	**0.00**	**3.36**	**3.36**	**1.98**	**22.49**	**3.36**

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 Preparation	Site Preparation	5/3/2021	5/7/2021	5	5	
2	Grading	Grading	5/8/2021	5/14/2021	5	5	
3	Building Construction	Building Construction	5/17/2021	10/1/2021	5	100	
4	Paving	Paving	10/4/2021	10/15/2021	5	10	
5	Architectural Coating	Architectural Coating	10/16/2021	10/29/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.96

Acres of Paving: 0.6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 46,050; Non-Residential Outdoor: 15,350; Striped Parking Area: 1,872 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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 Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	20.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	25.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

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	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

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					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0380		0.9462	0.9462		0.9462	0.9462	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**1.2097**	**33.7214**	**22.9600**	**0.0380**	**8.1298**	**0.9462**	**9.0760**	**4.4688**	**0.9462**	**5.4150**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

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	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

3.3 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					6.8656	0.0000	6.8656	3.4015	0.0000	3.4015			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.8656**	**1.1599**	**8.0255**	**3.4015**	**1.0671**	**4.4686**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.3 Grading - 2021

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	0.0312	1.0584	0.2231	3.1400e-003	0.0699	3.3200e-003	0.0732	0.0192	3.1700e-003	0.0223		335.9639	335.9639	0.0167		336.3807
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	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0794**	**1.0866**	**0.5916**	**4.3300e-003**	**0.1931**	**4.1000e-003**	**0.1972**	**0.0518**	**3.8800e-003**	**0.0557**		**454.7578**	**454.7578**	**0.0193**		**455.2410**

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					3.0895	0.0000	3.0895	1.5307	0.0000	1.5307			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0296		0.7725	0.7725		0.7725	0.7725	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**1.0093**	**26.2791**	**18.9906**	**0.0296**	**3.0895**	**0.7725**	**3.8620**	**1.5307**	**0.7725**	**2.3031**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.3 Grading - 2021

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	0.0312	1.0584	0.2231	3.1400e-003	0.0699	3.3200e-003	0.0732	0.0192	3.1700e-003	0.0223		335.9639	335.9639	0.0167		336.3807
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	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0794**	**1.0866**	**0.5916**	**4.3300e-003**	**0.1931**	**4.1000e-003**	**0.1972**	**0.0518**	**3.8800e-003**	**0.0557**		**454.7578**	**454.7578**	**0.0193**		**455.2410**

3.4 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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

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	0.0310	1.0334	0.2437	2.7300e-003	0.0677	2.2400e-003	0.0699	0.0195	2.1400e-003	0.0216		288.9585	288.9585	0.0136		289.2976
Worker	0.0804	0.0470	0.6141	1.9900e-003	0.2054	1.2900e-003	0.2067	0.0545	1.1900e-003	0.0557		197.9899	197.9899	4.4300e-003		198.1005
Total	**0.1114**	**1.0804**	**0.8578**	**4.7200e-003**	**0.2731**	**3.5300e-003**	**0.2766**	**0.0740**	**3.3300e-003**	**0.0773**		**486.9484**	**486.9484**	**0.0180**		**487.3981**

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	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

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	0.0310	1.0334	0.2437	2.7300e-003	0.0677	2.2400e-003	0.0699	0.0195	2.1400e-003	0.0216		288.9585	288.9585	0.0136		289.2976
Worker	0.0804	0.0470	0.6141	1.9900e-003	0.2054	1.2900e-003	0.2067	0.0545	1.1900e-003	0.0557		197.9899	197.9899	4.4300e-003		198.1005
Total	**0.1114**	**1.0804**	**0.8578**	**4.7200e-003**	**0.2731**	**3.5300e-003**	**0.2766**	**0.0740**	**3.3300e-003**	**0.0773**		**486.9484**	**486.9484**	**0.0180**		**487.3981**

3.5 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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.1572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2512**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

3.5 Paving - 2021

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	0.0643	0.0376	0.4913	1.5900e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		158.3919	158.3919	3.5400e-003		158.4804
Total	**0.0643**	**0.0376**	**0.4913**	**1.5900e-003**	**0.1643**	**1.0300e-003**	**0.1653**	**0.0436**	**9.5000e-004**	**0.0445**		**158.3919**	**158.3919**	**3.5400e-003**		**158.4804**

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	0.7524	16.0849	13.5323	0.0189		0.5601	0.5601		0.5601	0.5601	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.1572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9096**	**16.0849**	**13.5323**	**0.0189**		**0.5601**	**0.5601**		**0.5601**	**0.5601**	**0.0000**	**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

3.5 Paving - 2021

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	0.0643	0.0376	0.4913	1.5900e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		158.3919	158.3919	3.5400e-003		158.4804
Total	**0.0643**	**0.0376**	**0.4913**	**1.5900e-003**	**0.1643**	**1.0300e-003**	**0.1653**	**0.0436**	**9.5000e-004**	**0.0445**		**158.3919**	**158.3919**	**3.5400e-003**		**158.4804**

3.6 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	33.3178					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	**33.5367**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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	0.0161	9.4000e-003	0.1228	4.0000e-004	0.0411	2.6000e-004	0.0413	0.0109	2.4000e-004	0.0111		39.5980	39.5980	8.9000e-004		39.6201
Total	**0.0161**	**9.4000e-003**	**0.1228**	**4.0000e-004**	**0.0411**	**2.6000e-004**	**0.0413**	**0.0109**	**2.4000e-004**	**0.0111**		**39.5980**	**39.5980**	**8.9000e-004**		**39.6201**

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	33.3178					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**33.4317**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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	0.0161	9.4000e-003	0.1228	4.0000e-004	0.0411	2.6000e-004	0.0413	0.0109	2.4000e-004	0.0111		39.5980	39.5980	8.9000e-004		39.6201
Total	**0.0161**	**9.4000e-003**	**0.1228**	**4.0000e-004**	**0.0411**	**2.6000e-004**	**0.0413**	**0.0109**	**2.4000e-004**	**0.0111**		**39.5980**	**39.5980**	**8.9000e-004**		**39.6201**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	2.1053	7.6345	16.1786	0.0504	3.9252	0.0459	3.9711	1.0502	0.0429	1.0932		5,098.7612	5,098.7612	0.2137		5,104.1030
Unmitigated	2.1140	7.6941	16.3990	0.0513	4.0053	0.0466	4.0519	1.0717	0.0437	1.1153		5,189.9850	5,189.9850	0.2163		5,195.3914

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	95.05	95.05	95.05	277,508	271,958
Parking Lot	0.00	0.00	0.00		
Pharmacy/Drugstore w/o Drive Thru	1,369.63	1,369.63	1369.63	1,607,659	1,575,506
Total	1,464.69	1,464.69	1,464.69	1,885,167	1,847,463

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Pharmacy/Drugstore w/o Drive	9.50	7.30	7.30	7.40	73.60	19.00	41	6	53

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Parking Lot	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Pharmacy/Drugstore w/o Drive Thru	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0308	0.2804	0.2355	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.4394	336.4394	6.4500e-003	6.1700e-003	338.4387
NaturalGas Unmitigated	0.0398	0.3617	0.3038	2.1700e-003		0.0275	0.0275		0.0275	0.0275		434.0429	434.0429	8.3200e-003	7.9600e-003	436.6222

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					
Manufacturing	3654.17	0.0394	0.3583	0.3009	2.1500e-003		0.0272	0.0272		0.0272	0.0272		429.9026	429.9026	8.2400e-003	7.8800e-003	432.4573
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
Pharmacy/Drugstore w/o Drive Thru	35.1929	3.8000e-004	3.4500e-003	2.9000e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1403	4.1403	8.0000e-005	8.0000e-005	4.1649
Total		**0.0398**	**0.3617**	**0.3038**	**2.1700e-003**		**0.0275**	**0.0275**		**0.0275**	**0.0275**		**434.0429**	**434.0429**	**8.3200e-003**	**7.9600e-003**	**436.6222**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	2.8351	0.0306	0.2780	0.2335	1.6700e-003		0.0211	0.0211		0.0211	0.0211		333.5412	333.5412	6.3900e-003	6.1100e-003	335.5233
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
Pharmacy/Drugstore w/o Drive Thru	0.024635	2.7000e-004	2.4200e-003	2.0300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		2.8982	2.8982	6.0000e-005	5.0000e-005	2.9155
Total		**0.0308**	**0.2804**	**0.2355**	**1.6800e-003**		**0.0213**	**0.0213**		**0.0213**	**0.0213**		**336.4394**	**336.4394**	**6.4500e-003**	**6.1600e-003**	**338.4387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7604	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254
Unmitigated	0.7604	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254

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	0.0913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0400e-003	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254
Total	**0.7604**	**1.0000e-004**	**0.0111**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0238**	**0.0238**	**6.0000e-005**		**0.0254**

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	0.0913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0400e-003	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254
Total	**0.7604**	**1.0000e-004**	**0.0111**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0238**	**0.0238**	**6.0000e-005**		**0.0254**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Antioch Natural Supplements

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Pharmacy/Drugstore w/o Drive Thru	5.42	1000sqft	0.20	5,420.00	0
Manufacturing	25.28	1000sqft	3.70	25,280.00	0
Parking Lot	78.00	Space	0.60	31,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Antioch Natural Supplements - Bay Area AQMD Air District, Winter

Project Characteristics - CO2e intensity based on 5-year average (PG&E 2015)

Land Use - The proposed project would include a commercial building (Building A) and an industrial building (Building B).

Construction Phase - Assuming a 6-month construction period with occupancy in 2021.

Grading - Approximately 158 cubic yards of soil would be cut and exported from the project site.

Vehicle Trips - Based on the trip generation prepared for the project.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and use of Tier 2 construction equipment.

Mobile Land Use Mitigation -

Energy Mitigation - Assuming compliance with the 2019 CALGreen Code and installation of high efficiency lighting.

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate which will reduce solid waste production by 75 percent.

Energy Use - Assuming increased energy usage associated with the cultivation.

Water And Wastewater - Assuming increased water usage associated with cultivation.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	8.00	5.00
tblConstructionPhase	NumDays	230.00	100.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	PhaseEndDate	5/19/2021	5/14/2021
tblConstructionPhase	PhaseEndDate	4/6/2022	10/1/2021
tblConstructionPhase	PhaseEndDate	5/2/2022	10/15/2021
tblConstructionPhase	PhaseEndDate	5/26/2022	10/29/2021
tblConstructionPhase	PhaseStartDate	5/20/2021	5/17/2021
tblConstructionPhase	PhaseStartDate	4/7/2022	10/4/2021
tblConstructionPhase	PhaseStartDate	5/3/2022	10/16/2021
tblEnergyUse	LightingElect	3.08	6.16
tblEnergyUse	NT24E	3.70	7.40
tblEnergyUse	NT24NG	6.67	13.34

tblEnergyUse	T24E	1.48	2.96
tblEnergyUse	T24NG	19.71	39.42
tblGrading	AcresOfGrading	2.50	3.96
tblGrading	MaterialExported	0.00	158.00
tblLandUse	LotAcreage	0.12	0.20
tblLandUse	LotAcreage	0.58	3.70
tblLandUse	LotAcreage	0.70	0.60
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblVehicleTrips	ST_TR	1.49	3.76
tblVehicleTrips	ST_TR	90.06	252.70
tblVehicleTrips	SU_TR	0.62	3.76
tblVehicleTrips	SU_TR	90.06	252.70
tblVehicleTrips	WD_TR	3.82	3.76
tblVehicleTrips	WD_TR	90.06	252.70
tblWater	IndoorWaterUseRate	5,846,000.00	11,692,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	33.5537	40.5389	21.5679	0.0393	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	3,816.9735	3,816.9735	1.1950	0.0000	3,846.8482
Maximum	**33.5537**	**40.5389**	**21.5679**	**0.0393**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**3,816.9735**	**3,816.9735**	**1.1950**	**0.0000**	**3,846.8482**

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					
2021	33.4487	33.7632	23.3737	0.0393	8.2777	0.9471	9.2248	4.5080	0.9470	5.4551	0.0000	3,816.9735	3,816.9735	1.1950	0.0000	3,846.8482
Maximum	**33.4487**	**33.7632**	**23.3737**	**0.0393**	**8.2777**	**0.9471**	**9.2248**	**4.5080**	**0.9470**	**5.4551**	**0.0000**	**3,816.9735**	**3,816.9735**	**1.1950**	**0.0000**	**3,846.8482**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.31**	**16.71**	**-8.37**	**0.00**	**54.55**	**53.70**	**54.47**	**54.78**	**49.67**	**53.97**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7604	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254
Energy	0.0398	0.3617	0.3038	2.1700e-003		0.0275	0.0275		0.0275	0.0275		434.0429	434.0429	8.3200e-003	7.9600e-003	436.6222
Mobile	1.7961	7.9682	17.6530	0.0480	4.0053	0.0472	4.0525	1.0717	0.0442	1.1159		4,850.9835	4,850.9835	0.2279		4,856.6820
Total	**2.5962**	**8.3300**	**17.9679**	**0.0502**	**4.0053**	**0.0747**	**4.0800**	**1.0717**	**0.0717**	**1.1434**		**5,285.0502**	**5,285.0502**	**0.2363**	**7.9600e-003**	**5,293.3296**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7604	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254
Energy	0.0308	0.2804	0.2355	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.4394	336.4394	6.4500e-003	6.1700e-003	338.4387
Mobile	1.7875	7.9024	17.4565	0.0471	3.9252	0.0465	3.9717	1.0502	0.0435	1.0937		4,765.4563	4,765.4563	0.2255		4,771.0934
Total	**2.5787**	**8.1829**	**17.7032**	**0.0488**	**3.9252**	**0.0678**	**3.9930**	**1.0502**	**0.0649**	**1.1151**		**5,101.9195**	**5,101.9195**	**0.2320**	**6.1700e-003**	**5,109.5575**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.67**	**1.77**	**1.47**	**2.67**	**2.00**	**9.29**	**2.13**	**2.00**	**9.60**	**2.48**	**0.00**	**3.47**	**3.47**	**1.83**	**22.49**	**3.47**

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 Preparation	Site Preparation	5/3/2021	5/7/2021	5	5	
2	Grading	Grading	5/8/2021	5/14/2021	5	5	
3	Building Construction	Building Construction	5/17/2021	10/1/2021	5	100	
4	Paving	Paving	10/4/2021	10/15/2021	5	10	
5	Architectural Coating	Architectural Coating	10/16/2021	10/29/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.96

Acres of Paving: 0.6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 46,050; Non-Residential Outdoor: 15,350; Striped Parking Area: 1,872 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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 Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	20.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	25.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

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	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

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					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0380		0.9462	0.9462		0.9462	0.9462	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**1.2097**	**33.7214**	**22.9600**	**0.0380**	**8.1298**	**0.9462**	**9.0760**	**4.4688**	**0.9462**	**5.4150**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

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	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

3.3 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					6.8656	0.0000	6.8656	3.4015	0.0000	3.4015			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.8656**	**1.1599**	**8.0255**	**3.4015**	**1.0671**	**4.4686**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.3 Grading - 2021

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	0.0320	1.0832	0.2395	3.0900e-003	0.0699	3.3800e-003	0.0733	0.0192	3.2300e-003	0.0224		330.2842	330.2842	0.0175		330.7213
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	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0831**	**1.1180**	**0.5842**	**4.1900e-003**	**0.1931**	**4.1600e-003**	**0.1973**	**0.0518**	**3.9400e-003**	**0.0558**		**439.7147**	**439.7147**	**0.0200**		**440.2137**

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					3.0895	0.0000	3.0895	1.5307	0.0000	1.5307			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0296		0.7725	0.7725		0.7725	0.7725	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**1.0093**	**26.2791**	**18.9906**	**0.0296**	**3.0895**	**0.7725**	**3.8620**	**1.5307**	**0.7725**	**2.3031**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.3 Grading - 2021

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	0.0320	1.0832	0.2395	3.0900e-003	0.0699	3.3800e-003	0.0733	0.0192	3.2300e-003	0.0224		330.2842	330.2842	0.0175		330.7213
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	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0831**	**1.1180**	**0.5842**	**4.1900e-003**	**0.1931**	**4.1600e-003**	**0.1973**	**0.0518**	**3.9400e-003**	**0.0558**		**439.7147**	**439.7147**	**0.0200**		**440.2137**

3.4 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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

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	0.0329	1.0423	0.2801	2.6600e-003	0.0677	2.3200e-003	0.0700	0.0195	2.2200e-003	0.0217		281.6272	281.6272	0.0147		281.9940
Worker	0.0852	0.0580	0.5745	1.8300e-003	0.2054	1.2900e-003	0.2067	0.0545	1.1900e-003	0.0557		182.3842	182.3842	4.1300e-003		182.4873
Total	**0.1180**	**1.1003**	**0.8546**	**4.4900e-003**	**0.2731**	**3.6100e-003**	**0.2767**	**0.0740**	**3.4100e-003**	**0.0774**		**464.0113**	**464.0113**	**0.0188**		**464.4813**

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	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

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	0.0329	1.0423	0.2801	2.6600e-003	0.0677	2.3200e-003	0.0700	0.0195	2.2200e-003	0.0217		281.6272	281.6272	0.0147		281.9940
Worker	0.0852	0.0580	0.5745	1.8300e-003	0.2054	1.2900e-003	0.2067	0.0545	1.1900e-003	0.0557		182.3842	182.3842	4.1300e-003		182.4873
Total	**0.1180**	**1.1003**	**0.8546**	**4.4900e-003**	**0.2731**	**3.6100e-003**	**0.2767**	**0.0740**	**3.4100e-003**	**0.0774**		**464.0113**	**464.0113**	**0.0188**		**464.4813**

3.5 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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.1572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2512**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

3.5 Paving - 2021

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	0.0681	0.0464	0.4596	1.4600e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		145.9073	145.9073	3.3000e-003		145.9899
Total	**0.0681**	**0.0464**	**0.4596**	**1.4600e-003**	**0.1643**	**1.0300e-003**	**0.1653**	**0.0436**	**9.5000e-004**	**0.0445**		**145.9073**	**145.9073**	**3.3000e-003**		**145.9899**

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	0.7524	16.0849	13.5323	0.0189		0.5601	0.5601		0.5601	0.5601	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.1572					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9096**	**16.0849**	**13.5323**	**0.0189**		**0.5601**	**0.5601**		**0.5601**	**0.5601**	**0.0000**	**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

3.5 Paving - 2021

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	0.0681	0.0464	0.4596	1.4600e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		145.9073	145.9073	3.3000e-003		145.9899
Total	**0.0681**	**0.0464**	**0.4596**	**1.4600e-003**	**0.1643**	**1.0300e-003**	**0.1653**	**0.0436**	**9.5000e-004**	**0.0445**		**145.9073**	**145.9073**	**3.3000e-003**		**145.9899**

3.6 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	33.3178					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	**33.5367**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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	0.0170	0.0116	0.1149	3.7000e-004	0.0411	2.6000e-004	0.0413	0.0109	2.4000e-004	0.0111		36.4768	36.4768	8.3000e-004		36.4975
Total	**0.0170**	**0.0116**	**0.1149**	**3.7000e-004**	**0.0411**	**2.6000e-004**	**0.0413**	**0.0109**	**2.4000e-004**	**0.0111**		**36.4768**	**36.4768**	**8.3000e-004**		**36.4975**

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	33.3178					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**33.4317**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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	0.0170	0.0116	0.1149	3.7000e-004	0.0411	2.6000e-004	0.0413	0.0109	2.4000e-004	0.0111		36.4768	36.4768	8.3000e-004		36.4975
Total	**0.0170**	**0.0116**	**0.1149**	**3.7000e-004**	**0.0411**	**2.6000e-004**	**0.0413**	**0.0109**	**2.4000e-004**	**0.0111**		**36.4768**	**36.4768**	**8.3000e-004**		**36.4975**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.7875	7.9024	17.4565	0.0471	3.9252	0.0465	3.9717	1.0502	0.0435	1.0937		4,765.4563	4,765.4563	0.2255		4,771.0934
Unmitigated	1.7961	7.9682	17.6530	0.0480	4.0053	0.0472	4.0525	1.0717	0.0442	1.1159		4,850.9835	4,850.9835	0.2279		4,856.6820

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	95.05	95.05	95.05	277,508	271,958
Parking Lot	0.00	0.00	0.00		
Pharmacy/Drugstore w/o Drive Thru	1,369.63	1,369.63	1369.63	1,607,659	1,575,506
Total	1,464.69	1,464.69	1,464.69	1,885,167	1,847,463

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Pharmacy/Drugstore w/o Drive	9.50	7.30	7.30	7.40	73.60	19.00	41	6	53

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Parking Lot	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Pharmacy/Drugstore w/o Drive Thru	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0308	0.2804	0.2355	1.6800e-003		0.0213	0.0213		0.0213	0.0213		336.4394	336.4394	6.4500e-003	6.1700e-003	338.4387
NaturalGas Unmitigated	0.0398	0.3617	0.3038	2.1700e-003		0.0275	0.0275		0.0275	0.0275		434.0429	434.0429	8.3200e-003	7.9600e-003	436.6222

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					
Manufacturing	3654.17	0.0394	0.3583	0.3009	2.1500e-003		0.0272	0.0272		0.0272	0.0272		429.9026	429.9026	8.2400e-003	7.8800e-003	432.4573
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
Pharmacy/Drugstore w/o Drive Thru	35.1929	3.8000e-004	3.4500e-003	2.9000e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1403	4.1403	8.0000e-005	8.0000e-005	4.1649
Total		**0.0398**	**0.3617**	**0.3038**	**2.1700e-003**		**0.0275**	**0.0275**		**0.0275**	**0.0275**		**434.0429**	**434.0429**	**8.3200e-003**	**7.9600e-003**	**436.6222**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	2.8351	0.0306	0.2780	0.2335	1.6700e-003		0.0211	0.0211		0.0211	0.0211		333.5412	333.5412	6.3900e-003	6.1100e-003	335.5233
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
Pharmacy/Drugstore w/o Drive Thru	0.024635	2.7000e-004	2.4200e-003	2.0300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		2.8982	2.8982	6.0000e-005	5.0000e-005	2.9155
Total		**0.0308**	**0.2804**	**0.2355**	**1.6800e-003**		**0.0213**	**0.0213**		**0.0213**	**0.0213**		**336.4394**	**336.4394**	**6.4500e-003**	**6.1600e-003**	**338.4387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7604	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254
Unmitigated	0.7604	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254

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	0.0913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0400e-003	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254
Total	**0.7604**	**1.0000e-004**	**0.0111**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0238**	**0.0238**	**6.0000e-005**		**0.0254**

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	0.0913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0400e-003	1.0000e-004	0.0111	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0238	0.0238	6.0000e-005		0.0254
Total	**0.7604**	**1.0000e-004**	**0.0111**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0238**	**0.0238**	**6.0000e-005**		**0.0254**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

SPECIAL-STATUS SPECIES/NESTING BIRD SURVEY MEMORANDUM AND ARBORIST MEMORANDUM

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SUBJECT:
Technical Memo: Special-status Species / Nesting Bird Survey for the Wilbur Cannabis Project, Antioch, CA.

Introduction

This technical memo documents the findings of a biological survey for the presence of special-status species and nesting birds the property at 2100-2300 Wilbur Avenue, Antioch, on April 9, 2020, on behalf of Zach Drivon / Drivon Consulting. The purpose of this survey was to inventory all trees on the property, as required by the County as part of the environmental review of a cultivation proposal.

Methods

The survey area consisted of the entire parcel with special focus upon the cluster of trees on the western edge of the parcel. The survey was performed on April 7th, 2020, from 8 AM to 11 AM. Field conditions were: 60 - 65 °F, 5 MPH breezes, clear skies, occasional car & semi-truck traffic noise along Wilbur Ave. (the north border of the property) and occasional train traffic with horns along the south border of the property.

all accessible portions of the study area examined for bird presence, and especially bird nests and nesting behavior. Mature trees were scanned for both stick/grass nests and for cavity nests. Man-made structures were also scanned or inspected. Field glasses and/or a spotting scope were used to assist in the ocular surveys. Bird vocalizations and bird sign—tracks, feathers and shedding, whitewash/guano, scat, etc.—were interpreted to detect species not readily seen. The study area was also examined for indirect evidence of nesting, such as: the presence of fresh white-wash (i.e., guano) on posts, at the base of trees, or on the ground near a burrow; molt or down feathers located in relatively high concentrations in the vicinity or trees or burrows; evidence of kills (e.g., plucking posts, carcasses) or excretion (e.g., pellets).

Where detected, the location of any active bird nests or special-status species were georeferenced with a geographic positioning system receiver. When fixing coordinates was not possible, locations were noted on aerial photography. As needed, a GPS receiver was used to georeference any nest sites, roost sites, survey transects, or observation points. At least one observation point was established. An observation point consists of standing in a specific location and observing birds. Both auditory and visual observations were recorded.

Results

No special-status species were detected during the bio survey.

The following birds were detected during the survey:

- Common raven (*Corvus corax*)
- American crow (*Corvus brachyrhynchos*)
- Turkey (*Meleagris gallopavo*)
- Turkey vulture (*Cathartes aura*) (flying overhead)
- Swainson's hawk (*Buteo swainsoni)* (flying overhead)

- Northern mockingbird (*Mimus polyglottus*)
- Mourning dove (*Zenaida macroura*)
- Anna's hummingbird (*Calypte anna*)
- Goldfinch (likely *Spinus lawrencei*)
- and other common songbirds such as sparrows (*Melospiza*).

No active / occupied nests were detected on the property or a quarter-mile buffer around the property. There were no unoccupied nests either.

Conclusions and Recommendations

No additional surveys are recommended. The property is primarily ruderal / urbanized habitat. Nesting bird activity is unlikely to occur because of the intensity of background noise and human activity.

Trees and shrubs should be inspected for the presence of active bird nests before tree felling or ground clearing. If active nests are present in the project area during construction of the project, CDFW should be consulted to develop measures to avoid "take" of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.

FROM:

Mr. Camilo J. Sanchez, B.S.

REVIEWED BY:

Dr. G.O. Graening

Exhibits


Wilbur Ave
Google Earth
© 2020 Google
500 ft
N


Wilbur Ave
2100 Wilbur Ave
Google Earth
© 2020 Google
N
300 ft

APPENDIX C

CULTURAL RESOURCES MEMORANDUM

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CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: April 2, 2021

TO: Jose Cortez, Associate Planner, City of Antioch

FROM: Kerrie Collison, RPA, Associate/Senior Archaeologist, LSA

SUBJECT: Cultural Resources Survey and Study for the Antioch Natural Supplements Project in Antioch, Contra Costa County, California (LSA Project No. CAN2003)

This memorandum presents the results of the cultural resources survey and study for the proposed Antioch Natural Supplements Project (project) in Antioch, Contra Costa County, California. The study consisted of a background research and field survey. The purpose of the study is to (1) identify cultural resources that may meet the definition of historical or unique archaeological resources per CEQA (Public Resources Code [PRC] Sections 21084.1 and 21083.2); (2) identify human remains; and (3) recommend procedures for the mitigation of potential impacts to such resources/remains, if necessary. All work has been completed per the requirements of the California Environmental Quality Act of 1970 (CEQA). The City of Antioch (City) is the Lead Agency for CEQA compliance.

PROJECT DESCRIPTION AND LOCATION

The proposed project involves the construction of two new buildings and associated site improvements on the project site to establish a commercial cannabis business. The anticipated maximum depth of excavation for building pads is be approximately 5 feet, 6 inches and the anticipated maximum depth of utility trenching would be approximately 6 feet.

The approximately 3.96-acre project site is depicted on the United States Geological Survey (USGS) *Antioch North, California* 7.5-minute topographic quadrangle map in Section 20 of Township 2 North, Range 2 East (USGS 1978; Attachment B, Figure 1). The project site consists of an undeveloped parcel located at 2110-2300 Wilbur Avenue in the northern portion of the City of Antioch, Contra Costa County (Assessor's Parcel Number [APN] 051-100-028) (Attachment B, Figure 2). The project site is bounded by a frontage road providing access to Wilbur Avenue to the north, commercial and light industrial uses to the east, Union Pacific Railroad (UPRR) tracks to the south, and light industrial uses to the west. The current bank of the San Joaquin River is approximately 1,000 feet north of the project site.

BACKGROUND RESEARCH

Record Search

LSA requested a record search from the Northwest Information Center (NWIC), an affiliate of the Office of Historic Preservation (OHP) located at Sonoma State University. The NWIC is the official State repository of the cultural resources records and reports for Contra Costa County. NWIC

Researcher Justin Murazzo conducted the record search on March 18, 2021, for the project site and a 0.25-mile radius (NWIC File No. 20-1576; Attachment C).

The results of the record search indicate that five previous cultural resources studies have included a portion of the project site and an additional four previous cultural resources studies have included a portion of the 0.25-mile radius of the project site. The five studies that have included a portion of the project site were all archaeological surveys. The four studies that have included a portion of the 0.25-mile radius of the project site were also all archaeological surveys. As a result of previous studies, no cultural resources have been recorded within the project site or the 0.25-mile radius.

Native American Heritage Commission Sacred Lands File Review

On February 16, 2021, a request was submitted to the Native American Heritage Commission (NAHC) for a review of the Sacred Lands File (SLF) for the presence of Native American cultural resources that might be impacted by the project. The NAHC maintains the SLF database and is the official State repository of Native American sacred-site location records in California.

Sarah Fonseca, NAHC Cultural Resources Analyst, responded to the SLF search request on March 1, 2021, stating that the results of the search were negative (Appendix C). Ms. Gonzalez-Lopez also provided a suggested list of Native American individuals to contact for information regarding the project site.

As required under CEQA, specifically PRC 21080.3.1 and Chapter 532 of the Statutes of 2014 (i.e., Assembly Bill [AB] 52), Native American consultation is required for any CEQA project that has a Notice of Preparation, a Notice of Negative Declaration, or a Mitigated Negative Declaration filed on or after July 1, 2015. The City has assumed responsibility for conducting consultation per AB 52; the results are not documented in this report.

Additional Background Research

Background research also included a review of aerial photographs and historic-period maps to assess the potential for subsurface archaeological deposits at the project site. [1] The earliest available aerial photograph that includes the project site dates to 1949, at which time Wilbur Avenue was a defined road and the project site appears relatively undisturbed with no development. The aerial photograph dating to 1957 shows a large tank and surrounding berm covering the majority of the project site. The 1979 photograph shows a second, smaller tank just southwest of the large tank. The project site appears to have remained unchanged until between 2002 and 2005, when the large tank was demolished. The smaller tank was demolished between 2005 and 2009. No additional changes have been made to the project site since the demolition of the tanks.

The earliest historic map reviewed by LSA dates to 1908. No symbols associated with the project site appear on maps until the 1969 quadrangle, which depicts the large tank that appears on the aerial photographs. The smaller tank to the southwest of the large tank appears on the 1978 map.

[1] National Environmental Title Research. Historic Aerials. Website: http://www.historicaerials.com (accessed March 26, 2021).

According to a Phase I Environmental Assessment (ESA) of the project site, the tank observed on maps and in aerial photographs was used for fuel storage from the mid-1950s until the early 1980s (BBL 2002: 4-1).

LSA also reviewed a geologic map of California to assist in determining the age of sediments within the project site. Subsurface sediments of the project site consist of Quaternary marine and nonmarine sand deposits that date to the Pleistocene and Holocene (ranging from 2.58 million years ago to the present) (CGS 2015). Further investigation into the sediments of the project site indicates that the sediments are classified as Qm2e (Aeolian [wind-transported] deposits) that mostly date to the Pleistocene with a slight potential for dating to the Holocene (Atwater 1982).

FIELD SURVEY

On March 29, 2021, LSA archaeologist Alessia Isolani, B.S., conducted a pedestrian survey of the project site. The survey was conducted by walking transects spaced 5 meters. Overall ground visibility was more than 75 percent, with sediments noted to be mostly sand and silt. Rodent holes and backdirt piles were examined for evidence of cultural deposits. Debris and trash was scattered throughout the project site. No cultural resources observed.

SUMMARY AND RECOMMENDATIONS

This study, consisting of background research and a field survey, did not identify archaeological deposits or human remains in the project site. The project site would have subjected to some level of disturbance during construction and demolition of on-site tanks identified in the aerial photographs and noted in the Phase I ESA. Additionally, the project site is approximately 1,000 feet from the San Joaquin River and may have been routinely flooded during precontact period high water events, displacing any possible shallowly deposited artifacts. Geological maps indicate that the project site sediment dates only slightly extend into the Holocene, which began approximately 11,700 years ago (Atwater 1982). Considering the disturbed nature of the project site, the project site's potential for being subject to flooding, and the age of sediments in the project site, the likelihood of encountering subsurface archaeological cultural resource deposits during ground-disturbing construction activities is low.

Based on the findings of this study, and in accordance with the Cultural Resource Objective in Section 10.9.2.d of the City's General Plan (City of Antioch 2003: 10-16), LSA recommends implementation of mitigation measure CUL-1 for the treatment of unanticipated cultural resources discoveries associated with the project:

MM CUL-1: In the event that cultural resources are identified during project activities, contractors should stop work in the immediate area of the find and contact a qualified archaeologist to assess the nature of the find and determine if additional cultural resources work is appropriate. Additional cultural resources work could include, but is not limited to, collection and documentation of artifacts, documentation of the cultural resources on State of California Department of Parks and Recreation Series 523 forms, or subsurface testing. Upon completion of any cultural resources work for the project, the archaeologist should prepare a report to

document the methods and results of the work. This report should be submitted to any descendant community involved in the investigation(s) and the Northwest Information Center (NWIC).

If human remains are encountered at any time during the project, the regulatory process outlined at Health and Safety Code Section 7050.5 must be followed, which involves coordination with the NAHC and a Native American Most Likely Descendant.

Please contact me at kerrie.collison@lsa.net if you have any questions regarding this study.

Attachments: A—References
B—Figures 1 and 2
C—Record Search Results Summary Letter
D—Native American Heritage Commission Response

ATTACHMENT A

REFERENCES

PUBLISHED REFERENCES

Atwater, Brian F.
1982 Geologic Maps of the Sacramento-San Joaquin Delta, California: Antioch North. United States Geological Survey.

Blasland, Bouck, & Lee, Inc. (BBL)
2002 Phase I Environmental Assessment, Industrial Lot with Tank, Antioch, CA.

City of Antioch
2003 City of Antioch General Plan. Prepared by LSA Associates, Inc. Electronic version: https://www.antiochca.gov/fc/community-development/planning/Antioch_Adopted_General_Plan.pdf (accessed March 26, 2021).

United States Geological Survey (USGS)
1978 *Antioch North, California* 7.5-minute topographic quadrangle. Prepared in 1978. USGS, Denver, Colorado.

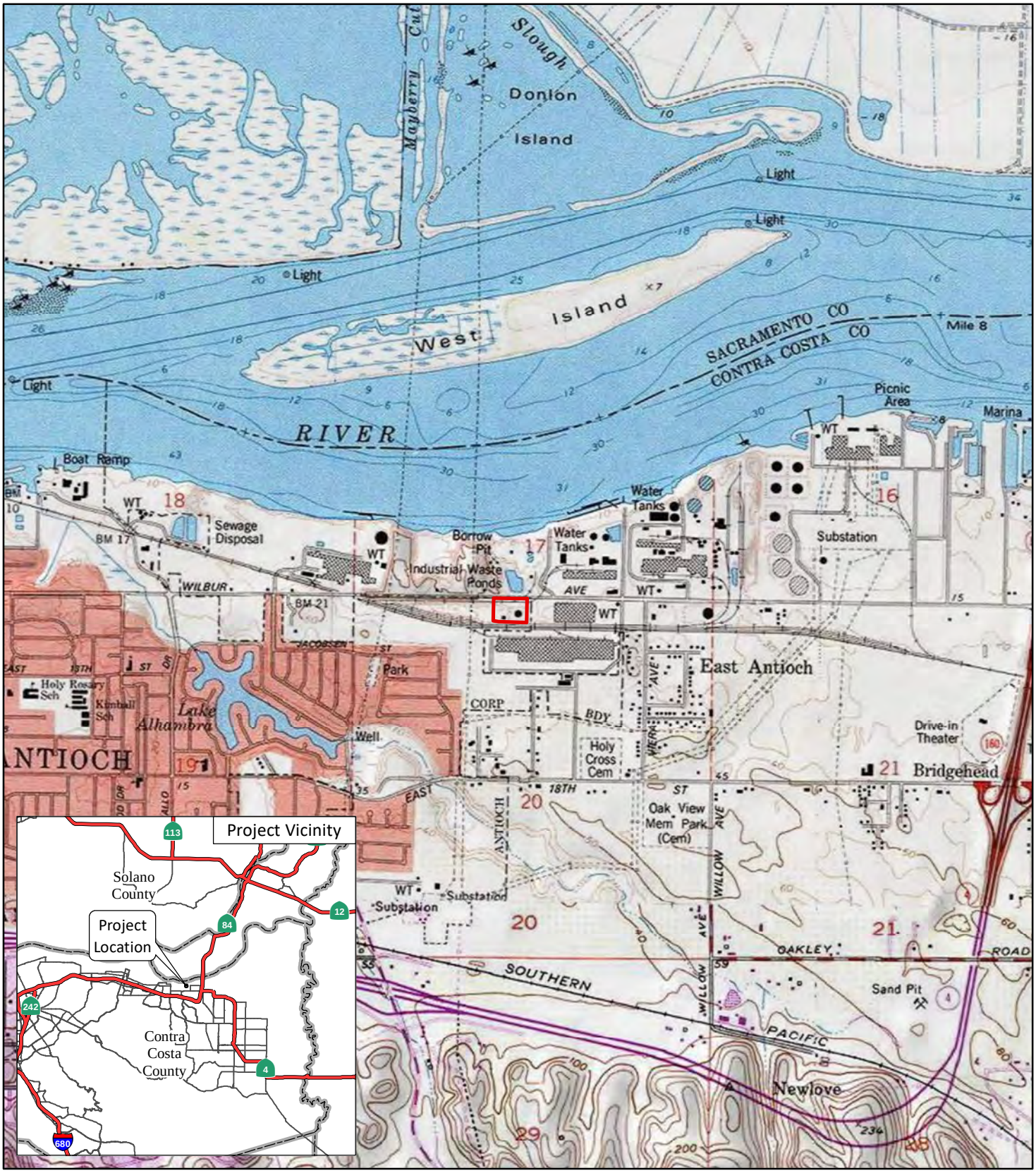
ONLINE RESOURCES

California Geological Survey (CGS)
2015 Geologic Map of California (2010), Copyright 2015, State of California. Website: https://maps.conservation.ca.gov/cgs/gmc/ (accessed March 26, 2021).

National Environmental Title Research (NETR)
Historic Aerials. Website: http://www.historicaerials.com (accessed March 26, 2021).

ATTACHMENT B

FIGURES 1 AND 2



LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

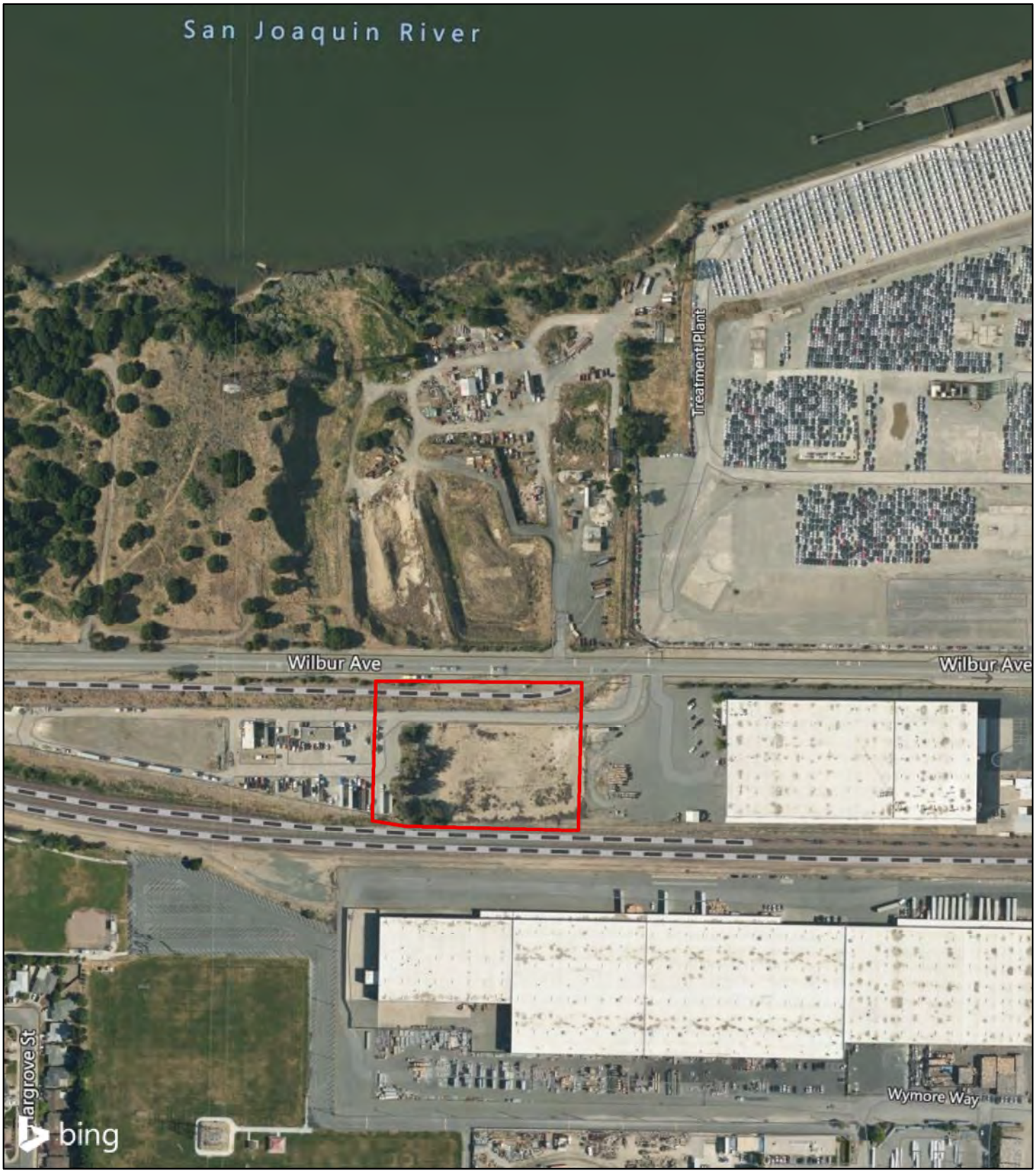
FEET

SOURCE: USGS 7.5' Quad.- *Antioch North, CA* (1978)

I:\CAN2003\Figure 1_ProjectLocation.mxd (2/15/2021)

Antioch Natural Supplements Project

Project Location and Vicinity



LSA

LEGEND

Project Location

FIGURE 2

N

0 162.5 325

FEET

SOURCE: Bing Maps, 2021

I:\CAN2003\Figure 2_ProjectSite.mxd (2/15/2021)

Antioch Natural Supplements Project

Project Site

ATTACHMENT C

RECORD SEARCH RESULTS SUMMARY LETTER

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://www.sonoma.edu/nwic

3/18/2021 NWIC File No.: 20-1576

Kerrie Collison
LSA
285 South Street, Suite P
San Luis Obispo, CA 93401

Re: Antioch Natural Supplements

The Northwest Information Center received your record search request for the project area referenced above, located on the Antioch North USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a ¼ mile radius:

Resources within project area:	None
Resources within ¼ mile radius:	None
Reports within project area:	S-11826; S-30387; S-35861; S-46909; S-51807
Reports within ¼ mile radius:	S-18440; S-27049; S-30579; S-51807

Resource Database Printout (list):	☐ enclosed	☐ not requested	☒ nothing listed
Resource Database Printout (details):	☐ enclosed	☐ not requested	☒ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☐ enclosed	☐ not requested	☒ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Built Environment Resources Directory:	☐ enclosed	☒ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☒ enclosed	☐ not requested	☐ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Local Inventories:	☒ enclosed	☐ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed

*Notes:

** Current versions of these resources are available on-line:

Caltrans Bridge Survey: http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Soil Survey: http://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=CA

Shipwreck Inventory: http://www.slc.ca.gov/Info/Shipwrecks.html

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Justin Murazzo
Researcher

ATTACHMENT D

NATIVE AMERICAN HERITAGE COMMISSION RESPONSE

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

March 1, 2021

Jose Cortez, Associate Planner
City of Antioch

Via Email to: jcortez@antiochca.gov

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Antioch Natural Supplements Project, Contra Costa County

Dear Mr. Cortez:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measures.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Sarah.Fonseca@nahc.ac.gov.

Sincerely,

Sarah Fonseca
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Contra Costa County
3/1/2021

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Guidiville Indian Rancheria
Donald Duncan, Chairperson
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This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Antioch Natural Supplements Project, Contra Costa County.

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Bay Miwok
Ohlone
Delta Yokut

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

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APPENDIX D

VMT MEMORANDUM

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CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: January 19, 2021

TO: Mr. Jose Cortez, Associate Planner,
City of Antioch

FROM: Ambarish Mukherjee, P.E., AICP

SUBJECT: Antioch Natural Supplements Project Vehicle Miles Traveled Analysis

LSA is under contract to prepare a Transportation Analysis (TA) for the Antioch Natural Supplements Project (project) in the City of Antioch (City) in Contra Costa County (County). The approximately 3.96-acre project site is located in the northern portion of the City at 2110-2300 Wilbur Avenue. Figure 1 (all figures attached) illustrates the regional and project location.

The proposed project would consist of the construction of two new buildings and associated parking and site improvements that would make up a commercial cannabis business. The project would include both a commercial building (Building A) and an industrial building (Building B). Building A would be located on the eastern edge of the project site, would be approximately 11,200 square feet (sf) in size, and would include rooms for sales, products, packaging, labeling, and storage, among others. Building B would be located on the western edge of the project site, would be approximately 19,500 sf in size, and would include cultivation, incubation, and processing rooms. The proposed project would include a new parking lot between the two buildings that would include 75 standard parking spaces and 4 van accessible spaces, for a total of 79 parking spaces. Figure 2 illustrates the conceptual site plan for the project. The project will have 36 employees.

As part of the TA, LSA has prepared this Vehicle Miles Traveled (VMT) analysis for the project.

BACKGROUND

On December 28, 2018, the California Office of Administrative Law cleared the revised California Environmental Quality Act (CEQA) guidelines for use. Among the changes to the guidelines was the removal of vehicle delay and level of service from consideration under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on VMT.

The City does not have its own VMT analysis guidelines. Therefore, the VMT analysis for this project has been prepared consistent with the Governor's Office of Planning and Research (OPR) *Technical Advisory (TA),* dated December 2018.

The OPR TA does not state any definite thresholds for land uses other than residential, office, and retail. Therefore, for purposes of this analysis, the project's VMT per employee has been compared with the regional VMT per employee to determine VMT impacts. Additionally, the OPR TA recommends that a region be identified that would typically include majority of the trips from a project. Therefore, for purposes of this analysis, Contra Costa County (County) has been considered as the region. Following is a detailed description of the VMT analysis.

METHODOLOGY

As previously stated, the OPR TA does not state any definite thresholds for the project's land use. Therefore, as a conservative approach, a threshold of 15 percent below the region's existing VMT per employee has been considered. The project's VMT per employee under existing (2021) conditions has been compared with the corresponding VMT per employee for the County to determine whether the project will have a significant VMT impact.

The Contra Costa Transportation Authority (CCTA) Countywide Travel Demand Model has been used to estimate both regional and project VMT. The model's 2020 and 2040 scenarios' socioeconomic data have been used for purposes of this analysis. Countywide and project VMT were calculated from the CCTA model runs as described below:

Project Traffic Analysis Zone Update

The first step in the preparation of this analysis was to update the traffic analysis zones (TAZs) in the model that include the project area. LSA converted the project land use into model socioeconomic data for the 2020 and 2040 scenarios. The project land use was isolated to one TAZ to calculate project specific VMT per employee. Since the existing year is different from the scenario years, VMT per employee for both the project and the region for the existing year (year 2021) was estimated by linear interpolation between the 2020 and 2040 scenario VMT data.

VMT ANALYSIS

The project's VMT per employee was compared to the VMT per employee for the County. Table A shows the VMT per employee estimates for the project and the County. As shown in Table A, the VMT per employee for the project is 39.09 percent lower than the corresponding regional average under existing conditions. Therefore, as per the guidelines in the OPR TA, the project will not have a significant VMT impact.

Table A: Regional and Project VMT per Employee Comparison

Analysis Scenario	Region (Contra Costa County)	Project	Percentage Difference
Existing (2021)	13.61	8.29	-39.09%

Source: Contra Costa Transportation Authority (CCTA) Countywide Travel Demand Model
VMT = Vehicle Miles Traveled

ATTACHMENTS

Figures

Figure 1: Regional and Project Location
Figure 2: Conceptual Site Plan

LSA

FIGURE 1

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0 1000 2000
FEET

SOURCE: ESRI Streetmap, 2013; Google Earth, 2018.

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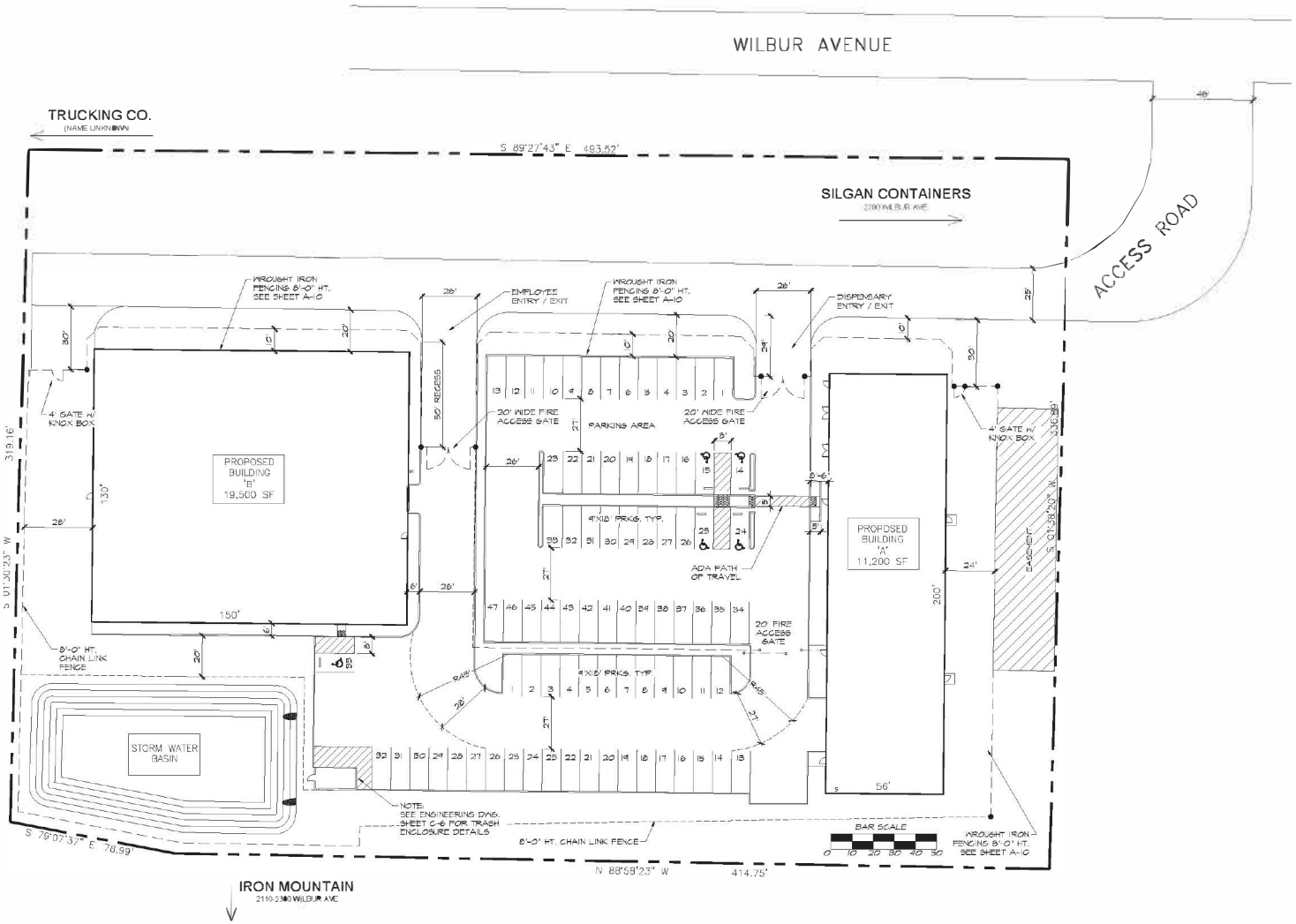
Antioch Natural Supplements Project
VMT Analysis Memorandum

Regional and Project Location



LSA

FIGURE 2

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0 40 80
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Antioch Natural Supplements Project
VMT Analysis Memorandum

Conceptual Site Plan

SOURCE: Architect David Vizcarra; April 2020

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