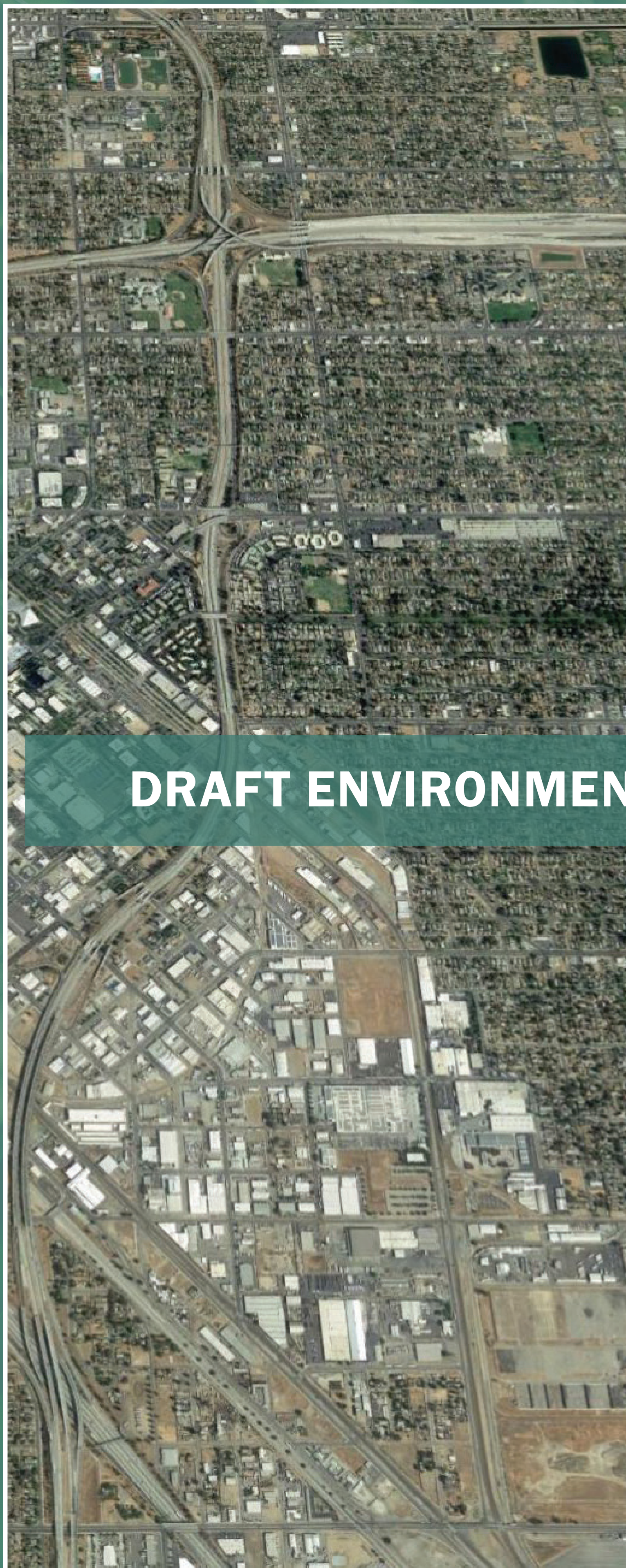
SCH# 2019070123



DRAFT ENVIRONMENTAL IMPACT REPORT

CITY OF FRESNO

For Evaluating the
Proposed Regulation and Permitting
of Commercial Cannabis Activities

Volume II: Appendices

April 2020

City of
FRESNO

Appendices

APPENDICES

APPENDIX A

NOTICE OF PREPARATION

Print Form

Appendix C

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Text Amendment No. P19-02978 - Evaluating the Proposed Regulation and Permitting of Commercial Cannabis

Lead Agency: City of Fresno — Contact Person: Israel Trejo, Planner III
Mailing Address: 2600 Fresno Street, Room3043 — Phone: (559) 621-8044
City: Fresno — Zip: 93721 — County: Fresno

Project Location: County: Fresno — City/Nearest Community: Fresno
Cross Streets: Citywide — Zip Code: Citywide
Longitude/Latitude (degrees, minutes and seconds): ____° ____′ ____″ N / ____° ____′ ____″ W Total Acres: ______
Assessor's Parcel No.: Citywide — Section: ____ Twp.: ____ Range: ____ Base: ____
Within 2 Miles: State Hwy #: 99, 41, 168, 180 — Waterways: San Joaquin River
Airports: Fresno Yosemite Intl, Sierra S — Railways: Union Pacific — Schools: Multiple; Citywide

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Document Type:

CEQA: ☒ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ______ Other: ______

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other: ______

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☒ Other: Ordinance Text

---

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational: ______
☐ Recreational: ______
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ______
☐ Mining: Mineral ______
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ______
☒ Other: Ordinance Text Amendment

Project Issues Discussed in Document:

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☒ Schools/Universities
☒ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Growth Inducement
☒ Land Use
☒ Cumulative Effects
☐ Other: ______

Present Land Use/Zoning/General Plan Designation:

Citywide Ordinance Text Amendment

Project Description: *(please use a separate page if necessary)*

The City of Fresno is proposing an amendment to Sections 15-2739 and 15-2739.1 of the Fresno Municipal Code, Article 33 to Chapter 9 of the Fresno Municipal Code, and Article 21 to Chapter 12 of the Fresno Municipal Code, relating to adult use and medicinal cannabis retail business and commercial cannabis business.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

X____ Air Resources Board
_____ Boating & Waterways, Department of
_____ California Emergency Management Agency
X____ California Highway Patrol
X____ Caltrans District #6
_____ Caltrans Division of Aeronautics
_____ Caltrans Planning
_____ Central Valley Flood Protection Board
_____ Coachella Valley Mtns. Conservancy
_____ Coastal Commission
_____ Colorado River Board
X____ Conservation, Department of
X____ Corrections, Department of
_____ Delta Protection Commission
X____ Education, Department of
_____ Energy Commission
X____ Fish & Game Region #4
X____ Food & Agriculture, Department of
_____ Forestry and Fire Protection, Department of
_____ General Services, Department of
X____ Health Services, Department of
_____ Housing & Community Development
X____ Native American Heritage Commission
X____ Office of Historic Preservation
_____ Office of Public School Construction
X____ Parks & Recreation, Department of
_____ Pesticide Regulation, Department of
_____ Public Utilities Commission
X____ Regional WQCB #5
_____ Resources Agency
_____ Resources Recycling and Recovery, Department of
_____ S.F. Bay Conservation & Development Comm.
_____ San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
_____ San Joaquin River Conservancy
_____ Santa Monica Mtns. Conservancy
_____ State Lands Commission
_____ SWRCB: Clean Water Grants
_____ SWRCB: Water Quality
_____ SWRCB: Water Rights
_____ Tahoe Regional Planning Agency
X____ Toxic Substances Control, Department of
X____ Water Resources, Department of

_____ Other: __________
_____ Other: __________

Local Public Review Period (to be filled in by lead agency)

Starting Date July 5, 2019 Ending Date August 5, 2019

Lead Agency (Complete if applicable):

Consulting Firm: __________
Address: __________
City/State/Zip: __________
Contact: __________
Phone: __________

Applicant: __________
Address: __________
City/State/Zip: __________
Phone: __________

Signature of Lead Agency Representative: __________ **Date:** 7-3-19

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT AND PUBLIC SCOPING MEETING FOR EVALUATING THE PROPOSED REGULATION AND PERMITTING OF COMMERCIAL CANNABIS ACTIVITIES

TO:	Responsible and Trustee Agencies, other interested agencies, and members of the public
FROM:	City of Fresno, Development and Resource Management Department
SUBJECT:	Notice of Preparation of a Draft Environmental Impact Report (EIR)
DATE:	July 5, 2019 to August 5, 2019

Action: The City of Fresno (City) will be the Lead Agency pursuant to the requirements of the California Environmental Quality Act (CEQA) and will be responsible for preparing an Environmental Impact Report (EIR) pursuant to CEQA (Public Resources Code [PRC] Section 21000 et seq.) and the CEQA Guidelines. In accordance with Section 15082 of the CEQA Guidelines, the City has prepared this Notice of Preparation (NOP).

The purpose of this NOP is to solicit comments from public agencies and other interested parties on the scope and content of the information to be addressed in the EIR. The NOP must contain sufficient information describing the proposed project and its potential environmental effects to enable agencies and the public to make a meaningful response.

Project Title: Text Amendment No. P19-02978 - Evaluating the Proposed Regulation and Permitting of Commercial Cannabis Activities

Project Summary: The City of Fresno is proposing an amendment to Sections 15-2739 and 15-2739.1 of the Fresno Municipal Code, Article 33 to Chapter 9 of the Fresno Municipal Code, and Article 21 to Chapter 12 of the Fresno Municipal Code, relating to adult use and medicinal cannabis retail business and commercial cannabis business.

The details of the proposed Project and related maps are available for review at the following locations:

- City of Fresno, Development and Resource Management Department, 2600 Fresno Street, Room 3065, Fresno, CA 93721
- City of Fresno website: https://www.fresno.gov/darm/planning-development/plans-projects-under-review/

Written Comments: The City requests that any potential Responsible or Trustee Agencies responding to this NOP reply in a manner consistent with Section 15082(b) of the CEQA Guidelines, which allows for submittal of any comments in response to this notice no later than

30 days after receipt of the NOP. **Comments in response to this NOP will be accepted through 5 p.m., August 5, 2019**.

Please send your written comments to:

Attn: Israel Trejo, Planner III
City of Fresno, Development and Resource Management Department
2600 Fresno Street, Room 3043
Fresno, CA 93721
Phone: (559) 621-8044
Email: Israel.Trejo@fresno.gov

Please reference "Notice of Preparation of Draft EIR for Evaluating the Proposed Regulation and Permitting of Commercial Cannabis Activities." Please include your name, address, and phone number and/or email address so that we may contact you for clarification, if necessary.

Public Scoping Meeting: In addition to the opportunity to submit written comments, one public scoping meeting will be held by the City to inform interested parties about the proposed project, and to provide agencies and the public with an opportunity to provide comments on the scope and content of the EIR. This meeting will be held at **5:30 p.m.** on **July 16, 2019** at: Fresno City Council Chambers, located in City Hall, 2nd Floor, 2600 Fresno Street, Fresno, California 93721.

Project Location: The EIR will evaluate cultivation, distribution, manufacturing, testing laboratories, and retailers within the City limits of Fresno, CA. Figure NOP-1 shows the geographic region and boundaries of the proposed Project. Figure NOP-2 through Figure NOP-4 show the areas that are subject to the draft text and ordinance amendments.

Project Description: Fresno, California is the fifth largest city in California with a diverse population of approximately 527,000 and is located in the Central San Joaquin Valley. Over the next 25 years the population is expected to grow to more than 970,000. With one of the highest concentrations of poverty in the nation, the City is committed to restoring neighborhoods and providing improved quality of life for all residents in Fresno.

On December 14, 2017, the Fresno City Council directed staff to initiate the process to amend the zoning code to allow medicinal cannabis operations, cultivation, manufacturing, extraction, testing, distribution, delivery, and dispensaries within the City. Subsequently, in March 2018 and thereafter, the Director initiated amendments to the zoning code to allow for adult use cannabis cultivation, manufacturing, extraction, testing, distribution, and retail. On December 13, 2018, the Fresno City Council adopted a cannabis regulatory ordinance which includes requirements for medicinal and adult use cannabis permits, operation requirements, location restrictions, and application requirements.

The text and ordinance amendments are currently in draft form. All would require the appropriate licensing and land use entitlements. In general, the ordinances would allow for the following:

Cultivation, Distribution, and Manufacturing

- 8 businesses would be permitted inside the Cannabis Innovation Zone, defined as the area bounded by State Route 41, Golden State Blvd., Church Ave., East Ave., and Parallel Ave.
- 8 businesses would be permitted within industrial zoned property within ½ mile of Highway 99 between Shaw and Clinton Aves., or within 1 mile of Highway 99 north of Shaw and south of Clinton Aves., or within 1 mile of Highway 180 west of Highway 99. All buildings in which a cultivator, distributor, or manufacturer is located shall be located no closer than one thousand (1,000) feet from any property boundary containing a residence, school, daycare, or youth center.

Testing Laboratories

- Testing laboratories may take place in a Commercial, Employment, or Downtown District. There is not limit on how many may be permitted.

Cannabis Retailers

- 21 total possible cannabis retail locations – this includes up to 14 medicinal and/or adult use cannabis retail locations (2 per Council District); with the potential to add 7 additional retailers (1 additional per Council District) upon Council Resolution.
- Retailers would be restricted to the DTN (Downtown Neighborhood), DTG (Downtown General), CMS (Commercial Main Street), CC (Commercial Community), CR (Commercial Regional), CG (Commercial General), CH (Commercial Highway), NMX (Neighborhood Mixed-Use), CMX (Corridor/Center Mixed Use), or RMX (Regional Mixed-Use) zone districts. In addition, retailers would be required to maintain a minimum distance of 800 feet from any property boundary containing another cannabis retailer, school, daycare center, or youth center (i.e. parks, playgrounds, facilities hosting activities for minors)
- Hours of operation for retailers would be limited to 6:00 am to 10:00 pm
- Retail delivery allowed if part of store-front operation

Cannabis Cultivation

- The ordinance prohibiting all cultivation does not apply to a private residence with 6 plants or less grown indoors or to any person/property that obtains a City commercial cannabis business permit

The EIR prepared for this project will analyze all potential impacts of the Project as outlined in the attached 2019 CEQA Environmental Checklist to determine if the project will result in significant direct, indirect or cumulative impacts. No impacts will be scoped out of this EIR. The analysis will also identify feasible mitigation measures for each significant environmental effect identified in the EIR.

ENVIRONMENTAL CHECKLIST FORM

Environmental Factors Potentially Affected:

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

☒	Aesthetics	☒	Agriculture/Forestry	☒	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

DETERMINATION. (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT (EIR) is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	7-3-19 Date
Israel Trejo Printed Name	Planner III Title

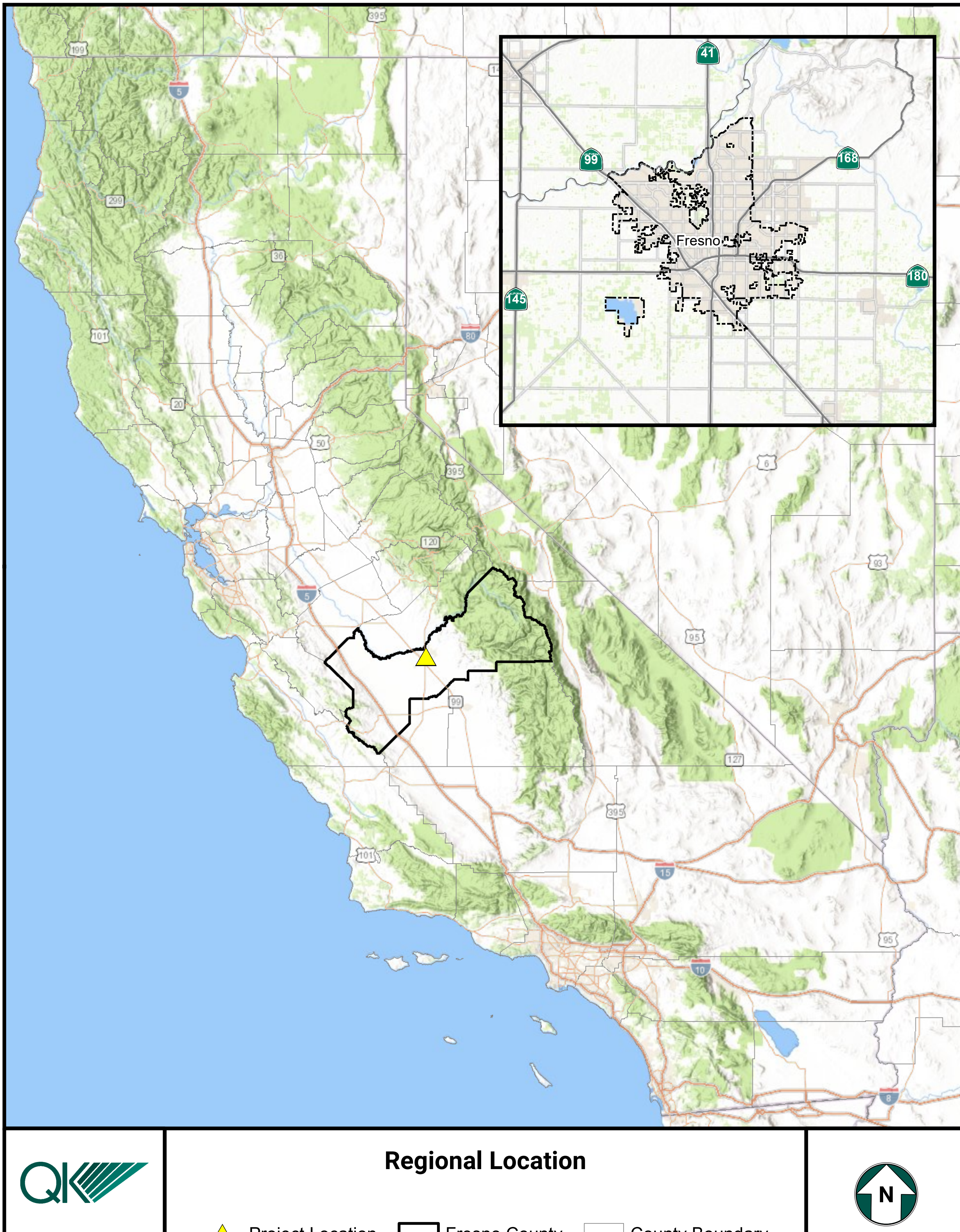
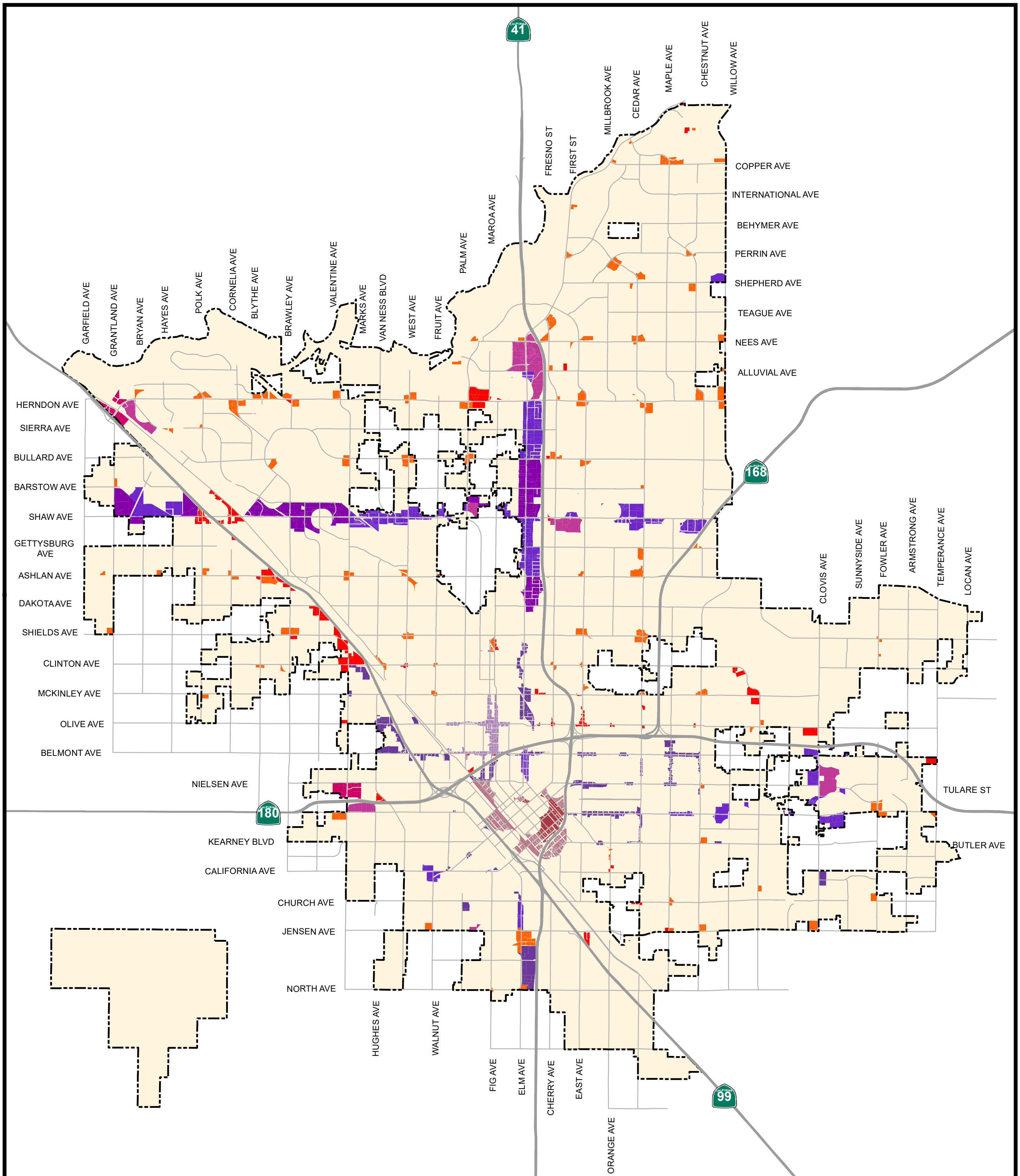


Figure NOP - 1

Regional Location

QK Sources:
ESRI Esri, HERE, Garmin, ©

L:\Projects\2019\190215\GIS\Maps\MXD\regional.mxd Date: 6/20/2019



Ordinance Amendment Retailer Locations

- DTG - Downtown General
- DTN - Downtown Neighborhood
- CMS - Commercial Main Street
- CC - Commercial Community
- CG - Commercial General
- CH - Commercial Highway and Auto
- CR - Commercial Regional
- CMX - Corridor/Center Mixed-Use
- NMX - Neighborhood Mixed-Use
- RMX - Regional Mixed-Use
- City Limits

N

0 Miles 2

QK

Figure NOP - 2

QK Sources: ESRI

L:\Projects\2019\190215\GIS\Maps\MXD\ordinance_amendment_retailer_locations.mxd Date: 6/24/2019

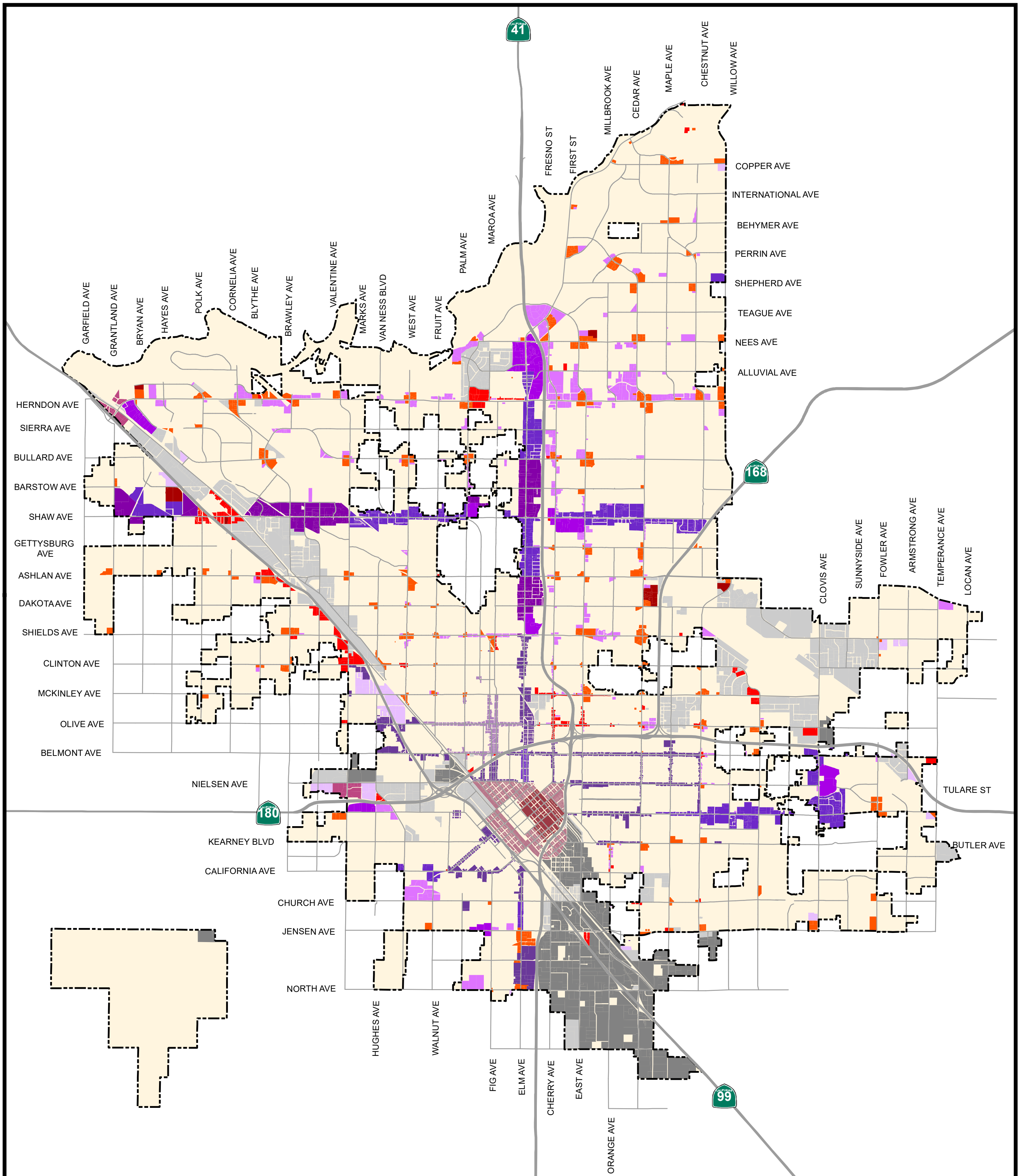


Figure NOP - 3

Ordinance Amendment Testing Laboratory Locations

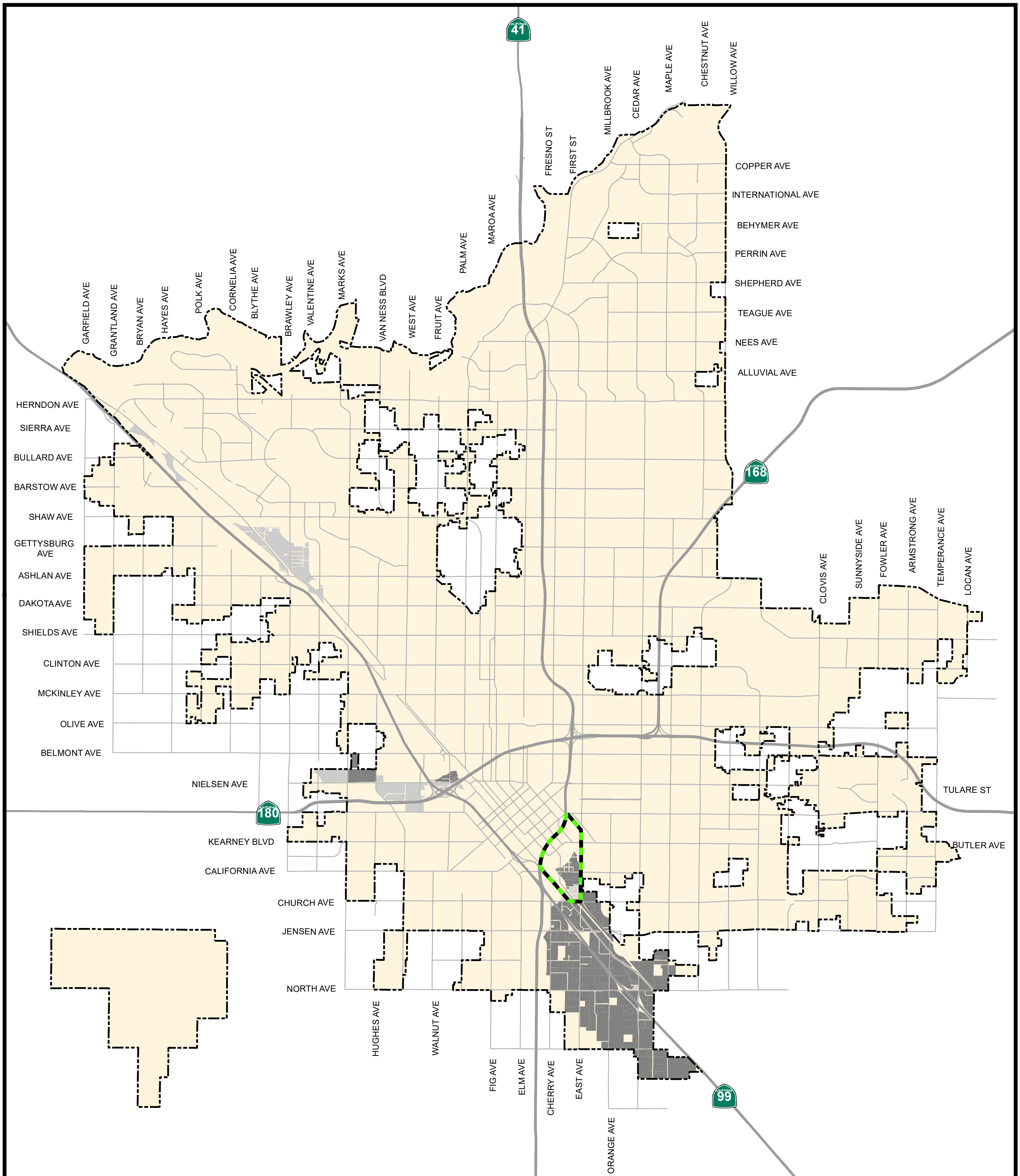
- DTG - Downtown General
- DTN - Downtown Neighborhood
- NMX - Neighborhood Mixed Use
- CMX - Corridor/Center Mixed Use
- RMX - Regional Mixed Use
- CMS - Commercial Main Street
- CC - Commercial Community
- CR - Commercial Regional
- CG - Commercial General
- CH - Commercial Highway and Auto
- CRC - Commercial Recreation
- O - Office
- BP - Business Park
- IL - Light Industrial
- IH - Heavy Industrial
- City Limits

N

0 Miles 2

QK Sources: ESRI

L:\Projects\2019\190215\GIS\Maps\MXD\ordinance_amendment_testinglab_locations.mxd Date: 6/24/2019



QK

Figure NOP - 4

Ordinance Amendment Cultivation, Distribution, and Manufacturing Locations

IH - Heavy Industrial

IL - Light Industrial

Cannabis Innovation Zone

City Limits

N

0 Miles 2

QK Sources: ESRI

L:\Projects\2019\190215\GIS\Maps\NOP_Figures\MXD\Figure_NOP-4.mxd Date: 6/28/2019

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Gavin Newsom
Governor

Kate Gordon
Director

Notice of Preparation

July 5, 2019

To: Reviewing Agencies

Re: Text Amendment No. P19-02978 - Evaluating the Proposed Regulation and Permitting of Commercial Cannabis
SCH# 2019070123

Attached for your review and comment is the Notice of Preparation (NOP) for the Text Amendment No. P19-02978 - Evaluating the Proposed Regulation and Permitting of Commercial Cannabis draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Israel Trejo
Fresno, City of
2600 Fresno Street, Room 3043
Fresno, CA 93721

with a copy to the State Clearinghouse in the Office of Planning and Research at state.clearinghouse@opr.ca.gov . Please refer to the SCH number noted above in all correspondence concerning this project on our website: https://ceqanet.opr.ca.gov/2019070123/2.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

cc: Lead Agency

Appendix C

2019070123

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Other: ☐ Joint Document ☐ Final Document ☐ Other: ____

Governor's Office of Planning & Research

JUL 05 2019

STATE CLEARINGHOUSE

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Revised 2010

NOP Distribution List

County: Fresno

SCH# 2019070123

Resources Agency

- [x] **Resources Agency**
  Nadell Gayou
  - [ ] **Dept. of Boating & Waterways**
    Denise Peterson
  - [ ] **California Coastal Commission**
    Allyson Hitt
  - [ ] **Colorado River Board**
    Elsa Contreras
  - [x] **Dept. of Conservation**
    Crina Chan
  - [ ] **Cal Fire**
    Dan Foster
  - [x] **Central Valley Flood Protection Board**
    James Herota
  - [x] **Office of Historic Preservation**
    Ron Parsons
- [x] **Dept of Parks & Recreation**
  Environmental Stewardship Section
  - [ ] **S.F. Bay Conservation & Dev't. Comm.**
    Steve Goldbeck
  - [ ] **Dept. of Water Resources**
    Resources Agency
    Nadell Gayou

Fish and Wildlife

- [ ] **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Wildlife Region 1**
  Curt Babcock
- [ ] **Fish & Wildlife Region 1E**
  Laurie Hamsberger
- [ ] **Fish & Wildlife Region 2**
  Jeff Drongesen
- [ ] **Fish & Wildlife Region 3**
  Craig Weightman
- [x] **Fish & Wildlife Region 4**
  Julie Vance
- [ ] **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

Other Departments

- [ ] **California Department of Education**
  Lesley Taylor
- [ ] **OES (Office of Emergency Services)**
  Monique Wilber
- [x] **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- [ ] **Dept. of General Services**
  Cathy Buck
  Environmental Services Section
- [ ] **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

Independent Commissions, Boards

- [ ] **Delta Protection Commission**
  Erik Vink
- [ ] **Delta Stewardship Council**
  Anthony Navasero
- [ ] **California Energy Commission**
  Eric Knight
- [x] **Native American Heritage Comm.**
  Debbie Treadway
  - [x] **Public Utilities Commission**
    Supervisor
  - [ ] **Santa Monica Bay Restoration**
    Guangyu Wang
  - [x] **State Lands Commission**
    Jennifer Deleong
  - [ ] **Tahoe Regional Planning Agency (TRPA)**
    Cherry Jacques

Cal State Transportation Agency CalSTA

- [x] **Caltrans - Division of Aeronautics**
  Philip Crimmins
- [ ] **Caltrans – Planning HQ LD-IGR**
  Christian Bushong
- [x] **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Susan Zanchi
- [ ] **Caltrans, District 4**
  Patricia Maurice
- [ ] **Caltrans, District 5**
  Larry Newland
- [x] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Dianna Watson
- [ ] **Caltrans, District 8**
  Mark Roberts
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Maureen El Harake

Cal EPA

Air Resources Board

- [ ] **Airport & Freight**
  Jack Wursten
  - [ ] **Transportation Projects**
    Nesamani Kalandiyur
  - [x] **Industrial/Energy Projects**
    Mike Tollstrup
- [ ] **California Department of Resources, Recycling & Recovery**
  Kevin Taylor/Jeff Esquivel
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- [ ] **State Water Resources Control Board**
  Div. Drinking Water #________
- [x] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- [ ] **Dept. of Toxic Substances Control Reg. #________**
  CEQA Tracking Center
- [x] **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [x] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** ________________
  ____
  ____
- [ ] ________________
  Conservancy

Last Updated 5/22/18

DEPARTMENT OF TRANSPORTATION
DISTRICT 6
1352 WEST OLIVE AVENUE
P.O. BOX 12616
FRESNO, CA 93778-2616
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Making Conservation a California Way of Life.

July 19, 2019

FRE-41-22.537
SCH 2019070123
PERMITTING OF COMMERCIAL CANNABIS

Mx. Israel Trejo
City of Fresno
2600 Fresno Street, Room 3043
Fresno, California 93721

Dear Mx. Trejo:

Caltrans has completed its review of proposed regulation and permitting of commercial cannabis in Fresno. The project proposes to amend Sections 15-2739 and 15-2739.1 of the Fresno Municipal Code (FMC), Article 33 to Chapter 9 of the FMC, and Article 21 to Chapter 12 of the FMC; relating to adult use and medicinal cannabis retail business, and commercial cannabis business. These amendments would allow medicinal cannabis operations, cultivation, manufacturing, testing, distribution, delivery, and dispensaries within the City. Caltrans offers the following comments:

The body of research on the effects of cannabis retail and commercial business to transportation is in its infancy. There is little to suggest that the amount of traffic generated by cannabis business is significantly different from similar uses, such as neighborhood retail or commercial farming. Determining the effects of cannabis cultivation, distribution, manufacturing and testing operations will require project specific analysis as development occurs.

Impacts to state facilities near the Cannabis Innovation Zone are expected. It is our understanding the City will conduct a Traffic Impact Study (TIS) as part of their transportation analysis for the Environmental Impact Report. Caltrans recommends the TIS identify impacts to state facilities and impact mitigation measures such as increasing connectivity and accessibility to bicycle facilities—particularly the existing Class II lanes. We request to collaborate with the City in defining the scope of the TIS.

Questions about these comments, can be directed to me at (559) 488-7307 or at Jamaica.Gentry@dot.ca.gov.

Sincerely,

JAMAICA GENTRY
Associate Transportation Planner
Transportation Planning – North

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone (916) 373-3710
Email: nahc@nahc.ca.gov
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July 23, 2019

Israel Trejo
City of Fresno
2600 Fresno Street, Room 3043
Fresno, CA 93721

RE: SCH# 2019070123 Text Amendment No. P19-02978 – Evaluating the Proposed Regulation and Permitting of Commercial Cannabis, Fresno County

Dear Mr. Trejo:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
   a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
   b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
       i. Planning and construction to avoid the resources and protect the cultural and natural context.
       ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
       i. Protecting the cultural character and integrity of the resource.
       ii. Protecting the traditional use of the resource.
       iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. 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.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Gayle.Totton@nahc.ca.gov.

Sincerely,

Nancy Gonzalez

for

Gayle Totton
Associate Governmental Program Analyst

cc: State Clearinghouse

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

August 5, 2019

Israel Trejo
City of Fresno
Development and Resource Management Department
2600 Fresno Street, Room 3043
Fresno, California 93721

Subject: Notice of Preparation (NOP) for the Environmental Impact Report (EIR); Text Amendment No. P19-02978 – Evaluating the Proposed Regulation and Permitting of Commercial Cannabis (Project)
SCH# 2019070123

Dear Mr. Trejo:

The California Department of Fish and Wildlife (CDFW) received a Request for Comments from the City of Fresno regarding a NOP for the EIR for Text Amendment No. P19-02978 – Evaluating the Proposed Regulation and Permitting of Commercial Cannabis pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

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[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. For example, as proposed, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & Game Code, § 1600 et seq). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & Game Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include §§ 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

PROJECT DESCRIPTION SUMMARY

Proponent: City of Fresno

Objective: The Project is to allow medicinal cannabis operations, cultivation, manufacturing, extraction, testing, distribution, delivery, and dispensaries within the City of Fresno.

Cultivation, Distribution, and Manufacturing

- 8 businesses would be permitted inside the Cannabis Innovation Zone, defined as the area bounded by State Route 41, Golden State Blvd., Church Ave., East Ave., and Parallel Ave.
- 8 businesses would be permitted within industrial zoned property within ½ mile of Highway 99 between Shaw and Clinton Aves., or within 1 mile of Highway 99 north of Shaw and south of Clinton Aves., or within 1 mile of Highway 180 west of Highway 99. All buildings in which a cultivator, distributor, or manufacturer shall be located no closer than one thousand (1,000) feet from any property boundary containing a residence, school, daycare, or youth center.

Testing Laboratories

- Testing laboratories may take place in a Commercial, Employment, or Downtown District. There is no limit on how many may be permitted.

Cannabis Retailers

- 21 total possible cannabis retail locations – this includes up to 14 medicinal and/or adult use cannabis retail locations (2 per Council District); with the

potential to add 7 additional retailers (1 additional per Council District) upon Council Resolution.
- Retailers would be restricted to the DTN (Downtown Neighborhood), DTG (Downtown General), CMS (Commercial Main Street), CC (Commercial Community), CR (Commercial Regional), CG (Commercial General), CH (Commercial Highway), NMX (Neighborhood Mixed-Use), CMX (Corridor/Center Mixed Use), or RMX (Regional Mixed-Use) zone districts. In addition, retailers would be required to maintain a minimum distance of 800 feet from any property boundary containing another cannabis retailer, school, daycare center, or youth center (i.e. parks, playgrounds, facilities hosting activities for minors)
- Hours of operation for retailers would be limited to 6:00 am to 10:00 pm
- Retail delivery allowed if part of store-front operation

Cannabis Cultivation
- The ordinance prohibiting all cultivation does not apply to private residence with 6 plants or less grown indoors or to any person/property that obtains a Fresno City commercial cannabis business permit.

Location: The Project site is within the City limits of Fresno, California in specific locations detailed within the Project description.

Timeframe: Unknown

In review of the NOP for the EIR, CDFW provides the following comments as the project area is mainly developed but may contain areas of habitat for the below listed species. The Project area has the potential to support the State and federally listed threatened California Tiger Salamander (*Ambystoma californiense*), State listed threatened Swainson's hawk (*Buteo swainsoni*), the State species of special concern burrowing owl (*Athene cunicularia*), western mastiff bat (*Eumops perotis californicus*), and American badger (*Taxidea taxus*). Therefore, CDFW requests that the EIR fully identify potential impacts to biological resources and provide proper avoidance, minimization, and mitigation measures to address potential Project-related impacts to these species. CDFW recommends that additional biological surveys be conducted and that the results of these surveys be used to inform the analysis of impacts to resources and to provision suitable avoidance, minimization, and mitigation measures to reduce impacts to less than significant levels.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the City of Fresno in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

Editorial comments or other suggestions may also be included to improve the document.

Biological Assessment: In general, CDFW recommends a biological assessment survey be conducted on each subject parcel prior to new ground-disturbing Project activities to determine impacts to biological resources and to determine if focused biological surveys are warranted. Biological assessments are recommended to be conducted well in advance of any Project-related ground disturbance by qualified wildlife biologists and/or botanists during the appropriate survey periods. Survey results can then be used to identify existing conditions, including habitats and species, within the impact area and inform Project proponents of permitting needs.

California Tiger Salamander (CTS)

Issue: Recent CTS occurrences have been noted within the Project area (CDFW, 2019). CTS occur from the Central Valley floor near sea level up to approximately 3,940 feet in the Coastal Range (USFWS, 2017). CTS require both aquatic habitat for breeding and upland habitat for refuge where they spend most of their life and have been observed up to 1.24 miles from potential breeding ponds (USFWS, 2003). Breeding ponds for CTS include natural vernal pools, ponds, livestock ponds, and other modified permanent and ephemeral ponds (USFWS, 2017).

Specific impact: Without appropriate avoidance and minimization measures for CTS, potential significant impacts associated with the Project activities could include burrow collapse, inadvertent entrapment, reduced reproductive success, reduction in health and vigor of eggs, larvae and/or young, and direct mortality of individuals.

Evidence impact would be significant: The Project area is within the range of CTS and may contain suitable upland and breeding habitat. Decline in CTS populations is attributed to habitat loss and fragmentation; predation from, and competition with invasive species; hybridization; small mammal control; and contaminants (USFWS, 2017). Large tracts of upland habitat, preferably with multiple breeding ponds, are necessary for CTS to persist.

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Environmental Setting and Related Impact)

CDFW recommends conducting the following evaluation of the subject parcel and including the following measures in a CEQA document if there is the potential for CTS.

Focused CTS Surveys

Prior to ground-disturbing activities, CDFW recommends that a qualified wildlife biologist assess the Project site and vicinity (i.e. up to 1.3 miles, observed CTS dispersal distance) that contains potentially suitable habitat, to evaluate the potential for CTS. CDFW recommends site assessments follow the USFWS's "*Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander*" (USFW, 2003). CDFW advises the qualified biologist determine the impacts of Project-related activities to all CTS upland and breeding habitat features within and/or adjacent to the construction footprint.

If the site assessment determines there is suitable habitat present for breeding or refugia on the subject parcel, protocol level surveys are advised to be conducted in accordance with the Interim Guidance to determine presence or a negative finding for CTS. Please note that CTS surveys may need to be conducted during years with adequate precipitation to be acceptable.

CTS Avoidance

If the site assessment demonstrates upland burrow refugia or breeding wetland habitat features suitable for use by CTS are present within and/or adjacent to the Project route footprint, absent protocol level surveys, CDFW advises a minimum 50-foot no-disturbance buffer delineated around all small mammal burrows within suitable habitat. If burrow avoidance is not feasible, consultation with CDFW is warranted to determine if the Project can avoid take.

CTS Take Authorization

If full avoidance is not feasible or protocol level surveys do not yield a negative finding, acquisition of an Incidental Take Permit (ITP) pursuant to Fish and Game Code § 2081(b) would be warranted prior to Project implementation to comply with CESA. Alternatively, in the absence of protocol surveys, the applicant can assume presence of CTS within the Project area and obtain an ITP from CDFW.

Swainson's Hawk (SWHA)

Issue: The Project area includes areas of SWHA habitat and is within range of the species. Foraging habitat can include natural grasslands, pasture, hay crops and some irrigated crops (CDFW, 2016). SWHA nest in lone trees in agricultural fields or pastures, roadside trees adjacent to suitable foraging habitat, or within riparian trees (CDFW, 2016).

Specific Impact: Without appropriate avoidance and minimization measures for SWHA, potential significant impacts associated with the Project's construction could include nest abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young, indirect or direct mortality of individuals.

Evidence impact is potentially significant: The primary threat to SWHA in California continues to be habitat loss, both nesting and foraging habitat, due to urban development and incompatible agriculture (CDFW, 2016). Current surveys have indicated a smaller population of SWHA occupying a restricted range that includes the core habitat areas of the Central Valley and Great Basin (CDFW, 2016).

Recommended Potentially Feasible Mitigation Measure(s) (Regarding Environmental Setting and Related Impact)

CDFW recommends conducting the following evaluation of the subject parcel and including the following measures in a CEQA document if there is the potential for SWHA.

SWHA Surveys

CDFW recommends that a qualified wildlife biologist conduct surveys for nesting raptors following the survey methodology developed by the SWHA Technical Advisory Committee (SWHA TAC, 2000) prior to ground-disturbing activities that have the potential to result from the Project. If ground-disturbing activities take place during the normal bird breeding season (February 1 through September 15), CDFW recommends that additional pre-construction surveys for active nest be conducted by a qualified biologist no more than 10 days prior to the start of construction.

SWHA Avoidance

If an active SWHA nest is found, CDFW recommends implementation of a minimum ½-mile no-disturbance buffer until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival.

SWHA Nest Trees

CDFW recommends that impacts to known nest trees be avoided at all times of year. The removal of mature trees is a potentially significant impact to nesting birds of prey and CDFW advises mitigation of these impacts. Removal of known nest trees is a potentially significant impact under CEQA and could result in take under CESA. This is especially true with species such as SWHA, which exhibit high nest-site fidelity year after year. Regardless of nesting status, if potential or known

SWHA nesting tress are removed, CDFW recommends they be replaced with appropriate native tree species, planted at a ratio of 3:1 (replaced to removed).

SWHA Take Authorization

If the ½-mile no-disturbance nest buffer is not feasible, consultation with CDFW is warranted and acquisition of an ITP for SWHA may be necessary prior to project implementation, pursuant to Fish and Game Code § 2081 (b).

Burrowing Owl (BUOW)

Issue: The Project area is within BUOW range and there are California Natural Diversity Database (CNDDB) occurrences noted within the Project area (CDFW, 2019). BUOW habitat is primarily grassland, deserts, scrublands, with low-growing vegetation and BUOW can persist in human altered areas (Gervais et al., 2008, CBOC, 1993). Burrows are essential habitat for BUOW for protection, shelter and nesting (CBOC, 1993). BUOW utilize burrows created by fossorial mammals and may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement (CBOC, 1993).

Specific impact: Without appropriate avoidance and minimization measures for BUOW, potential significant impacts include nest abandonment, which may result in reduced nesting success such as reduced health or vigor of eggs or young, in addition to direct mortality in violation of the Migratory Bird Treaty Act and Fish and Game Code.

Evidence impact is potentially significant: The Project area is within the range of BUOW and BUOW may be found within Project sites. BUOW rely on burrow habitat year-round for their survival and reproduction. Threats to BUOW include habitat loss and degradation from urbanization of farmland, changes in agriculture practices, and loss of open lands (Gervais et al., 2008). In addition, activities including grading, disking, cultivation, earth moving, burrow blockage, heavy equipment compacting of burrows, and disturbance which may result in harassment of owls at occupied burrows have the potential to result in take of BUOW (CDFG, 2012). Activities that may impact BOUW populations include eradication of host burrowers, changes in vegetation management, and use of pesticides and rodenticides (CDFG, 2012).

Recommended Potentially Feasible Mitigation Measure(s)

CDFW recommends conducting the following evaluation of the subject parcel and including the following measures in a CEQA document if there is the potential for BUOW.

BUOW Surveys

CDFW recommends assessing presence/absence of BUOW by having a qualified biologist conduct surveys following the California Burrowing Owl Consortium's (CBOC) *"Burrowing Owl Survey Protocol and Mitigation Guidelines"* (CBOC, 1993) and CDFW's *Staff Report on Burrowing Owl Mitigation"* (CDFG, 2012). CDFW advises that surveys include a 500-foot buffer around the Project area. Please note the guidelines suggest three or more surveillance surveys be conducted during daylight with each visit occurring at least three weeks apart during the peak breeding season (April 15 to July 15), when BUOW are most detectable (CDFG, 2012).

BUOW Avoidance

If BUOW are found within the Project area, CDFW recommends implementing no-disturbance buffers, as outlined in the *"Staff Report on Burrowing Owl Mitigation"* (CDFG, 2012), prior to and during any ground-disturbing activities associated with Project implementation. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

* meters (m)

BUOW Passive Relocation and Mitigation

If BUOW are found to occupy the Project site and avoidance is not possible, it is important to note that according to the Staff Report (CDFG, 2012), exclusion is not a take avoidance, minimization, or mitigation method and is considered a potentially significant impact under CEQA. However, if necessary, CDFW recommends that burrow exclusion be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. CDFW recommends replacement of occupied burrows with artificial burrows at a ratio of 1 burrow collapsed to 1 artificial burrow constructed (1:1) as mitigation for the potentially significant impact of evicting BUOW. BUOW may attempt to colonize or re-colonize an area that will be impacted; thus, CDFW recommends ongoing surveillance of the Project site during Project activities, at a rate that is sufficient to detect BUOW if they return.

Special Status Bat Surveys

If suitable roosting habitat is confirmed within 100 feet of Project activities, CDFW recommends that a qualified biologist conduct focused surveys to establish species and seasonal usage. CDFW recommends that individual project areas be assessed for potential to support roosting bats well in advance of Project activities and that pre-activity surveys occur within two weeks prior to the start of work.

Focused survey methodology is advised to include visual surveys of bats (observation of presence of bats during foraging period), inspection for suitable habitat or bat sign (guano) and use of ultrasonic detectors during all dusk emergence and pre-dawn re-entry. To maximize detectability, surveys should be conducted within one 24-hour period.

Avoidance

If bats are found to occupy the Project site, CDFW recommends establishing a 100-foot no-disturbance buffer around roost sites, installing temporary exclusionary devices at the appropriate time of year to avoid take, and installing new roost sites prior to initiation of Project-related activities to allow enough time for bats to relocate. CDFW recommends consultation and specific notice if bats may be disturbed by Project-related activities.

American Badger: American badger, a State Species of Special Concern, has been documented within Project area (CDFW, 2019). CDFW recommends species-specific focused surveys, conducted by qualified biologists, in advance of project implementation in order to evaluate if impacts to American badger could occur. Avoidance of American badger whenever possible is encouraged via delineation and observing appropriate no-disturbance buffers. In addition, CDFW recommends that if a badger is detected within a project work area during project activities, it be allowed to move out of the work area of its own volition. If an American badger is found denning on or immediately adjacent to a project work area, consultation with CDFW is advised to determine whether the animal(s) may be evicted from the den. CDFW recommends fully addressing avoidance, minimization, and mitigation measures for American badger and that these measures be included as enforceable mitigation in the EIR.

Nesting Birds: The trees, shrubs, and grasses within and in the vicinity of the Project area likely provides nesting habitat for songbirds and raptors. CDFW encourages Project implementation to occur during the bird non-nesting season. In addition to direct impacts, such as nest destruction, nests might be affected by noise, vibration, odors, and movement of workers or equipment. If Project activities must occur during the breeding season (February through mid-September), the Project proponent is responsible for ensuring that implementation of the Project does not result in any violation of the Migratory Bird Treaty Act or relevant Fish and Game Code Sections.

Prior to work commencing, including staging, clearing, and grubbing, surveys for active nests should be conducted by a qualified wildlife biologist no more than 10 days prior to Project commencement and that the surveys be conducted in a sufficient area around the work site to identify any nests that are present and to determine their status. A sufficient area means any nest within an area that could potentially be affected by the Project. Identified nests should be continuously surveyed for the first 24 hours prior to any construction-related activities to establish a behavioral baseline. Once work commences, all nests should be continuously monitored to detect any behavioral changes as a result of the Project. If behavioral changes are observed, the work causing that change should cease and CDFW consulted for additional avoidance and minimization measures.

If active nests are found and a monitor is not feasible, CDFW recommends implementing a minimum 250-foot no-disturbance buffer around active nests of non-listed bird species and a 500-foot no-disturbance buffer around the nests of non-listed raptors until the breeding season has ended, or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Variance from these no-disturbance buffers may be implemented when there is compelling biological or ecological reason to do so, such as when the Project area would be concealed from a nest site by topography. Any variance from these buffers is advised to be supported by a qualified wildlife biologist and it is recommended CDFW be notified in advance of implementation of a no-disturbance buffer variance.

Lake and Streambed Alteration: CDFW also has regulatory authority with regard to activities occurring in streams, including ephemeral streams, and/or lakes that could adversely affect any fish or wildlife resource, pursuant to Fish and Game Code §§ 1600 et seq. Work within or adjacent to stream channels has the potential to result in substantial diversion or obstruction of natural flows; substantial change or use of material from the bed, bank, or channel; deposition of debris, waste, sediment, toxic runoff or other materials into water causing water pollution and degradation of water quality.

If a Project could substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, notification of Lake or Streambed Alteration to CDFW is required.

Business and Professions Code 26060.1 (b)(3) includes a requirement that California Department of Food and Agriculture cannabis cultivation licensees demonstrate compliance with Fish and Game Code § 1602 through written verification from CDFW. CDFW recommends project proponents submit of a Lake and Streambed Alteration Notification to CDFW for the proposed Project prior to initiation of any cultivation activities. As such, CDFW recommends that the City of Fresno EIR inform Project proponents of this responsibility. It is important to note that CDFW is required to comply with CEQA in the issuance or the renewal of an Lake or Streambed Alteration Agreement. Additional information be found here: https://www.wildlife.ca.gov/Conservation/Cannabis/Permitting

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special status species and natural communities detected during Project surveys to the CNDDB. The CNNDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

FILING FEES

If it is determined the Project would have an impact on fish and/or wildlife, an assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP for the EIR for Text Amendment No. P19-02978 – Evaluating the Proposed Regulation and Permitting of Commercial Cannabis to assist the City of Fresno in identifying and mitigating Project impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at the CDFW's website (https://www.wildlife.ca.gov/Conservation/Survey-Protocols). Questions regarding this letter or further coordination should be directed to Benessa Galvan, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 243-8152, or by email at benessa.galvan@wildlife.ca.gov.

Sincerely,

for Julie Vance

Julie A. Vance
Regional Manager

REFERENCES

CBOC, 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. California Burrowing Owl Consortium, April 1993.

CDFG, 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Game, March 2012.

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USFWS, 2017. Recovery Plan for the Central California Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*) June 2017.

CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

8/28/2019

Israel Trejo, Planner III
City of Fresno, Development and Resource Management Department
2600 Fresno Street, Room 3043
Fresno, CA 93721

Re: CDFA Comments on City of Fresno Notice of Preparation (NOP) of Draft EIR for Evaluating the Proposed Regulation and Permitting of Commercial Cannabis Activities (State Clearinghouse No. 2019070123)

Dear Mr. Trejo:

The California Department of Food and Agriculture's (CDFA's) CalCannabis Division (CalCannabis) is pleased to submit comments on the NOP for the City of Fresno's Regulation and Permitting of Commercial Cannabis Activities Project (Proposed Project), located in Fresno, California.

CDFA is a Responsible Agency with respect to the Proposed Project, with jurisdiction over the issuance of licenses to cultivate, propagate and process commercial cannabis in the State of California. CDFA issues licenses to outdoor, indoor, and mixed-light cannabis cultivators, cannabis nurseries and cannabis processor facilities, where the local jurisdiction authorizes these activities. This authority is pursuant to the Business and Professions Code, Division 10, Chapter 2, Section 26012(2). All commercial cannabis cultivation within the State of California requires a cultivation license from CDFA.

CDFA certified a Programmatic Environmental Impact Report (PEIR) for cannabis activities throughout the state on November 13, 2017. The PEIR can be found at the following link: https://www.cdfa.ca.gov/calcannabis/PEIR.html. For a complete list of all license requirements please visit: https://static.cdfa.ca.gov/MCCP/document/CDFA%20Final%20Regulation%20Text_01162019_Clean.pdf.

Background

The City of Fresno adopted a draft commercial cannabis cultivation ordinance in December 2018 (Ordinance 2018-68). The NOP indicates the City's EIR will evaluate all potential impacts resulting from the adoption of the final ordinance, following approval by the Fresno City Council. Ordinance 2018-68 indicates that applicants for City-issued commercial cannabis business permits must obtain all land use approvals or entitlements for each proposed location, and that such approvals or entitlements must comply with CEQA. The draft ordinance does not provide details about the type of CEQA document(s) to be prepared.

Comments and Recommendations

Comment 1: CDFA applauds the intention of the City of Fresno to prepare an EIR covering its cannabis cultivation ordinance. CDFA believes that this can improve the efficiency with which CDFA can issue licenses for applicants from within the City.

Comment 2: The CDFA PEIR determined that some environmental topics generally fell outside of CDFA's regulatory authority because these topics are regulated by local land use. These include issues such as aesthetics, land use and planning, geology and soils, mineral resources, noise, odors, regional recreational structures and services, compliance with building standards, provisions for police and fire protection, and connections to public utilities (e.g., public water, wastewater, and storm drainage systems). Additionally, there are other topics for which detailed analysis in the CDFA PEIR was not possible because of the statewide nature of the CDFA licensure program. Many of these topics involve the evaluation of site-specific conditions, the details of which were infeasible to identify and evaluate in a statewide PEIR, and the characteristics of which were unknown at the time the PEIR was published (e.g., the locations of new cultivation sites that would be planned and licensed were unknown at the time the PEIR was published).

For these topics, listed below, the CDFA PEIR determined that potential impacts would most appropriately be evaluated in local regulatory program-level documents or site-specific documents. The PEIR, where appropriate, provides more general conclusions regarding the likelihood and types of impacts caused by cannabis cultivation, including the cumulative impacts that would be expected under the statewide CDFA Program.

CDFA requests that the City of Fresno EIR evaluate the impacts of licensed commercial cannabis cultivation on these resource topics, at an appropriate regionally focused level, and include mitigation measures that, when applied to individual projects, will ensure that these projects will not result in significant adverse impacts on the environment.

Aesthetics

- Substantial adverse effects on scenic vistas, scenic resources, or State-designated scenic highway, and/or the existing visual character or quality of a site and its surroundings.

Land Use and Planning

- Conflicts with any and all local land use plans, ordinances, policies, and/or resource programs; including but not limited to applicable Habitat Conservation Plans and Natural Community Conservation Plans.

Mineral Resources

- Potential loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Potential for the extraction of substantial mineral resources from lands classified by the State as areas that contain mineral resources (Mineral Resource Zone [MRZ]-3).
- Loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Noise

- Exposure of people or residences to excessive noise levels 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.
- Generation of excessive groundborne vibration or groundborne noise levels.
- Substantial permanent increase in ambient noise levels in the vicinity of a licensed cultivation activities above existing levels.
- Excessive noise for sensitive receptors, and/or resulting in a substantial temporary or periodic increase in ambient noise levels.
- Short-term construction-related impacts to noise (if applicable).
- Long-term operation-related noise impacts resulting from traffic and related changes to existing noise levels.

Odor (Air Quality)

- Create objectionable odors affecting a substantial number of people as a result of cannabis cultivation.

Recreation

- Potential impacts to existing neighborhood and regional parks or other recreational facilities.

Public Services and Utilities

- Exceedance of wastewater treatment requirements, resulting in the need to expand wastewater treatment facilities, or result in a determination by the wastewat.er treatment provider that it has inadequate capacity to serve the project.
- Require or result in the construction of new or expanded water treatment and/or stormwater facilities.
- Potential to be served by a landfill with insufficient capacity.

Traffic and Transportation

- Conflict with circulation plans, ordinances, or policies.
- Conflict with congestion management programs.
- Increase hazards due to a design feature or incompatible uses.

Comment 3: It is critical for the EIR to evaluate the cumulative impacts of cannabis cultivation in the City of Fresno. Of particular importance are topics for which the impacts of individual project may be less than significant, but where individual projects may contribute to a significant cumulative impact. These topics include:

- Impacts of surface water diversions on aquatic species and habitats, including riparian habitats reliant on stream flows;
- Impacts of groundwater diversions on the health of the underlying aquifer, including impacts on other users, impacts on stream-related resources connected to the aquifer;
- Impacts on terrestrial biological species and habitats, particularly special-status species as defined under CEQA;
- Impacts related to noise; and
- Impacts related to air quality and objectionable odors.

Adequately evaluating these cumulative impacts, and incorporating mitigation measures to address them will allow applicants and the City to take advantage of CEQA streamlining opportunities at the site-specific level.

Comment 4: Where the CDFA PEIR determined that potential impacts would most appropriately be evaluated at a local level, CDFA anticipated that local governments would provide applicants with direction on how to operate their cannabis projects without adversely impacting the environment, as defined under CEQA. CDFA assumes that, as part of the local jurisdiction's approval process, the local government will comply with CEQA, which may include the preparation of site-specific CEQA documents. An applicable regulatory framework and significance thresholds appropriate at a local level may be provided in the City's cannabis cultivation ordinance or through a regulatory framework established in the City's general plan, land use policies, ordinances, and/or other regional plans developed.

In considering the adoption of its cannabis cultivation ordinance, the City of Fresno should review the State regulations and requirements and consider adopting policies that are equally as restrictive as those defined by the State. Applicants for State licensure will be required to meet these requirements, so requiring measures that are at least as restrictive will provide clarity to cultivators and increase the likelihood that CDFA will be able to issue a license for the project.

Comment 5: It is important to note that, pursuant to state regulations, CDFA requires an annual-license applicant to provide evidence of exemption from, or compliance with, CEQA (3 Cal. Code of Regs. § 8102).

If a local jurisdiction prepares a site-specific CEQA compliance document that contains the information required by CDFA to issue an annual license, it improves the efficiency with which CDFA can issue annual licenses for projects located within that jurisdiction. For site-specific cultivation projects where CDFA must act as the CEQA lead agency, CDFA will either have to rely on its PEIR for Annual Permit issuance (possibly in combination with the local agency's program-level EIR), or request that the applicant prepare site-specific analysis. It is possible that some projects may require extensive CEQA documentation. This may result in significant delays to projects receiving state cultivation licenses.

CDFA therefore requests that the City provide site-specific environmental documentation for each project, and include mitigation measures or permit terms that minimize the direct impacts of the project, and reduce its contribution less than considerable for any significant cumulative impacts identified in the City's program-level EIR.

Conclusion

CDFA appreciates the opportunity to provide comments on the NOP for the City of Fresno's Regulation and Permitting of Commercial Cannabis Activities Project. If you require additional information, please contact Kevin Ponce, Senior Environmental Scientist Supervisor, at (916) 263-0801 or via e-mail at kevin.ponce@cdfa.ca.gov.

Sincerely,

Lindsay Rains
Licensing Program Manager

August 13, 2019

Israel Trejo
City of Fresno
Development and Resource Management Department
2600 Fresno Street, Room 3043
Fresno, CA 93721

Project: Notice of Preparation of Draft Environmental Impact Report for Evaluating the Proposed Regulation and Permitting of Commercial Cannabis Activities

District CEQA Reference No: 20190889

Dear Mr. Trejo:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) for the Draft Environmental Impact Report for amendments to the Fresno Municipal Code relating to adult use and medicinal cannabis retail businesses and commercial cannabis business. The proposed amendments to the Fresno Municipal Code address cultivation, distribution, manufacturing, testing laboratories, and retailers of commercial cannabis in the City of Fresno (Project). For the purpose of this document, each subsequent cultivation, distribution, manufacturing, testing laboratories, and retailers of commercial cannabis project is designated as Each Subsequent Cannabis Project. The District offers the following comments:

Emissions Analysis

1) For the Federal National Ambient Air Quality Standards (NAAQS), the District is currently designated as extreme nonattainment for the 8-hour ozone standards; nonattainment for the PM2.5 standards; and attainment for the 1-hour ozone, PM10 and CO standards. At the state level, the District is currently designated as nonattainment for the 8-hour ozone, PM10, and PM2.5 California Ambient Air Quality Standards (CAAQS). The District recommends that the Air Quality section of an Environmental Impact Report (EIR) include a discussion of the following impacts:

a) **Criteria Pollutants:** The Project should require that Each Subsequent Cannabis Project related criteria pollutant emissions be identified and quantified. The discussion should include existing and post-project emissions.

   i) Construction Emissions: Construction emissions of Each Subsequent Cannabis Project are short-term emissions and should be evaluated separately from operational emissions. For reference, the District's annual criteria thresholds of significance for construction are: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SOx), 15 tons per year of particulate matter of 10 microns or less in size (PM10), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM2.5).

      - *Recommended Mitigation Measure if needed:* To reduce impacts from construction related exhaust emissions, the District recommends implementation of the cleanest reasonably available off-road construction fleets (e.g. in order of priority, Tier 4, Tier 3 certified equipment), and as set forth in state and federal regulations.

   ii) Operational Emissions: Permitted (stationary sources) and non-permitted (mobile sources) sources should be analyzed separately. For reference, the annual criteria thresholds of significance for operation of permitted and non-permitted sources each are: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SOx), 15 tons per year of particulate matter of 10 microns or less in size (PM10), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM2.5).

      - *Recommended Mitigation Measure if needed:* Each Subsequent Cannabis Project related impacts on air quality can be reduced through incorporation of design elements, for example, that increase energy efficiency, reduce vehicle miles traveled, and reduce construction exhaust related emissions.

   iii) Recommended Model: Each Subsequent Cannabis Project related criteria pollutant emissions from construction and operation non-permitted (limited to equipment not subject to District permits) should be identified and quantified. Emissions analysis should be performed using CalEEMod (**Cal**ifornia **E**mission **E**stimator **Mod**el), which uses the most recent approved version of relevant Air Resources Board (ARB) emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

b) **Nuisance Odors:** The Project should require that Each Subsequent Cannabis Project be evaluated to determine the likelihood that the Project would result in nuisance odors. Nuisance orders are subjective, thus the District has not established thresholds of significance for nuisance odors. Nuisance odors may be assessed qualitatively taking into consideration of Project design elements and proximity to off-site receptors that potentially would be exposed objectionable odors.

c) **Health Risk Screening/Assessment:** A Health Risk Screening/Assessment identifies potential Toxic Air Contaminants (TAC's) impact on surrounding sensitive receptors such as hospitals, daycare centers, schools, work-sites, and residences. TAC's are air pollutants identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) (https://www.arb.ca.gov/toxics/healthval/healthval.htm) that pose a present or potential hazard to human health. A common source of TACs can be attributed to diesel exhaust emitted from both mobile and stationary sources. Industry specific TACs generated must also be identified and quantified.

The District recommends Each Subsequent Cannabis Project be evaluated for potential health impacts to surrounding receptors (on-site and off-site) resulting from operational and multi-year construction TAC emissions.

i) The District recommends conducting a screening analysis that includes all sources of emissions. A screening analysis is used to identify projects which may have a significant health impact. A prioritization, using CAPCOA's updated methodology, is the recommended screening method. A prioritization score of 10 or greater is considered to be significant and a refined Health Risk Assessment (HRA) should be performed. The prioritization calculator can be found at:
http:www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION%20RMR%202016.XLS.

ii) The District recommends a refined HRA for Each Subsequent Cannabis Project that result in a prioritization score of 10 or greater. It is recommended that Each Subsequent Cannabis Project proponent contact the District to review the proposed modeling protocol. The Project would be considered to have a significant health risk if the HRA demonstrates that the Project related health impacts would exceed the Districts significance threshold of 20 in a million for carcinogenic risk and 1.0 for the Acute and Chronic Hazard Indices.

Please provide the following information electronically to the District for review:

- HRA AERMOD model files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodology.

More information on toxic emission factors, prioritizations and HRAs can be obtained by:

- E-Mailing inquiries to: hramodeler@valleyair.org; or
- The District can be contacted at (559) 230-6000 for assistance; or
- Visiting the Districts website (Modeling Guidance) at http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm

d) **Ambient Air Quality Analysis:** An ambient air quality analysis (AAQA) uses air dispersion modeling to determine if emissions increases from Each Subsequent Cannabis Project will cause or contribute to a violation of the ambient air quality standards. The District recommends that an AAQA be performed for the Each Subsequent Cannabis Project if emissions exceed 100 pounds per day of any pollutant.

For Each Subsequent Cannabis Project, if an AAQA is performed, the analysis should include Each Subsequent Cannabis Project emissions from both permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis. Specific information for assessing significance, including screening tools and modeling guidance is available online at the District's website www.valleyair.org/ceqa.

2) In addition to the discussions on potential impacts identified above, the District recommends the EIR also include the following discussions:

a) A discussion of the methodology, model assumptions, inputs and results used in characterizing Each Subsequent Cannabis Project's impact on air quality. To comply with CEQA requirements for full disclosure, the District recommends that the modeling outputs be provided as appendices to the EIR. The District further recommends that the District be provided with an electronic copy of all input and output files for all modeling.

b) A discussion of the components and phases of Each Subsequent Cannabis Project and the associated emission projections, including ongoing emissions from each previous phase.

c) A discussion of Each Subsequent Cannabis Project design elements and mitigation measures, including characterization of the effectiveness of each mitigation measure incorporated into the Project.

d) A discussion of whether the Project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment. More information on the District's attainment status can be found online by visiting the District's website at: http://valleyair.org/aqinfo/attainment.htm.

District Rules and Regulations

3) Each Subsequent Cannabis Project may be subject to District rules and regulations, including: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the Project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants). Therefore, the City of Fresno should require the project proponent for Each Subsequent Cannabis Project contact the District to address the potential applicability of District rules and permitting requirements, prior to construction.

4) Depending on the type of Each Subsequent Cannabis Project (e.g. in cannabis cultivation, manufacturing, processing, laboratories, warehouse/distribution, or commercial retail), it may be subject to District permitting requirements and/or District Rule 9510 (Indirect Source Review). Prior to seeking any additional public agency approval, project proponents should contact the District's Small Business Assistance (SBA) Office at (559) 230-5888 to determine applicability of District rules. Therefore, the City of Fresno should require the project proponents for Each Subsequent Cannabis Project contact the District to address the potential applicability of District rules and permitting requirements, prior to construction.

5) Each Subsequent Cannabis Project may be subject to District Rule 9410 (Employer Based Trip Reduction) if Each Subsequent Cannabis Project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRIP) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated

with work commutes. Under an eTRIP plan, employers have the flexibility to select the options that work best for their worksites and their employees. Information about how District Rule 9410 can be found online at: www.valleyair.org/tripreduction.htm. For additional information, you can contact the District by phone at 559-230-6000 or by e-mail at etrip@valleyair.org.

6) The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this Project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888. Current District rules can be found online at the District's website at: www.valleyair.org/rules/1ruleslist.htm.

VERA

7) For air quality impacts determined to be significant, the District recommends the EIR also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for the Project. A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-specific regional impacts on air quality can be fully mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

   In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the lead agency that the mitigation is completed, providing the lead agency with an enforceable mitigation measure demonstrating that project-specific regional emissions have been mitigated to less than significant. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

The District recommends that a copy of this letter be provided to Each Subsequent Cannabis Project proponents. If you have any questions or require further information, please call Cherie Clark at (559) 230-5940.

Sincerely,

Arnaud Marjollet
Director of Permit Services

for. Brian Clements
Technical Services Program Manager

AM: cc

From: Daniel Garcez
To: Israel Trejo
Subject: Follow Up: Scoping Meeting for Cannabis EIR
Date: Thursday, July 18, 2019 5:08:30 PM

Good afternoon Mr. Trejo,

It was a pleasure to speak with you at the scoping meeting on Tuesday. Our brief discussion mainly covered the Environmental Checklist Form and the acreage cap on cannabis cultivation within the City of Fresno. I believe this variable is extremely important to focus on as the State of California DOES allow for stacking of licenses to obtain an uncapped amount of square feet production. As an industry consultant, insurance provider, and business development officer, I'm well versed in county and state regulatory framework, all segments of the industry, along with their associated impacts and risks. At your convenience, I would like to come together for a lunch meeting to elaborate on our discussion and see if there may be any value that I can present to your department that can help facilitate an accurate analysis of the operations about to take place within the city limits.

Are you available next week? If so, what is a time/day would be most accommodating for you?

I appreciate your time and consideration.

Kind regards,

Daniel Garcez, AFIS
Commercial Lines Agent
Lic# 0L03672

503 N 7th Street | Fowler, CA 93625
P 559-834-5333 | **F** 559-834-2626
M 707-683-0700

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City of FRESNO

Cannabis EIR
Public Scoping Meeting Sign-In

City of Fresno, City Council Chambers, 2600 Fresno Street, Fresno
July 16, 2019, starting at 5:30 p.m.

Name	Affiliation	Address	Email
Kacey Auston	Auston Consulting	10865 N Heather 93720	kaceyauston@yahoo.com
Lucio Avila	none	→	luciofavila@gmail.com
Jeremy White	Green Pastures	6434 W. Wrenwood	jp.white@greenpasturesco.com
Jay McFadden		7153 N Ellendale Ave	jmcfad22@yahoo.com
Matthew Gillian	Inspiration Transportation	7081 N Marks, Ste 104 PMB 195	iTransportEV@gmail.com
Wes Clark	Horizon		WesleyClark@HorizonCapital.us
Lynne Jones		4860 E Lane Ave #213 93727	LynneJ2000@yahoo.com
Laura Garcia		4913 E. Burns Ave Fresno, CA	laurg507@gmail.com
Ryan Davis			rdavis24559@yahoo.com
Leo Arntz		445 W. Nees #118 Fresno 93711	leoarntz@gmail.com
Cidai Meza			

APPENDIX B

DRAFT TEXT AMENDMENT -
REVISED SECTIONS 15-2739 AND 12-2104

BILL NO. ____________

ORDINANCE NO. ____________

AN ORDINANCE OF THE CITY OF FRESNO, CALIFORNIA, DELETING SECTIONS 15-2739 AND 15-2739.1 OF THE FRESNO MUNICIPAL CODE AND REPLACING WITH THE REVISED SECTION 15-2739 BELOW, RELATING TO ADULT USE AND MEDICINAL CANNABIS RETAIL BUSINESS AND COMMERCIAL CANNABIS BUSINESS

THE COUNCIL OF THE CITY OF FRESNO DOES ORDAIN AS FOLLOWS:

SECTION 1. Existing Sections 15-2739 and 15-2739.1 of the Fresno Municipal Code are deleted:

~~**SECTION 15-2739. MEDICAL MARIJUANA DISPENSARIES.**~~

~~A. Medical Marijuana is defined as set forth in California Health and Safety Code section 11362.5 et seq.~~

~~B. A "Medical Marijuana Dispensary" means any facility or location, whether fixed or mobile, where medical marijuana is made available to, distributed by, or distributed to one or more of the following: (1) a qualified patient, (2) a person with an identification card,~~

Date Adopted:

Date Approved

Effective Date:

City Attorney Approval: ________

Ordinance No.

~~or (3) a primary caregiver. All three of these terms are defined in strict accordance with California Health and Safety Code section 11362.5 et seq. Unless otherwise regulated by this Code or applicable law, a "medical marijuana dispensary" shall not include the following uses: a clinic licensed pursuant to Chapter 1 of Division 2 of the Health and Safety Code, a health care facility licensed pursuant to Chapter 2 of Division 2 of the Health and Safety Code, a residential care facility for persons with chronic life-threatening illnesses licensed pursuant to Chapter 3.01 of Division 2 of the Health and Safety Code, a residential care facility for the elderly licensed pursuant to Chapter 3.2 of Division 2 of the Health and Safety Code, a residential hospice, or a home health agency licensed pursuant to Chapter 8 of Division 2 of the Health and Safety Code, as long as any such use complies strictly with applicable law including, but not limited to, Health and Safety Code section 11362.5 et seq.~~

~~C. A "Medical Marijuana Cooperative" involves two or more persons collectively or cooperatively cultivating, using, transporting, possessing, administering, delivering, or giving away medical marijuana.~~

~~D. A medical marijuana dispensary and/or medical marijuana cooperative shall be allowed only in a zone district designated for medical offices and only if consistent with state and federal law.~~

~~(Added Ord. 2015-39, § 1, eff. 1-9-16).~~

~~SEC. 15-2739.1. - RECREATIONAL MARIJUANA ACTIVITIES.~~

~~A.~~ **~~Definitions.~~**

~~1. "Marijuana" means all parts of the plant Cannabis sativa L., Cannabis indica, or Cannabis ruderalis, whether growing or not; the seeds thereof; the resin extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant, its seeds or resin, as defined in California Health and Safety Code § 11018, as may be amended. Marijuana includes "marijuana products," which means marijuana that has undergone a process whereby the plant material has been transformed into a concentrate, including, but not limited to, concentrated cannabis, or an edible or topical product containing marijuana or concentrated cannabis or other ingredients, as defined in California Health and Safety Code § 11018.1, as may be amended.~~

~~Marijuana does not include "Medical marijuana" as used for medical purposes in accordance with California Health and Safety Code §§ 11362.7 et seq.~~

~~2. "Marijuana Dispensary" means any operation, including a store-front facility or structure, mobile facility, club, or delivery service to or from any location within the city, wherein marijuana is made available, sold, offered for sale, given, distributed, traded, cultivated for, or otherwise provided to any person for recreational purposes.~~

~~A Marijuana Dispensary shall not include the following uses, as long as the location of such uses are otherwise regulated by code or applicable law: (i) a clinic licensed pursuant to Chapter 1of Division 2 of the California Health and Safety Code; (ii) a health care facility licensed pursuant to Chapter 2 of Division 2 of the California Health and Safety Code; (iii) a residential care facility for persons with chronic life-threatening illness licensed pursuant to Chapter 3.01 of Division 2 of the California Health and Safety Code; (iv) a residential care facility for the elderly licensed pursuant to Chapter 3.2 of Division 2 of the California Health and Safety Code; and (v) a residential hospice or a home health agency licensed pursuant to Chapter 8 of Division 2 of the California Health and Safety Code, as long as any such use complies strictly with applicable law including, but not limited to, California Health and Safety Code § 11362.7 et seq.~~

~~3. A "Commercial Marijuana Operation" includes, other than expressly permitted under the Fresno Municipal Code or state law, any~~

~~cultivation, manufacture, processing, storing, laboratory testing, labeling, transporting, distribution, delivery, or sale of marijuana.~~

~~4. "Consumption of marijuana" means receiving marijuana into the body by any means, including, but not limited to, smoking, eating, drinking, consuming, vaporizing, ingesting and topical application.~~

~~B.~~ ~~**Consumption of marijuana prohibited in public.**~~ ~~Consumption of marijuana is prohibited in any public place, in conformance with state law, including, but not limited to, any city owned building, city owned or leased property, city right-of-way, city parks, and city buses. Any consumption of marijuana shall be done in a manner so as to not cause a nuisance to nearby occupants with noxious odors or other adverse health and safety impacts.~~

~~C.~~ ~~**Marijuana Dispensary as a prohibited use.**~~ ~~A Marijuana Dispensary is a prohibited use in all zone districts in the city.~~

~~D.~~ ~~**Commercial Marijuana Operation as a prohibited use.**~~ ~~A Commercial Marijuana Operation is a prohibited use in all zone districts in the city. However, this prohibition does not apply to a commercial entity that conducts laboratory testing of marijuana (either recreational or medicinal), if testing of marijuana comprises twenty percent or less of the entity's and its affiliates' business at the Fresno location, the entity is located in an Industrial District, the entity complies with all applicable~~

~~state laws, and the entity creates a public health benefit with a focus on public safety.~~

~~E.~~ **Severability.** ~~If any section, sentence, clause or phrase of this article is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portion of this article. The Council hereby declares that it would have passed this ordinance and adopted this article and each section, sentence, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.~~

SECTION 2. Section 15-2739 of the Fresno Municipal Code is added to read:

SECTION 15-2739. **Adult Use and Medicinal Cannabis Retail Business and Commercial Cannabis Business**

A. **Definitions**

1. The definitions within Section 9-3304 of this Code, as may be amended, apply to adult use and medicinal cannabis retail businesses and commercial cannabis businesses.

B. **Location and Design of Cannabis Retail Businesses**

1. Comply with the requirements within Section 9-3307 of this Code , as may be amended, relating to location and design requirements for a retail cannabis business, including, but not limited to, the following:

a. All cannabis retail businesses must be located on property zoned DTN (Downtown Neighborhood), DTG (Downtown General), CMS (Commercial Main Street), CC (Commercial Community), CR (Commercial Regional), CG (Commercial General), CH (Commercial Highway), NMX (Neighborhood Mixed-Use), CMX (Corridor/Center Mixed Use), RMX (Regional Mixed-Use), and must meet all of the requirements for development in these zones, including, but not limited to, parking, lighting, building materials, etc.

b. All buildings in which a cannabis retail business is located shall be no closer than eight hundred (800) feet from any property boundary containing any of the following:

1. A cannabis retail business.

2. A school providing instruction for any grades pre-school through 12 (whether public, private, or charter, including pre-school, transitional kindergarten, and K-12).

3. A day care center licensed by the state Department of Social Services that is in existence at the time a complete

commercial cannabis business permit application is submitted.

4. A youth center that is in existence at the time a complete commercial cannabis business permit application is submitted.

c. Each applicant shall provide a neighborhood responsibility plan so the review authority may find that the proposed use and its operating characteristics are not detrimental to the public health, safety, convenience, or welfare of persons residing, working, visiting, or recreating in the surrounding neighborhood and will not result in the creation of a nuisance.

d. In addition to the requirements within Section 9-3307 of this Code, as may be amended, each proposed cannabis retail business shall meet the following building design guidelines:

1. Demonstrate compatibility with the surrounding character of the neighborhood and blend in with existing buildings. The establishment should look like any other similarly situated building. New and existing buildings shall meet the minimum Façade Design Development Standards of the associated zone district unless compliance would cause the building to not be compatible with the surrounding character of the neighborhood and

existing buildings.

C. **Location and Design of Commercial Cannabis Businesses**

1. Comply with the requirements within Section 9-3308 of this Code, as may be amended, relating to location and design requirements for a commercial cannabis business, including, but not limited to, the following:

a. Laboratory testing may take place in a Commercial, Employment, or Downtown District and must meet all of the requirements for development in these zones, including, but not limited to, parking, lighting, building materials, etc.

b. Cultivators, distributors, or manufacturers must be located within the Cannabis Innovation Zone, inside a Cannabis Innovation Hub, or within one-half (1/2) mile of State Route 99 between Shaw Ave. and Clinton Ave., one (1) mile of State Route 99 north of Shaw Ave. or south of Clinton Ave., or within one (1) mile of State Route 180 west of State Route 99, must be zoned either IL (Light Industrial) or IH (Heavy Industrial), and must meet all of the requirements for development in these zones. Any building in which a cultivator, distributor, or manufacturer is located shall be no closer than one thousand (1,000) feet from any property boundary containing any of the following:

1. Any residentially zoned parcel in the city, including any legal non-conforming residential uses as of the date a complete commercial cannabis business permit application is submitted.

2. A school providing instruction for any grades pre-school through 12 (whether public, private, or charter, including pre-school, transitional kindergarten, and K-12).

3. A day care center licensed by the state Department of Social Services that is in existence at the time a complete commercial cannabis business permit application is submitted.

4. A youth center that is in existence at the time a complete commercial cannabis business permit application is submitted.

c. All Cannabis Innovation Hubs must be located within one-half (1/2) mile of State Route 99 between Shaw Ave. and Clinton Ave., one (1) mile of State Route 99 north of Shaw Ave. or south of Clinton Ave., or within one (1) mile of State Route 180 west of State Route 99, and must be zoned either IL (Light Industrial) or IH (Heavy Industrial), and must meet all of the requirements for development in these zones. All

Cannabis Innovation Hub building shall be located no closer than one thousand (1,000) feet from any property boundary containing any of the following:

1. Any residentially zoned parcel in the city, including any legal non-conforming residential uses as of the date a complete commercial cannabis business permit application is submitted.

2. A school providing instruction for any grades pre-school through 12 (whether public, private, or charter, including pre-school, transitional kindergarten, and K-12).

3. A day care center licensed by the state Department of Social Services that is in existence at the time a complete commercial cannabis business permit application is submitted.

4. A youth center that is in existence at the time a complete commercial cannabis business permit application is submitted.

d. Each applicant shall provide a neighborhood responsibility plan so the review authority may find that the proposed use and its operating characteristics are not detrimental to the public health, safety, convenience, or welfare of persons residing, working, visiting, or recreating in the surrounding neighborhood and will not result in the creation of a nuisance.

e. In addition to the requirements within Section 9-3308 of the Fresno Municipal Code, all buildings associated with a commercial cannabis business shall meet the following building design guidelines:

1. Demonstrate compatibility with the surrounding character of the neighborhood and blend in with existing buildings. The establishment should look like any other similarly situated building. New and existing buildings shall meet the minimum Façade Design Development Standards of the associated zone district unless compliance would cause the building to not be compatible with the surrounding character of the neighborhood and existing buildings. For existing buildings, pictures and elevations of the building(s) must be provided to the City upon submittal of a Conditional Use Permit application.

D. **Operating Requirements for All Commercial Cannabis Activity**

1. Comply with the requirements within Section 9-3309 of this Code, as may be amended, relating to operating requirements for all commercial cannabis activity.

E. **Operating Requirements for a Cannabis Retail Business**

1. Comply with the requirements within Section 9-3310 of this Code, as may be amended, relating to operating requirements for a cannabis retail business.

F. **Operating Requirements for a Distributor**

1. Comply with the requirements within Section 9-3311 of this Code, as may be amended, relating to operating requirements for a cannabis distributor.

G. **Operating Requirements for a Cultivator**

1. Comply with the requirements within Section 9-3312 of this Code, as may be amended, relating to operating requirements for a cannabis cultivator.

H. **Operating Requirements for a Testing Laboratory**

1. Comply with the requirements within Section 9-3313 of this Code, as may be amended, relating to operating requirements for a cannabis testing laboratory.

I. **Operating Requirements for a Manufacturer**

1. Comply with the requirements within Section 9-3314 of this Code, as may be amended, relating to operating requirements for a cannabis manufacturer.

J. **Signage**

1. Signage shall conform to the requirements of Chapter 15, Article 26 of this Code, Section 9-3309(h) of this Code, and this subsection. Where conflict may occur, the more restrictive provisions shall govern.

2. No signs placed on the premises of a cannabis retail business or a commercial cannabis business shall obstruct any entrance or exit to the building

3. No signs of a cannabis retail business or a commercial cannabis business shall be placed on any window.

4. Business identification signage shall be limited to that needed for identification only and shall not contain any logos or information that identifies, advertises, or lists the services or the products offered. No cannabis retail business or commercial cannabis business may advertise by having a person holding a sign and advertising the business to passersby, whether such person is on the premises or elsewhere including, but not limited to, the public right-of-way.

5. Signage shall not be directly illuminated, internally or externally. No banners, flags, billboards may be used at any time.

6. No cannabis or cannabis products or graphics depicting cannabis or cannabis products shall be visible from the exterior of any property issued a Cannabis Conditional Use Permit, or on any of the vehicles owned or used as part of the commercial cannabis business or cannabis retail business.

K. **Landscaping**

1. **New Buildings.** Landscaping shall be provided per the underlying District.

2. **Existing Buildings.** Perimeter landscaping and Parking Lot Shading shall be provided per the underlying district. The Review Authority, at their discretion, may make exceptions to the prescribed standards, however in no case shall the reduction result in a net reduction of 35 percent or greater in the amount of landscaping provided. Landscaping may also be aggregated to minimize the impact on existing parking areas.

L. **Lighting**

1. Lighting. The exterior of the premise, including adjacent public sidewalks and all parking lots under the control of the establishment, shall be illuminated during all hours of darkness in a manner so that persons standing in those areas at night are identifiable by

law enforcement personnel. However, required illumination shall be placed and/or shielded in a way that minimizes interference with the neighboring residences. Provide the hours of operation of the lighting within the required neighborhood responsibility plan.

M. **Litter and Graffiti**

1. Litter must be removed daily from the premises, including adjacent public sidewalks and all parking lots under the control of the cannabis retail business or commercial cannabis business; these areas must be swept or cleaned, either mechanically or manually, on a weekly basis to control debris.

2. The owner or operator shall remove graffiti within 48 hours.

N. **Cannabis Conditional Use Permit**

1. Prior to commencing operations, a commercial cannabis business or cannabis retail business must obtain a Cannabis Conditional Use Permit from the Planning and Development Department. Prior to applying for a Cannabis Conditional Use Permit, an applicant must first obtain a Commercial Cannabis Business Permit from the city.

2. Cannabis Conditional Use Permit applications shall be reviewed by the respective Council District Project Review Committee.

3. Cannabis Conditional Use Permit applications shall be routed for review to the respective school district in which the property is located.

4. Land use approvals shall include compliance with all applicable provisions of CEQA.

5. The process described in Chapter 15, Article 50 of this Code shall apply to a Cannabis Conditional Use Permit. Where conflict may occur with Chapter 15, Article 50, this section shall govern.

O. **Review Authority**

1. The Director shall approve, conditionally approve, or deny applications for Cannabis Conditional Use Permits based on consideration of the requirements of this article. The Director may, at their discretion, refer any application that may have significant public interest to the Planning Commission for a decision. In the event of a referral, the Planning Commission shall hold a public hearing prior to making the decision.

P. **Application Requirements**

1. Applications for a Cannabis Conditional Use Permit shall be submitted in accordance with the provisions set forth in Section 15-5002, Application and Fees.

2. The Cannabis Conditional Use Permit application shall be accompanied by a written narrative, operational statement, site plans, floor plans, elevations, and other evidence in support of the applicable findings required by subsection R, Required Findings.

3. The Director may require the applicant to submit additional information, of such type and in such form as the Director may specify, as the Director may deem relevant to the application, including, but not limited to, statements, numeric data, and technical studies, as appropriate.

Q. **Public Notice**

Public Notice shall be provided 10 days prior to the date of action pursuant to Section 15-5007.

R. **Required Findings**

A Cannabis Conditional Use Permit shall only be granted if the decision-maker determines that all of the required findings of Section 15-5306 of this Code can be made for the project as submitted or as modified. If the decision-maker determines that it is not possible to make all of the required findings, the application shall be denied.

S. **Conditions of Approval**

In approving a Cannabis Conditional Use Permit, the decision-maker may impose reasonable conditions or restrictions deemed necessary in accordance with Section 15-5307 of this Code

T. **Appeals**

Cannabis Conditional Use Permit decisions are subject to the appeal provisions of Section 15-5017, Appeals.

U. **Expiration of Cannabis Conditional Use Permit.**

1. A Cannabis Conditional Use Permit granted under this Code shall automatically expire five years after the date of issuance.

2. A Cannabis Conditional Use Permit granted under this Code runs with the land for up to five years. Should an operator discontinue operations at an existing Retail Cannabis Business or Commercial Cannabis Business, a new operator may take over the existing Cannabis Conditional Use Permit for the unexpired time period. Prior to commencing operations, the new operator must obtain a commercial cannabis business permit, submit an approved operational statement, and submit an approved neighborhood responsibility plan.

V. **Indemnification**

1. All applicants for a Cannabis Conditional Use Permit and related environmental approval pursuant to the California Environmental

Quality Act (CEQA) shall be responsible to fully indemnify, defend, and hold harmless the City, its officers, employees, agents, and volunteers, for any and all claims and legal challenges related to the City's actions in approving their applications. Applicant's obligations under the preceding sentence shall apply regardless of whether City or any of its officers, officials, employees, agents or volunteers are actively or passively negligent, but shall not apply to any loss, liability, fines, penalties, forfeitures, costs or damages caused by the sole negligence or willful misconduct of City or any of its officers, officials, employees, agents or volunteers. Indemnification and defense shall be considered a condition of approval for all Cannabis Conditional Use Permit approvals.

2. The responsibility to indemnify and defend the City as required under this Section shall be stated in all application documents provided by the City; however the failure to do so shall not negate the requirement to indemnify and defend.

3. If an applicant fails to accept responsibility to indemnify and defend as required in this Section, then the Cannabis Conditional Use Permit approval shall become null and void upon notice from the City Manager, as approved by the City Attorney, and the applicant shall be liable to the City for all costs, settlements, and/or judgments incurred by the City with respect to the challenge to the Cannabis Conditional Use

Permit approval. If an applicant fails to indemnify and defend the City, the City may, at the discretion of the City Attorney, concede the challenge to the Cannabis Conditional Use Permit approval.

STATE OF CALIFORNIA)

COUNTY OF FRESNO) ss.

CITY OF FRESNO)

I, YVONNE SPENCE, City Clerk of the City of Fresno, certify that the foregoing ordinance was adopted by the Council of the City of Fresno, at a regular meeting held on the __________ day of _______________, 2020.

AYES :

NOES :

ABSENT :

ABSTAIN :

Mayor Approval: ______________________________________, 2020

Mayor Approval/No Return: ___________________________, 2020

Mayor Veto: ____, 2020

Council Override Vote: _______________________________, 2020

YVONNE SPENCE, CMC

City Clerk

BY:_________________________

Deputy

APPROVED AS TO FORM:

DOUGLAS T. SLOAN,

City Attorney

BY:____________________________

Mary Raterman-Doidge Date

Senior Deputy City Attorney

Date Adopted:

Date Approved

Effective Date:

City Attorney Approval: ________

Ordinance No.

BILL NO. ____________

ORDINANCE NO. ____________

AN ORDINANCE OF THE CITY OF FRESNO, CALIFORNIA, AMENDING SECTION 12-2104 OF THE FRESNO MUNICIPAL CODE, RELATING TO MARIJUANA CULTIVATION

THE COUNCIL OF THE CITY OF FRESNO DOES ORDAIN AS FOLLOWS:

SECTION 1. Section 12-2104 of the Fresno Municipal Code is amended to read:

SECTION 12-2104. – PROHIBITION OF MARIJUANA CULTIVATION.

Marijuana cultivation by any person, including primary caregivers and qualified patients, collectives, cooperatives or dispensaries, is prohibited in all zone districts within the City.

[<u>This prohibition does not apply to any person that has a city commercial cannabis business permit for cultivation as described in Article 33 of Chapter 9 of this Code, as may be amended, or for up to 6 plants grown indoors, per residence, as permitted by state law.</u>]

Date Adopted:

Date Approved

Effective Date:

City Attorney Approval: ________

Ordinance No.

SECTION 2. This ordinance shall become effective and in full force and effect at 12:01 a.m. on the thirty-first day after its final passage.

* * * * * * * * * * * * * *

STATE OF CALIFORNIA)
COUNTY OF FRESNO) ss.
CITY OF FRESNO)

I, YVONNE SPENCE, City Clerk of the City of Fresno, certify that the foregoing ordinance was adopted by the Council of the City of Fresno, at a regular meeting held on the __________ day of _______________ 2020.

AYES :

NOES :

ABSENT :

ABSTAIN :

Mayor Approval: ______________________________________, 2020

Mayor Approval/No Return: ____________________________, 2020

Mayor Veto: ____, 2020

Council Override Vote: ________________________________, 2020

YVONNE SPENCE, MMC CRM

City Clerk

BY: ___________________________

Deputy Date

APPROVED AS TO FORM:

DOUGLAS T. SLOAN,

City Attorney

BY: ______________________________

Mary Raterman-Doidge Date

Senior Deputy City Attorney

Date Adopted:

Date Approved

Effective Date:

City Attorney Approval: _________

Ordinance No.

APPENDIX C

AIR QUALITY AND GREENHOUSE GAS EMISSIONS REPORT

4.3 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

This section describes the affected environmental and regulatory setting for air quality and greenhouse gas (GHG) emissions in the City of Fresno (City *or* Fresno). It also describes the impacts on air quality and GHG emissions that would result from implementation of the proposed Regulation and Permitting of Commercial Cannabis Activities (Project), and mitigation measures to reduce identified impacts where possible. Information in this section is based on methodologies and assumptions recommended by the San Joaquin Valley Air Pollution Control District (SJVAPCD), the San Joaquin Valley Clean Air Plan, the Fresno County General Plan Land Use Element, the Fresno Greenhouse Gas Reduction Plan, and information from recent environmental documents prepared for the City.

Information in this section is based on Chapter 3, Project Description, and the following emissions estimation tools: California Emissions Estimator Model (CalEEMod) version 2016.3.2 (California Air Pollution Control Officers [CAPCOA] 2017) as well as the California Environmental Quality Act (CEQA) Guidelines, SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD, 2015), and City of Fresno's Municipal Code Chapter 15: Citywide Development Code, Part 5: Administration and Permits, Article 50: Common Procedures, which includes applicability of CEQA.

4.3.1 ENVIRONMENTAL SETTING

TOPOGRAPHY AND METEOROLOGY

The City of Fresno, California is located in the San Joaquin Valley Air Basin (SJVAB), which encompasses the bulk of the San Joaquin Valley stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded to the east by the Sierra Nevada Mountain Range, to the west by the Coastal Mountain Range and to the south by the Tehachapi Mountains. The Project area is located in the central portion of the Valley. Figure 4.3-1 illustrates the location of Fresno County within the SJVAB.

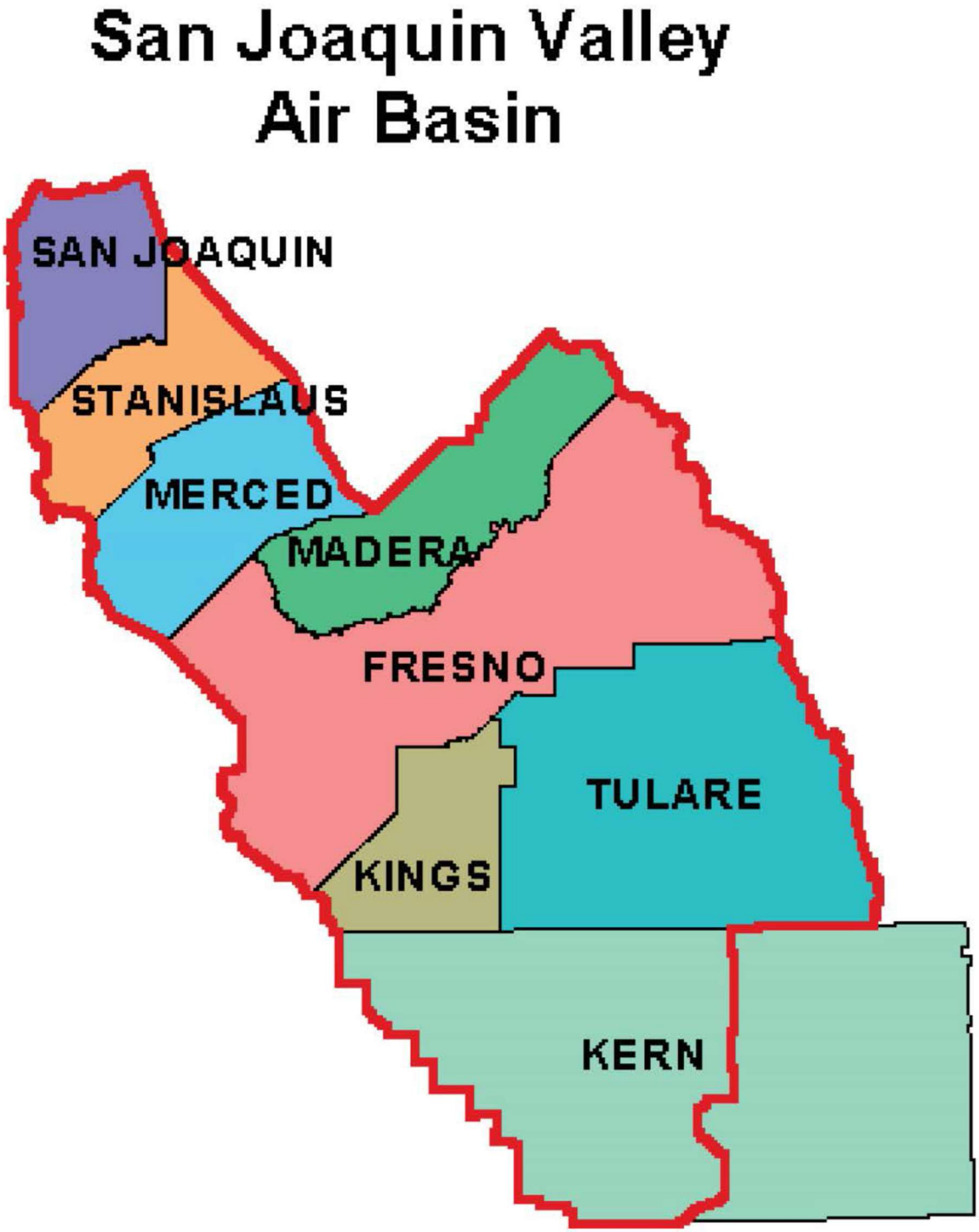
The SJVAB has an inland Mediterranean climate with warm, dry summers, relatively cool nights, and cooler winters with limited rainfall. Winters are mild with light rains and frequent heavy fog from December to January. The average temperature in the Basin is 61.3 degrees Fahrenheit (°F) (USA.com 2019). The average maximum daily temperature in July is approximately 95°F and the average minimum daily temperature in January is 37°F (Sperling's Best Places 2019). Rainfall occurs mainly in the winter months from November to April and averages 17.1 inches per year (USA.com 2019).

Air quality is affected by the rate and location of pollutant emissions and by climatic and topographic conditions that influence the movement and dispersion of pollutants. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, along with local and regional topography, mediate the relationship between air pollutant emissions and air quality. In the SJVAB, the surrounding mountains restrict air movement and impede the dispersion of pollutants out of the basin. The SJVAB also experiences temperature inversions frequently throughout the year, which restrict vertical dispersion of air pollutants; an inversion occurs when a mass of warm dry air sits over cooler air near the ground, essentially trapping the air mass below (SJVAPCD 2015). In addition, the Valley's long, hot summers, and stagnant, foggy winters, provide ideal conditions for the formation of photochemical oxidants and reduce dispersion, respectively.

Wind speed and direction determine the dispersion of air pollutants. Marine air comes into the basin from the Sacramento River–San Joaquin River Delta, although most air movement is restricted by the surrounding mountains. Winds from the Bay Area flow northeasterly into the Sacramento Valley and southward into San Joaquin County. This results in weak winds from the north and northeast, with an average speed of seven miles per hour. During the summer, wind from the north flows south and southeasterly through the Valley, through the Tehachapi Pass and into the Southeast Desert Air Basin. Thus, emissions from the San Francisco Bay Area and the Broader Sacramento air basins are transported into San Joaquin County and the SJVAB. Emissions in the San Joaquin Valley are then transported to the Southeast Desert and Great Basin Valley Air Basins. In late fall and winter, cold air from the mountains flows into the Valley. This results in winds from the south that flow north and northwesterly. Some emissions from San Joaquin County are transported to the broader Sacramento air basin during these times. However, the winds are relatively light, limiting the dispersion of CO and other pollutants.

In the late fall and winter, when there is little interchange of air between the valley and the coast, humidity is high following winter rains, and temperature inversions at ground level persist over the entire valley for several weeks, air movement is virtually absent and radiation fog, known as tule fog, forms. This is typically when peak concentrations of carbon monoxide (CO), oxides of nitrogen (NO_X), and particulate matter (PM) occur.

Figure 4.3-1: San Joaquin Valley Air Basin



Source: San Joaquin ValleyUnified Air Pollution Control District, 2017

AIR POLLUTANTS OF CONCERN

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state laws. These regulated air pollutants are known as “criteria air pollutants” and are categorized into primary and secondary pollutants.

Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead are primary air pollutants. Of these, CO, NO_X, SO_2, PM_{10}, and $PM_{2.5}$ are criteria pollutants. ROG and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. For example, the criteria pollutant ozone (O_3) is formed by a chemical reaction between ROG and NO_x in the presence of sunlight. O_3 and nitrogen dioxide (NO_2) are the principal secondary pollutants. Sources and health effects commonly associated with criteria pollutants are summarized in Table 4.3-1: Air Contaminants and Associated Public Health Concerns.

Table 4.3-1: Air Contaminants and Associated Public Health Concerns

Pollutant	Major Man-Made Sources	Human Health Effects
Particulate Matter (PM_{10} and $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; asthma; chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases/volatile organic compounds (ROG or VOC)[1] and nitrous oxides (NO_X) in the presence of sunlight. Motor vehicle exhaust industrial emissions, gasoline storage and transport, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
Sulfur Dioxide (SO_2)	A colorless gas formed when fuel containing sulfur is burned and when gasoline is extracted from oil. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Lead	Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead	Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates

	emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Due to the phase out of leaded gasoline, metals processing is the major source of lead emissions to the air today. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.	in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ.
Notes: 1. Volatile Organic Compounds (VOCs or Reactive Organic Gases [ROG]) are hydrocarbons/organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROGs and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).		
Source: California Air Pollution Control Officers Association, Health Effects, http://www.capcoa.org/health-effects/, Accessed November 14, 2018.		

OTHER POLLUTANTS

Diesel engine fuel combustion emits particulate matter, referred to as diesel particulate matter (DPM) that can be very small and readily respirable. The particles have hundreds of chemicals adsorbed onto their surfaces, including many known or suspected mutagens and carcinogens (CARB 2016a). Both short and long-term exposure to DPM can result in adverse health effects. Short-term exposure may cause irritation to the eyes, nose, throat and lungs and exacerbate asthma, while chronic exposure has been shown to lead to lung inflammation and cellular changes in animals and has been linked to cancer (U.S. EPA 2017a). Statewide, DPM is estimated to result in 1,400 additional cases of cardiopulmonary death, 100 cases of cardiovascular hospitalization, 120 cases of respiratory hospitalization, and 600 cases of respiratory emergency room visits (CARB 2016). Most major sources of diesel emissions, such as ships, trains, and trucks, operate in and around ports, rail yards, and heavily traveled roadways. DPM is identified by CARB as a toxic air contaminant (TAC) (CARB 2016a).

Besides DPM, several other pollutants emitted by vehicle exhaust are a public health concern. The U.S. EPA has identified five pollutants of highest priority in addition to DPM: acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene. The latter five pollutants are found in organic gases emitted by vehicles.

EXISTING AIR QUALITY

The United States Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established health-based ambient air quality standards for criteria air pollutants listed in Table 4.3-1 above. The EPA sets National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Primary standards provide public health protection, including protecting the health of “sensitive” populations, such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. In addition, CARB has established California Ambient Air Quality Standards (CAAQS) standards for these pollutants, as well as for sulfate (SO4), visibility reducing particles, hydrogen sulfide (H2S), and vinyl chloride. California standards are generally stricter than national standards. The NAAQS and the CAAQS are shown in Table 4.3-2.

Table 4.3-2: National and California Ambient Air Quality Standards			
Pollutant	**Averaging Time**	**National Standards[a]**	**California Standards[b]**
Ozone (O_3)	8 Hours	0.070 ppm (137 μg/m^3)[c]	0.070 ppm (137 μg/m^3)
	1 Hour	--[d]	0.09 ppm (180 μg/m^3)
Carbon Monoxide (CO)	8 Hours	9 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)
	1 Hour	35 ppm (40 mg/m^3)	20 ppm (23 mg/m^3)
Nitrogen Dioxide (NO_2)	Annual Average	0.053 ppm (100 μg/m^3)	0.030 ppm (57 μg/m^3)
	1 Hour	100 ppb (188.68 μg/m^3)	0.18 ppm (339 μg/m^3)
Sulfur Dioxide (SO_2)	3 Hour	0.5 ppm (1,300 μg/m^3)	--
	24 Hours	0.14 ppm (365 μg/m^3)	0.04 ppm (105 μg/m^3)
	1 Hour	75 ppb (196 μg/m^3)	0.25 ppm (655 μg/m^3)
Particulate Matter (PM_{10})	Annual Arithmetic Mean	--[e]	20 μg/m^3
	24 Hours	150 μg/m^3	50 μg/m^3
Particulate Matter—Fine ($PM_{2.5}$)	Annual Arithmetic Mean	12.0 μg/m^3	12 μg/m^3
	24 Hours	35 μg/m^3	--
Sulfates (SO_4)	24 Hours	--	25 μg/m^3
Lead[f] (Pb)	Rolling Three Month Average	0.15 μg/m^3	--
	30-day Average	--	1.5 μg/m^3
Hydrogen Sulfide (H_2S)	1 Hour	--	0.03 ppm (42 μg/m^3)
Vinyl Chloride (chloroethene)	24 Hours	--	0.01 ppm (26 μg/m^3)
Visibility-Reducing Particles (VRPs)	8 Hours	--	--[g]

Source EPA, 2016; CARB, 2016,

ppm = parts per million; ppb = parts per billion; mg/m^3 = milligrams per cubic meter; μg/m^3= micrograms per cubic meter.

[a] The NAAQS, other than O_3 and those based on annual averages, are not to be exceeded more than once a year. The O_3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than 1. The National Primary Standards, which reflect the levels of air quality necessary, with an adequate margin of safety to protect the public health, are presented.

[b] The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour standards), NO_2, PM_{10}, and $PM_{2.5}$ are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

[c] On October 1, 2015, the U.S. EPA Administrator signed the notice for the final rule to revise the primary and secondary NAAQS for O_3. The U.S.EPA is revising the levels of both standards from 0.075 ppm to 0.070 ppm, and retaining their indicators (O_3), forms (fourth-highest daily maximum, averaged across three consecutive years) and averaging times (eight hours). The U.S. EPA is in the process of submitting the rule for publication in the Federal Register. The final rule will be effective 60 days after the date of publication in the Federal Register. The lowered national 8-hour standards are reflected in the table.

[d] One-hour O_3 standard revoked effective June 15, 2005.

[e] Annual PM_{10} standard revoked effective December 18, 2006.

[f] On October 15, 2008, U.S.EPA strengthened the lead standard.

[g] Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amounts to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Table 4.3-3 presents the air quality attainment status for the SJVAB. As indicated in the table, the SJVAB is classified as being in nonattainment for the state one-hour ozone standard, federal and state eight-hour ozone standards, the state PM10 standard, and the federal and state 24-hour and annual PM2.5 standards.

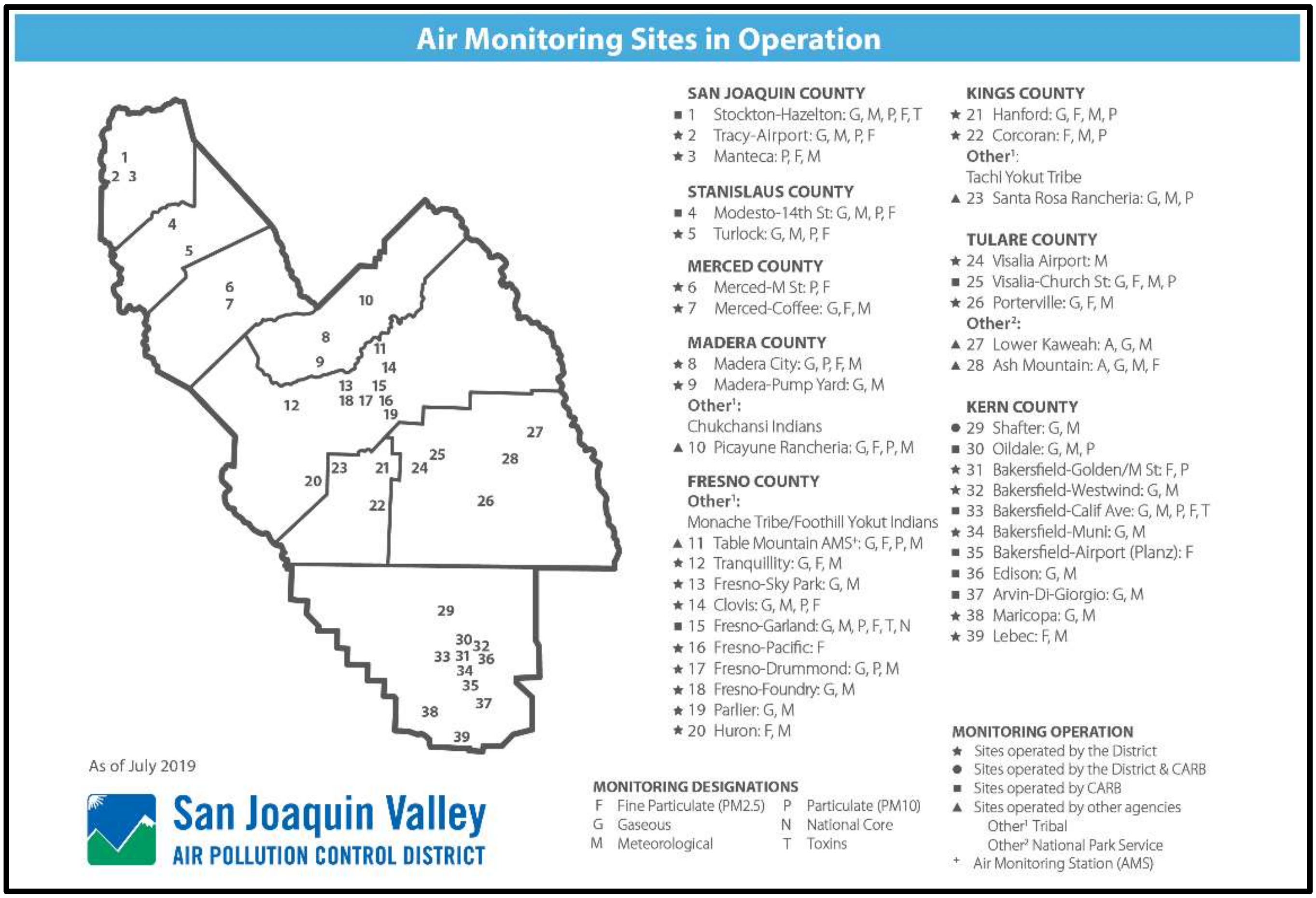
Table 4.3-3: San Joaquin Valley Attainment Status

Pollutant	Designation/Classification	
	Federal Standards[a]	**State Standards[b]**
Ozone – One hour	No Federal Standard[f]	Nonattainment/Severe
Ozone – Eight hour	Nonattainment/Extreme[e]	Nonattainment
PM_{10}	Attainment[c]	Nonattainment
$PM_{2.5}$	Nonattainment[d]	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD, 2019.
[a] See 40 CFR Part 81
[b] See CCR Title 17 Sections 60200-60210
[c] On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
[d] The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).
[e] Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
[f] Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

AMBIENT AIR MONITORING

The SJVAPCD and CARB operate an air quality monitoring network that provides information on average concentrations of those pollutants for which state or Federal agencies have established NAAQS and CAAQS. The monitoring stations in the San Joaquin Valley are depicted in **Figure 4.3-2**.



Source: SJVAPCD 2019b

Figure 4.3-2 – SJVAPCD Monitoring Network

For the purposes of background data and this air quality analysis, this analysis relied on data collected in the last three years for the SJVAPCD and CARB monitoring stations that are located in the closest proximity to the project site. Table 4.3-4 provides the background concentrations for O_3, particulate matter of 10 microns (PM_{10}), particulate matter of less than 2.5 microns ($PM_{2.5}$), CO, NO_2, SO_2, and Pb. Information is provided for the Fresno-Drummond Street, Fresno-Garland, Fresno-Sierra Skypark #2, and Clovis-N Villa Avenue monitoring stations for 2016 through 2018. No data is available for H_2S, Vinyl Chloride or other toxic air contaminants in Fresno County.

Table 4.3-4: - Existing Air Quality Monitoring Data in Project Area

	Maximum Concentration			Days Exceeding Standard		
Pollutant and Monitoring Station Location	2016	2017	2018	2016	2017	2018
O_3 – 1-hour CAAQS (0.09 ppm)						
Fresno-Drummond Street	0.117	0.125	0.119	13	8	6
Fresno-Garland	0.117	0.143	0.121	15	16	8
Fresno-Sierra Skypark #2	0.108	0.128	0.100	6	6	4
O_3 – 8-hour CAAQS (0.07 ppm)						
Fresno-Drummond Street	0.094	0.104	0.097	60	31	34
Fresno-Garland	0.095	0.113	0.099	56	68	38
Fresno-Sierra Skypark #2	0.089	0.107	0.087	45	46	30
O_3 – 8-hour NAAQS (0.070 ppm)						
Fresno-Drummond Street	0.093	0.103	0.097	57	29	32
Fresno-Garland	0.094	0.112	0.099	55	64	36
Fresno-Sierra Skypark #2	0.089	0.106	0.087	43	44	27
PM_{10} – 24-hour CAAQS (50 µg/m3)						
Fresno-Drummond Street	86.3	120.5	154.8	17	17	19
Fresno-Garland	88.8	153.6	136.2	65	97	101
Clovis-N Villa Avenue	74.9	99.4	118.6	10	13	14
PM_{10} – 24-hour NAAQS (150 µg/m3)						
Fresno-Drummond Street	88.3	115.6	152.2	0	0	0
Fresno-Garland	91.9	160.1	130.4	0	1	0
Clovis-N Villa Avenue	76.2	103.2	114.6	0	0	0
$PM_{2.5}$ - 24-hour NAAQS (35 µg/m3)						
Fresno-Garland	52.7	86.0	95.7	16	31	36
Fresno-Hamilton & Winery	48.6	88.3	89.8	5	9	11
Clovis-N Villa Avenue	50.4	69.5	82.3	8	19	26
CO - 8-Hour CAAQS & NAAQS (9.0 ppm)						
No data collected	*	*	*	*	*	*
NO_2 - 1-Hour CAAQS (0.18 ppm)						
Fresno-Drummond Street	0.058	0.064	0.075	0	0	0
Fresno-Garland	0.056	0.057	0.068	0	0	0
Fresno-Sierra Skypark #2	0.034	0.050	0.043	0	0	0
NO_2 - 1-Hour NAAQS (0.10 ppm)						
Fresno-Drummond Street	0.059	0.065	0.076	0	0	0
Fresno-Garland	0.056	0.057	0.068	0	0	0
Fresno-Sierra Skypark #2	0.035	0.051	0.043	0	0	0
SO_2 – 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm)						
No data collected	*	*	*	*	*	*
Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m3)						
Fresno-Garland	12.1	8.4	*	*	*	*

Source: CARB 2019a

Notes: ppm= parts per million

* There was insufficient (or no) data available to determine the value.

SENSITIVE RECEPTORS

The SJVAPCD identifies a sensitive receptor as a location where human populations (especially children, senior citizens, and sick persons) are present. Additionally, a sensitive receptor location occurs where there is a reasonable expectation of continuous human exposure to pollutants, according to the averaging period for ambient air quality standards, such as 24 hours, eight hours, or one hour. Examples of sensitive receptors are residences, hospitals, and schools; industrial and commercial uses are not considered sensitive receptors.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

The primary GHGs contributing to the greenhouse effect are carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013). Table 4.3-5, Description of Greenhouse Gases, describes the primary GHGs attributed to global climate change, including their physical properties.

Table 4.3-5: Description of Greenhouse Gases

Greenhouse Gas	Description
Carbon Dioxide (CO_2)	CO_2 is a colorless, odorless gas that is emitted naturally and through human activities. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. The largest source of CO2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. The atmospheric lifetime of CO2 is variable because it is readily exchanged in the atmosphere. CO_2 is the

	most widely emitted GHG and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other GHGs.
Nitrous Oxide (N_2O)	N_2O is largely attributable to agricultural practices and soil management. Primary human-related sources of N_2O include agricultural soil management, sewage treatment, combustion of fossil fuels, and adipic and nitric acid production. N_2O is produced from biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years. The Global Warming Potential of N2O is 298.
Methane (CH_4)	Methane, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Methane is the major component of natural gas, about 87 percent by volume. Human-related sources include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. Natural sources of CH_4 include wetlands, gas hydrates, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. The atmospheric lifetime of CH4 is about 12 years and the Global Warming Potential is 25.
Hydrofluorocarbons (HFCs)	HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of Chlorofluorocarbons (CFCs) and HCFCs gains momentum. The 100-year Global Warming Potential of HFCs range from 124 for HFC-152 to 14,800 for HFC-23.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Global Warming Potentials range from 6,500 to 9,200.
Carbon Dioxide (CO_2)	CO_2 is a colorless, odorless gas that is emitted naturally and through human activities. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. The atmospheric lifetime of CO_2 is variable because it is readily exchanged in the atmosphere. CO_2 is the most widely emitted GHG and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other GHGs.
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987. Global Warming Potentials for CFCs range from 3,800 to 14,400.
Sulfur Hexafluoride (SF6)	SF6 is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas. The Global Warming Potential of SF6 is 23,900.
Hydrochlorofluorocarbons (HCFCs)	HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, HCFCs are subject to a consumption cap and gradual phase out. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The 100-year Global Warming Potentials of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b.
Nitrogen trifluoride	Nitrogen trifluoride (NF_3) was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. This gas is used in electronics manufacture for semiconductors and liquid crystal displays. It has a high global warming potential of 17,200.
Source: Compiled from U.S. EPA, Overview of Greenhouse Gases, April 11, 2018 (https://www.epa.gov/ghgemissions/overview-greenhouse-gases); U.S. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016, 2018; IPCC Climate Change 2007: The Physical Science Basis, 2007; National Research Council, Advancing the Science of Climate Change, 2010; U.S. EPA, Methane and Nitrous Oxide Emission from Natural Sources, April 2010.	

4.3.2 REGULATORY SETTING

FEDERAL

Criteria Air Pollutants

Clean Air Act

The EPA oversees implementing national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), enacted in 1970. Congress made the most recent major amendments to the CAA in 1990.

The principal air quality regulatory mechanism on the federal level is the Clean Air Act (FCAA) and, in particular, the 1990 amendments to the FCAA and the NAAQS that it establishes. These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are O_3, CO, NO_2 (a form of NO_X), SO_2 (a form of SO_X), PM_{10}, $PM_{2.5}$, and lead (Pb); refer to Table 4.3-2, *National and California Ambient Air Quality Standards*. The EPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf) and those that are under the exclusive authority of the federal government, such as aircraft, locomotives and interstate trucking.

The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

Toxic Air Contaminants and Hazardous Air Pollutants

Toxic air contaminants (TACs), or in federal parlance, hazardous air pollutants (HAPs) are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. A wide range of sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause longterm health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage; or short-term acute affects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

For evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. This contrasts with criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 4.3-2). Cancer risk from TACs is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure.

EPA and, in California, CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum available control technology or best available control technology for toxics to limit emissions.

Greenhouse Gases

To date, no national standards have been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

Clean Air Act

The Federal Clean Air Act (FCAA) does not specifically regulate GHG emissions; however, on April 2, 2007 the U.S. Supreme Court in *Massachusetts v. U.S. Environmental Protection Agency*, determined that GHGs are pollutants that can be regulated under the FCAA. The EPA adopted an endangerment finding and cause or contribute finding for GHGs on December 7, 2009. Under the endangerment finding, the Administrator found that the current and projected atmospheric concentrations of the six, key, well-mixed GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) threaten the public health and welfare of current and future generations. Under the cause or contribute finding, the Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

Based on these findings, on April 1, 2010, the EPA finalized the light-duty vehicle rule controlling GHG emissions. This rule confirmed that January 2, 2011, is the earliest date that a 2012 model year vehicle meeting these rule requirements may be sold in the United States. On May 13, 2010, the EPA issued the final GHG Tailoring Rule. This rule set thresholds for GHG emissions that define when permits under the Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. Implementation of the federal rules is expected to reduce the level of emissions from new motor vehicles and large stationary sources.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, requires the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling discussed above, the George W. Bush Administration issued Executive Order 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.

Clean Power Plan and New Source Performance Standards for Electric Generating Units

On October 23, 2015, the EPA published a final rule (effective December 22, 2015) establishing the carbon pollution emission guidelines for existing stationary sources: electric utility generating units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing standards of performance for GHG emissions from new, modified, and reconstructed stationary sources: electric utility generating units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the Clean Power Plan pending resolution of several lawsuits. Additionally, in March 2017, President Trump directed the EPA Administrator to review the Clean Power Plan in order to determine whether it is consistent with current executive policies concerning GHG emissions, climate change, and energy.

Presidential Executive Order 13693

Presidential Executive Order 13693, Planning for Federal Sustainability in the Next Decade, signed in 2015, seeks to maintain federal leadership in sustainability and greenhouse gas emission reductions. Its goal is to reduce agency Scope 1 and 2 GHG emissions by at least 40 percent by 2025, foster innovation, reduce spending, and strengthen communities through increased efficiency and improved environmental performance. Sustainability goals are set for building efficiency and management, energy portfolio, water use efficiency, fleet efficiency, sustainable acquisition and supply chain greenhouse gas management, pollution prevention, and electronic stewardship.

Presidential Executive Order 13783

Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth (March 28, 2017), orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

STATE

California Air Resources Board

CARB is responsible for the coordination and oversight of State and local air pollution control programs in California. The CAAQS were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 4.3-2 (above), are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility-reducing particulates, hydrogen sulfide and sulfates.

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark AB 32 California Global Warming Solutions Act of 2006, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 building efficiency standards and Title 20 appliance energy standards, were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

CARB Scoping Plan

CARB adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that would be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business-as-usual"). The Scoping Plan evaluates opportunities for sector-specific reductions; integrates early actions by CARB and the State's Climate Action Team and additional GHG reduction measures by both entities; identifies additional measures to be pursued as regulations; and outlines the adopted role of a cap-and-trade program. Additional development of these measures and adoption of the appropriate regulations occurred through the end of 2013. Key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.
- Developing a California cap-and-trade program that links with other programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions (adopted in 2011).

- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets (several Sustainable Communities Strategies have been adopted).
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, heavy-duty truck measures, the Low Carbon Fuel Standard (amendments to the Pavley Standard adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating targeted fees, including a public goods charge on water use, fees on gasses with high global warming potential, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation (CARB 2008).

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relied on emissions projections updated in light of current economic forecasts that accounted for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This update reduced the projected 2020 emissions from 596 million metric tons of CO2e (MMTCO2e) to 545 MMTCO2e. The reduction in forecasted 2020 emissions means that the revised business-as-usual reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated State-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from business-as-usual needed to achieve the goals of AB 32 is approximately 16 percent.

CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG emissions reductions necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32.

In 2016, the Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017 CARB adopted a second update to the Scoping Plan. The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and, support the Clean Power Plan and other Federal actions.

State Air Toxics Program

Toxic air contaminants are another group of pollutants of concern in California. There are hundreds of different types of toxic air contaminants, with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle engine exhaust. Public exposure to toxic air contaminants can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset spill conditions. Health effects of toxic air contaminants include cancer, birth defects, neurological damage and death.

California regulates toxic air contaminants through its air toxics program, mandated in Chapter 3.5 (Toxic Air Contaminants) of the Health and Safety Code (Health and Safety Code Section 39660 et seq.) and Part

6 (Air Toxics "Hot Spots" Information and Assessment) (Health and Safety Code Section 44300 et seq.). CARB, working in conjunction with the State Office of Environmental Health Hazard Assessment (OEHHA), identifies toxic air contaminants. Air toxic control measures may then be adopted to reduce ambient concentrations of the identified toxic air contaminant to below a specific threshold, based on its effects on health, or to the lowest concentration achievable through use of best available control technology for toxics. The program is administered by CARB. Air quality control agencies, including the SJVAPCD, must incorporate air toxic control measures into their regulatory programs or adopt equally stringent control measures as rules within six months of adoption by CARB.

Greenhouse Gas Emissions

Assembly Bill 32 (California Global Warming Solutions Act)

Assembly Bill (AB) 32 instructs the CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. AB 32 directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. It set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

Senate Bill 32 (California Global Warming Solutions Act of 2006: emissions limit). Signed into law in September 2016, Senate Bill (SB) 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

SB 375 (The Sustainable Communities and Climate Protection Act of 2008). Signed into law on September 30, 2008, SB 375 provides a process to coordinate land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction goals established by AB 32. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies.

AB 1493 (Pavley Regulations and Fuel Efficiency Standards). California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the U.S. EPA's denial of an implementation waiver. The U.S. EPA subsequently granted the requested waiver in 2009, which was upheld by the by the U.S. District Court for the District of Columbia in 2011. The regulations establish one set of emission standards for model years 2009–2016 and a second set of emissions standards for model years 2017 to 2025. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO_2e emissions and 75 percent fewer smog-forming emissions.

SB 1368 (Emission Performance Standards). SB 1368 is the companion bill of AB 32, which directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 limits carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. The new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 lbs. CO_2 per megawatt-hour (MWh).

SB 1078 and SBX1-2 (Renewable Electricity Standards). SB 1078 requires California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Executive Order S-21-09 also directed CARB to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. SBX1-2, which codified the 33 percent by 2020 goal.

SB 350 (Clean Energy and Pollution Reduction Act of 2015). Signed into law on October 7, 2015, SB 350 implements the goals of Executive Order B-30-15. The objectives of SB 350 are to increase the procurement of electricity from renewable sources from 33 percent to 50 percent (with interim targets of 40 percent by 2024, and 25 percent by 2027) and to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation. SB 350 also reorganizes the Independent System Operator (ISO) to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs through the use of executive orders. Although not regulatory, they set the tone for the State and guide the actions of state agencies.

Executive Order S-3-05. Executive Order S-3-05 was issued on June 1, 2005, which established the following GHG emissions reduction targets:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07. Issued on January 18, 2007, Executive Order S 01-07 mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. CARB adopted the Low Carbon Fuel Standard on April 23, 2009.

Executive Order S-13-08. Issued on November 14, 2008, Executive Order S-13-08 facilitated the California Natural Resources Agency development of the 2009 California Climate Adaptation Strategy. Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order S-14-08. Issued on November 17, 2008, Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the "Renewable Electricity Standard" on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Executive Order S-21-09. Issued on July 17, 2009, Executive Order S-21-09 directs CARB to adopt regulations to increase California's Renewable Portfolio Standard (RPS) to 33 percent by 2020. This builds upon SB 1078 (2002), which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006), which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Executive Order B-30-15. Issued on April 29, 2015, Executive Order B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMCO_2e$. The 2030 target acts as an interim goal on the way to achieving reductions of 80 percent below 1990 levels by 2050, a goal set by Executive Order S-3-05. The executive order also requires the State's climate adaptation plan to be updated every three years and for the State to continue its climate change research program, among other provisions. With the enactment of SB 32 in 2016, the Legislature codified the goal of reducing GHG emissions by 2030 to 40 percent below 1990 levels.

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Regulations. The appliance efficiency regulations (California Code of Regulations Title 20, Sections 1601-1608) include standards for new appliances. Twenty-three categories of appliances are included in the scope of these regulations. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

Title 24 Building Energy Efficiency Standards. California's Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations Title 24, Part 6), was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2016 Building Energy Efficiency Standards approved on January 19, 2016 went into effect on January 1, 2017. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018 and take effect on January 1, 2020. Under the 2019 standards, homes will use about 53 percent less energy and nonresidential buildings will use about 30 percent less energy than buildings under the 2016 standards.

Title 24 California Green Building Standards Code. The California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) commonly referred to as the CALGreen Code, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect January 1, 2017.

LOCAL

San Joaquin Valley Air Pollution Control District

Air districts have the primary responsibility to control air pollution from all sources other than those directly emitted from motor vehicles, which are the responsibility of CARB and the EPA. Air districts adopt and enforce rules and regulations to achieve state and federal ambient air quality standards and enforce applicable state and federal law.

The local air quality agency is the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is comprised of eight contiguous counties in central California (Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare counties). The SJVAPCD has jurisdiction over the San Joaquin Valley Air Basin. The SJVAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates open burning. Through its permitting powers, the SJVAPCD enforces limitations for emission of criteria and toxic air contaminants. Other SJVAPCD responsibilities include monitoring air quality, preparation of clean air plans, and responding to citizen air quality complaints.

In order to maintain consistency with CEQA, the SJVAPCD (2015) adopted its *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI) to assist applicants in complying with the various requirements of CEQA. According to the SJVAPCD's GAMAQI, a project would have potentially significant air quality impacts when the project:

- Creates a conflict with or obstructs implementation of the applicable air quality plan;
- Causes a violation of any air quality standard or generates substantial contribution towards exceeding an existing or projected air quality standard;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under a NAAQS and CAAQS (including emissions which exceed quantitative thresholds for O_3 precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors that affect a substantial number of people.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the CEQA Guidelines, Appendix G, Paragraph III (Title 14 of the California Code of Regulations §15064.7) and CEQA (California Public Resources Code Sections 21000 et. al). SJVAPCD's specific CEQA air quality thresholds are presented in **Table 4.3-6**.

Table 4.3-6 SJVAPCD CEQA Thresholds of Significance

Criteria Pollutant	Significance Level	
	Construction	Operational
CO	100 tons/yr	100 tons/yr
NO_x	10 tons/yr	10 tons/yr
ROG	10 tons/yr	10 tons/yr

SOx	27 tons/yr	27 tons/yr
PM10	15 tons/yr	15 tons/yr
PM2.5	15 tons/yr	15 tons/yr
Source: SJVAPCD 2015		

Thresholds for Ambient Air Quality Impacts

CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation*" would be considered to create significant impacts on air quality. Therefore, an AQIA should determine whether the emissions from a project would cause or contribute significantly to violations of the NAAQS or CAAQS (presented above in **Table 4.3-6**) when added to existing ambient concentrations.

The EPA has established the federal Prevention of Significant Deterioration (PSD) program to determine what comprises "significant impact levels" (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. As the Project would not include modification to the stationary source under NSR, it would not be subject to either PSD or NSR review. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the Project would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation.*" Ambient air quality emissions estimates below the PSD SIL thresholds would result in less than significant ambient air quality impacts on both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the O_3 NAAQS and, as such, is subject to "non-attainment new source review" (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance.

Thresholds for Hazardous Air Pollutants

The SJVAPCD's GAMAQI states, "From a health risk perspective there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Type A Projects: Land use projects that will place new toxic sources in the vicinity of existing receptors, and
- Type B Projects: Land use projects that will place new receptors in the vicinity of existing toxics sources" (SJVAPCD 2015).

Table 4.3-7 presents the thresholds of significance used with toxic air contaminants when evaluating hazardous air pollutants (HAPs).

Table 4.3-7 Measures of Significance – Toxic Air Contaminants

Agency	Level	Description
Significance Thresholds Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	Carcinogens	Maximally Exposed Individual risk **equals or exceeds** 10 in one million.
	Non-Carcinogens	**Acute**: Hazard Index **equals or exceeds** 1 for the Maximally Exposed Individual.
		Chronic: Hazard Index **equals or exceeds** 1 for the Maximally Exposed Individual.
Source: SJVAPCD 2015		

Global Climate Change Thresholds of Significance

On December 17, 2009, SJVAPCD adopted *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (SJVAPCD 2009); which outlined the SJVAPCD's methodology for assessing a project's significance for GHGs under CEQA. The following criteria was outlined in the document to determine whether a project could have a significant impact:

- Projects determined to be exempt from the requirements of CEQA would be determined to have a less than significant individual and cumulative impact for GHG emissions and would not require further environmental review, including analysis of project specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement BPS.
- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.
- Projects implementing Best Performance Standards would not require quantification of project specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.
- Projects not implementing Best Performance Standards would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business-as-Usual (BAU*), including GHG emission reductions achieved since the 2005 baseline year. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.
- Notwithstanding any of the above provisions, projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions. Projects implementing BPS or achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

4.3.3 PROJECT EMISSIONS

Construction and Operational Emissions Methods

Construction and operational emissions were quantified using the California Emissions Estimator Model (CalEEMod), which was developed by the California Air Pollution Control Officers Association (CAPCOA) and is approved for use in all areas of California (CAPCOA, 2016). CalEEMod quantifies emissions of NO_x, SO_x, CO, VOC, PM_{10}, $PM_{2.5}$, and GHGs from construction and operations activities using emission factors derived from CARB's Emission Factor (EMFAC) and OFFROAD models, for on-highway and off-road vehicles, respectively. The model calculates vehicle emissions based on the fleet average emission rate of vehicles operating in the County for the year in which the construction activity occurs. Emission factors for fugitive dust are also included in the model.

The Project was modeled according to the land use designations detailed in the Traffic Impact Study (TIS) prepared by VRPA Technologies, Inc. Although individual future project details are unknown at this time, assumptions were made regarding individual building sizes with each land use capped at their respective maximum allowable footprints under the City's Ordinance. The proposed land use types were broken down and modeled accordingly:

- Cannabis Retailers/Dispensaries will be limited to a combined total of 55,000 square feet, with a potential for up to twenty-one (21) businesses of this type. Therefore, the average building size was modeled as 2,620 square feet. While the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition does contain data for a Marijuana Dispensary Land Use (Land Use 882), CalEEMod does not yet have this land use incorporated. Therefore, the CalEEMod run for dispensaries utilized the land use of "Fast Food Restaurant with Drive Thru" as it most closely mimics the vehicle trip behaviors of a dispensary, however the trip rates were modified per the ITE 10th Edition data and the trip lengths were modified per the TIS.

- Cultivation, Distribution, and Manufacturing sites will be limited to a combined total of 700,000 square feet, with a potential for up to sixteen (16) businesses of these types. Therefore, the average building size was modeled as 43,750 square feet under the "General Light Industrial" land use setting and utilized the trip rate formula and trip length assumptions provided in the TIS to overwrite the default trip values in CalEEMod.

- Testing Laboratories will be limited to a combined total of 100,000 square feet and individual labs are assumed to be approximately 20,000 square feet each. The "General Light Industrial" land use setting was used, however the trip rate formula and trip length assumptions provided in the TIS were used to overwrite the default trip values in CalEEMod.

Each land use type was modeled as an individual site in order to determine emissions resulting from a single site. The resulting emissions were then multiplied by the anticipated number of sites for each land use type to determine total emissions for each proposed land use. It is important to note that future individual projects under this program-level EIR will undergo individual, project-level analyses. Therefore, modeling inputs (e.g. building sizes) are highly variable and additional mitigation may be applied at the project-specific level. For the purposes of this EIR, emissions were modeled under worst-case scenarios and assumptions. Per the City's Ordinance, existing retail and infrastructure will be utilized where possible. Therefore, actual construction and operational emissions will likely be lower than what is estimated in this analysis, though the extent of those reductions is not known at this time.

Operational vehicle trip assumptions were made according to the TIS. The TIS assumes the following trip rates for various cannabis operations:

ITE Code	Land Use	Quantity (x)	Trip Rate	Average Daily Trips	Trips/Day/ksf (CalEEMod Input)
110	Cultivation, Distribution, and Manufacturing	43.750 ksf	T = 3.79(x) + 57.96	224	**5.1148**
110	Testing Laboratories	20.000 ksf	T = 3.79(x) + 57.96	134	**6.688**

882	Cannabis Retailers/Dispensaries	2.620 ksf	252.7(x)	632	**252.7**

In addition to the modified trip rates, the vehicle fleet mix for retail business operations was also modified to change the default value from 12.3% Heavy-Heavy Duty (HHD) trucks to a conservative assumption of 2% HHD trucks. It was assumed that dispensaries will receive deliveries by way of smaller, Medium-Heavy Duty trucks and will likely receive no deliveries by way of HHD trucks. However, 2% HHD trucks was used as a highly conservative estimate. The remaining 10.3% from the HHD category was proportionately reallocated to the three passenger vehicle categories for Light-Duty Auto and Light-Duty Trucks, as the vast majority of vehicle travel generated by Dispensaries will be from passenger vehicles.

Project Related Emissions

This document was prepared pursuant to the SJVAPCD's GAMAQI. The GAMAQI identifies separate thresholds for a project's short-term (construction) and long-term (operational) emissions.

Project emissions were estimated for the following project development stages:

Short-Term Emissions:

Short-term emissions are primarily from the construction phase of a project, and would have temporary impacts on air quality.

Because specific construction timelines and equipment usage schedules are not known at this time, the construction emissions were based on the default CalEEMod construction timeline and equipment list for the proposed land use types and estimated development intensity. Applying model defaults as well as a conservative analysis approach, construction emissions were estimated as if construction started in October of 2019. Based on the default CalEEMod estimates, the Project construction timing is approximately 6 months (per building) and operations would conservatively begin during year 2020. The dates entered into the CalEEMod program may not represent the actual dates the equipment will operate. All construction equipment activity levels were assumed based on the specified CalEEMod default values for type and number of equipment, hours per day, and horsepower.

SJVAPCD's required measures for all projects were also applied:

Water exposed areas 3 times per day; and
Reduce vehicle speed to less than 15 miles per hour.

Table 4.3-8 presents the Project's short-term emissions.

Table 4.3-8 – Project Short-Term (Construction) Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated						
2019	2.07	17.7	14.0	0.02	1.29	1.07
2020	7.40	12.4	9.80	0.02	0.78	0.67
Maximum Annual Emission	**7.40**	**17.7**	**14.0**	**0.02**	**1.29**	**1.07**

Mitigated						
2019	2.07	17.7	14.0	0.02	1.20	1.02
2020	7.40	12.4	9.80	0.02	0.78	0.67
Maximum Annual Emission	**7.40**	**17.7**	**14.0**	**0.02**	**1.20**	**1.02**
Significance Threshold	10	10	100	27	15	15
Is Threshold Exceeded For a Single Year After Mitigation?	NO	YES	NO	NO	NO	NO
Source: Trinity Consultants 2019						

As shown in **Table 4.3-8**, the estimated short-term construction-related emissions, as calculated by CalEEMod (see **Attachment A**), would exceed the SJVAPCD significance threshold for NO_x emissions provided that all construction was completed, as modeled, within two years. Although emissions could be reduced from implementation of mitigation measures at the specific project level or extending out the development of the various components to be constructed over a longer period, mitigation beyond required regulatory compliance is not currently proposed at the program level for the Project. Therefore, impacts from construction-related criteria pollutant emissions would be considered *significant*.

Long-Term Operations Emissions:

Long-term emissions are caused by operational mobile, area and energy sources. Long-term emissions would consist of the following components:

Fugitive Dust Emissions
Operation of the Project at full build-out is not expected to present a substantial source of fugitive dust (PM10) emissions. The main source of PM10 emissions would be from vehicular traffic associated with the Project site.

PM10 on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed Project (and all projects):

- Rule 4102 - Nuisance
- Regulation VIII – Fugitive PM10 Prohibitions
  - Rule 8011 - General Requirements
  - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities
  - Rule 8041 - Carryout and Trackout
  - Rule 8051 - Open Areas

The Project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended later in this analysis, in Section 7, Mitigation and Other Recommended Measures.

Exhaust Emissions
Project-related transportation activities from employees, customers, and deliveries (products to retailers and mobile deliveries to customers) would generate mobile source ROG, NO_x, SO_x, CO, PM_{10} and $PM_{2.5}$ exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year.

Projected Emissions

The proposed Project is expected to have long-term air quality impacts as shown in **Table 4.3-9**. The output from the CalEEMod runs are available in **Attachment A**. Mitigation measures were not incorporated into the analysis as those will be proposed at the individual project level.

Table 4.3-9 – Project Long-Term (Operational) Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NO_x	CO	SOX	PM_{10}	$PM_{2.5}$
Unmitigated Operational Emissions	9.90	39.6	51.3	0.18	11.9	3.42
Mitigated Operational Emissions	**9.90**	**39.6**	**51.3**	**0.18**	**11.9**	**3.42**
SJVAPCD Threshold	10	10	100	27	15	15
Is Threshold Exceeded After Mitigation?	NO	YES	NO	NO	NO	NO

Source: Trinity Consultants 2019

As shown in **Table 4.3-9**, operational-related emissions, as calculated by CalEEMod (See **Attachment A**), would exceed the SJVAPCD significance threshold for NO_x emissions. Although emissions could be reduced from implementation of mitigation measures at the specific project level, such as restricting the number of operations, compliance with District Rule 9510 (Indirect Source Review), compliance with City requirements including using hybrid/electric delivery vehicles and adding electric vehicle charging stations, or other measures, the emission reductions achieved from such measures cannot be quantified at the program level for the Project. Therefore, impacts from operation-related criteria pollutant emissions would be considered *significant*.

GHG Emissions:

The proposed Project's construction and operational GHG emissions were estimated using the CalEEMod program (version 2016.3.2). These emissions are summarized in Table 4.3-10. In order for the Project to conform with the goals of AB32, at least a 29% reduction of GHG emissions from Business-as-Usual (BAU) must be achieved by 2020. The mitigated emissions were calculated using updated emission factors from CalEEMod. The unmitigated and mitigated GHG emissions are summarized in Table 4.3-11.

Table 4.3-10 – Estimated Annual GHG Emissions (MT/Year)

Source	CO2	CH4	N2O	CO2e
Construction Emissions				
2019 Construction Emissions	2,039	0.4762	0.000	2,050
2020 Construction Emissions	1,579	0.3711	0.000	1,588
Mitigated Operational Emissions				
Area Emissions	0.0153	0.000	0.000	0.0162
Energy Emissions	4,025	0.1427	0.0512	4,044
Mobile Emissions	16,156	1.4007	0.000	16,191
Waste Emissions	330.0	19.50	0.000	817.6
Water Emissions	382.7	6.587	0.1576	594.4
Total Project Operational Emissions	*20,893*	*27.63*	*0.2093*	*21,647*
Annualized Construction Emissions[1]	*120.6*	*0.0282*	*0.000*	*121.3*
Project Emissions	21,014	27.7	0.21	21,768
*Note: 0.000 could represent <0.00 [1] Per South Coast AQMD's Methodology				

Table 4.3-11 – Comparison of Unmitigated and Mitigated GHG Emissions (MT/Year)

	Project Unmitigated (2005)	Project Mitigated (2020)
CO2e Emissions	**23,967**	**21,647**
Percent Reduction		**9.7%**

As demonstrated in Table 4.3-11 above, the Project would not achieve GHG emission reductions of 29% from BAU. Therefore, GHG emissions for this Project are considered *significant*.

Ambient Air Quality Impact Assessment

Ambient air quality analyses will be required for each subsequent cannabis project that exceeds 100 pounds per day of any pollutant to determine if emissions increases from each subsequent cannabis projects will cause or contribute to a violation of the ambient air quality standards.

An ambient air quality analysis was performed for the SJVAB to determine if a potential subsequent cannabis Project has the potential to impact ambient air quality through a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. The basis for this analysis is dispersion modeling and the Project's operational emissions. A potential individual facility of 43,750 square feet of indoor cultivation was analyzed.

The maximum off-site ground level concentration of each pollutant for the 1-hour, 3-hour, 8-hour, 24-hour and annual periods was predicted using the most recent version of EPA's AMS/EPA Regulatory Model (AERMOD) dispersion software under the Lakes Environmental ISC-AERMOD View interface. CARB-approved, AERMET-processed meteorological datasets for calendar years 2013 through 2017 (CARB 2015) was input to AERMOD. These were the most recent available dataset available at the time the modeling runs were conducted. All of the regulatory default AERMOD model keyword parameters were employed. Rural dispersion parameters were used for the proposed Project. The majority of the land surrounding the project site is considered "rural" under the Auer land use classification method (Auer 1978). Emissions were evaluated for each pollutant on a short-term (correlating to pollutant averaging period) and long-term (annual) basis, with the exception of CO that was evaluated only for short-term exposures since there are no long term significance thresholds for CO.

The majority of mobile emissions predicted by CalEEMod will occur beyond the Project boundary because of vehicle trips. The following methodology was used in order to determine the on-site vehicle emissions. An estimated on-site trip distance was determined by calculating the most likely on-site travel route for the majority of on-site trips. The on-site estimated trip distance for the Project was determined to be 0.06 miles. The on-site estimated trip distance was then divided by the average trip length, 5.0 miles, in order to determine the on-site to off-site mobile emissions ratio, 1.20%. The total mobile emissions calculated by CalEEMod were then reduced by 98.80% to estimate the mobile on-site emissions used for ambient air quality modeling.

A fenceline coordinate grid of receptor points was constructed. The grid consisted of a 25-meter fenceline spacing with two tiers of receptors. The first tier had 25-meter tier spacing extending a distance of 100 meters and the second tier had 50-meter tier spacing extending another 400 meters with initial receptors starting 25 meters from the facility boundary. The elevated terrain option was employed.

For each pollutant and averaging period modeled, a "total" concentration was estimated by adding the maximum measured background air concentration to the maximum predicted Project impacts. The maximum measured background air concentrations used in this analysis were calculated from measured concentrations at the nearest monitoring stations. For the initial assessment (Step 1) of the ambient air quality impact analysis, the maximum background concentration for the project area for each pollutant and averaging period combination was added to the corresponding maximum ground level concentration

(GLC) from Project-related operations emissions. The sum of these values was then compared to the corresponding ambient air quality standard. If the incremental increase in concentration from project-related sources did not cause an exceedance of an ambient air quality standard, then the analysis was complete for that source/receptor/pollutant combination. If the incremental increase in concentration from proposed Project-related sources caused an exceedance of an ambient air quality standard, then the analysis proceeded to Step 2. Step 2 was similar to a Step 1 with one major difference. For this step, the maximum GLC of each pollutant and averaging period combination were compared to its corresponding Significant Impact Level (SIL). The SIL is used to evaluate whether the project's operations emissions would contribute to a violation of an ambient air quality standard, where the background level is close to or exceeds an ambient air quality standard. If the maximum GLC did not exceed the corresponding SIL, then the analysis was complete for that source/receptor/pollutant combination, and no further analysis was required.

Table 4.3-12, Operations Ambient Air Quality Impact Assessment Results, presents a summary of the two-step process taken to determine whether operations activities associated with the proposed project would cause or contribute to ambient air quality impacts.

Table 4.3-12 Operations Ambient Air Quality Impact Assessment Results[1]

STEP 1 – Ambient Air Quality Standard Basis			
	State/Federal AAQS	Operations	
Impact Parameter	μg/m3	μg/m3	Status
1-hour CO	22,900	2,603	PASS
	40,100	2,603	PASS
8-hour CO	10,300	2,477	PASS
	10,300	2,477	PASS
1-hour NO2	338	130.40	PASS
	188	130.40	PASS
Annual NO2	56	23.83	PASS
	100	23.83	PASS
24-hour PM10	50	129.50	Step 2
	150	129.50	Step 2
Annual PM10	20	21.57	Step 2
24-hour PM2.5	35	97.22	Step 2
Annual PM2.5	12	16.55	Step 2
	12	16.55	Step 2
STEP 2 – Significant Impact Level (SIL) Basis			
	PSD SILs	Construction SJVAB	
Impact Parameter	μg/m3	μg/m3	Status
24-hour PM10	5	0.50	PASS
Annual PM10	1	0.08	PASS
24-hour PM2.5	5	0.32	PASS
Annual PM2.5	1	0.05	PASS

Source: Insight Environmental Consultants, 2019.

1 Step 1 - the AAQS basis compares the background concentrations plus project contribution to the state and federal AAQS to determine if there would be an exceedance of the respective standard. For 24-hour and annual PM10 and PM2.5, background concentrations already exceed the applicable AAQS, so Step 2—the SIL basis—compares the project contributions to levels determined to cause or contribute to ambient air quality exceedances and impacts.

Odors Impact Assessment

Outdoor cultivation is the commercial cannabis activity most concerning in regards to odor impacts since it is the hardest activity to mitigate. However, outdoor cultivation is prohibited by Section 9-3312 of Article 33 of the Fresno Municipal Code. Other commercial cannabis activities can mitigate odor impacts through temperature control, proper ventilation and carbon filters. Each subsequent cannabis project will need to evaluate potential odor impacts and mitigate those impacts to a less than significant level.

Operational odor impacts associated with an unmitigated potential subsequent cannabis Project was assessed by modeling a theoretical area source because the exact location of the various activities cannot now be determined. The quantitative assessment of the potential for the project to generate odors considers the reasonably anticipated, permitted land uses identified in the City of Fresno Cannabis Ordinance and potential activity levels by activity types. The cultivation facilities are known to be a source odorous compounds. As such, an assessment of typical odorous compounds associated with the cultivation of cannabis, including estimates of odor range is included in the impact analysis. An odors analysis is used to determine if Project emissions are predicted to cause or contribute to a violation of odors in a specific location to create a nuisance. If a nuisance level is determined in excess of 1,000 feet, then mitigation measure(s) should be provided.

The ambient air quality odor impacts were modeled using the most recent version of EPA's AMS/EPA Regulatory Model – AERMOD (recompiled for Lakes ISC-AERMOD View 9.6.5 (interface). This dispersion model is used throughout the U.S. for health risk assessments to determine the probable area where various airborne constituents may be dispersed from a given location. In order to determine which odor constituents to model, a review of an odor analysis study (Rice and Koziel 2015) was conducted. The study determined that the VOCs with the four highest odor activity values (OAV) from loose cannabis were Benzaldehyde, Myrcene, Decanal, and Heptanal (Rice and Koziel 2015). OAV is the calculated ratio of surrogate concentrations to odor detection thresholds (ODT) which is used to determine the VOCs with the greatest odor impact. These top four odorous constituents based on OAV from cannabis plants were reviewed and modeled.

Elevated terrain was modelled with standard meteorological conditions found within the City of Fresno. Additionally, these constituents were modeled with no mitigation or controls to provide the most conservative result and would also be indicative of what would be expected for uncontrolled emissions from indoor grow facilities vented through a roof vent with a rain cap in the middle of a 10,000 sf building.

Each of the top four VOCs were modeled as a 43,750 square foot area sources. Emissions from one gram of loose cannabis for each VOC were calculated from the odor analysis study (Rice and Koziel 2015). Based on previous cannabis odor modeling conducted in Kern County (April, 2017), it was assumed that a 1-acre outdoor grow facility would yield approximately 200,000 grams of cannabis. That ratio was used to calculate that a 43,750 square foot indoor grow facility would yield approximately 200,000 grams of cannabis. Therefore, the emissions based on one gram were multiplied by 200,000 to estimate the emission rate from the whole facility. Table 4.3-13 summarizes the emission rates used in the models.

Table 4.3-13 VOC Emission Rates for Odor Analysis

VOC	1 g Emission Rate g/s	43.75K SF Grow Facility Emission Rate g/s
Benzaldehyde	2.59E-05	5.18
Myrcene	2.05E-05	4.11

Table 4.3-13 VOC Emission Rates for Odor Analysis		
Decanal	1.72E-07	0.034
Heptanal	1.64E-06	0.327

Two rings of receptors were modeled at 1,000 feet and one mile from the Project location. For each VOC, a "1-hour" concentration was estimated and converted into a "10-minute" concentration. "10-minute" concentrations are typically evaluated for odor analysis. The concentrations were then compared to the ODT for each pollutant. The ODT is defined as the concentration of a compound that may be detectable by fifty percent (%) of the population. Nuisance levels typically occur at concentrations that are several multiples higher than the ODT. However, nuisance is subjective in that every person does not perceive odors the same. Therefore, odor nuisance varies person to person and compound to compound. Table 4.3-14 summarizes the VOC concentrations at 1,000 feet and one mile.

Table 4.3-14 Max VOC Concentrations

VOC	1,000 FT Concentrations		1 Mile Concentrations		ODT
	1-hr (PPM)	10-min (PPM)	1-hr (PPM)	10-min (PPM)	PPM
Benzaldehyde	1.17E+00	1.93E+00	1.56E-01	2.57E-01	4.17E-02
Myrcene	7.23E-01	1.19E+00	9.63E-02	1.59E-01	1.30E-02
Decanal	5.26E-03	8.68E-03	7.00E-04	1.16E-03	8.97E-04
Heptanal	6.87E-02	1.13E-01	9.14E-03	1.51E-02	4.79E-03

As demonstrated in Table 4.3-14, each of the pollutants exceeds the ODT at the 1,000 foot and 1-mile distance. However, Myrcene has the highest concentration to ODT ratio at 91.80 at the 1,000 foot distance. This concentration has a probability of causing a nuisance and was analyzed further.

The concentrations detailed in Table 4.3-14 represent the max concentration that will occur during the worst one hour period over a five year period. Therefore, further analysis was conducted to determine how often concentrations would reach this level. Table 4.3-15 summarizes the resulting concentrations for the top 10 hours over a five year period for Myrcene and summarizes the 98th through 75th percentile concentrations at a 1,000 foot distance.

Table 4.3-15 Myrcene Concentrations

	1,000 FT Concentrations		ODT	# of Multiples Concentration above ODT	
	1-hr (PPM)	10-min (PPM)	PPM	1-hr	10-min
1st High	7.23E-01	1.19E+00	1.30E-02	55.64	91.80
2nd High	5.57E-01	9.19E-01	1.30E-02	42.83	70.67
3rd High	5.39E-01	8.89E-01	1.30E-02	41.44	68.38
4th High	5.26E-01	8.68E-01	1.30E-02	40.47	66.78
5th High	5.21E-01	8.59E-01	1.30E-02	40.04	66.07
6th High	5.16E-01	8.51E-01	1.30E-02	39.69	65.49
7th High	5.15E-01	8.50E-01	1.30E-02	39.61	65.36
8th High	5.12E-01	8.46E-01	1.30E-02	39.42	65.04
9th High	5.12E-01	8.44E-01	1.30E-02	39.35	64.93
10th High	5.11E-01	8.43E-01	1.30E-02	39.29	64.83
98th Percentile	2.33E-01	3.84E-01	1.30E-02	17.91	29.55
97th Percentile	1.75E-01	2.89E-01	1.30E-02	13.46	22.21
96th Percentile	1.27E-01	2.10E-01	1.30E-02	9.78	16.13

Table 4.3-15 Myrcene Concentrations					
95th Percentile	8.72E-02	1.44E-01	1.30E-02	6.71	11.07
94th Percentile	5.90E-02	9.74E-02	1.30E-02	4.54	7.49
93rd Percentile	5.28E-02	8.71E-02	1.30E-02	4.06	6.70
92nd Percentile	4.64E-02	7.65E-02	1.30E-02	3.57	5.88
91st Percentile	4.16E-02	6.87E-02	1.30E-02	3.20	5.29
90th Percentile	3.75E-02	6.18E-02	1.30E-02	2.88	4.76
85th Percentile	2.73E-02	4.51E-02	1.30E-02	2.10	3.47
80th Percentile	2.08E-02	3.43E-02	1.30E-02	1.60	2.64
75th Percentile	1.63E-02	2.68E-02	1.30E-02	1.25	2.06

As shown in Table 4.3-15, 75% of the time over a 5 year period the "10-minute" concentration will be slightly higher than twice the ODT at a distance of 1,000 feet for uncontrolled odor impacts. All other VOCs are assumed to have a lower affect than Myrcene.

4.3.4 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.3.4-1 CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

Implementation of the proposed Project would result in construction and operational impacts from maximum development of Cannabis Indoor Cultivation, Manufacturing, Distribution, Testing Laboratories, and Dispensaries. As shown above in Tables 4.3-8 and 4.3-9, full buildout of the Project would exceed the SJVAPCD Significance Threshold for NO_x. Because the full buildout of the proposed Project would exceed the NO_x threshold during construction and operations, implementation of the proposed Project would significantly impact the nonattainment area planning by the SJVAPCD for the federal ozone standard, and would disrupt or hinder implementation of any plan control measures.

Mitigation Measures:

MM 4.3.4-1 Prior to the approval of a site plan or issuance of a grading or building permit or conditional use permit, individual project applicants shall comply with applicable state and federal air pollution control laws and regulations, and with applicable rules and regulations of the San Joaquin Valley Air Pollution Control District during construction and during operations of cannabis facilities. Written documentation that the cannabis facility is in compliance with the appropriate air district shall be provided to the City of Fresno Planning Department.

MM 4.3.4-2 Prior to any ground disturbing activities, the project applicant shall submit a Fugitive Dust Control Plan to the San Joaquin Valley Air Pollution Control District for review and approval, per the District's Regulation VIII to reduce construction-related emissions of particulate matter that is 10 microns or less and 2.5 microns or less in diameter (PM_{10} and $PM_{2.5}$). The requirements of Regulation VIII include:

1) **Visible Dust Emissions (VDE)** may not exceed 20% opacity during periods when soil is being disturbed by equipment or by wind at any time. Visible Dust Emissions opacity of 20% means dust that would obstruct an observer's view

of an object by 20%. District inspectors are state certified to evaluate visible emissions. Dust control may be achieved by applying water before/during earthwork and onto unpaved traffic areas, phasing work to limit dust, and setting up wind fences to limit wind blown dust.

2) **Soil Stabilization** is required at regulated construction sites after normal working hours and on weekends and holidays. This requirement also applies to inactive construction areas such as phased projects where disturbed land is left unattended. Applying water to form a visible crust on the soil and restricting vehicle access are often effective for short-term stabilization of disturbed surface areas. Long-term methods including applying dust suppressants and establishing vegetative cover.

3) **Carryout and Trackout** occur when materials from emptied or loaded vehicles falls onto a paved surface or shoulder of a public road or when materials adhere to vehicle tires and are deposited onto a paved surface or shoulder of a public road. Should either occur, the material must be cleaned up at least daily, and immediately if it extends more than 50 feet from the exit point onto a paved road. The appropriate clean-up methods require the complete removal and cleanup of mud and dirt from the paved surface and shoulder. Using a blower device or dry sweeping with any mechanical device other than a PM10-efficient street sweeper is a violation. Larger construction sites, or sites with a high amount of traffic on one or more days, must prevent carryout and trackout from occurring by installing gravel pads, grizzlies, wheel washers, paved interior roads, or a combination thereof at each exit point from the site. In many cases, cleaning up trackout with water is also prohibited as it may lead to plugged storm drains. Prevention is the best method.

4) **Unpaved Access and Haul Roads,** as well as unpaved vehicle and equipment traffic areas at construction sites must have dust control. Speed limit signs limiting vehicle speed to 15 mph or less at construction sites must be posted every 500 feet on uncontrolled and unpaved roads.

MM 4.3.4-3 The project applicant of any conditional use permit, for a cannabis related business (retail only), shall submit written documentation stating that all mobile deliveries will be provided via hybrid or electric vehicles.

MM: 4.3.4-4 The project applicant of any conditional use permit, for a cannabis related business, shall include a site plan indicating the number of electric vehicles charging stations included in the parking area. The number of electric vehicle parking stations shall be at a ratio of no less than 1 charging station per 20 required parking spaces.

Level of Significance After Mitigation: Significant and Unavoidable.

Although implementation of mitigation measures 4.3.4-1 through 4.3.4-4 are expected to reduce emissions, exact construction and operational mitigation is on an individual project basis and is unknown at this time. Since the level of exceedance of SJVAPCD's NO_x threshold as shown in Tables 4.3-8 and 4.3-9 is substantial, it would be speculative to conclude emissions could be reduced to below the threshold for the total buildout of the Project. For these reasons, the proposed Project would have a Significant and Unavoidable impact on applicable air quality plan(s).

4.3.4-2 RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS IN NONATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD (INCLUDING RELEASING EMISSIONS THAT EXCEED QUANTITATIVE THRESHOLDS FOR OZONE PRECURSORS)

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

SJVAPCD's approach to assessing cumulative impacts dictates that a project's contribution to cumulative impacts to regional air quality would be considered potentially significant if the project's impact would be individually significant (i.e., exceeds the SJVAPCD's quantitative thresholds). For a project that would not individually cause a significant impact, the project's contribution to any cumulative impact may be considered less than significant, provided that the project is consistent with all applicable regional air quality plans. Because the proposed Project at total buildout does result in a significant air quality impact, and does conflict with applicable air quality plans, it is considered to contribute to significant cumulative air quality impacts.

Mitigation Measures: Implement mitigation measures 4.3.4-1 through 4.3.4-4.

Level of Significance After Mitigation: Significant and Unavoidable.

Although implementation of mitigation measures 4.3.4-1 through 4.3.4-4 are expected to reduce emissions, exact construction and operational mitigation is on an individual project basis and is unknown at this time. Since the level of exceedance of SJVAPCD's NO_X threshold as shown in Tables 4.3-8 and 4.3-9 is substantial, it would be speculative to conclude emissions could be reduced to below the threshold for the total buildout of the Project. For these reasons, the proposed Project would have a Significant and Unavoidable cumulatively considerable contribution to increasing criteria pollutants for which the region is in nonattainment. However, it is important to note that the cumulative impacts of this Project were already incorporated into the general business growth forecast within the City's General Plan. As such, the long-term cumulative impacts should not represent a significant impact to air quality with the exception of NO_x emissions which remain significant.

4.3.4-3 EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS

Level of Significance Before Mitigation: Less than Significant Impact.

Impact Analysis

The nature of the Project is that individual activities will be dispersed throughout the City of Fresno. All commercial cannabis uses will be located in a commercial, industrial, or mixed-use zone in existing improved urbanized areas of the City. All commercial cannabis uses must comply with site specific development standards, design criteria, and operational requirements to ensure that the commercial cannabis uses will not expose sensitive receptors to substantial pollutant concentrations, including the following:

Retail cannabis businesses may not be located closer than 800-feet from any parcel containing a school (through grade 12), a day care, or a youth center.

Commercial cannabis businesses (outside of the Cannabis Innovation Zone) may not be located closer than 1,000 feet from any parcel containing a residential zone, school, daycare, or youth center, and must be constructed in a manner that prevents odors to surrounding uses.

The primary air toxic emission associated with the proposed Project is diesel particulate matter (DPM) from heavy-heavy duty (HHD) trucks. As stated in the Methodology section above, the vehicle fleet mix for retail business operations was modified to change the default value from 12.3% HHD trucks to a conservative assumption of 2% HHD trucks. It was assumed that retail businesses will receive deliveries by way of smaller, Medium-Heavy Duty trucks and will likely receive no deliveries by way of HHD trucks. However, 2% HHD trucks was used as a highly conservative estimate.

The Cannabis Innovation Zone consists of predominately IH (Heavy Industrial) and IL (Light Industrial) zoned parcels, with approximately 25% being zoned DTN (Downtown Neighborhood). This area has historically been used for light, medium, and heavy manufacturing, as well as warehousing, uses which typically generate higher levels of HHD travel compared to other land uses. As most deliveries for cannabis retail businesses will come directly from distributors, of which a maximum of eight can be located in the Cannabis Innovation Zone, it can be concluded that the proposed Project would not generate levels of HHD travel which exceed those already associated with the existing uses. In fact, with the majority of the parcels in the Cannabis Innovation Zone developed within existing industrial uses, the overall amount of HHD trucks in the area could see a decrease from historic levels. For these reasons, the proposed Project would have a less than significant impacts on sensitive receptors.

Mitigation Measure: No mitigation measures are required.

Level of Significance After Mitigation: Less Than Significant Impact.

4.3.4-4 CREATE OBJECTIONABLE ODORS AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

A detailed odor analysis was performed for the proposed Project, as summarized in Tables 4.3-13, 4.3-14, and 4.3-15. As stated above, the most intensive and likely sources of odor would come from cultivation facilities. Since all outdoor cultivation is prohibited in the City, indoor cultivation facilities were modeled. Further, the Regulatory Ordinance (Article 22 of Chapter 9) requires cultivation facilities to setback 1,000-feet from sensitive land uses and receptors (except within the Cannabis Innovation Zone).

Based on the odor analysis above, even with a 1,000-foot setback for indoor cultivation facilities, the results indicate that the Project would have a potentially significant impact on nuisance odors in the absence of advanced odor technology or other odor mitigation.

Additionally, commercial cannabis businesses located within the Cannabis Innovation Zone, cannabis retail businesses, and testing laboratories would not be subject to the 1,000-ft setback regulation. And although there are no residentially zoned parcels within the Cannabis Innovation Zone, there are adjacent parcels located to the east and west that are zoned for residential use, as well as potential residential uses near future retail business and testing laboratories.

However, Section 9-3309 (j) of the Regulatory Ordinance requires that best available odor control technology and devices will be used for cannabis retail and commercial cannabis businesses. These requirements include exhaust air filtration systems that would prohibit odors generated inside a facility from being detected outside. Even without setbacks for all cannabis businesses, proper implementation of these regulations will eliminate odors from all cannabis businesses. Mitigation measure MM 4.3-5 has been included to require an Odor Management Control Plan to be submitted to the City demonstrating the technology to be used to ensure proper control of odors. For these reasons the proposed Project would not result in other emissions, including odors, that would adversely affect substantial persons.

Mitigation Measure:
MM 4.3.4-5: As part of the Conditional Use Permit Application, all commercial cannabis related businesses shall submit an Odor Management and Control Plan (OMCP), to be approved by the Fresno Planning and Development Department. The OMCP shall demonstrate compliance with the Article 33 of Chapter 9 of the Fresno Municipal Code (Section 9-3309 j) by providing details related to the type and use of best available odor control technology and devices. The OMCP shall also include exhaust air filtration systems with odor control that prevents internal odors and pollen from being emitted externally, and an air system that creates negative air pressure between the premises' interior and exterior.

Level of Significance After Mitigation: Less Than Significant Impact.

4.3.4-5 GENERATE GREENHOUSE GAS EMISSIONS, EITHER DIRECTLY OR INDIRECTLY, THAT MAY HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT, BASED ON ANY APPLICABLE THRESHOLD OF SIGNIFICANCE

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

The proposed Project's construction and operational GHG emissions were assessed using CalEEMod (as described above) and the estimated GHG emissions are summarized in Tables 4.3-10 and 4.3-11. The SJVAPCD does not have adopted GHG thresholds. Instead, the District recommends using a "Business-as-Usual" (BAU) approach, which demonstrates a project's ability to reduce GHG emissions by 29% compared to BAU, which is measured by the project's emissions as modeled for an operational year of 2005. Applying this methodology would result in the proposed Project, at total buildout, failing to achieve the GHG emission reductions required for assessing significance of the GHG emissions. Therefore, the proposed Project would have potentially significant GHG impacts.

Mitigation Measure: Implement mitigation measures 4.3.4-1, 4.3.4-3, and and 4.3.4-4.

Level of Significance After Mitigation: Significant and Unavoidable.

Although implementation of mitigation measures 4.3.4-1, 4.3.4-3, and 4.3.4-4 are expected to reduce emissions, and exact construction and operational mitigation is on an individual project basis and is unknown at this time, the Project's preliminary GHG analysis demonstrates that the Project will not meet a 29% reduction in GHG emissions from BAU, as shown in Tables 4.3-10 and 4.3-11. Therefore, it would be speculative to conclude emissions could be reduced to achieve a 29% GHG reduction from BAU for the total buildout of the Project. For these reasons, the proposed Project would have a Significant and Unavoidable GHG impact.

4.3.4-6 CONFLICT WITH ANY APPLICABLE PLAN, POLICY OR REGULATION OF AN AGENCY ADOPTED FOR THE PURPOSE OF REDUCING THE EMISSIONS OF GREENHOUSE GASES

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

CARB Scoping Plan

The latest CARB Climate Change Scoping Plan (2017) outlines the state's strategy to return reduce state's GHG emissions to return to 40 percent below 1990 levels by 2030 pursuant to SB 32. The CARB Scoping Plan is applicable to state agencies and is not directly applicable to cities/counties and individual projects. Nonetheless, the Scoping Plan has been the primary tool that is used to develop performance-based and efficiency-based CEQA criteria and GHG reduction targets for climate action planning efforts.

The project's GHG emissions shown in Tables 4.3-10 and 4.3-11 above include reductions associated with statewide strategies such as the Pavley I motor vehicle emission standards, the Low Carbon Fuel Standard (LCFS), and the 2016 Title 24 Energy Efficiency Standards. However, the modeling does not incorporate reductions from the Pavley II (LEV III) Advanced Clean Cars Program (extends to model year 2025), the Renewable Portfolio Standards (RPS), Green Building Code Standards for indoor water use, or the California Model Water Efficient Landscape Ordinance (outdoor water), or the latest 2019 Title 24 Energy Efficiency Standards (effective January 1, 2020). Therefore, actual emissions would be lower than those shown in Tables 4.3-10 and 4.3-11 with the implementation of all of the statewide reduction strategies. The proposed Project would also be constructed in conformance with CALGreen, which requires high-efficiency water fixtures for indoor plumbing and water efficient irrigation systems. The proposed Project would not conflict with any statewide strategies to reduce GHG emissions. Therefore, impacts would be less than significant in this regard.

Mitigation Measure: No Mitigations Measures are required.

Level of Significance After Mitigation: Less Than Significant Impact.

4.3.5 CONCLUSION

The proposed Project would have Less than Significant Impacts for the following impact areas:

4.3-4 Expose sensitive receptors to substantial pollutant concentrations

4.3-5 Create objectionable odors affecting a substantial number of people

4.3-7 Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases

The proposed Project would have Significant and Unavoidable Impacts for the following impact areas:

4.3-1 Conflict with or obstruct implementation of the applicable air quality plan

4.3-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation

4.3-3 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)

4.3-6 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance

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ATTACHMENT A: PROJECT EMISSION CALCULATIONS

Dispensary

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	2.62	1000sqft	0.06	2,620.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Individual dispensary sizes will vary greatly, but 2,620 sf is used as an average for modeling because total 55,000 sf assumed for max. total of 21 dispensaries (55,000/21= 2,620 avg).

Vehicle Trips - 544 ADT from Kern County traffic study (Ruettgers & Schuler). Avg building size 2,620 sf. 544 ADT/2.62 ksf = 208.6 ADT/ksf

Fleet Mix - Dispensaries not anticipated to have HHD trips (deliveries will likely be made with MHD trucks). 2% HHD used as conservative assumption. Remaining % reallocated proportionately to pass. veh. categories.

Construction Off-road Equipment Mitigation - SJVAPCD Regulation VIII

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFleetMix	HHD	0.12	0.02
tblFleetMix	LDA	0.48	0.55
tblFleetMix	LDT1	0.03	0.04
tblFleetMix	LDT2	0.17	0.19
tblVehicleTrips	ST_TR	722.03	208.60
tblVehicleTrips	SU_TR	542.72	208.60
tblVehicleTrips	WD_TR	496.12	208.60

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0319	0.3166	0.2509	3.9000e-004	1.7300e-003	0.0195	0.0212	6.3000e-004	0.0180	0.0186	0.0000	34.4951	34.4951	9.9400e-003	0.0000	34.7436
2020	0.0413	0.2305	0.1979	3.1000e-004	5.5000e-004	0.0135	0.0141	1.5000e-004	0.0125	0.0126	0.0000	26.9747	26.9747	8.3500e-003	0.0000	27.1835
Maximum	**0.0413**	**0.3166**	**0.2509**	**3.9000e-004**	**1.7300e-003**	**0.0195**	**0.0212**	**6.3000e-004**	**0.0180**	**0.0186**	**0.0000**	**34.4951**	**34.4951**	**9.9400e-003**	**0.0000**	**34.7436**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0319	0.3166	0.2509	3.9000e-004	1.1100e-003	0.0195	0.0206	3.6000e-004	0.0180	0.0184	0.0000	34.4951	34.4951	9.9400e-003	0.0000	34.7436
2020	0.0413	0.2305	0.1979	3.1000e-004	5.5000e-004	0.0135	0.0141	1.5000e-004	0.0125	0.0126	0.0000	26.9747	26.9747	8.3500e-003	0.0000	27.1835
Maximum	**0.0413**	**0.3166**	**0.2509**	**3.9000e-004**	**1.1100e-003**	**0.0195**	**0.0206**	**3.6000e-004**	**0.0180**	**0.0184**	**0.0000**	**34.4951**	**34.4951**	**9.9400e-003**	**0.0000**	**34.7436**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**27.19**	**0.00**	**1.76**	**34.62**	**0.00**	**0.86**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Dispensary - Fresno County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-1-2019**	**12-31-2019**	0.3475	0.3475
2	**1-1-2020**	**3-31-2020**	0.2690	0.2690
		Highest	0.3475	0.3475

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	0.0121	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	51.5001	51.5001	1.5600e-003	7.5000e-004	51.7614
Mobile	0.1490	0.5707	1.0687	2.6400e-003	0.1928	3.3000e-003	0.1961	0.0518	3.1100e-003	0.0549	0.0000	242.2036	242.2036	0.0220	0.0000	242.7527
Waste						0.0000	0.0000		0.0000	0.0000	6.1263	0.0000	6.1263	0.3621	0.0000	15.1776
Water						0.0000	0.0000		0.0000	0.0000	0.2523	1.3035	1.5558	0.0260	6.2000e-004	2.3911
Total	**0.1640**	**0.5977**	**1.0915**	**2.8000e-003**	**0.1928**	**5.3500e-003**	**0.1981**	**0.0518**	**5.1600e-003**	**0.0569**	**6.3786**	**295.0073**	**301.3859**	**0.4115**	**1.3700e-003**	**312.0828**

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	0.0121	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	51.5001	51.5001	1.5600e-003	7.5000e-004	51.7614
Mobile	0.1490	0.5707	1.0687	2.6400e-003	0.1928	3.3000e-003	0.1961	0.0518	3.1100e-003	0.0549	0.0000	242.2036	242.2036	0.0220	0.0000	242.7527
Waste						0.0000	0.0000		0.0000	0.0000	6.1263	0.0000	6.1263	0.3621	0.0000	15.1776
Water						0.0000	0.0000		0.0000	0.0000	0.2523	1.3035	1.5558	0.0260	6.2000e-004	2.3911
Total	**0.1640**	**0.5977**	**1.0915**	**2.8000e-003**	**0.1928**	**5.3500e-003**	**0.1981**	**0.0518**	**5.1600e-003**	**0.0569**	**6.3786**	**295.0073**	**301.3859**	**0.4115**	**1.3700e-003**	**312.0828**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Dispensary - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	10/14/2019	5	10	
2	Site Preparation	Site Preparation	10/15/2019	10/15/2019	5	1	
3	Grading	Grading	10/16/2019	10/17/2019	5	2	
4	Building Construction	Building Construction	10/18/2019	3/5/2020	5	100	
5	Paving	Paving	3/6/2020	3/12/2020	5	5	
6	Architectural Coating	Architectural Coating	3/13/2020	3/19/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,930; Non-Residential Outdoor: 1,310; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Dispensary - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**1.0000e-004**	**1.8000e-004**	**2.8000e-004**	**1.0000e-005**	**1.7000e-004**	**1.8000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9000e-004	0.0000	2.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**2.9000e-004**	**5.4000e-004**	**8.3000e-004**	**1.6000e-004**	**5.1000e-004**	**6.7000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3241
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3241**

3.5 Building Construction - 2019

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	1.3000e-004	8.0000e-005	8.3000e-004	0.0000	2.1000e-004	0.0000	2.1000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1892	0.1892	1.0000e-005	0.0000	0.1894
Total	**1.3000e-004**	**8.0000e-005**	**8.3000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1892**	**0.1892**	**1.0000e-005**	**0.0000**	**0.1894**

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	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3240
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3240**

3.5 Building Construction - 2019

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	1.3000e-004	8.0000e-005	8.3000e-004	0.0000	2.1000e-004	0.0000	2.1000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1892	0.1892	1.0000e-005	0.0000	0.1894
Total	**1.3000e-004**	**8.0000e-005**	**8.3000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1892**	**0.1892**	**1.0000e-005**	**0.0000**	**0.1894**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

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	1.0000e-004	6.0000e-005	6.5000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1626	0.1626	0.0000	0.0000	0.1627
Total	**1.0000e-004**	**6.0000e-005**	**6.5000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1626**	**0.1626**	**0.0000**	**0.0000**	**0.1627**

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	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

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	1.0000e-004	6.0000e-005	6.5000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1626	0.1626	0.0000	0.0000	0.1627
Total	**1.0000e-004**	**6.0000e-005**	**6.5000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1626**	**0.1626**	**0.0000**	**0.0000**	**0.1627**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

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	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0182					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.0188**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0182					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.0188**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1490	0.5707	1.0687	2.6400e-003	0.1928	3.3000e-003	0.1961	0.0518	3.1100e-003	0.0549	0.0000	242.2036	242.2036	0.0220	0.0000	242.7527
Unmitigated	0.1490	0.5707	1.0687	2.6400e-003	0.1928	3.3000e-003	0.1961	0.0518	3.1100e-003	0.0549	0.0000	242.2036	242.2036	0.0220	0.0000	242.7527

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	546.53	546.53	546.53	510,639	510,639
Total	546.53	546.53	546.53	510,639	510,639

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
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant with Drive Thru	0.553921	0.037751	0.194027	0.127212	0.018382	0.004997	0.032622	0.020000	0.002369	0.001675	0.005261	0.001115	0.000667

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	22.0806	22.0806	1.0000e-003	2.1000e-004	22.1671
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	22.0806	22.0806	1.0000e-003	2.1000e-004	22.1671
NaturalGas Mitigated	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	29.4195	29.4195	5.6000e-004	5.4000e-004	29.5943
NaturalGas Unmitigated	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	29.4195	29.4195	5.6000e-004	5.4000e-004	29.5943

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					
Fast Food Restaurant with Drive Thru	551300	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	29.4195	29.4195	5.6000e-004	5.4000e-004	29.5943
Total		**2.9700e-003**	**0.0270**	**0.0227**	**1.6000e-004**		**2.0500e-003**	**2.0500e-003**		**2.0500e-003**	**2.0500e-003**	**0.0000**	**29.4195**	**29.4195**	**5.6000e-004**	**5.4000e-004**	**29.5943**

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					
Fast Food Restaurant with Drive Thru	551300	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	29.4195	29.4195	5.6000e-004	5.4000e-004	29.5943
Total		**2.9700e-003**	**0.0270**	**0.0227**	**1.6000e-004**		**2.0500e-003**	**2.0500e-003**		**2.0500e-003**	**2.0500e-003**	**0.0000**	**29.4195**	**29.4195**	**5.6000e-004**	**5.4000e-004**	**29.5943**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	75901.4	22.0806	1.0000e-003	2.1000e-004	22.1671
Total		**22.0806**	**1.0000e-003**	**2.1000e-004**	**22.1671**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	75901.4	22.0806	1.0000e-003	2.1000e-004	22.1671
Total		**22.0806**	**1.0000e-003**	**2.1000e-004**	**22.1671**

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	0.0121	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Unmitigated	0.0121	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

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	1.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total	**0.0121**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**5.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total	**0.0121**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**5.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.5558	0.0260	6.2000e-004	2.3911
Unmitigated	1.5558	0.0260	6.2000e-004	2.3911

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	0.795258 / 0.0507612	1.5558	0.0260	6.2000e-004	2.3911
Total		**1.5558**	**0.0260**	**6.2000e-004**	**2.3911**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO_2	CH_4	N_2O	CO_2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	0.795258 / 0.0507612	1.5558	0.0260	6.2000e-004	2.3911
Total		**1.5558**	**0.0260**	**6.2000e-004**	**2.3911**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO_2	CH_4	N_2O	CO_2e
	MT/yr			
Mitigated	6.1263	0.3621	0.0000	15.1776
Unmitigated	6.1263	0.3621	0.0000	15.1776

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	30.18	6.1263	0.3621	0.0000	15.1776
Total		**6.1263**	**0.3621**	**0.0000**	**15.1776**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	30.18	6.1263	0.3621	0.0000	15.1776
Total		**6.1263**	**0.3621**	**0.0000**	**15.1776**

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

Indoor Cultivation

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	200.00	1000sqft	4.59	200,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Warehouse represents indoor cultivation activities. Assumed 200,000 sf average for each warehouse.

Construction Off-road Equipment Mitigation - SJVAPCD Regulation VIII

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1055	1.0117	0.6878	1.3300e-003	0.0881	0.0514	0.1395	0.0428	0.0479	0.0908	0.0000	119.1481	119.1481	0.0274	0.0000	119.8328
2020	1.6614	2.4375	2.0901	4.4300e-003	0.0904	0.1195	0.2098	0.0245	0.1123	0.1368	0.0000	392.3851	392.3851	0.0729	0.0000	394.2075
Maximum	**1.6614**	**2.4375**	**2.0901**	**4.4300e-003**	**0.0904**	**0.1195**	**0.2098**	**0.0428**	**0.1123**	**0.1368**	**0.0000**	**392.3851**	**392.3851**	**0.0729**	**0.0000**	**394.2075**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1055	1.0117	0.6878	1.3300e-003	0.0446	0.0514	0.0960	0.0195	0.0479	0.0674	0.0000	119.1480	119.1480	0.0274	0.0000	119.8327
2020	1.6614	2.4375	2.0901	4.4300e-003	0.0904	0.1195	0.2098	0.0245	0.1123	0.1368	0.0000	392.3848	392.3848	0.0729	0.0000	394.2072
Maximum	**1.6614**	**2.4375**	**2.0901**	**4.4300e-003**	**0.0904**	**0.1195**	**0.2098**	**0.0245**	**0.1123**	**0.1368**	**0.0000**	**392.3848**	**392.3848**	**0.0729**	**0.0000**	**394.2072**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**24.40**	**0.00**	**12.46**	**34.69**	**0.00**	**10.26**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**

Indoor Cultivation - Fresno County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-1-2019**	**12-31-2019**	1.1130	1.1130
2	**1-1-2020**	**3-31-2020**	0.8498	0.8498
3	**4-1-2020**	**6-30-2020**	0.8478	0.8478
4	**7-1-2020**	**9-30-2020**	0.8572	0.8572
		Highest	1.1130	1.1130

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	0.9203	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	1.0000e-005	0.0000	3.8100e-003
Energy	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	739.2953	739.2953	0.0284	8.6500e-003	742.5826
Mobile	0.1409	1.6778	1.3930	6.6500e-003	0.3761	7.8400e-003	0.3839	0.1014	7.4400e-003	0.1088	0.0000	618.4975	618.4975	0.0613	0.0000	620.0296
Waste						0.0000	0.0000		0.0000	0.0000	38.1623	0.0000	38.1623	2.2553	0.0000	94.5455
Water						0.0000	0.0000		0.0000	0.0000	14.6730	72.8031	87.4761	1.5104	0.0363	136.0421
Total	**1.0807**	**1.8550**	**1.5438**	**7.7100e-003**	**0.3761**	**0.0213**	**0.3974**	**0.1014**	**0.0209**	**0.1223**	**52.8353**	**1,430.5994**	**1,483.4347**	**3.8554**	**0.0449**	**1,593.2037**

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	0.9203	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	1.0000e-005	0.0000	3.8100e-003
Energy	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	739.2953	739.2953	0.0284	8.6500e-003	742.5826
Mobile	0.1409	1.6778	1.3930	6.6500e-003	0.3761	7.8400e-003	0.3839	0.1014	7.4400e-003	0.1088	0.0000	618.4975	618.4975	0.0613	0.0000	620.0296
Waste						0.0000	0.0000		0.0000	0.0000	38.1623	0.0000	38.1623	2.2553	0.0000	94.5455
Water						0.0000	0.0000		0.0000	0.0000	14.6730	72.8031	87.4761	1.5104	0.0363	136.0421
Total	**1.0807**	**1.8550**	**1.5438**	**7.7100e-003**	**0.3761**	**0.0213**	**0.3974**	**0.1014**	**0.0209**	**0.1223**	**52.8353**	**1,430.5994**	**1,483.4347**	**3.8554**	**0.0449**	**1,593.2037**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	10/28/2019	5	20	
2	Site Preparation	Site Preparation	10/29/2019	11/4/2019	5	5	
3	Grading	Grading	11/5/2019	11/14/2019	5	8	
4	Building Construction	Building Construction	11/15/2019	10/1/2020	5	230	
5	Paving	Paving	10/2/2020	10/27/2020	5	18	
6	Architectural Coating	Architectural Coating	10/28/2020	11/20/2020	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 300,000; Non-Residential Outdoor: 100,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Indoor Cultivation - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	84.00	33.00	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	17.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8672
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**		**0.0180**	**0.0180**		**0.0167**	**0.0167**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8672**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	4.7000e-004	4.6700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0712	1.0712	3.0000e-005	0.0000	1.0720
Total	**7.1000e-004**	**4.7000e-004**	**4.6700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0712**	**1.0712**	**3.0000e-005**	**0.0000**	**1.0720**

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	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8671
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**		**0.0180**	**0.0180**		**0.0167**	**0.0167**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8671**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	4.7000e-004	4.6700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0712	1.0712	3.0000e-005	0.0000	1.0720
Total	**7.1000e-004**	**4.7000e-004**	**4.6700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0712**	**1.0712**	**3.0000e-005**	**0.0000**	**1.0720**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1139	0.0552	9.0000e-005		5.9800e-003	5.9800e-003		5.5000e-003	5.5000e-003	0.0000	8.5422	8.5422	2.7000e-003	0.0000	8.6097
Total	**0.0108**	**0.1139**	**0.0552**	**9.0000e-005**	**0.0452**	**5.9800e-003**	**0.0512**	**0.0248**	**5.5000e-003**	**0.0303**	**0.0000**	**8.5422**	**8.5422**	**2.7000e-003**	**0.0000**	**8.6097**

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.4000e-004	1.4000e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3214	0.3214	1.0000e-005	0.0000	0.3216
Total	**2.1000e-004**	**1.4000e-004**	**1.4000e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3214**	**0.3214**	**1.0000e-005**	**0.0000**	**0.3216**

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					0.0176	0.0000	0.0176	9.6800e-003	0.0000	9.6800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1139	0.0552	9.0000e-005		5.9800e-003	5.9800e-003		5.5000e-003	5.5000e-003	0.0000	8.5422	8.5422	2.7000e-003	0.0000	8.6097
Total	**0.0108**	**0.1139**	**0.0552**	**9.0000e-005**	**0.0176**	**5.9800e-003**	**0.0236**	**9.6800e-003**	**5.5000e-003**	**0.0152**	**0.0000**	**8.5422**	**8.5422**	**2.7000e-003**	**0.0000**	**8.6097**

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.4000e-004	1.4000e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3214	0.3214	1.0000e-005	0.0000	0.3216
Total	**2.1000e-004**	**1.4000e-004**	**1.4000e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3214**	**0.3214**	**1.0000e-005**	**0.0000**	**0.3216**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0103	0.1134	0.0652	1.2000e-004		5.5900e-003	5.5900e-003		5.1400e-003	5.1400e-003	0.0000	10.6569	10.6569	3.3700e-003	0.0000	10.7412
Total	**0.0103**	**0.1134**	**0.0652**	**1.2000e-004**	**0.0262**	**5.5900e-003**	**0.0318**	**0.0135**	**5.1400e-003**	**0.0186**	**0.0000**	**10.6569**	**10.6569**	**3.3700e-003**	**0.0000**	**10.7412**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	1.8700e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4285	0.4285	1.0000e-005	0.0000	0.4288
Total	**2.8000e-004**	**1.9000e-004**	**1.8700e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4285**	**0.4285**	**1.0000e-005**	**0.0000**	**0.4288**

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					0.0102	0.0000	0.0102	5.2500e-003	0.0000	5.2500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0103	0.1134	0.0652	1.2000e-004		5.5900e-003	5.5900e-003		5.1400e-003	5.1400e-003	0.0000	10.6569	10.6569	3.3700e-003	0.0000	10.7412
Total	**0.0103**	**0.1134**	**0.0652**	**1.2000e-004**	**0.0102**	**5.5900e-003**	**0.0158**	**5.2500e-003**	**5.1400e-003**	**0.0104**	**0.0000**	**10.6569**	**10.6569**	**3.3700e-003**	**0.0000**	**10.7412**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	1.8700e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4285	0.4285	1.0000e-005	0.0000	0.4288
Total	**2.8000e-004**	**1.9000e-004**	**1.8700e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4285**	**0.4285**	**1.0000e-005**	**0.0000**	**0.4288**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0390	0.3478	0.2832	4.4000e-004		0.0213	0.0213		0.0200	0.0200	0.0000	38.7922	38.7922	9.4500e-003	0.0000	39.0285
Total	**0.0390**	**0.3478**	**0.2832**	**4.4000e-004**		**0.0213**	**0.0213**		**0.0200**	**0.0200**	**0.0000**	**38.7922**	**38.7922**	**9.4500e-003**	**0.0000**	**39.0285**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5100e-003	0.0736	0.0126	1.6000e-004	3.6100e-003	5.3000e-004	4.1400e-003	1.0400e-003	5.1000e-004	1.5500e-003	0.0000	14.8116	14.8116	1.8800e-003	0.0000	14.8587
Worker	6.5500e-003	4.3100e-003	0.0432	1.1000e-004	0.0111	7.0000e-005	0.0112	2.9500e-003	7.0000e-005	3.0100e-003	0.0000	9.8979	9.8979	2.9000e-004	0.0000	9.9052
Total	**9.0600e-003**	**0.0779**	**0.0557**	**2.7000e-004**	**0.0147**	**6.0000e-004**	**0.0153**	**3.9900e-003**	**5.8000e-004**	**4.5600e-003**	**0.0000**	**24.7095**	**24.7095**	**2.1700e-003**	**0.0000**	**24.7639**

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	0.0390	0.3478	0.2832	4.4000e-004		0.0213	0.0213		0.0200	0.0200	0.0000	38.7922	38.7922	9.4500e-003	0.0000	39.0284
Total	**0.0390**	**0.3478**	**0.2832**	**4.4000e-004**		**0.0213**	**0.0213**		**0.0200**	**0.0200**	**0.0000**	**38.7922**	**38.7922**	**9.4500e-003**	**0.0000**	**39.0284**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5100e-003	0.0736	0.0126	1.6000e-004	3.6100e-003	5.3000e-004	4.1400e-003	1.0400e-003	5.1000e-004	1.5500e-003	0.0000	14.8116	14.8116	1.8800e-003	0.0000	14.8587
Worker	6.5500e-003	4.3100e-003	0.0432	1.1000e-004	0.0111	7.0000e-005	0.0112	2.9500e-003	7.0000e-005	3.0100e-003	0.0000	9.8979	9.8979	2.9000e-004	0.0000	9.9052
Total	**9.0600e-003**	**0.0779**	**0.0557**	**2.7000e-004**	**0.0147**	**6.0000e-004**	**0.0153**	**3.9900e-003**	**5.8000e-004**	**4.5600e-003**	**0.0000**	**24.7095**	**24.7095**	**2.1700e-003**	**0.0000**	**24.7639**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2088	1.8898	1.6596	2.6500e-003		0.1100	0.1100		0.1035	0.1035	0.0000	228.1358	228.1358	0.0557	0.0000	229.5273
Total	**0.2088**	**1.8898**	**1.6596**	**2.6500e-003**		**0.1100**	**0.1100**		**0.1035**	**0.1035**	**0.0000**	**228.1358**	**228.1358**	**0.0557**	**0.0000**	**229.5273**

3.5 Building Construction - 2020

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	0.0122	0.4028	0.0643	9.2000e-004	0.0215	2.1400e-003	0.0237	6.2200e-003	2.0400e-003	8.2700e-003	0.0000	87.6614	87.6614	0.0108	0.0000	87.9322
Worker	0.0357	0.0227	0.2300	6.3000e-004	0.0662	4.3000e-004	0.0666	0.0176	3.9000e-004	0.0180	0.0000	57.2510	57.2510	1.5300e-003	0.0000	57.2894
Total	**0.0479**	**0.4254**	**0.2943**	**1.5500e-003**	**0.0877**	**2.5700e-003**	**0.0903**	**0.0238**	**2.4300e-003**	**0.0262**	**0.0000**	**144.9124**	**144.9124**	**0.0124**	**0.0000**	**145.2216**

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	0.2088	1.8898	1.6596	2.6500e-003		0.1100	0.1100		0.1035	0.1035	0.0000	228.1356	228.1356	0.0557	0.0000	229.5270
Total	**0.2088**	**1.8898**	**1.6596**	**2.6500e-003**		**0.1100**	**0.1100**		**0.1035**	**0.1035**	**0.0000**	**228.1356**	**228.1356**	**0.0557**	**0.0000**	**229.5270**

3.5 Building Construction - 2020

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	0.0122	0.4028	0.0643	9.2000e-004	0.0215	2.1400e-003	0.0237	6.2200e-003	2.0400e-003	8.2700e-003	0.0000	87.6614	87.6614	0.0108	0.0000	87.9322
Worker	0.0357	0.0227	0.2300	6.3000e-004	0.0662	4.3000e-004	0.0666	0.0176	3.9000e-004	0.0180	0.0000	57.2510	57.2510	1.5300e-003	0.0000	57.2894
Total	**0.0479**	**0.4254**	**0.2943**	**1.5500e-003**	**0.0877**	**2.5700e-003**	**0.0903**	**0.0238**	**2.4300e-003**	**0.0262**	**0.0000**	**144.9124**	**144.9124**	**0.0124**	**0.0000**	**145.2216**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0107	0.1062	0.1105	1.7000e-004		5.8600e-003	5.8600e-003		5.4000e-003	5.4000e-003	0.0000	14.7348	14.7348	4.6300e-003	0.0000	14.8506
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.1062**	**0.1105**	**1.7000e-004**		**5.8600e-003**	**5.8600e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**14.7348**	**14.7348**	**4.6300e-003**	**0.0000**	**14.8506**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.9000e-004	5.0000e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2455	1.2455	3.0000e-005	0.0000	1.2463
Total	**7.8000e-004**	**4.9000e-004**	**5.0000e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2455**	**1.2455**	**3.0000e-005**	**0.0000**	**1.2463**

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	0.0107	0.1062	0.1105	1.7000e-004		5.8600e-003	5.8600e-003		5.4000e-003	5.4000e-003	0.0000	14.7348	14.7348	4.6300e-003	0.0000	14.8506
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.1062**	**0.1105**	**1.7000e-004**		**5.8600e-003**	**5.8600e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**14.7348**	**14.7348**	**4.6300e-003**	**0.0000**	**14.8506**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.9000e-004	5.0000e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2455	1.2455	3.0000e-005	0.0000	1.2463
Total	**7.8000e-004**	**4.9000e-004**	**5.0000e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2455**	**1.2455**	**3.0000e-005**	**0.0000**	**1.2463**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3905					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1800e-003	0.0152	0.0165	3.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	2.2979	2.2979	1.8000e-004	0.0000	2.3024
Total	**1.3927**	**0.0152**	**0.0165**	**3.0000e-005**		**1.0000e-003**	**1.0000e-003**		**1.0000e-003**	**1.0000e-003**	**0.0000**	**2.2979**	**2.2979**	**1.8000e-004**	**0.0000**	**2.3024**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.2000e-004	4.2500e-003	1.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	1.0587	1.0587	3.0000e-005	0.0000	1.0594
Total	**6.6000e-004**	**4.2000e-004**	**4.2500e-003**	**1.0000e-005**	**1.2200e-003**	**1.0000e-005**	**1.2300e-003**	**3.3000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0587**	**1.0587**	**3.0000e-005**	**0.0000**	**1.0594**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3905					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1800e-003	0.0152	0.0165	3.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	2.2979	2.2979	1.8000e-004	0.0000	2.3024
Total	**1.3927**	**0.0152**	**0.0165**	**3.0000e-005**		**1.0000e-003**	**1.0000e-003**		**1.0000e-003**	**1.0000e-003**	**0.0000**	**2.2979**	**2.2979**	**1.8000e-004**	**0.0000**	**2.3024**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.2000e-004	4.2500e-003	1.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	1.0587	1.0587	3.0000e-005	0.0000	1.0594
Total	**6.6000e-004**	**4.2000e-004**	**4.2500e-003**	**1.0000e-005**	**1.2200e-003**	**1.0000e-005**	**1.2300e-003**	**3.3000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0587**	**1.0587**	**3.0000e-005**	**0.0000**	**1.0594**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1409	1.6778	1.3930	6.6500e-003	0.3761	7.8400e-003	0.3839	0.1014	7.4400e-003	0.1088	0.0000	618.4975	618.4975	0.0613	0.0000	620.0296
Unmitigated	0.1409	1.6778	1.3930	6.6500e-003	0.3761	7.8400e-003	0.3839	0.1014	7.4400e-003	0.1088	0.0000	618.4975	618.4975	0.0613	0.0000	620.0296

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	336.00	336.00	336.00	980,956	980,956
Total	336.00	336.00	336.00	980,956	980,956

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
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.481390	0.032808	0.168621	0.127212	0.018382	0.004997	0.032622	0.122881	0.002369	0.001675	0.005261	0.001115	0.000667

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	546.3317	546.3317	0.0247	5.1100e-003	548.4724
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	546.3317	546.3317	0.0247	5.1100e-003	548.4724
NaturalGas Mitigated	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	192.9635	192.9635	3.7000e-003	3.5400e-003	194.1102
NaturalGas Unmitigated	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	192.9635	192.9635	3.7000e-003	3.5400e-003	194.1102

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					
Unrefrigerated Warehouse-No Rail	3.616e+006	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	192.9635	192.9635	3.7000e-003	3.5400e-003	194.1102
Total		**0.0195**	**0.1773**	**0.1489**	**1.0600e-003**		**0.0135**	**0.0135**		**0.0135**	**0.0135**	**0.0000**	**192.9635**	**192.9635**	**3.7000e-003**	**3.5400e-003**	**194.1102**

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					
Unrefrigerated Warehouse-No Rail	3.616e+006	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	192.9635	192.9635	3.7000e-003	3.5400e-003	194.1102
Total		**0.0195**	**0.1773**	**0.1489**	**1.0600e-003**		**0.0135**	**0.0135**		**0.0135**	**0.0135**	**0.0000**	**192.9635**	**192.9635**	**3.7000e-003**	**3.5400e-003**	**194.1102**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.878e +006	546.3317	0.0247	5.1100e-003	548.4724
Total		**546.3317**	**0.0247**	**5.1100e-003**	**548.4724**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.878e +006	546.3317	0.0247	5.1100e-003	548.4724
Total		**546.3317**	**0.0247**	**5.1100e-003**	**548.4724**

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	0.9203	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	1.0000e-005	0.0000	3.8100e-003
Unmitigated	0.9203	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	1.0000e-005	0.0000	3.8100e-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	0.1391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	1.0000e-005	0.0000	3.8100e-003
Total	**0.9203**	**2.0000e-005**	**1.8500e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.5700e-003**	**3.5700e-003**	**1.0000e-005**	**0.0000**	**3.8100e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	1.0000e-005	0.0000	3.8100e-003
Total	**0.9203**	**2.0000e-005**	**1.8500e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.5700e-003**	**3.5700e-003**	**1.0000e-005**	**0.0000**	**3.8100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	87.4761	1.5104	0.0363	136.0421
Unmitigated	87.4761	1.5104	0.0363	136.0421

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	46.25 / 0	87.4761	1.5104	0.0363	136.0421
Total		**87.4761**	**1.5104**	**0.0363**	**136.0421**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	46.25 / 0	87.4761	1.5104	0.0363	136.0421
Total		**87.4761**	**1.5104**	**0.0363**	**136.0421**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	38.1623	2.2553	0.0000	94.5455
Unmitigated	38.1623	2.2553	0.0000	94.5455

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	188	38.1623	2.2553	0.0000	94.5455
Total		**38.1623**	**2.2553**	**0.0000**	**94.5455**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	188	38.1623	2.2553	0.0000	94.5455
Total		**38.1623**	**2.2553**	**0.0000**	**94.5455**

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

Distribution & Manufacturing

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	20.00	1000sqft	0.46	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Light Industrial represents distribution & manufacturing operations. Assumed 15 buildings at avg 20,000 sf each for total of 300,000 sf

Vehicle Trips - Per Kern County cannabis traffic study by Ruettgers & Schuler, 6.97 trip rate used for cannabis processing & production

Construction Off-road Equipment Mitigation - SJVAPCD Regulation VIII

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblVehicleTrips	ST_TR	1.32	6.97
tblVehicleTrips	SU_TR	0.68	6.97

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0331	0.3279	0.2585	4.2000e-004	3.7400e-003	0.0195	0.0233	1.1800e-003	0.0181	0.0193	0.0000	37.9824	37.9824	0.0103	0.0000	38.2387
2020	0.1631	0.2397	0.2040	3.4000e-004	2.3700e-003	0.0136	0.0160	6.4000e-004	0.0125	0.0132	0.0000	30.0489	30.0489	8.6200e-003	0.0000	30.2643
Maximum	**0.1631**	**0.3279**	**0.2585**	**4.2000e-004**	**3.7400e-003**	**0.0195**	**0.0233**	**1.1800e-003**	**0.0181**	**0.0193**	**0.0000**	**37.9824**	**37.9824**	**0.0103**	**0.0000**	**38.2387**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0331	0.3279	0.2585	4.2000e-004	3.1200e-003	0.0195	0.0227	9.1000e-004	0.0181	0.0190	0.0000	37.9824	37.9824	0.0103	0.0000	38.2387
2020	0.1631	0.2397	0.2040	3.4000e-004	2.3700e-003	0.0136	0.0160	6.4000e-004	0.0125	0.0132	0.0000	30.0488	30.0488	8.6200e-003	0.0000	30.2643
Maximum	**0.1631**	**0.3279**	**0.2585**	**4.2000e-004**	**3.1200e-003**	**0.0195**	**0.0227**	**9.1000e-004**	**0.0181**	**0.0190**	**0.0000**	**37.9824**	**37.9824**	**0.0103**	**0.0000**	**38.2387**

Distribution & Manufacturing - Fresno County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**10.15**	**0.00**	**1.58**	**14.84**	**0.00**	**0.83**	**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	**10-1-2019**	**12-31-2019**	0.3603	0.3603
2	**1-1-2020**	**3-31-2020**	0.4000	0.4000
		Highest	0.4000	0.4000

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	0.0920	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Energy	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	73.5908	73.5908	2.7500e-003	8.9000e-004	73.9243
Mobile	0.0585	0.6961	0.5779	2.7600e-003	0.1560	3.2500e-003	0.1593	0.0421	3.0900e-003	0.0452	0.0000	256.6028	256.6028	0.0254	0.0000	257.2385
Waste						0.0000	0.0000		0.0000	0.0000	5.0342	0.0000	5.0342	0.2975	0.0000	12.4720
Water						0.0000	0.0000		0.0000	0.0000	1.4673	7.2803	8.7476	0.1510	3.6300e-003	13.6042
Total	**0.1527**	**0.7165**	**0.5953**	**2.8800e-003**	**0.1560**	**4.8100e-003**	**0.1608**	**0.0421**	**4.6500e-003**	**0.0467**	**6.5015**	**337.4743**	**343.9758**	**0.4767**	**4.5200e-003**	**357.2393**

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	0.0920	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Energy	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	73.5908	73.5908	2.7500e-003	8.9000e-004	73.9243
Mobile	0.0585	0.6961	0.5779	2.7600e-003	0.1560	3.2500e-003	0.1593	0.0421	3.0900e-003	0.0452	0.0000	256.6028	256.6028	0.0254	0.0000	257.2385
Waste						0.0000	0.0000		0.0000	0.0000	5.0342	0.0000	5.0342	0.2975	0.0000	12.4720
Water						0.0000	0.0000		0.0000	0.0000	1.4673	7.2803	8.7476	0.1510	3.6300e-003	13.6042
Total	**0.1527**	**0.7165**	**0.5953**	**2.8800e-003**	**0.1560**	**4.8100e-003**	**0.1608**	**0.0421**	**4.6500e-003**	**0.0467**	**6.5015**	**337.4743**	**343.9758**	**0.4767**	**4.5200e-003**	**357.2393**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Distribution & Manufacturing - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	10/14/2019	5	10	
2	Site Preparation	Site Preparation	10/15/2019	10/15/2019	5	1	
3	Grading	Grading	10/16/2019	10/17/2019	5	2	
4	Building Construction	Building Construction	10/18/2019	3/5/2020	5	100	
5	Paving	Paving	3/6/2020	3/12/2020	5	5	
6	Architectural Coating	Architectural Coating	3/13/2020	3/19/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 30,000; Non-Residential Outdoor: 10,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Distribution & Manufacturing - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	8.00	3.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**1.0000e-004**	**1.8000e-004**	**2.8000e-004**	**1.0000e-005**	**1.7000e-004**	**1.8000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9000e-004	0.0000	2.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**2.9000e-004**	**5.4000e-004**	**8.3000e-004**	**1.6000e-004**	**5.1000e-004**	**6.7000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3241
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3241**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0108	1.8300e-003	2.0000e-005	5.3000e-004	8.0000e-005	6.0000e-004	1.5000e-004	7.0000e-005	2.3000e-004	0.0000	2.1626	2.1626	2.7000e-004	0.0000	2.1694
Worker	1.0000e-003	6.6000e-004	6.6100e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5140	1.5140	5.0000e-005	0.0000	1.5151
Total	**1.3700e-003**	**0.0114**	**8.4400e-003**	**4.0000e-005**	**2.2200e-003**	**9.0000e-005**	**2.3100e-003**	**6.0000e-004**	**8.0000e-005**	**6.9000e-004**	**0.0000**	**3.6765**	**3.6765**	**3.2000e-004**	**0.0000**	**3.6845**

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	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3240
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3240**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0108	1.8300e-003	2.0000e-005	5.3000e-004	8.0000e-005	6.0000e-004	1.5000e-004	7.0000e-005	2.3000e-004	0.0000	2.1626	2.1626	2.7000e-004	0.0000	2.1694
Worker	1.0000e-003	6.6000e-004	6.6100e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5140	1.5140	5.0000e-005	0.0000	1.5151
Total	**1.3700e-003**	**0.0114**	**8.4400e-003**	**4.0000e-005**	**2.2200e-003**	**9.0000e-005**	**2.3100e-003**	**6.0000e-004**	**8.0000e-005**	**6.9000e-004**	**0.0000**	**3.6765**	**3.6765**	**3.2000e-004**	**0.0000**	**3.6845**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	8.7400e-003	1.3900e-003	2.0000e-005	4.7000e-004	5.0000e-005	5.1000e-004	1.3000e-004	4.0000e-005	1.8000e-004	0.0000	1.9013	1.9013	2.3000e-004	0.0000	1.9072
Worker	8.1000e-004	5.1000e-004	5.2300e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.3008	1.3008	3.0000e-005	0.0000	1.3017
Total	**1.0700e-003**	**9.2500e-003**	**6.6200e-003**	**3.0000e-005**	**1.9700e-003**	**6.0000e-005**	**2.0200e-003**	**5.3000e-004**	**5.0000e-005**	**5.9000e-004**	**0.0000**	**3.2021**	**3.2021**	**2.6000e-004**	**0.0000**	**3.2089**

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	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	8.7400e-003	1.3900e-003	2.0000e-005	4.7000e-004	5.0000e-005	5.1000e-004	1.3000e-004	4.0000e-005	1.8000e-004	0.0000	1.9013	1.9013	2.3000e-004	0.0000	1.9072
Worker	8.1000e-004	5.1000e-004	5.2300e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.3008	1.3008	3.0000e-005	0.0000	1.3017
Total	**1.0700e-003**	**9.2500e-003**	**6.6200e-003**	**3.0000e-005**	**1.9700e-003**	**6.0000e-005**	**2.0200e-003**	**5.3000e-004**	**5.0000e-005**	**5.9000e-004**	**0.0000**	**3.2021**	**3.2021**	**2.6000e-004**	**0.0000**	**3.2089**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

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	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.1397**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0346	0.0346	0.0000	0.0000	0.0346
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0346**	**0.0346**	**0.0000**	**0.0000**	**0.0346**

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	0.1391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.1397**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0346	0.0346	0.0000	0.0000	0.0346
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0346**	**0.0346**	**0.0000**	**0.0000**	**0.0346**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0585	0.6961	0.5779	2.7600e-003	0.1560	3.2500e-003	0.1593	0.0421	3.0900e-003	0.0452	0.0000	256.6028	256.6028	0.0254	0.0000	257.2385
Unmitigated	0.0585	0.6961	0.5779	2.7600e-003	0.1560	3.2500e-003	0.1593	0.0421	3.0900e-003	0.0452	0.0000	256.6028	256.6028	0.0254	0.0000	257.2385

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	139.40	139.40	139.40	406,980	406,980
Total	139.40	139.40	139.40	406,980	406,980

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
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.481390	0.032808	0.168621	0.127212	0.018382	0.004997	0.032622	0.122881	0.002369	0.001675	0.005261	0.001115	0.000667

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	51.3168	51.3168	2.3200e-003	4.8000e-004	51.5179
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	51.3168	51.3168	2.3200e-003	4.8000e-004	51.5179
NaturalGas Mitigated	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.2741	22.2741	4.3000e-004	4.1000e-004	22.4064
NaturalGas Unmitigated	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.2741	22.2741	4.3000e-004	4.1000e-004	22.4064

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	417400	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.2741	22.2741	4.3000e-004	4.1000e-004	22.4064
Total		**2.2500e-003**	**0.0205**	**0.0172**	**1.2000e-004**		**1.5600e-003**	**1.5600e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**22.2741**	**22.2741**	**4.3000e-004**	**4.1000e-004**	**22.4064**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	417400	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.2741	22.2741	4.3000e-004	4.1000e-004	22.4064
Total		**2.2500e-003**	**0.0205**	**0.0172**	**1.2000e-004**		**1.5600e-003**	**1.5600e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**22.2741**	**22.2741**	**4.3000e-004**	**4.1000e-004**	**22.4064**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	176400	51.3168	2.3200e-003	4.8000e-004	51.5179
Total		**51.3168**	**2.3200e-003**	**4.8000e-004**	**51.5179**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	176400	51.3168	2.3200e-003	4.8000e-004	51.5179
Total		**51.3168**	**2.3200e-003**	**4.8000e-004**	**51.5179**

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	0.0920	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Unmitigated	0.0920	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004

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	0.0139					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Total	**0.0920**	**0.0000**	**1.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.6000e-004**	**3.6000e-004**	**0.0000**	**0.0000**	**3.8000e-004**

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	0.0139					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	3.8000e-004
Total	**0.0920**	**0.0000**	**1.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.6000e-004**	**3.6000e-004**	**0.0000**	**0.0000**	**3.8000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.7476	0.1510	3.6300e-003	13.6042
Unmitigated	8.7476	0.1510	3.6300e-003	13.6042

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	4.625 / 0	8.7476	0.1510	3.6300e-003	13.6042
Total		**8.7476**	**0.1510**	**3.6300e-003**	**13.6042**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	4.625 / 0	8.7476	0.1510	3.6300e-003	13.6042
Total		**8.7476**	**0.1510**	**3.6300e-003**	**13.6042**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.0342	0.2975	0.0000	12.4720
Unmitigated	5.0342	0.2975	0.0000	12.4720

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	24.8	5.0342	0.2975	0.0000	12.4720
Total		**5.0342**	**0.2975**	**0.0000**	**12.4720**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	24.8	5.0342	0.2975	0.0000	12.4720
Total		**5.0342**	**0.2975**	**0.0000**	**12.4720**

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

Testing Lab
Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.00	1000sqft	0.23	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Testing labs assumed at 10,000 sf average. Assume total of 10 for total of 100,000 sf.

Vehicle Trips - Per Kern County cannabis traffic study by Ruettgers & Schuler, 6.97 trip rate used for cannabis processing & production

Construction Off-road Equipment Mitigation - SJVAPCD Regulation VIII

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblVehicleTrips	ST_TR	1.32	6.97
tblVehicleTrips	SU_TR	0.68	6.97

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0325	0.3240	0.2546	4.1000e-004	2.7200e-003	0.0195	0.0222	9.0000e-004	0.0181	0.0190	0.0000	36.5046	36.5046	0.0101	0.0000	36.7580
2020	0.0931	0.2365	0.2008	3.3000e-004	1.4400e-003	0.0136	0.0150	3.9000e-004	0.0125	0.0129	0.0000	28.7474	28.7474	8.5200e-003	0.0000	28.9604
Maximum	**0.0931**	**0.3240**	**0.2546**	**4.1000e-004**	**2.7200e-003**	**0.0195**	**0.0222**	**9.0000e-004**	**0.0181**	**0.0190**	**0.0000**	**36.5046**	**36.5046**	**0.0101**	**0.0000**	**36.7580**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0325	0.3240	0.2546	4.1000e-004	2.1000e-003	0.0195	0.0216	6.3000e-004	0.0181	0.0187	0.0000	36.5045	36.5045	0.0101	0.0000	36.7580
2020	0.0931	0.2365	0.2008	3.3000e-004	1.4400e-003	0.0136	0.0150	3.9000e-004	0.0125	0.0129	0.0000	28.7473	28.7473	8.5200e-003	0.0000	28.9604
Maximum	**0.0931**	**0.3240**	**0.2546**	**4.1000e-004**	**2.1000e-003**	**0.0195**	**0.0216**	**6.3000e-004**	**0.0181**	**0.0187**	**0.0000**	**36.5045**	**36.5045**	**0.0101**	**0.0000**	**36.7580**

Testing Lab - Fresno County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**14.90**	**0.00**	**1.69**	**20.93**	**0.00**	**0.85**	**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	**10-1-2019**	**12-31-2019**	0.3556	0.3556
2	**1-1-2020**	**3-31-2020**	0.3268	0.3268
		Highest	0.3556	0.3556

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	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Energy	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	36.7954	36.7954	1.3700e-003	4.4000e-004	36.9621
Mobile	0.0292	0.3480	0.2890	1.3800e-003	0.0780	1.6300e-003	0.0796	0.0210	1.5400e-003	0.0226	0.0000	128.3014	128.3014	0.0127	0.0000	128.6192
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	3.6402	4.3738	0.0755	1.8100e-003	6.8021
Total	**0.0764**	**0.3583**	**0.2977**	**1.4400e-003**	**0.0780**	**2.4100e-003**	**0.0804**	**0.0210**	**2.3200e-003**	**0.0234**	**3.2507**	**168.7372**	**171.9879**	**0.2384**	**2.2500e-003**	**178.6197**

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	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Energy	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	36.7954	36.7954	1.3700e-003	4.4000e-004	36.9621
Mobile	0.0292	0.3480	0.2890	1.3800e-003	0.0780	1.6300e-003	0.0796	0.0210	1.5400e-003	0.0226	0.0000	128.3014	128.3014	0.0127	0.0000	128.6192
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	3.6402	4.3738	0.0755	1.8100e-003	6.8021
Total	**0.0764**	**0.3583**	**0.2977**	**1.4400e-003**	**0.0780**	**2.4100e-003**	**0.0804**	**0.0210**	**2.3200e-003**	**0.0234**	**3.2507**	**168.7372**	**171.9879**	**0.2384**	**2.2500e-003**	**178.6197**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Testing Lab - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	10/14/2019	5	10	
2	Site Preparation	Site Preparation	10/15/2019	10/15/2019	5	1	
3	Grading	Grading	10/16/2019	10/17/2019	5	2	
4	Building Construction	Building Construction	10/18/2019	3/5/2020	5	100	
5	Paving	Paving	3/6/2020	3/12/2020	5	5	
6	Architectural Coating	Architectural Coating	3/13/2020	3/19/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Testing Lab - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	4.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**1.0000e-004**	**1.8000e-004**	**2.8000e-004**	**1.0000e-005**	**1.7000e-004**	**1.8000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.9000e-004	0.0000	2.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**2.9000e-004**	**5.4000e-004**	**8.3000e-004**	**1.6000e-004**	**5.1000e-004**	**6.7000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3241
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3241**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	7.1700e-003	1.2200e-003	2.0000e-005	3.5000e-004	5.0000e-005	4.0000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.4417	1.4417	1.8000e-004	0.0000	1.4463
Worker	5.0000e-004	3.3000e-004	3.3000e-003	1.0000e-005	8.5000e-004	1.0000e-005	8.5000e-004	2.3000e-004	1.0000e-005	2.3000e-004	0.0000	0.7570	0.7570	2.0000e-005	0.0000	0.7575
Total	**7.4000e-004**	**7.5000e-003**	**4.5200e-003**	**3.0000e-005**	**1.2000e-003**	**6.0000e-005**	**1.2500e-003**	**3.3000e-004**	**6.0000e-005**	**3.8000e-004**	**0.0000**	**2.1987**	**2.1987**	**2.0000e-004**	**0.0000**	**2.2038**

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	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3240
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3240**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	7.1700e-003	1.2200e-003	2.0000e-005	3.5000e-004	5.0000e-005	4.0000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.4417	1.4417	1.8000e-004	0.0000	1.4463
Worker	5.0000e-004	3.3000e-004	3.3000e-003	1.0000e-005	8.5000e-004	1.0000e-005	8.5000e-004	2.3000e-004	1.0000e-005	2.3000e-004	0.0000	0.7570	0.7570	2.0000e-005	0.0000	0.7575
Total	**7.4000e-004**	**7.5000e-003**	**4.5200e-003**	**3.0000e-005**	**1.2000e-003**	**6.0000e-005**	**1.2500e-003**	**3.3000e-004**	**6.0000e-005**	**3.8000e-004**	**0.0000**	**2.1987**	**2.1987**	**2.0000e-004**	**0.0000**	**2.2038**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

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	1.8000e-004	5.8200e-003	9.3000e-004	1.0000e-005	3.1000e-004	3.0000e-005	3.4000e-004	9.0000e-005	3.0000e-005	1.2000e-004	0.0000	1.2675	1.2675	1.6000e-004	0.0000	1.2714
Worker	4.1000e-004	2.6000e-004	2.6100e-003	1.0000e-005	7.5000e-004	0.0000	7.6000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.6504	0.6504	2.0000e-005	0.0000	0.6509
Total	**5.9000e-004**	**6.0800e-003**	**3.5400e-003**	**2.0000e-005**	**1.0600e-003**	**3.0000e-005**	**1.1000e-003**	**2.9000e-004**	**3.0000e-005**	**3.2000e-004**	**0.0000**	**1.9179**	**1.9179**	**1.8000e-004**	**0.0000**	**1.9223**

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	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

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	1.8000e-004	5.8200e-003	9.3000e-004	1.0000e-005	3.1000e-004	3.0000e-005	3.4000e-004	9.0000e-005	3.0000e-005	1.2000e-004	0.0000	1.2675	1.2675	1.6000e-004	0.0000	1.2714
Worker	4.1000e-004	2.6000e-004	2.6100e-003	1.0000e-005	7.5000e-004	0.0000	7.6000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.6504	0.6504	2.0000e-005	0.0000	0.6509
Total	**5.9000e-004**	**6.0800e-003**	**3.5400e-003**	**2.0000e-005**	**1.0600e-003**	**3.0000e-005**	**1.1000e-003**	**2.9000e-004**	**3.0000e-005**	**3.2000e-004**	**0.0000**	**1.9179**	**1.9179**	**1.8000e-004**	**0.0000**	**1.9223**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

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	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0695					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.0701**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

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	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0173	0.0173	0.0000	0.0000	0.0173
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0173**	**0.0173**	**0.0000**	**0.0000**	**0.0173**

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	0.0695					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.0701**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

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	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0173	0.0173	0.0000	0.0000	0.0173
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0173**	**0.0173**	**0.0000**	**0.0000**	**0.0173**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0292	0.3480	0.2890	1.3800e-003	0.0780	1.6300e-003	0.0796	0.0210	1.5400e-003	0.0226	0.0000	128.3014	128.3014	0.0127	0.0000	128.6192
Unmitigated	0.0292	0.3480	0.2890	1.3800e-003	0.0780	1.6300e-003	0.0796	0.0210	1.5400e-003	0.0226	0.0000	128.3014	128.3014	0.0127	0.0000	128.6192

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	69.70	69.70	69.70	203,490	203,490
Total	69.70	69.70	69.70	203,490	203,490

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
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.481390	0.032808	0.168621	0.127212	0.018382	0.004997	0.032622	0.122881	0.002369	0.001675	0.005261	0.001115	0.000667

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	25.6584	25.6584	1.1600e-003	2.4000e-004	25.7589
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	25.6584	25.6584	1.1600e-003	2.4000e-004	25.7589
NaturalGas Mitigated	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
NaturalGas Unmitigated	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	208700	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Total		**1.1300e-003**	**0.0102**	**8.5900e-003**	**6.0000e-005**		**7.8000e-004**	**7.8000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**11.1370**	**11.1370**	**2.1000e-004**	**2.0000e-004**	**11.2032**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	208700	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Total		**1.1300e-003**	**0.0102**	**8.5900e-003**	**6.0000e-005**		**7.8000e-004**	**7.8000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**11.1370**	**11.1370**	**2.1000e-004**	**2.0000e-004**	**11.2032**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	88200	25.6584	1.1600e-003	2.4000e-004	25.7589
Total		**25.6584**	**1.1600e-003**	**2.4000e-004**	**25.7589**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	88200	25.6584	1.1600e-003	2.4000e-004	25.7589
Total		**25.6584**	**1.1600e-003**	**2.4000e-004**	**25.7589**

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	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Unmitigated	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004

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	6.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Total	**0.0460**	**0.0000**	**9.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.0000**	**1.9000e-004**

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	6.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Total	**0.0460**	**0.0000**	**9.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.0000**	**1.9000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.3738	0.0755	1.8100e-003	6.8021
Unmitigated	4.3738	0.0755	1.8100e-003	6.8021

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.3125 / 0	4.3738	0.0755	1.8100e-003	6.8021
Total		**4.3738**	**0.0755**	**1.8100e-003**	**6.8021**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.3125 / 0	4.3738	0.0755	1.8100e-003	6.8021
Total		**4.3738**	**0.0755**	**1.8100e-003**	**6.8021**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.5171	0.1488	0.0000	6.2360
Unmitigated	2.5171	0.1488	0.0000	6.2360

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		**2.5171**	**0.1488**	**0.0000**	**6.2360**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		**2.5171**	**0.1488**	**0.0000**	**6.2360**

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

Dispensary BAU
Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	2.62	1000sqft	0.06	2,620.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Individual dispensary sizes will vary greatly, but 2,620 sf is used as an average for modeling because total 55,000 sf assumed for max. total of 21 dispensaries (55,000/21= 2,620 avg).

Vehicle Trips - 544 ADT from Kern County traffic study (Ruettgers & Schuler). Avg building size 2,620 sf. 544 ADT/2.62 ksf = 208.6 ADT/ksf

Construction Off-road Equipment Mitigation -

Fleet Mix - Dispensaries not anticipated to have HHD trips (deliveries will likely be made with MHD trucks). 2% HHD used as conservative assumption. Remaining % reallocated proportionately to pass. veh. categories.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblFleetMix	HHD	0.11	0.02
tblFleetMix	LDA	0.42	0.48
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.15	0.17
tblVehicleTrips	ST_TR	722.03	208.60
tblVehicleTrips	SU_TR	542.72	208.60
tblVehicleTrips	WD_TR	496.12	208.60

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0319	0.3166	0.2509	3.9000e-004	1.7300e-003	0.0195	0.0212	6.3000e-004	0.0180	0.0186	0.0000	34.4951	34.4951	9.9400e-003	0.0000	34.7436
2020	0.0413	0.2305	0.1979	3.1000e-004	5.5000e-004	0.0135	0.0141	1.5000e-004	0.0125	0.0126	0.0000	26.9747	26.9747	8.3500e-003	0.0000	27.1835
Maximum	**0.0413**	**0.3166**	**0.2509**	**3.9000e-004**	**1.7300e-003**	**0.0195**	**0.0212**	**6.3000e-004**	**0.0180**	**0.0186**	**0.0000**	**34.4951**	**34.4951**	**9.9400e-003**	**0.0000**	**34.7436**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0319	0.3166	0.2509	3.9000e-004	1.7300e-003	0.0195	0.0212	6.3000e-004	0.0180	0.0186	0.0000	34.4951	34.4951	9.9400e-003	0.0000	34.7436
2020	0.0413	0.2305	0.1979	3.1000e-004	5.5000e-004	0.0135	0.0141	1.5000e-004	0.0125	0.0126	0.0000	26.9747	26.9747	8.3500e-003	0.0000	27.1835
Maximum	**0.0413**	**0.3166**	**0.2509**	**3.9000e-004**	**1.7300e-003**	**0.0195**	**0.0212**	**6.3000e-004**	**0.0180**	**0.0186**	**0.0000**	**34.4951**	**34.4951**	**9.9400e-003**	**0.0000**	**34.7436**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Dispensary BAU - Fresno County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-1-2019	12-31-2019	0.3475	0.3475
2	1-1-2020	3-31-2020	0.2690	0.2690
		Highest	0.3475	0.3475

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	0.0121	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	51.5001	51.5001	1.5600e-003	7.5000e-004	51.7614
Mobile	0.5740	1.4064	4.8122	9.1000e-003	0.1933	0.0280	0.2213	0.0520	0.0266	0.0787	0.0000	285.2126	285.2126	0.0725	0.0000	287.0252
Waste						0.0000	0.0000		0.0000	0.0000	6.1263	0.0000	6.1263	0.3621	0.0000	15.1776
Water						0.0000	0.0000		0.0000	0.0000	0.2523	1.3035	1.5558	0.0260	6.2000e-004	2.3911
Total	**0.5891**	**1.4334**	**4.8350**	**9.2600e-003**	**0.1933**	**0.0300**	**0.2234**	**0.0520**	**0.0287**	**0.0807**	**6.3786**	**338.0162**	**344.3948**	**0.4621**	**1.3700e-003**	**356.3553**

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	0.0121	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	51.5001	51.5001	1.5600e-003	7.5000e-004	51.7614
Mobile	0.5740	1.4064	4.8122	9.1000e-003	0.1933	0.0280	0.2213	0.0520	0.0266	0.0787	0.0000	285.2126	285.2126	0.0725	0.0000	287.0252
Waste						0.0000	0.0000		0.0000	0.0000	6.1263	0.0000	6.1263	0.3621	0.0000	15.1776
Water						0.0000	0.0000		0.0000	0.0000	0.2523	1.3035	1.5558	0.0260	6.2000e-004	2.3911
Total	**0.5891**	**1.4334**	**4.8350**	**9.2600e-003**	**0.1933**	**0.0300**	**0.2234**	**0.0520**	**0.0287**	**0.0807**	**6.3786**	**338.0162**	**344.3948**	**0.4621**	**1.3700e-003**	**356.3553**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Dispensary BAU - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	10/14/2019	5	10	
2	Site Preparation	Site Preparation	10/15/2019	10/15/2019	5	1	
3	Grading	Grading	10/16/2019	10/17/2019	5	2	
4	Building Construction	Building Construction	10/18/2019	3/5/2020	5	100	
5	Paving	Paving	3/6/2020	3/12/2020	5	5	
6	Architectural Coating	Architectural Coating	3/13/2020	3/19/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,930; Non-Residential Outdoor: 1,310; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Dispensary BAU - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

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					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3241
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3241**

3.5 Building Construction - 2019

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	1.3000e-004	8.0000e-005	8.3000e-004	0.0000	2.1000e-004	0.0000	2.1000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1892	0.1892	1.0000e-005	0.0000	0.1894
Total	**1.3000e-004**	**8.0000e-005**	**8.3000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1892**	**0.1892**	**1.0000e-005**	**0.0000**	**0.1894**

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	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3240
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3240**

3.5 Building Construction - 2019

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	1.3000e-004	8.0000e-005	8.3000e-004	0.0000	2.1000e-004	0.0000	2.1000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1892	0.1892	1.0000e-005	0.0000	0.1894
Total	**1.3000e-004**	**8.0000e-005**	**8.3000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1892**	**0.1892**	**1.0000e-005**	**0.0000**	**0.1894**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

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	1.0000e-004	6.0000e-005	6.5000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1626	0.1626	0.0000	0.0000	0.1627
Total	**1.0000e-004**	**6.0000e-005**	**6.5000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1626**	**0.1626**	**0.0000**	**0.0000**	**0.1627**

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	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

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	1.0000e-004	6.0000e-005	6.5000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1626	0.1626	0.0000	0.0000	0.1627
Total	**1.0000e-004**	**6.0000e-005**	**6.5000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1626**	**0.1626**	**0.0000**	**0.0000**	**0.1627**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

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	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0182					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.0188**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0182					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.0188**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5740	1.4064	4.8122	9.1000e-003	0.1933	0.0280	0.2213	0.0520	0.0266	0.0787	0.0000	285.2126	285.2126	0.0725	0.0000	287.0252
Unmitigated	0.5740	1.4064	4.8122	9.1000e-003	0.1933	0.0280	0.2213	0.0520	0.0266	0.0787	0.0000	285.2126	285.2126	0.0725	0.0000	287.0252

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	546.53	546.53	546.53	510,639	510,639
Total	546.53	546.53	546.53	510,639	510,639

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
Fast Food Restaurant with Drive Thru	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant with Drive Thru	0.475387	0.069938	0.172603	0.176036	0.035163	0.006973	0.031964	0.020000	0.002099	0.001787	0.005269	0.001212	0.001569

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	22.0806	22.0806	1.0000e-003	2.1000e-004	22.1671
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	22.0806	22.0806	1.0000e-003	2.1000e-004	22.1671
NaturalGas Mitigated	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	29.4195	29.4195	5.6000e-004	5.4000e-004	29.5943
NaturalGas Unmitigated	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	29.4195	29.4195	5.6000e-004	5.4000e-004	29.5943

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					
Fast Food Restaurant with Drive Thru	551300	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	29.4195	29.4195	5.6000e-004	5.4000e-004	29.5943
Total		**2.9700e-003**	**0.0270**	**0.0227**	**1.6000e-004**		**2.0500e-003**	**2.0500e-003**		**2.0500e-003**	**2.0500e-003**	**0.0000**	**29.4195**	**29.4195**	**5.6000e-004**	**5.4000e-004**	**29.5943**

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					
Fast Food Restaurant with Drive Thru	551300	2.9700e-003	0.0270	0.0227	1.6000e-004		2.0500e-003	2.0500e-003		2.0500e-003	2.0500e-003	0.0000	29.4195	29.4195	5.6000e-004	5.4000e-004	29.5943
Total		**2.9700e-003**	**0.0270**	**0.0227**	**1.6000e-004**		**2.0500e-003**	**2.0500e-003**		**2.0500e-003**	**2.0500e-003**	**0.0000**	**29.4195**	**29.4195**	**5.6000e-004**	**5.4000e-004**	**29.5943**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	75901.4	22.0806	1.0000e-003	2.1000e-004	22.1671
Total		**22.0806**	**1.0000e-003**	**2.1000e-004**	**22.1671**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	75901.4	22.0806	1.0000e-003	2.1000e-004	22.1671
Total		**22.0806**	**1.0000e-003**	**2.1000e-004**	**22.1671**

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	0.0121	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Unmitigated	0.0121	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

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	1.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total	**0.0121**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**5.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total	**0.0121**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**5.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.5558	0.0260	6.2000e-004	2.3911
Unmitigated	1.5558	0.0260	6.2000e-004	2.3911

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	0.795258 / 0.0507612	1.5558	0.0260	6.2000e-004	2.3911
Total		**1.5558**	**0.0260**	**6.2000e-004**	**2.3911**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	0.795258 / 0.0507612	1.5558	0.0260	6.2000e-004	2.3911
Total		**1.5558**	**0.0260**	**6.2000e-004**	**2.3911**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.1263	0.3621	0.0000	15.1776
Unmitigated	6.1263	0.3621	0.0000	15.1776

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	30.18	6.1263	0.3621	0.0000	15.1776
Total		**6.1263**	**0.3621**	**0.0000**	**15.1776**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	30.18	6.1263	0.3621	0.0000	15.1776
Total		**6.1263**	**0.3621**	**0.0000**	**15.1776**

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

Indoor Cultivation BAU

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	200.00	1000sqft	4.59	200,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Warehouse represents indoor cultivation activities. Assumed 200,000 sf average for each warehouse.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1055	1.0117	0.6878	1.3300e-003	0.0881	0.0514	0.1395	0.0428	0.0479	0.0908	0.0000	119.1481	119.1481	0.0274	0.0000	119.8328
2020	1.6614	2.4375	2.0901	4.4300e-003	0.0904	0.1195	0.2098	0.0245	0.1123	0.1368	0.0000	392.3851	392.3851	0.0729	0.0000	394.2075
Maximum	**1.6614**	**2.4375**	**2.0901**	**4.4300e-003**	**0.0904**	**0.1195**	**0.2098**	**0.0428**	**0.1123**	**0.1368**	**0.0000**	**392.3851**	**392.3851**	**0.0729**	**0.0000**	**394.2075**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1055	1.0117	0.6878	1.3300e-003	0.0881	0.0514	0.1395	0.0428	0.0479	0.0908	0.0000	119.1480	119.1480	0.0274	0.0000	119.8327
2020	1.6614	2.4375	2.0901	4.4300e-003	0.0904	0.1195	0.2098	0.0245	0.1123	0.1368	0.0000	392.3848	392.3848	0.0729	0.0000	394.2072
Maximum	**1.6614**	**2.4375**	**2.0901**	**4.4300e-003**	**0.0904**	**0.1195**	**0.2098**	**0.0428**	**0.1123**	**0.1368**	**0.0000**	**392.3848**	**392.3848**	**0.0729**	**0.0000**	**394.2072**

Indoor Cultivation BAU - Fresno County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-1-2019**	**12-31-2019**	1.1130	1.1130
2	**1-1-2020**	**3-31-2020**	0.8498	0.8498
3	**4-1-2020**	**6-30-2020**	0.8478	0.8478
4	**7-1-2020**	**9-30-2020**	0.8572	0.8572
		Highest	1.1130	1.1130

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	0.9205	3.0000e-005	2.3400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	2.0000e-005	0.0000	3.9900e-003
Energy	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	739.2953	739.2953	0.0284	8.6500e-003	742.5826
Mobile	0.7047	4.7936	6.6756	0.0350	0.3765	0.1185	0.4949	0.1016	0.1132	0.2148	0.0000	677.7370	677.7370	0.1742	0.0000	682.0929
Waste						0.0000	0.0000		0.0000	0.0000	38.1623	0.0000	38.1623	2.2553	0.0000	94.5455
Water						0.0000	0.0000		0.0000	0.0000	14.6730	72.8031	87.4761	1.5104	0.0363	136.0421
Total	**1.6447**	**4.9709**	**6.8268**	**0.0360**	**0.3765**	**0.1320**	**0.5084**	**0.1016**	**0.1266**	**0.2283**	**52.8353**	**1,489.8389**	**1,542.6742**	**3.9683**	**0.0449**	**1,655.2672**

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	0.9205	3.0000e-005	2.3400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	2.0000e-005	0.0000	3.9900e-003
Energy	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	739.2953	739.2953	0.0284	8.6500e-003	742.5826
Mobile	0.7047	4.7936	6.6756	0.0350	0.3765	0.1185	0.4949	0.1016	0.1132	0.2148	0.0000	677.7370	677.7370	0.1742	0.0000	682.0929
Waste						0.0000	0.0000		0.0000	0.0000	38.1623	0.0000	38.1623	2.2553	0.0000	94.5455
Water						0.0000	0.0000		0.0000	0.0000	14.6730	72.8031	87.4761	1.5104	0.0363	136.0421
Total	**1.6447**	**4.9709**	**6.8268**	**0.0360**	**0.3765**	**0.1320**	**0.5084**	**0.1016**	**0.1266**	**0.2283**	**52.8353**	**1,489.838 9**	**1,542.674 2**	**3.9683**	**0.0449**	**1,655.267 2**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Indoor Cultivation BAU - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	10/28/2019	5	20	
2	Site Preparation	Site Preparation	10/29/2019	11/4/2019	5	5	
3	Grading	Grading	11/5/2019	11/14/2019	5	8	
4	Building Construction	Building Construction	11/15/2019	10/1/2020	5	230	
5	Paving	Paving	10/2/2020	10/27/2020	5	18	
6	Architectural Coating	Architectural Coating	10/28/2020	11/20/2020	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 300,000; Non-Residential Outdoor: 100,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Indoor Cultivation BAU - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
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

Indoor Cultivation BAU - Fresno County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	84.00	33.00	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	17.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8672
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**		**0.0180**	**0.0180**		**0.0167**	**0.0167**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8672**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	4.7000e-004	4.6700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0712	1.0712	3.0000e-005	0.0000	1.0720
Total	**7.1000e-004**	**4.7000e-004**	**4.6700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0712**	**1.0712**	**3.0000e-005**	**0.0000**	**1.0720**

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	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8671
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**		**0.0180**	**0.0180**		**0.0167**	**0.0167**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8671**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	4.7000e-004	4.6700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0712	1.0712	3.0000e-005	0.0000	1.0720
Total	**7.1000e-004**	**4.7000e-004**	**4.6700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0712**	**1.0712**	**3.0000e-005**	**0.0000**	**1.0720**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1139	0.0552	9.0000e-005		5.9800e-003	5.9800e-003		5.5000e-003	5.5000e-003	0.0000	8.5422	8.5422	2.7000e-003	0.0000	8.6097
Total	**0.0108**	**0.1139**	**0.0552**	**9.0000e-005**	**0.0452**	**5.9800e-003**	**0.0512**	**0.0248**	**5.5000e-003**	**0.0303**	**0.0000**	**8.5422**	**8.5422**	**2.7000e-003**	**0.0000**	**8.6097**

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.4000e-004	1.4000e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3214	0.3214	1.0000e-005	0.0000	0.3216
Total	**2.1000e-004**	**1.4000e-004**	**1.4000e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3214**	**0.3214**	**1.0000e-005**	**0.0000**	**0.3216**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.1139	0.0552	9.0000e-005		5.9800e-003	5.9800e-003		5.5000e-003	5.5000e-003	0.0000	8.5422	8.5422	2.7000e-003	0.0000	8.6097
Total	**0.0108**	**0.1139**	**0.0552**	**9.0000e-005**	**0.0452**	**5.9800e-003**	**0.0512**	**0.0248**	**5.5000e-003**	**0.0303**	**0.0000**	**8.5422**	**8.5422**	**2.7000e-003**	**0.0000**	**8.6097**

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.4000e-004	1.4000e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3214	0.3214	1.0000e-005	0.0000	0.3216
Total	**2.1000e-004**	**1.4000e-004**	**1.4000e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3214**	**0.3214**	**1.0000e-005**	**0.0000**	**0.3216**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0103	0.1134	0.0652	1.2000e-004		5.5900e-003	5.5900e-003		5.1400e-003	5.1400e-003	0.0000	10.6569	10.6569	3.3700e-003	0.0000	10.7412
Total	**0.0103**	**0.1134**	**0.0652**	**1.2000e-004**	**0.0262**	**5.5900e-003**	**0.0318**	**0.0135**	**5.1400e-003**	**0.0186**	**0.0000**	**10.6569**	**10.6569**	**3.3700e-003**	**0.0000**	**10.7412**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	1.8700e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4285	0.4285	1.0000e-005	0.0000	0.4288
Total	**2.8000e-004**	**1.9000e-004**	**1.8700e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4285**	**0.4285**	**1.0000e-005**	**0.0000**	**0.4288**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0103	0.1134	0.0652	1.2000e-004		5.5900e-003	5.5900e-003		5.1400e-003	5.1400e-003	0.0000	10.6569	10.6569	3.3700e-003	0.0000	10.7412
Total	**0.0103**	**0.1134**	**0.0652**	**1.2000e-004**	**0.0262**	**5.5900e-003**	**0.0318**	**0.0135**	**5.1400e-003**	**0.0186**	**0.0000**	**10.6569**	**10.6569**	**3.3700e-003**	**0.0000**	**10.7412**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	1.8700e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4285	0.4285	1.0000e-005	0.0000	0.4288
Total	**2.8000e-004**	**1.9000e-004**	**1.8700e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4285**	**0.4285**	**1.0000e-005**	**0.0000**	**0.4288**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0390	0.3478	0.2832	4.4000e-004		0.0213	0.0213		0.0200	0.0200	0.0000	38.7922	38.7922	9.4500e-003	0.0000	39.0285
Total	**0.0390**	**0.3478**	**0.2832**	**4.4000e-004**		**0.0213**	**0.0213**		**0.0200**	**0.0200**	**0.0000**	**38.7922**	**38.7922**	**9.4500e-003**	**0.0000**	**39.0285**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5100e-003	0.0736	0.0126	1.6000e-004	3.6100e-003	5.3000e-004	4.1400e-003	1.0400e-003	5.1000e-004	1.5500e-003	0.0000	14.8116	14.8116	1.8800e-003	0.0000	14.8587
Worker	6.5500e-003	4.3100e-003	0.0432	1.1000e-004	0.0111	7.0000e-005	0.0112	2.9500e-003	7.0000e-005	3.0100e-003	0.0000	9.8979	9.8979	2.9000e-004	0.0000	9.9052
Total	**9.0600e-003**	**0.0779**	**0.0557**	**2.7000e-004**	**0.0147**	**6.0000e-004**	**0.0153**	**3.9900e-003**	**5.8000e-004**	**4.5600e-003**	**0.0000**	**24.7095**	**24.7095**	**2.1700e-003**	**0.0000**	**24.7639**

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	0.0390	0.3478	0.2832	4.4000e-004		0.0213	0.0213		0.0200	0.0200	0.0000	38.7922	38.7922	9.4500e-003	0.0000	39.0284
Total	**0.0390**	**0.3478**	**0.2832**	**4.4000e-004**		**0.0213**	**0.0213**		**0.0200**	**0.0200**	**0.0000**	**38.7922**	**38.7922**	**9.4500e-003**	**0.0000**	**39.0284**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5100e-003	0.0736	0.0126	1.6000e-004	3.6100e-003	5.3000e-004	4.1400e-003	1.0400e-003	5.1000e-004	1.5500e-003	0.0000	14.8116	14.8116	1.8800e-003	0.0000	14.8587
Worker	6.5500e-003	4.3100e-003	0.0432	1.1000e-004	0.0111	7.0000e-005	0.0112	2.9500e-003	7.0000e-005	3.0100e-003	0.0000	9.8979	9.8979	2.9000e-004	0.0000	9.9052
Total	**9.0600e-003**	**0.0779**	**0.0557**	**2.7000e-004**	**0.0147**	**6.0000e-004**	**0.0153**	**3.9900e-003**	**5.8000e-004**	**4.5600e-003**	**0.0000**	**24.7095**	**24.7095**	**2.1700e-003**	**0.0000**	**24.7639**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2088	1.8898	1.6596	2.6500e-003		0.1100	0.1100		0.1035	0.1035	0.0000	228.1358	228.1358	0.0557	0.0000	229.5273
Total	**0.2088**	**1.8898**	**1.6596**	**2.6500e-003**		**0.1100**	**0.1100**		**0.1035**	**0.1035**	**0.0000**	**228.1358**	**228.1358**	**0.0557**	**0.0000**	**229.5273**

3.5 Building Construction - 2020

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	0.0122	0.4028	0.0643	9.2000e-004	0.0215	2.1400e-003	0.0237	6.2200e-003	2.0400e-003	8.2700e-003	0.0000	87.6614	87.6614	0.0108	0.0000	87.9322
Worker	0.0357	0.0227	0.2300	6.3000e-004	0.0662	4.3000e-004	0.0666	0.0176	3.9000e-004	0.0180	0.0000	57.2510	57.2510	1.5300e-003	0.0000	57.2894
Total	**0.0479**	**0.4254**	**0.2943**	**1.5500e-003**	**0.0877**	**2.5700e-003**	**0.0903**	**0.0238**	**2.4300e-003**	**0.0262**	**0.0000**	**144.9124**	**144.9124**	**0.0124**	**0.0000**	**145.2216**

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	0.2088	1.8898	1.6596	2.6500e-003		0.1100	0.1100		0.1035	0.1035	0.0000	228.1356	228.1356	0.0557	0.0000	229.5270
Total	**0.2088**	**1.8898**	**1.6596**	**2.6500e-003**		**0.1100**	**0.1100**		**0.1035**	**0.1035**	**0.0000**	**228.1356**	**228.1356**	**0.0557**	**0.0000**	**229.5270**

3.5 Building Construction - 2020

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	0.0122	0.4028	0.0643	9.2000e-004	0.0215	2.1400e-003	0.0237	6.2200e-003	2.0400e-003	8.2700e-003	0.0000	87.6614	87.6614	0.0108	0.0000	87.9322
Worker	0.0357	0.0227	0.2300	6.3000e-004	0.0662	4.3000e-004	0.0666	0.0176	3.9000e-004	0.0180	0.0000	57.2510	57.2510	1.5300e-003	0.0000	57.2894
Total	**0.0479**	**0.4254**	**0.2943**	**1.5500e-003**	**0.0877**	**2.5700e-003**	**0.0903**	**0.0238**	**2.4300e-003**	**0.0262**	**0.0000**	**144.9124**	**144.9124**	**0.0124**	**0.0000**	**145.2216**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0107	0.1062	0.1105	1.7000e-004		5.8600e-003	5.8600e-003		5.4000e-003	5.4000e-003	0.0000	14.7348	14.7348	4.6300e-003	0.0000	14.8506
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.1062**	**0.1105**	**1.7000e-004**		**5.8600e-003**	**5.8600e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**14.7348**	**14.7348**	**4.6300e-003**	**0.0000**	**14.8506**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.9000e-004	5.0000e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2455	1.2455	3.0000e-005	0.0000	1.2463
Total	**7.8000e-004**	**4.9000e-004**	**5.0000e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2455**	**1.2455**	**3.0000e-005**	**0.0000**	**1.2463**

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	0.0107	0.1062	0.1105	1.7000e-004		5.8600e-003	5.8600e-003		5.4000e-003	5.4000e-003	0.0000	14.7348	14.7348	4.6300e-003	0.0000	14.8506
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.1062**	**0.1105**	**1.7000e-004**		**5.8600e-003**	**5.8600e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**14.7348**	**14.7348**	**4.6300e-003**	**0.0000**	**14.8506**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.9000e-004	5.0000e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2455	1.2455	3.0000e-005	0.0000	1.2463
Total	**7.8000e-004**	**4.9000e-004**	**5.0000e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2455**	**1.2455**	**3.0000e-005**	**0.0000**	**1.2463**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3905					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1800e-003	0.0152	0.0165	3.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	2.2979	2.2979	1.8000e-004	0.0000	2.3024
Total	**1.3927**	**0.0152**	**0.0165**	**3.0000e-005**		**1.0000e-003**	**1.0000e-003**		**1.0000e-003**	**1.0000e-003**	**0.0000**	**2.2979**	**2.2979**	**1.8000e-004**	**0.0000**	**2.3024**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.2000e-004	4.2500e-003	1.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	1.0587	1.0587	3.0000e-005	0.0000	1.0594
Total	**6.6000e-004**	**4.2000e-004**	**4.2500e-003**	**1.0000e-005**	**1.2200e-003**	**1.0000e-005**	**1.2300e-003**	**3.3000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0587**	**1.0587**	**3.0000e-005**	**0.0000**	**1.0594**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3905					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1800e-003	0.0152	0.0165	3.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	2.2979	2.2979	1.8000e-004	0.0000	2.3024
Total	**1.3927**	**0.0152**	**0.0165**	**3.0000e-005**		**1.0000e-003**	**1.0000e-003**		**1.0000e-003**	**1.0000e-003**	**0.0000**	**2.2979**	**2.2979**	**1.8000e-004**	**0.0000**	**2.3024**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.2000e-004	4.2500e-003	1.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	1.0587	1.0587	3.0000e-005	0.0000	1.0594
Total	**6.6000e-004**	**4.2000e-004**	**4.2500e-003**	**1.0000e-005**	**1.2200e-003**	**1.0000e-005**	**1.2300e-003**	**3.3000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0587**	**1.0587**	**3.0000e-005**	**0.0000**	**1.0594**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7047	4.7936	6.6756	0.0350	0.3765	0.1185	0.4949	0.1016	0.1132	0.2148	0.0000	677.7370	677.7370	0.1742	0.0000	682.0929
Unmitigated	0.7047	4.7936	6.6756	0.0350	0.3765	0.1185	0.4949	0.1016	0.1132	0.2148	0.0000	677.7370	677.7370	0.1742	0.0000	682.0929

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	336.00	336.00	336.00	980,956	980,956
Total	336.00	336.00	336.00	980,956	980,956

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
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.415876	0.061183	0.150996	0.176036	0.035163	0.006973	0.031964	0.109874	0.002099	0.001787	0.005269	0.001212	0.001569

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	546.3317	546.3317	0.0247	5.1100e-003	548.4724
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	546.3317	546.3317	0.0247	5.1100e-003	548.4724
NaturalGas Mitigated	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	192.9635	192.9635	3.7000e-003	3.5400e-003	194.1102
NaturalGas Unmitigated	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	192.9635	192.9635	3.7000e-003	3.5400e-003	194.1102

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					
Unrefrigerated Warehouse-No Rail	3.616e +006	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	192.9635	192.9635	3.7000e-003	3.5400e-003	194.1102
Total		**0.0195**	**0.1773**	**0.1489**	**1.0600e-003**		**0.0135**	**0.0135**		**0.0135**	**0.0135**	**0.0000**	**192.9635**	**192.9635**	**3.7000e-003**	**3.5400e-003**	**194.1102**

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					
Unrefrigerated Warehouse-No Rail	3.616e +006	0.0195	0.1773	0.1489	1.0600e-003		0.0135	0.0135		0.0135	0.0135	0.0000	192.9635	192.9635	3.7000e-003	3.5400e-003	194.1102
Total		**0.0195**	**0.1773**	**0.1489**	**1.0600e-003**		**0.0135**	**0.0135**		**0.0135**	**0.0135**	**0.0000**	**192.9635**	**192.9635**	**3.7000e-003**	**3.5400e-003**	**194.1102**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.878e +006	546.3317	0.0247	5.1100e-003	548.4724
Total		**546.3317**	**0.0247**	**5.1100e-003**	**548.4724**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unrefrigerated Warehouse-No Rail	1.878e +006	546.3317	0.0247	5.1100e-003	548.4724
Total		**546.3317**	**0.0247**	**5.1100e-003**	**548.4724**

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	0.9205	3.0000e-005	2.3400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	2.0000e-005	0.0000	3.9900e-003
Unmitigated	0.9205	3.0000e-005	2.3400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	2.0000e-005	0.0000	3.9900e-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	0.1391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-004	3.0000e-005	2.3400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	2.0000e-005	0.0000	3.9900e-003
Total	**0.9205**	**3.0000e-005**	**2.3400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.5700e-003**	**3.5700e-003**	**2.0000e-005**	**0.0000**	**3.9900e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-004	3.0000e-005	2.3400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5700e-003	3.5700e-003	2.0000e-005	0.0000	3.9900e-003
Total	**0.9205**	**3.0000e-005**	**2.3400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.5700e-003**	**3.5700e-003**	**2.0000e-005**	**0.0000**	**3.9900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	87.4761	1.5104	0.0363	136.0421
Unmitigated	87.4761	1.5104	0.0363	136.0421

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	46.25 / 0	87.4761	1.5104	0.0363	136.0421
Total		**87.4761**	**1.5104**	**0.0363**	**136.0421**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unrefrigerated Warehouse-No Rail	46.25 / 0	87.4761	1.5104	0.0363	136.0421
Total		**87.4761**	**1.5104**	**0.0363**	**136.0421**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	38.1623	2.2553	0.0000	94.5455
Unmitigated	38.1623	2.2553	0.0000	94.5455

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	188	38.1623	2.2553	0.0000	94.5455
Total		**38.1623**	**2.2553**	**0.0000**	**94.5455**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unrefrigerated Warehouse-No Rail	188	38.1623	2.2553	0.0000	94.5455
Total		**38.1623**	**2.2553**	**0.0000**	**94.5455**

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

Distribution & Manufacturing BAU

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	20.00	1000sqft	0.46	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Light Industrial represents distribution & manufacturing operations. Assumed 15 buildings at avg 20,000 sf each for total of 300,000 sf

Vehicle Trips - Per Kern County cannabis traffic study by Ruettgers & Schuler, 6.97 trip rate used for cannabis processing & production

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblVehicleTrips	ST_TR	1.32	6.97
tblVehicleTrips	SU_TR	0.68	6.97

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0331	0.3279	0.2585	4.2000e-004	3.7400e-003	0.0195	0.0233	1.1800e-003	0.0181	0.0193	0.0000	37.9824	37.9824	0.0103	0.0000	38.2387
2020	0.1631	0.2397	0.2040	3.4000e-004	2.3700e-003	0.0136	0.0160	6.4000e-004	0.0125	0.0132	0.0000	30.0489	30.0489	8.6200e-003	0.0000	30.2643
Maximum	**0.1631**	**0.3279**	**0.2585**	**4.2000e-004**	**3.7400e-003**	**0.0195**	**0.0233**	**1.1800e-003**	**0.0181**	**0.0193**	**0.0000**	**37.9824**	**37.9824**	**0.0103**	**0.0000**	**38.2387**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0331	0.3279	0.2585	4.2000e-004	3.7400e-003	0.0195	0.0233	1.1800e-003	0.0181	0.0193	0.0000	37.9824	37.9824	0.0103	0.0000	38.2387
2020	0.1631	0.2397	0.2040	3.4000e-004	2.3700e-003	0.0136	0.0160	6.4000e-004	0.0125	0.0132	0.0000	30.0488	30.0488	8.6200e-003	0.0000	30.2643
Maximum	**0.1631**	**0.3279**	**0.2585**	**4.2000e-004**	**3.7400e-003**	**0.0195**	**0.0233**	**1.1800e-003**	**0.0181**	**0.0193**	**0.0000**	**37.9824**	**37.9824**	**0.0103**	**0.0000**	**38.2387**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-1-2019	12-31-2019	0.3603	0.3603
2	1-1-2020	3-31-2020	0.4000	0.4000
		Highest	0.4000	0.4000

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	0.0921	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	4.0000e-004
Energy	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	73.5908	73.5908	2.7500e-003	8.9000e-004	73.9243
Mobile	0.2924	1.9888	2.7696	0.0145	0.1562	0.0492	0.2053	0.0422	0.0470	0.0891	0.0000	281.1802	281.1802	0.0723	0.0000	282.9874
Waste						0.0000	0.0000		0.0000	0.0000	5.0342	0.0000	5.0342	0.2975	0.0000	12.4720
Water						0.0000	0.0000		0.0000	0.0000	1.4673	7.2803	8.7476	0.1510	3.6300e-003	13.6042
Total	**0.3867**	**2.0092**	**2.7870**	**0.0146**	**0.1562**	**0.0507**	**0.2069**	**0.0422**	**0.0485**	**0.0907**	**6.5015**	**362.0517**	**368.5532**	**0.5236**	**4.5200e-003**	**382.9882**

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	0.0921	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	4.0000e-004
Energy	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	73.5908	73.5908	2.7500e-003	8.9000e-004	73.9243
Mobile	0.2924	1.9888	2.7696	0.0145	0.1562	0.0492	0.2053	0.0422	0.0470	0.0891	0.0000	281.1802	281.1802	0.0723	0.0000	282.9874
Waste						0.0000	0.0000		0.0000	0.0000	5.0342	0.0000	5.0342	0.2975	0.0000	12.4720
Water						0.0000	0.0000		0.0000	0.0000	1.4673	7.2803	8.7476	0.1510	3.6300e-003	13.6042
Total	**0.3867**	**2.0092**	**2.7870**	**0.0146**	**0.1562**	**0.0507**	**0.2069**	**0.0422**	**0.0485**	**0.0907**	**6.5015**	**362.0517**	**368.5532**	**0.5236**	**4.5200e-003**	**382.9882**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	10/14/2019	5	10	
2	Site Preparation	Site Preparation	10/15/2019	10/15/2019	5	1	
3	Grading	Grading	10/16/2019	10/17/2019	5	2	
4	Building Construction	Building Construction	10/18/2019	3/5/2020	5	100	
5	Paving	Paving	3/6/2020	3/12/2020	5	5	
6	Architectural Coating	Architectural Coating	3/13/2020	3/19/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 30,000; Non-Residential Outdoor: 10,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Distribution & Manufacturing BAU - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	8.00	3.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

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					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3241
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3241**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0108	1.8300e-003	2.0000e-005	5.3000e-004	8.0000e-005	6.0000e-004	1.5000e-004	7.0000e-005	2.3000e-004	0.0000	2.1626	2.1626	2.7000e-004	0.0000	2.1694
Worker	1.0000e-003	6.6000e-004	6.6100e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5140	1.5140	5.0000e-005	0.0000	1.5151
Total	**1.3700e-003**	**0.0114**	**8.4400e-003**	**4.0000e-005**	**2.2200e-003**	**9.0000e-005**	**2.3100e-003**	**6.0000e-004**	**8.0000e-005**	**6.9000e-004**	**0.0000**	**3.6765**	**3.6765**	**3.2000e-004**	**0.0000**	**3.6845**

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	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3240
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3240**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0108	1.8300e-003	2.0000e-005	5.3000e-004	8.0000e-005	6.0000e-004	1.5000e-004	7.0000e-005	2.3000e-004	0.0000	2.1626	2.1626	2.7000e-004	0.0000	2.1694
Worker	1.0000e-003	6.6000e-004	6.6100e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5140	1.5140	5.0000e-005	0.0000	1.5151
Total	**1.3700e-003**	**0.0114**	**8.4400e-003**	**4.0000e-005**	**2.2200e-003**	**9.0000e-005**	**2.3100e-003**	**6.0000e-004**	**8.0000e-005**	**6.9000e-004**	**0.0000**	**3.6765**	**3.6765**	**3.2000e-004**	**0.0000**	**3.6845**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	8.7400e-003	1.3900e-003	2.0000e-005	4.7000e-004	5.0000e-005	5.1000e-004	1.3000e-004	4.0000e-005	1.8000e-004	0.0000	1.9013	1.9013	2.3000e-004	0.0000	1.9072
Worker	8.1000e-004	5.1000e-004	5.2300e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.3008	1.3008	3.0000e-005	0.0000	1.3017
Total	**1.0700e-003**	**9.2500e-003**	**6.6200e-003**	**3.0000e-005**	**1.9700e-003**	**6.0000e-005**	**2.0200e-003**	**5.3000e-004**	**5.0000e-005**	**5.9000e-004**	**0.0000**	**3.2021**	**3.2021**	**2.6000e-004**	**0.0000**	**3.2089**

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	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	8.7400e-003	1.3900e-003	2.0000e-005	4.7000e-004	5.0000e-005	5.1000e-004	1.3000e-004	4.0000e-005	1.8000e-004	0.0000	1.9013	1.9013	2.3000e-004	0.0000	1.9072
Worker	8.1000e-004	5.1000e-004	5.2300e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.3008	1.3008	3.0000e-005	0.0000	1.3017
Total	**1.0700e-003**	**9.2500e-003**	**6.6200e-003**	**3.0000e-005**	**1.9700e-003**	**6.0000e-005**	**2.0200e-003**	**5.3000e-004**	**5.0000e-005**	**5.9000e-004**	**0.0000**	**3.2021**	**3.2021**	**2.6000e-004**	**0.0000**	**3.2089**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

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	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.1397**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0346	0.0346	0.0000	0.0000	0.0346
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0346**	**0.0346**	**0.0000**	**0.0000**	**0.0346**

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	0.1391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.1397**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0346	0.0346	0.0000	0.0000	0.0346
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0346**	**0.0346**	**0.0000**	**0.0000**	**0.0346**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2924	1.9888	2.7696	0.0145	0.1562	0.0492	0.2053	0.0422	0.0470	0.0891	0.0000	281.1802	281.1802	0.0723	0.0000	282.9874
Unmitigated	0.2924	1.9888	2.7696	0.0145	0.1562	0.0492	0.2053	0.0422	0.0470	0.0891	0.0000	281.1802	281.1802	0.0723	0.0000	282.9874

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	139.40	139.40	139.40	406,980	406,980
Total	139.40	139.40	139.40	406,980	406,980

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
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.415876	0.061183	0.150996	0.176036	0.035163	0.006973	0.031964	0.109874	0.002099	0.001787	0.005269	0.001212	0.001569

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	51.3168	51.3168	2.3200e-003	4.8000e-004	51.5179
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	51.3168	51.3168	2.3200e-003	4.8000e-004	51.5179
NaturalGas Mitigated	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.2741	22.2741	4.3000e-004	4.1000e-004	22.4064
NaturalGas Unmitigated	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.2741	22.2741	4.3000e-004	4.1000e-004	22.4064

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	417400	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.2741	22.2741	4.3000e-004	4.1000e-004	22.4064
Total		**2.2500e-003**	**0.0205**	**0.0172**	**1.2000e-004**		**1.5600e-003**	**1.5600e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**22.2741**	**22.2741**	**4.3000e-004**	**4.1000e-004**	**22.4064**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	417400	2.2500e-003	0.0205	0.0172	1.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	22.2741	22.2741	4.3000e-004	4.1000e-004	22.4064
Total		**2.2500e-003**	**0.0205**	**0.0172**	**1.2000e-004**		**1.5600e-003**	**1.5600e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**22.2741**	**22.2741**	**4.3000e-004**	**4.1000e-004**	**22.4064**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	176400	51.3168	2.3200e-003	4.8000e-004	51.5179
Total		**51.3168**	**2.3200e-003**	**4.8000e-004**	**51.5179**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	176400	51.3168	2.3200e-003	4.8000e-004	51.5179
Total		**51.3168**	**2.3200e-003**	**4.8000e-004**	**51.5179**

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	0.0921	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	4.0000e-004
Unmitigated	0.0921	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	4.0000e-004

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	0.0139					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	4.0000e-004
Total	**0.0921**	**0.0000**	**2.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.6000e-004**	**3.6000e-004**	**0.0000**	**0.0000**	**4.0000e-004**

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	0.0139					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0781					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	2.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.6000e-004	3.6000e-004	0.0000	0.0000	4.0000e-004
Total	**0.0921**	**0.0000**	**2.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.6000e-004**	**3.6000e-004**	**0.0000**	**0.0000**	**4.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.7476	0.1510	3.6300e-003	13.6042
Unmitigated	8.7476	0.1510	3.6300e-003	13.6042

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	4.625 / 0	8.7476	0.1510	3.6300e-003	13.6042
Total		**8.7476**	**0.1510**	**3.6300e-003**	**13.6042**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	4.625 / 0	8.7476	0.1510	3.6300e-003	13.6042
Total		**8.7476**	**0.1510**	**3.6300e-003**	**13.6042**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.0342	0.2975	0.0000	12.4720
Unmitigated	5.0342	0.2975	0.0000	12.4720

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	24.8	5.0342	0.2975	0.0000	12.4720
Total		**5.0342**	**0.2975**	**0.0000**	**12.4720**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	24.8	5.0342	0.2975	0.0000	12.4720
Total		**5.0342**	**0.2975**	**0.0000**	**12.4720**

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

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.00	1000sqft	0.23	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Testing labs assumed at 10,000 sf average. Assume total of 10 for total of 100,000 sf.

Vehicle Trips - Per Kern County cannabis traffic study by Ruettgers & Schuler, 6.97 trip rate used for cannabis processing & production

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblVehicleTrips	ST_TR	1.32	6.97
tblVehicleTrips	SU_TR	0.68	6.97

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0325	0.3240	0.2546	4.1000e-004	2.7200e-003	0.0195	0.0222	9.0000e-004	0.0181	0.0190	0.0000	36.5046	36.5046	0.0101	0.0000	36.7580
2020	0.0931	0.2365	0.2008	3.3000e-004	1.4400e-003	0.0136	0.0150	3.9000e-004	0.0125	0.0129	0.0000	28.7474	28.7474	8.5200e-003	0.0000	28.9604
Maximum	**0.0931**	**0.3240**	**0.2546**	**4.1000e-004**	**2.7200e-003**	**0.0195**	**0.0222**	**9.0000e-004**	**0.0181**	**0.0190**	**0.0000**	**36.5046**	**36.5046**	**0.0101**	**0.0000**	**36.7580**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0325	0.3240	0.2546	4.1000e-004	2.7200e-003	0.0195	0.0222	9.0000e-004	0.0181	0.0190	0.0000	36.5045	36.5045	0.0101	0.0000	36.7580
2020	0.0931	0.2365	0.2008	3.3000e-004	1.4400e-003	0.0136	0.0150	3.9000e-004	0.0125	0.0129	0.0000	28.7473	28.7473	8.5200e-003	0.0000	28.9604
Maximum	**0.0931**	**0.3240**	**0.2546**	**4.1000e-004**	**2.7200e-003**	**0.0195**	**0.0222**	**9.0000e-004**	**0.0181**	**0.0190**	**0.0000**	**36.5045**	**36.5045**	**0.0101**	**0.0000**	**36.7580**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-1-2019	12-31-2019	0.3556	0.3556
2	1-1-2020	3-31-2020	0.3268	0.3268
		Highest	0.3556	0.3556

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	0.0460	0.0000	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	2.0000e-004
Energy	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	36.7954	36.7954	1.3700e-003	4.4000e-004	36.9621
Mobile	0.1462	0.9944	1.3848	7.2600e-003	0.0781	0.0246	0.1027	0.0211	0.0235	0.0446	0.0000	140.5901	140.5901	0.0361	0.0000	141.4937
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	3.6402	4.3738	0.0755	1.8100e-003	6.8021
Total	**0.1933**	**1.0046**	**1.3935**	**7.3200e-003**	**0.0781**	**0.0254**	**0.1035**	**0.0211**	**0.0243**	**0.0453**	**3.2507**	**181.0258**	**184.2766**	**0.2618**	**2.2500e-003**	**191.4941**

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	0.0460	0.0000	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	2.0000e-004
Energy	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	36.7954	36.7954	1.3700e-003	4.4000e-004	36.9621
Mobile	0.1462	0.9944	1.3848	7.2600e-003	0.0781	0.0246	0.1027	0.0211	0.0235	0.0446	0.0000	140.5901	140.5901	0.0361	0.0000	141.4937
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	3.6402	4.3738	0.0755	1.8100e-003	6.8021
Total	**0.1933**	**1.0046**	**1.3935**	**7.3200e-003**	**0.0781**	**0.0254**	**0.1035**	**0.0211**	**0.0243**	**0.0453**	**3.2507**	**181.0258**	**184.2766**	**0.2618**	**2.2500e-003**	**191.4941**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	10/14/2019	5	10	
2	Site Preparation	Site Preparation	10/15/2019	10/15/2019	5	1	
3	Grading	Grading	10/16/2019	10/17/2019	5	2	
4	Building Construction	Building Construction	10/18/2019	3/5/2020	5	100	
5	Paving	Paving	3/6/2020	3/12/2020	5	5	
6	Architectural Coating	Architectural Coating	3/13/2020	3/19/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	4.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	**4.7700e-003**	**0.0430**	**0.0385**	**6.0000e-005**		**2.6900e-003**	**2.6900e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**5.2601**	**5.2601**	**1.0000e-003**	**0.0000**	**5.2852**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3571	0.3571	1.0000e-005	0.0000	0.3573
Total	**2.4000e-004**	**1.6000e-004**	**1.5600e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3571**	**0.3571**	**1.0000e-005**	**0.0000**	**0.3573**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

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3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

3.3 Site Preparation - 2019

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	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0179	0.0179	0.0000	0.0000	0.0179
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0179**	**0.0179**	**0.0000**	**0.0000**	**0.0179**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

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					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

3.4 Grading - 2019

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	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0714	0.0714	0.0000	0.0000	0.0715
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0714**	**0.0714**	**0.0000**	**0.0000**	**0.0715**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3241
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3241**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	7.1700e-003	1.2200e-003	2.0000e-005	3.5000e-004	5.0000e-005	4.0000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.4417	1.4417	1.8000e-004	0.0000	1.4463
Worker	5.0000e-004	3.3000e-004	3.3000e-003	1.0000e-005	8.5000e-004	1.0000e-005	8.5000e-004	2.3000e-004	1.0000e-005	2.3000e-004	0.0000	0.7570	0.7570	2.0000e-005	0.0000	0.7575
Total	**7.4000e-004**	**7.5000e-003**	**4.5200e-003**	**3.0000e-005**	**1.2000e-003**	**6.0000e-005**	**1.2500e-003**	**3.3000e-004**	**6.0000e-005**	**3.8000e-004**	**0.0000**	**2.1987**	**2.1987**	**2.0000e-004**	**0.0000**	**2.2038**

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	0.0254	0.2603	0.1999	3.0000e-004		0.0160	0.0160		0.0148	0.0148	0.0000	27.1096	27.1096	8.5800e-003	0.0000	27.3240
Total	**0.0254**	**0.2603**	**0.1999**	**3.0000e-004**		**0.0160**	**0.0160**		**0.0148**	**0.0148**	**0.0000**	**27.1096**	**27.1096**	**8.5800e-003**	**0.0000**	**27.3240**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	7.1700e-003	1.2200e-003	2.0000e-005	3.5000e-004	5.0000e-005	4.0000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.4417	1.4417	1.8000e-004	0.0000	1.4463
Worker	5.0000e-004	3.3000e-004	3.3000e-003	1.0000e-005	8.5000e-004	1.0000e-005	8.5000e-004	2.3000e-004	1.0000e-005	2.3000e-004	0.0000	0.7570	0.7570	2.0000e-005	0.0000	0.7575
Total	**7.4000e-004**	**7.5000e-003**	**4.5200e-003**	**3.0000e-005**	**1.2000e-003**	**6.0000e-005**	**1.2500e-003**	**3.3000e-004**	**6.0000e-005**	**3.8000e-004**	**0.0000**	**2.1987**	**2.1987**	**2.0000e-004**	**0.0000**	**2.2038**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

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	1.8000e-004	5.8200e-003	9.3000e-004	1.0000e-005	3.1000e-004	3.0000e-005	3.4000e-004	9.0000e-005	3.0000e-005	1.2000e-004	0.0000	1.2675	1.2675	1.6000e-004	0.0000	1.2714
Worker	4.1000e-004	2.6000e-004	2.6100e-003	1.0000e-005	7.5000e-004	0.0000	7.6000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.6504	0.6504	2.0000e-005	0.0000	0.6509
Total	**5.9000e-004**	**6.0800e-003**	**3.5400e-003**	**2.0000e-005**	**1.0600e-003**	**3.0000e-005**	**1.1000e-003**	**2.9000e-004**	**3.0000e-005**	**3.2000e-004**	**0.0000**	**1.9179**	**1.9179**	**1.8000e-004**	**0.0000**	**1.9223**

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	0.0203	0.2080	0.1736	2.7000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.5142	23.5142	7.6000e-003	0.0000	23.7043
Total	**0.0203**	**0.2080**	**0.1736**	**2.7000e-004**		**0.0123**	**0.0123**		**0.0113**	**0.0113**	**0.0000**	**23.5142**	**23.5142**	**7.6000e-003**	**0.0000**	**23.7043**

3.5 Building Construction - 2020

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	1.8000e-004	5.8200e-003	9.3000e-004	1.0000e-005	3.1000e-004	3.0000e-005	3.4000e-004	9.0000e-005	3.0000e-005	1.2000e-004	0.0000	1.2675	1.2675	1.6000e-004	0.0000	1.2714
Worker	4.1000e-004	2.6000e-004	2.6100e-003	1.0000e-005	7.5000e-004	0.0000	7.6000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.6504	0.6504	2.0000e-005	0.0000	0.6509
Total	**5.9000e-004**	**6.0800e-003**	**3.5400e-003**	**2.0000e-005**	**1.0600e-003**	**3.0000e-005**	**1.1000e-003**	**2.9000e-004**	**3.0000e-005**	**3.2000e-004**	**0.0000**	**1.9179**	**1.9179**	**1.8000e-004**	**0.0000**	**1.9223**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

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	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

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	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0695					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.0701**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

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	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0173	0.0173	0.0000	0.0000	0.0173
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0173**	**0.0173**	**0.0000**	**0.0000**	**0.0173**

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	0.0695					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	**0.0701**	**4.2100e-003**	**4.5800e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6396**

3.7 Architectural Coating - 2020

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	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0173	0.0173	0.0000	0.0000	0.0173
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0173**	**0.0173**	**0.0000**	**0.0000**	**0.0173**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1462	0.9944	1.3848	7.2600e-003	0.0781	0.0246	0.1027	0.0211	0.0235	0.0446	0.0000	140.5901	140.5901	0.0361	0.0000	141.4937
Unmitigated	0.1462	0.9944	1.3848	7.2600e-003	0.0781	0.0246	0.1027	0.0211	0.0235	0.0446	0.0000	140.5901	140.5901	0.0361	0.0000	141.4937

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	69.70	69.70	69.70	203,490	203,490
Total	69.70	69.70	69.70	203,490	203,490

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
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.415876	0.061183	0.150996	0.176036	0.035163	0.006973	0.031964	0.109874	0.002099	0.001787	0.005269	0.001212	0.001569

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	25.6584	25.6584	1.1600e-003	2.4000e-004	25.7589
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	25.6584	25.6584	1.1600e-003	2.4000e-004	25.7589
NaturalGas Mitigated	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
NaturalGas Unmitigated	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	208700	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Total		**1.1300e-003**	**0.0102**	**8.5900e-003**	**6.0000e-005**		**7.8000e-004**	**7.8000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**11.1370**	**11.1370**	**2.1000e-004**	**2.0000e-004**	**11.2032**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	208700	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Total		**1.1300e-003**	**0.0102**	**8.5900e-003**	**6.0000e-005**		**7.8000e-004**	**7.8000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**11.1370**	**11.1370**	**2.1000e-004**	**2.0000e-004**	**11.2032**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	88200	25.6584	1.1600e-003	2.4000e-004	25.7589
Total		**25.6584**	**1.1600e-003**	**2.4000e-004**	**25.7589**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	88200	25.6584	1.1600e-003	2.4000e-004	25.7589
Total		**25.6584**	**1.1600e-003**	**2.4000e-004**	**25.7589**

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	0.0460	0.0000	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	2.0000e-004
Unmitigated	0.0460	0.0000	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	2.0000e-004

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	6.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	2.0000e-004
Total	**0.0460**	**0.0000**	**1.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.0000**	**2.0000e-004**

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	6.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	2.0000e-004
Total	**0.0460**	**0.0000**	**1.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.0000**	**2.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.3738	0.0755	1.8100e-003	6.8021
Unmitigated	4.3738	0.0755	1.8100e-003	6.8021

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.3125 / 0	4.3738	0.0755	1.8100e-003	6.8021
Total		**4.3738**	**0.0755**	**1.8100e-003**	**6.8021**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.3125 / 0	4.3738	0.0755	1.8100e-003	6.8021
Total		**4.3738**	**0.0755**	**1.8100e-003**	**6.8021**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.5171	0.1488	0.0000	6.2360
Unmitigated	2.5171	0.1488	0.0000	6.2360

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		**2.5171**	**0.1488**	**0.0000**	**6.2360**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		**2.5171**	**0.1488**	**0.0000**	**6.2360**

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

ATTACHMENT B: EXISTING AIR QUALITY MONITORING DATA

CALIFORNIA AIR RESOURCES BOARD

About Our Work Resources Business Assistance Rulemaking News

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Fresno-Drummond Street

iADAM

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Sep 27	58.6	Oct 16	64.7	Nov 16	75.9
Second High:	Oct 9	56.0	Dec 13	60.0	Oct 19	67.0
Third High:	Oct 7	51.4	Dec 12	58.8	Nov 9	65.7
Fourth High:	Sep 26	51.2	Oct 24	58.7	Nov 20	64.8
California:						
First High:	Sep 27	58	Oct 16	64	Nov 16	75
Second High:	Oct 9	56	Dec 13	60	Oct 19	67
Third High:	Sep 26	51	Sep 27	58	Nov 9	65
Fourth High:	Oct 7	51	Oct 24	58	Nov 20	64
National:						
1-Hour Standard Design Value:		49		*		*
1-Hour Standard 98th Percentile:		46.5		58.1		62.5
# Days Above the Standard:		0		0		0
Annual Standard Design Value:		10		12		14
California:						
1-Hour Std Designation Value:		70		60		70
Expected Peak Day Concentration:		68		70		69
# Days Above the Standard:		0		0		0
Annual Std Designation Value:		12		11		*
Annual Average:		*		*		13
Year Coverage:		80		83		95

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Fresno-Drummond Street between 1984 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

CALIFORNIA
AIR RESOURCES BOARD

About Our Work Resources Business Assistance Rulemaking News

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Fresno-Garland

iADAM

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Nov 10	56.1	Dec 15	57.3	Nov 15	68.1
Second High:	Nov 11	54.2	Oct 16	56.8	Nov 16	64.3
Third High:	Feb 16	53.1	Dec 29	56.3	Nov 18	63.2
Fourth High:	Oct 7	49.9	Nov 22	56.1	Nov 19	62.1
California:						
First High:	Nov 10	56	Dec 15	57	Nov 15	68
Second High:	Nov 11	54	Oct 16	56	Nov 16	64
Third High:	Feb 16	53	Nov 22	56	Nov 18	63
Fourth High:	Feb 8	49	Dec 29	56	Nov 19	62
National:						
1-Hour Standard Design Value:		49		49		51
1-Hour Standard 98th Percentile:		47.6		53.7		53.1
# Days Above the Standard:		0		0		0
Annual Standard Design Value:		10		11		11
California:						
1-Hour Std Designation Value:		60		60		60
Expected Peak Day Concentration:		64		61		63
# Days Above the Standard:		0		0		0
Annual Std Designation Value:		12		11		11
Annual Average:		10		11		11
Year Coverage:		97		93		99

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Fresno-Garland between 2012 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

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* means there was insufficient data available to determine the value.

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About Our Work Resources Business Assistance Rulemaking News

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

iADAM

at Fresno-Sierra Skypark #2

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Nov 14	34.9	Dec 29	50.8	Nov 19	43.3
Second High:	Nov 3	32.6	Dec 11	46.9	Oct 12	40.4
Third High:	Oct 7	31.2	Dec 14	46.1	Nov 9	39.2
Fourth High:	Dec 21	31.0	Dec 28	40.2	Jan 1	38.4
California:						
First High:	Nov 14	34	Dec 29	50	Nov 19	43
Second High:	Nov 3	32	Dec 11	46	Oct 12	40
Third High:	Oct 7	31	Dec 14	46	Nov 9	39
Fourth High:	Dec 21	31	Dec 28	40	Jan 1	38
National:						
1-Hour Standard Design Value:		34		33		33
1-Hour Standard 98th Percentile:		29.1		36.2		34.7
# Days Above the Standard:		0		0		0
Annual Standard Design Value:		6		7		8
California:						
1-Hour Std Designation Value:		50		40		40
Expected Peak Day Concentration:		45		43		43
# Days Above the Standard:		0		0		0
Annual Std Designation Value:		8		7		7
Annual Average:		6		7		7
Year Coverage:		98		99		99

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Fresno-Sierra Skypark #2 between 1986 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

CALIFORNIA AIR RESOURCES BOARD

About Our Work Resources Business Assistance Rulemaking News

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Fresno-Drummond Street

iADAM

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jul 29	0.117	Aug 28	*0.125*	Aug 9	0.119
Second High:	Jul 27	0.115	Sep 2	0.111	Aug 4	0.109
Third High:	Jul 26	0.114	Aug 26	0.110	Jul 18	0.107
Fourth High:	Aug 13	0.110	Jun 23	0.105	Sep 7	0.100
California:						
# Days Above the Standard:		13		8		6
California Designation Value:		0.11		0.12		0.11
Expected Peak Day Concentration:		0.114		0.116		0.114
National:						
# Days Above the Standard:		*0*		*1*		*0*
3-Year Estimated Expected Number of Exceedance Days:		*0.3*		*0.7*		*0.4*
1-Year Estimated Expected Number of Exceedance Days:		*0.0*		*1.1*		*0.0*
Nat'l Standard Design Value:		*0.114*		*0.115*		*0.115*
Year Coverage:		96		89		94

Notes:

Hourly ozone measurements and related statistics are available at Fresno-Drummond Street between 1984 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Fresno-Garland

iADAM

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jul 26	0.117	Aug 28	*0.143*	Aug 9	0.121
Second High:	Jul 1	0.116	Sep 2	0.117	Aug 8	0.102
Third High:	Aug 13	0.113	Aug 1	0.116	Jul 29	0.101
Fourth High:	Jul 29	0.109	Aug 26	0.115	Aug 4	0.099
California:						
# Days Above the Standard:	15		16		8	
California Designation Value:	0.12		0.12		0.12	
Expected Peak Day Concentration:	0.115		0.116		0.116	
National:						
# Days Above the Standard:	*0*		*1*		*0*	
3-Year Estimated Expected Number of Exceedance Days:	*0.0*		*0.4*		*0.4*	
1-Year Estimated Expected Number of Exceedance Days:	*0.0*		*1.1*		*0.0*	
Nat'l Standard Design Value:	*0.113*		*0.116*		*0.117*	
Year Coverage:	97		98		99	

Notes:

Hourly ozone measurements and related statistics are available at Fresno-Garland between 2012 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

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Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Fresno-Sierra Skypark #2

iADAM

	2016		2017		2018	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jul 1	0.108	Aug 28	*0.128*	Jul 29	0.100
Second High:	Jul 30	0.101	Aug 26	0.109	Jul 17	0.099
Third High:	Aug 13	0.100	Sep 2	0.106	Aug 9	0.098
Fourth High:	Jul 15	0.097	Jul 10	0.103	Sep 26	0.097
California:						
# Days Above the Standard:		6		6		4
California Designation Value:		0.11		0.11		0.10
Expected Peak Day Concentration:		0.105		0.105		0.104
National:						
# Days Above the Standard:		*0*		*1*		*0*
3-Year Estimated Expected Number of Exceedance Days:		*0.4*		*0.3*		*0.3*
1-Year Estimated Expected Number of Exceedance Days:		*0.0*		*1.0*		*0.0*
Nat'l Standard Design Value:		*0.108*		*0.108*		*0.106*
Year Coverage:		98		99		97

Notes:

Hourly ozone measurements and related statistics are available at Fresno-Sierra Skypark #2 between 1986 and 2018. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

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About Our Work Resources Business Assistance Rulemaking News

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Fresno-Drummond Street

iADAM

	2016		2017		2018	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Aug 13	0.093	Aug 28	0.103	Aug 9	0.097
Second High:	Jul 27	0.092	Aug 26	0.093	Aug 4	0.084
Third High:	Jul 1	0.091	Sep 2	0.092	Sep 21	0.083
Fourth High:	Jul 26	0.088	Jun 23	0.091	Aug 10	0.081
California Std (0.070 ppm):						
First High:	Aug 13	0.094	Aug 28	0.104	Aug 9	0.097
Second High:	Jul 27	0.093	Aug 26	0.094	Aug 4	0.084
Third High:	Jul 1	0.091	Sep 2	0.092	Sep 21	0.083
Fourth High:	Jul 26	0.088	Jun 23	0.091	Aug 10	0.081
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		57		29		32
Nat'l Standard Design Value:		0.086		0.089		0.086
National Year Coverage:		96		90		95
California Std (0.070 ppm):						
# Days Above the Standard:		60		31		34
California Designation Value:		0.095		0.094		0.097
Expected Peak Day Concentration:		0.100		0.101		0.097
California Year Coverage:		96		87		94

Notes:

Eight-hour ozone averages and related statistics are available at Fresno-Drummond Street between 1984 and 2018. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.

State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

CALIFORNIA AIR RESOURCES BOARD

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Fresno-Garland

iADAM

	2016		2017		2018	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Jul 1	0.094	Aug 28	0.112	Aug 9	0.099
Second High:	Jul 27	0.091	Aug 1	0.096	Aug 8	0.087
Third High:	Aug 13	0.091	Sep 2	0.096	Aug 10	0.086
Fourth High:	Sep 10	0.091	Jun 23	0.095	Sep 21	0.086
California Std (0.070 ppm):						
First High:	Jul 1	0.095	Aug 28	0.113	Aug 9	0.099
Second High:	Jul 27	0.092	Aug 1	0.097	Aug 8	0.088
Third High:	Aug 13	0.092	Sep 2	0.097	Aug 10	0.087
Fourth High:	Sep 10	0.091	Jun 23	0.096	Jul 29	0.086
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		55		64		36
Nat'l Standard Design Value:		0.089		0.091		0.090
National Year Coverage:		98		99		99
California Std (0.070 ppm):						
# Days Above the Standard:		56		68		38
California Designation Value:		0.098		0.098		0.099
Expected Peak Day Concentration:		0.101		0.101		0.101
California Year Coverage:		95		97		98

Notes:

- Eight-hour ozone averages and related statistics are available at Fresno-Garland between 2012 and 2018. Some years in this range may not be represented.
- All averages expressed in parts per million.
- An exceedance of a standard is not necessarily related to a violation of the standard.
- State and national statistics may differ for the following reasons:
  - National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.
  - State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.
- Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

iADAM

at Fresno-Sierra Skypark #2

	2016		2017		2018	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Jul 1	0.089	Aug 28	0.106	Aug 9	0.087
Second High:	Jul 15	0.088	Sep 2	0.092	Jul 29	0.082
Third High:	Aug 13	0.088	Aug 26	0.089	Jul 28	0.079
Fourth High:	Jul 25	0.084	Jun 23	0.086	Aug 8	0.079
California Std (0.070 ppm):						
First High:	Jul 1	0.089	Aug 28	0.107	Aug 9	0.087
Second High:	Aug 13	0.089	Sep 2	0.092	Jul 29	0.083
Third High:	Jul 15	0.088	Aug 26	0.090	Sep 4	0.080
Fourth High:	Jul 25	0.085	Jun 23	0.087	Jul 28	0.079
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		43		44		27
Nat'l Standard Design Value:		0.086		0.084		0.083
National Year Coverage:		98		100		98
California Std (0.070 ppm):						
# Days Above the Standard:		45		46		30
California Designation Value:		0.096		0.096		0.092
Expected Peak Day Concentration:		0.096		0.096		0.093
California Year Coverage:		98		99		97

Notes:

Eight-hour ozone averages and related statistics are available at Fresno-Sierra Skypark #2 between 1986 and 2018. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.

State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

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Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Clovis-N Villa Avenue

iADAM

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Nov 6	50.4	Dec 15	69.5	Jan 1	82.3
Second High:	Dec 30	46.2	Dec 30	64.7	Jan 2	81.7
Third High:	Feb 14	45.2	Dec 26	62.4	Nov 19	67.8
Fourth High:	Dec 22	45.0	Dec 29	60.1	Jan 3	64.9
California:						
First High:	Nov 6	50.4	Dec 15	69.5	Jan 1	82.3
Second High:	Dec 30	46.2	Dec 30	64.7	Jan 2	81.7
Third High:	Feb 14	45.2	Dec 26	62.4	Nov 19	67.8
Fourth High:	Dec 22	45.0	Dec 29	60.1	Jan 3	64.9
National:						
Estimated # Days > 24-Hour Std:		8.2		19.2		27.1
Measured # Days > 24-Hour Std:		8		19		26
24-Hour Standard Design Value:		49		46		50
24-Hour Standard 98th Percentile:		37.7		54.0		58.4
2006 Annual Std Design Value:		14.7		13.6		13.5
2013 Annual Std Design Value:		14.7		13.6		13.5
Annual Average:		12.5		13.2		14.7
California:						
Annual Std Designation Value:		13		14		16
Annual Average:		11.6		13.6		15.6
Year Coverage:		100		100		100

Notes:

Daily PM2.5 averages and related statistics are available at Clovis-N Villa Avenue between 1999 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.

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About Our Work Resources Business Assistance Rulemaking News

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Fresno-Garland

iADAM

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Dec 22	52.7	Dec 31	86.0	Jan 1	95.7
Second High:	Dec 30	50.7	Dec 30	79.9	Jan 2	83.3
Third High:	Nov 6	49.4	Dec 29	78.7	Nov 19	82.7
Fourth High:	Dec 21	48.9	Dec 26	77.8	Jan 3	81.3
California:						
First High:	Dec 22	53.8	Dec 31	86.0	Jan 1	96.9
Second High:	Dec 30	53.5	Dec 30	79.9	Jan 2	83.3
Third High:	Nov 6	50.6	Dec 29	78.7	Nov 19	82.7
Fourth High:	Dec 21	49.9	Dec 26	77.8	Jan 3	81.3
National:						
Estimated # Days > 24-Hour Std:		16.0		31.1		36.0
Measured # Days > 24-Hour Std:		16		31		36
24-Hour Standard Design Value:		54		54		58
24-Hour Standard 98th Percentile:		42.7		68.0		63.5
2006 Annual Std Design Value:		14.1		14.0		14.6
2013 Annual Std Design Value:		14.1		14.0		14.6
Annual Average:		12.7		14.8		16.2
California:						
Annual Std Designation Value:		16		15		17
Annual Average:		13.6		14.3		16.6
Year Coverage:		100		94		100

Notes:

Daily PM2.5 averages and related statistics are available at Fresno-Garland between 2012 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

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Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Fresno-Hamilton and Winery

iADAM

	2016 Date	2016 24-Hr Average	2017 Date	2017 24-Hr Average	2018 Date	2018 24-Hr Average
National:						
First High:	Jan 1	48.6	Dec 30	88.3	Nov 19	89.8
Second High:	Nov 5	41.8	Dec 24	75.6	Jan 2	82.4
Third High:	Dec 29	40.0	Dec 15	73.2	Nov 16	65.5
Fourth High:	Dec 20	38.1	Dec 27	63.6	Aug 6	56.8
California:						
First High:	Jan 1	48.6	Dec 30	88.3	Nov 19	89.8
Second High:	Nov 5	41.8	Dec 24	75.6	Jan 2	82.4
Third High:	Dec 29	40.0	Dec 15	73.2	Nov 16	65.5
Fourth High:	Dec 20	38.1	Dec 27	63.6	Aug 6	56.8
National:						
Estimated # Days > 24-Hour Std:		15.3		27.6		34.3
Measured # Days > 24-Hour Std:		5		9		11
24-Hour Standard Design Value:		48		52		60
24-Hour Standard 98th Percentile:		40.0		73.2		65.5
2006 Annual Std Design Value:		13.6		14.0		15.0
2013 Annual Std Design Value:		13.6		14.0		15.0
Annual Average:		12.9		15.0		17.1
California:						
Annual Std Designation Value:		14		15		15
Annual Average:		13.0		15.0		*
Year Coverage:		100		97		96

Notes:

Daily PM2.5 averages and related statistics are available at Fresno-Hamilton and Winery between 2000 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Clovis-N Villa Avenue

iADAM

	2016 Date	2016 24-Hr Average	2017 Date	2017 24-Hr Average	2018 Date	2018 24-Hr Average
National:						
First High:	Sep 9	76.2	Sep 4	103.2	Nov 16	114.6
Second High:	Aug 16	72.8	Oct 10	92.6	Jan 2	104.9
Third High:	Sep 27	70.0	Oct 16	89.5	Aug 6	92.5
Fourth High:	Sep 21	66.3	Aug 29	88.2	Sep 5	82.2
California:						
First High:	Sep 9	74.9	Sep 4	99.4	Nov 16	118.6
Second High:	Aug 16	70.8	Oct 10	92.9	Jan 2	109.6
Third High:	Sep 27	68.6	Oct 16	90.7	Aug 6	90.6
Fourth High:	Nov 14	67.0	Aug 29	84.4	Sep 5	79.9
National:						
Estimated # Days > 24-Hour Std:		0.0		0.0		0.0
Measured # Days > 24-Hour Std:		0		0		0
3-Yr Avg Est # Days > 24-Hr Std:		0.0		0.0		0.0
Annual Average:		*32.8*		*36.2*		*39.4*
3-Year Average:		*32*		*34*		*36*
California:						
Estimated # Days > 24-Hour Std:		61.3		*		90.4
Measured # Days > 24-Hour Std:		10		13		14
Annual Average:		32.7		*		39.6
3-Year Maximum Annual Average:		34		34		40
Year Coverage:		100		95		92

Notes:

Daily PM10 averages and related statistics are available at Clovis-N Villa Avenue between 1991 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

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Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Fresno-Drummond Street

iADAM

	2016 Date	2016 24-Hr Average	2017 Date	2017 24-Hr Average	2018 Date	2018 24-Hr Average
National:						
First High:	Sep 27	88.3	Dec 15	115.6	Nov 16	152.2
Second High:	Sep 9	78.4	Oct 16	98.5	Jan 2	117.4
Third High:	Sep 15	77.6	Aug 29	93.7	Sep 11	99.0
Fourth High:	Aug 16	74.0	Sep 4	93.6	Sep 5	97.4
California:						
First High:	Sep 27	86.3	Dec 15	120.5	Nov 16	154.8
Second High:	Sep 15	77.1	Oct 16	99.7	Jan 2	122.8
Third High:	Sep 9	77.0	Dec 27	96.3	Nov 10	98.9
Fourth High:	Aug 16	71.9	Dec 12	95.7	Sep 11	95.0
National:						
Estimated # Days > 24-Hour Std:		0.0		0.0		0.0
Measured # Days > 24-Hour Std:		0		0		0
3-Yr Avg Est # Days > 24-Hr Std:		0.0		0.0		0.0
Annual Average:		*38.0*		*44.0*		*45.8*
3-Year Average:		*39*		*40*		*43*
California:						
Estimated # Days > 24-Hour Std:		98.9		111.6		116.0
Measured # Days > 24-Hour Std:		17		17		19
Annual Average:		38.0		44.2		45.7
3-Year Maximum Annual Average:		42		44		46
Year Coverage:		95		94		96

Notes:

Daily PM10 averages and related statistics are available at Fresno-Drummond Street between 1989 and 2018. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Fresno-Garland

iADAM

	2016		2017		2018	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Aug 19	91.9	Sep 3	160.1	Nov 19	130.4
Second High:	Sep 20	90.4	Oct 11	117.9	Nov 16	120.5
Third High:	Aug 18	90.4	Oct 9	107.6	Jan 1	117.7
Fourth High:	Oct 16	88.1	Dec 15	106.9	Nov 17	117.7
California:						
First High:	Aug 19	88.8	Sep 3	153.6	Nov 19	136.2
Second High:	Sep 20	88.4	Oct 11	118.4	Nov 16	125.5
Third High:	Oct 16	87.3	Dec 15	112.3	Jan 1	124.3
Fourth High:	Aug 18	86.7	Dec 29	108.8	Nov 17	122.4
National:						
Estimated # Days > 24-Hour Std:		0.0		1.0		0.0
Measured # Days > 24-Hour Std:		0		1		0
3-Yr Avg Est # Days > 24-Hr Std:		*		0.0		0.0
Annual Average:		*34.8*		*39.6*		*41.0*
3-Year Average:		*35*		*36*		*38*
California:						
Estimated # Days > 24-Hour Std:		67.5		97.4		102.7
Measured # Days > 24-Hour Std:		65		97		101
Annual Average:		35.4		39.4		40.6
3-Year Maximum Annual Average:		35		39		41
Year Coverage:		0		0		0

Notes:
Daily PM10 averages and related statistics are available at Fresno-Garland between 2012 and 2018. Some years in this range may not be represented.
All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Annual Toxics Summary

Fresno-Garland

Lead

nanograms per cubic meter

Read About New Estimated Risk

Year	Months Present	Minimum	Median	Mean	90th Percentile	Maximum	Standard Deviation	Number of Observations	Detection Limit	Estimated Risk
2017	------------	0.65	3.1	*	6.6	8.4	2.08	26	1.3	*
2016	------------	0.65	3.0	3.71	5.7	12.1	2.47	31	1.3	0.1
2015	------------	0.65	2.6	3.01	5.4	8.3	1.81	30	1.3	0.1
2014	------------	0.85	3.0	3.93	8.0	12	3.09	30	1.7	0.1
2013	------------	0.5	3.5	*	10.1	17	4.01	30	1.0	*
2012	------------	0.75	2.6	3.17	6.2	16	3.29	29	1.5	0.1
2011	------------	*	*	*	*	*	*	0	*	*
2010	------------	*	*	*	*	*	*	0	*	*
2009	------------	*	*	*	*	*	*	0	*	*
2008	------------	*	*	*	*	*	*	0	*	*
2007	------------	*	*	*	*	*	*	0	*	*
2006	------------	*	*	*	*	*	*	0	*	*
2005	------------	*	*	*	*	*	*	0	*	*
2004	------------	*	*	*	*	*	*	0	*	*
2003	------------	*	*	*	*	*	*	0	*	*
2002	------------	*	*	*	*	*	*	0	*	*
2001	------------	*	*	*	*	*	*	0	*	*
2000	------------	*	*	*	*	*	*	0	*	*
1999	------------	*	*	*	*	*	*	0	*	*
1998	------------	*	*	*	*	*	*	0	*	*
1997	------------	*	*	*	*	*	*	0	*	*
1996	------------	*	*	*	*	*	*	0	*	*
1995	------------	*	*	*	*	*	*	0	*	*
1994	------------	*	*	*	*	*	*	0	*	*
1993	------------	*	*	*	*	*	*	0	*	*
1992	------------	*	*	*	*	*	*	0	*	*
1991	------------	*	*	*	*	*	*	0	*	*
1990	------------	*	*	*	*	*	*	0	*	*
1989	------------	*	*	*	*	*	*	0	*	*

Notes: Values below the Limit of Detection (LoD) assumed to be ½ LoD.
Means and risks shown only for years with data in all 12 months.
"*" means there was insufficient or no data available to determine the value.

ATTACHMENT C: AMBIENT AIR QUALITY ANALYSIS (ELECTRONIC FILES)

ATTACHMENT D: ODOR ANALYSIS (ELECTRONIC FILES)

APPENDIX D

CULTURAL RESOURCE INVENTORY REPORT

Cultural Resource Inventory Report for the Cannabis Ordinance Text Amendment (P19-02978) Environmental Impact Report, City of Fresno, Fresno County, California

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August 2019
draft

USGS Lanes Bridge, Friant, Herndon, Fresno North, Clovis, Kearney Park, Fresno South, and Malaga 7.5-minute quadrangles; T13 and 14S, R19E and 20E

Keywords: Districts–Chandler Field/Fresno Municipal Airport, Huntington Boulevard, The Porter Tract, Wilson Island, L Street, St. John's Cathedral, Santa Fe Warehouse, Bellevue Bungalow, East Madison Avenue, North Park, Lower Fulton-Van Ness, Adoline-Palm, and Terrace Gardens

MANAGEMENT SUMMARY

At the request of QK Inc. Consulting Engineers (QK Inc.), Applied EarthWorks, Inc. (Æ) prepared a cultural resource inventory for the Cannabis Ordinance Environmental Impact Report (EIR) (Project) in the City of Fresno (City or Fresno), County of Fresno, California. Pursuant to the California Environmental Quality Act (CEQA) Guidelines, proposed changes to the City's Cannabis Ordinance (Text Amendment No. P19-02978) must be assessed for potential to cause a significant effect on the environment, including adverse effects to cultural resources. Proposed changes to the Fresno Municipal Code, Article 33 to Chapter 9, and Article 1 to Chapter 12 involves the deletion of existing regulations in Sections 15-2739 and 15-2739.1 relating to medical marijuana dispensaries. Changes to Ordinance 2018-68 would also add new regulations to Section 15-2739 that would define and govern adult use as well as medicinal retail and commercial cannabis business. Additions made to Section 15-2739 would establish polices related to the development, maintenance, and operation of cannabis cultivation, distribution, and manufacturing locations, laboratory locations, and retailer locations in the City. This collection of proposed cannabis retail and business locations with a requisite 800- and 1,000-foot-wide buffer from other cannabis retailers, schools, daycare centers, and other youth facilities defines the Project area.

This technical report provides a desktop review of cultural resource data available for the Project area, including prehistoric and historic-era archaeological sites, and built environment resources including Historic Districts, buildings, structures, objects, and linear features. The information provided herein is intended to facilitate an EIR study per the CEQA Appendix G Checklist, i.e., to determine whether the Project would cause a substantial adverse change to the significance of historical resources or archaeological resources, or cause disturbance to human remains. The report includes recommendations to reduce adverse effects to less than significant level.

In preparing this technical report, Æ conducted a records search at the California Historical Resources Information System (CHRIS) Southern San Joaquin Valley Information Center (SSJVIC) at the California State University, Bakersfield. The search identified 268 previous cultural resource studies in the Project area. Ten previously recorded historic-era archaeological sites were identified in the Project area. Æ's online research identified 4 Historic Districts listed on the National Register of Historic Places and California Register of Historical Resources, and 10 proposed Historic Districts. Æ also requested a search of the Native American Heritage Commission's (NAHC) Sacred Lands File to determine the presence of sacred sites or places of special importance to local tribes with potential to qualify as tribal cultural resources. The NAHC search did not identify sacred sites or areas of importance to Native American tribes, however, the NAHC recommended additional outreach to local tribes to gather information about other cultural or tribal cultural resources that may be in or near the Project area. The records search and built environment desktop research findings were used to assess cultural resource sensitivity in the Project area and develop recommendations for avoidance or mitigation to reduce adverse effects to a less than significant level.

CONTENTS

APPENDICES

FIGURES

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INTRODUCTION

1.1 PROJECT DESCRIPTION

Applied EarthWorks, Inc. (Æ) completed a cultural resource inventory on behalf of QK Inc. Consulting Engineers (QK Inc.) for the Cannabis Ordinance Environmental Impact Report (EIR) (Project) in the City of Fresno (City or Fresno), County of Fresno, California (Figure 1-1). Specifically, the Project lies within various sections of Townships 13 and 14 South, Ranges 19 and 20 East, as depicted on the U.S. Geological Survey (USGS) Lanes Bridge, Friant, Clovis, Malaga, Fresno South, Kearney Park, Herndon, and Fresno North, California, 7.5-minute topographic quadrangles (Figures 1-2 and 1-3).

The Project involves proposed changes to Fresno Municipal Code (Text Amendment No. P19-02978), City Ordinance 2018-68, Article 33 to Chapter 9, and Article 1 to Chapter 12, which would entail deletion of existing regulations in Sections 15-2739 and 15-2739.1 relating to medical marijuana dispensaries. Proposed changes to Ordinance 2018-68 would also add new regulations to Section 15-2739 that would define and govern adult use as well as medicinal retail and commercial cannabis business in the City. Additions made to Section 15-2739 would establish polices related to the development, maintenance, and operation of cannabis cultivation, distribution, and manufacturing; as well as laboratory and retailer locations in the City. These proposed cannabis business locations with a requisite 800- and 1,000-foot-wide buffer from other cannabis retailers, schools, daycare centers, and other youth facilities define the Project area, which is further divided into four quadrants (northwest, northeast, southwest, southeast) to facilitate analysis of cultural resource data (Figure 1-3).

The Project is subject to the California Environmental Quality Act (CEQA) statute (California Public Resources Code [PRC] Sections 21000–21189) and guidelines (Title 14, California Code of Regulations [CCR], Sections 15000–15387), which mandate that public agencies consider the environmental effects of their actions and to avoid or mitigate those impacts, if feasible. Per the CEQA Guidelines, if a project has the potential to cause substantial adverse change in the significance of a historical resource (a cultural resource defined as significant under CEQA criteria) or unique archaeological resource through demolition, destruction, relocation, alteration, or other means, then the project is judged to have a significant effect on the environment (14 CCR 15064.5[b]). Sections 15064.5(a)(1–3) of the CEQA Guidelines state that a historical resource is: (1) listed or determined eligible for listing in the California Register of Historical Resources (CRHR); (2) included in a local register of historical resources (pursuant to PRC Section 5020.1[k]) or identified as significant in a historical resource survey per the CRHR eligibility criteria (PRC 5024.1[c]); or (3) considered eligible by a lead agency under PRC 5020.1(j) or 5024.1. The definition subsumes a variety of resources, including prehistoric and historical archaeological sites, structures, buildings, and objects (14 CCR 15064.5[a][3] and 15064.5[c]). Unique archaeological resources are defined in PRC Section 21083.2 [g]. The CEQA Appendix G Checklist, Section V (a-c), requires an assessment of the Project's potential to cause a substantial adverse change in the significance of a historical resource or an archaeological resource, and to assess whether the Project would cause disturbance to any human remains, including those interred outside of dedicated cemeteries.

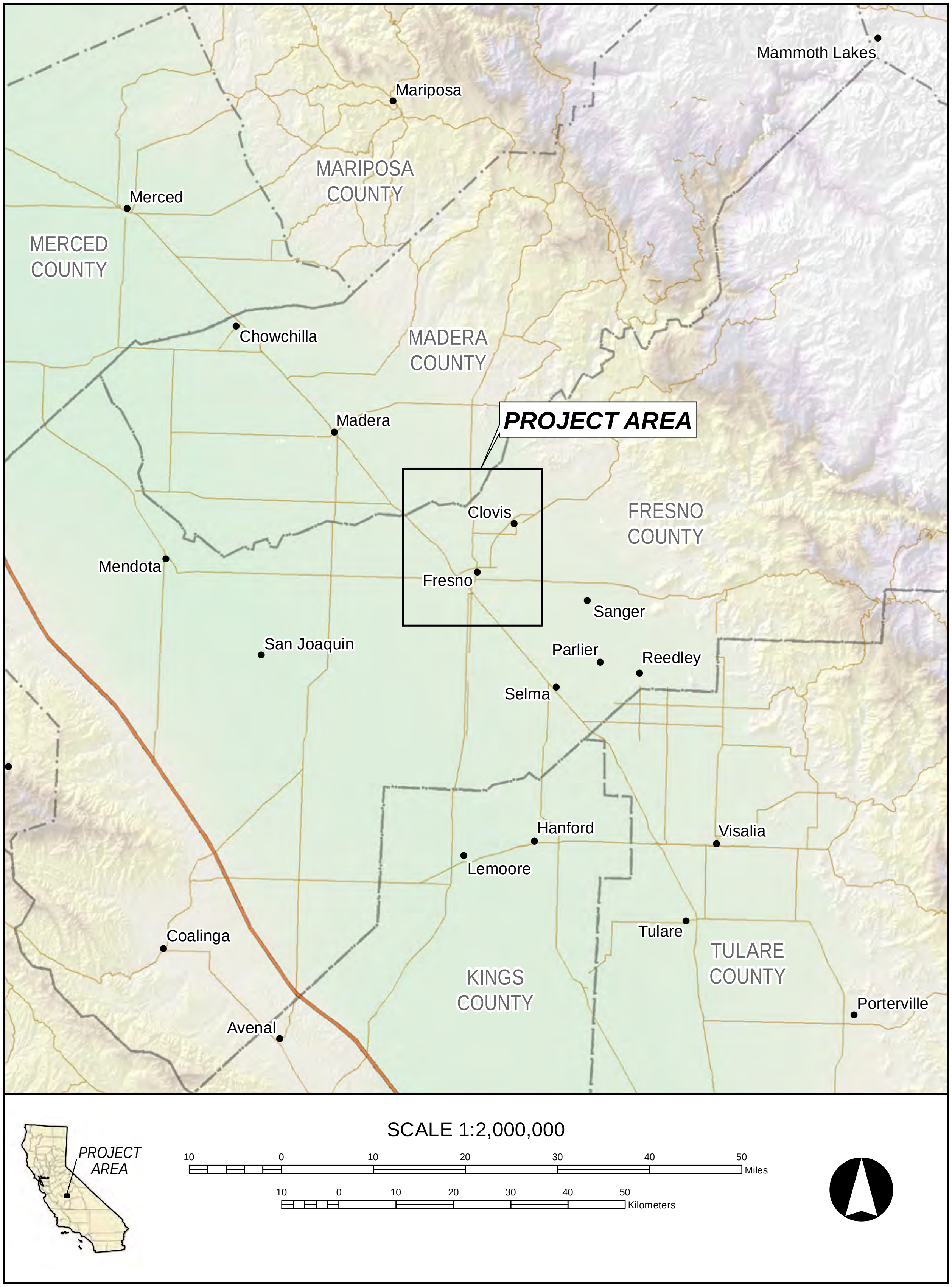

Figure 1-1 Project vicinity in Fresno County, California.

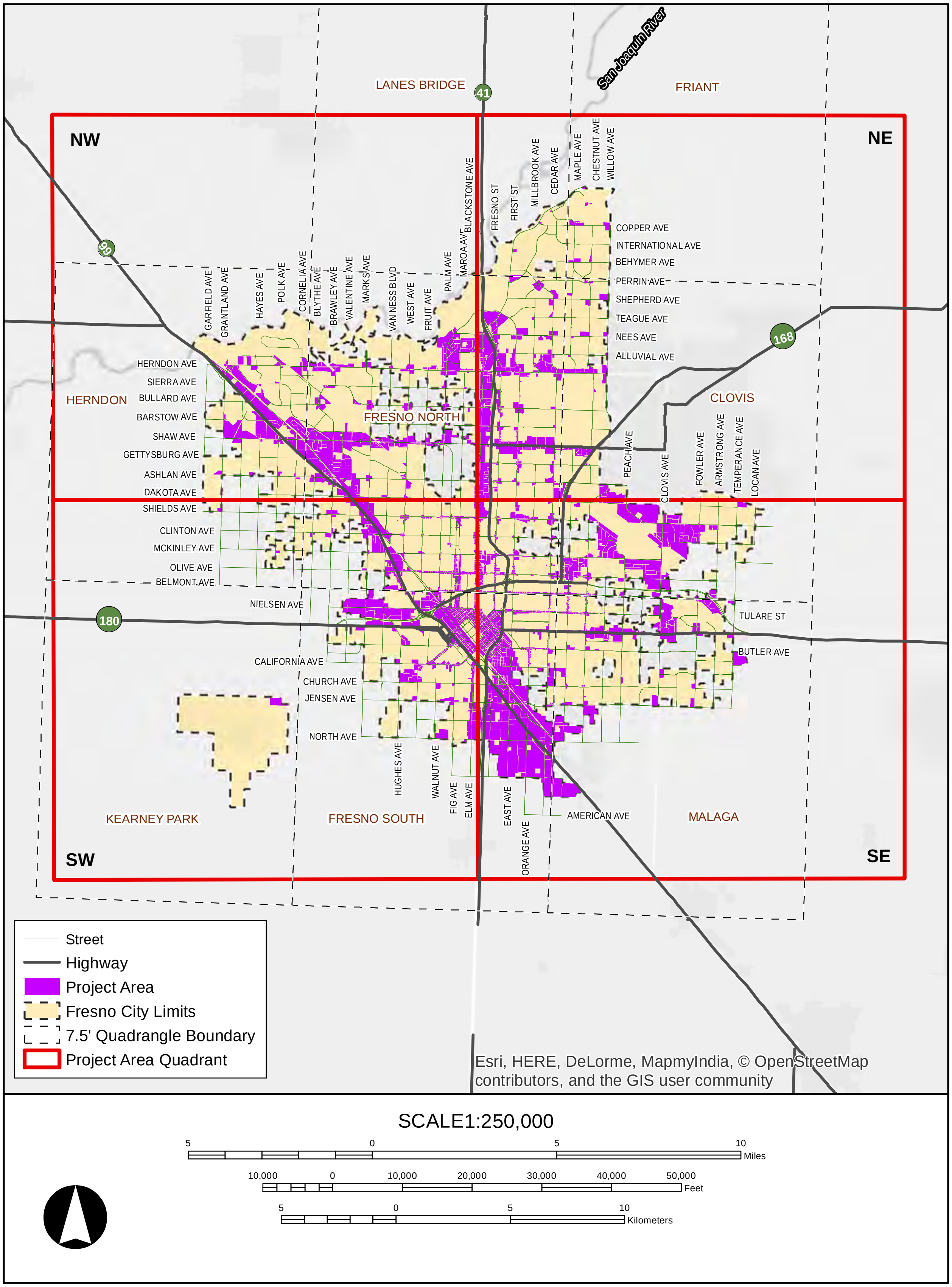

Figure 1-2 Project area on the USGS Lanes Bridge, Friant, Clovis, Malaga, Fresno South, Kearney Park, Herndon, Fresno North, CA 7.5-minute topographic quadrangles.

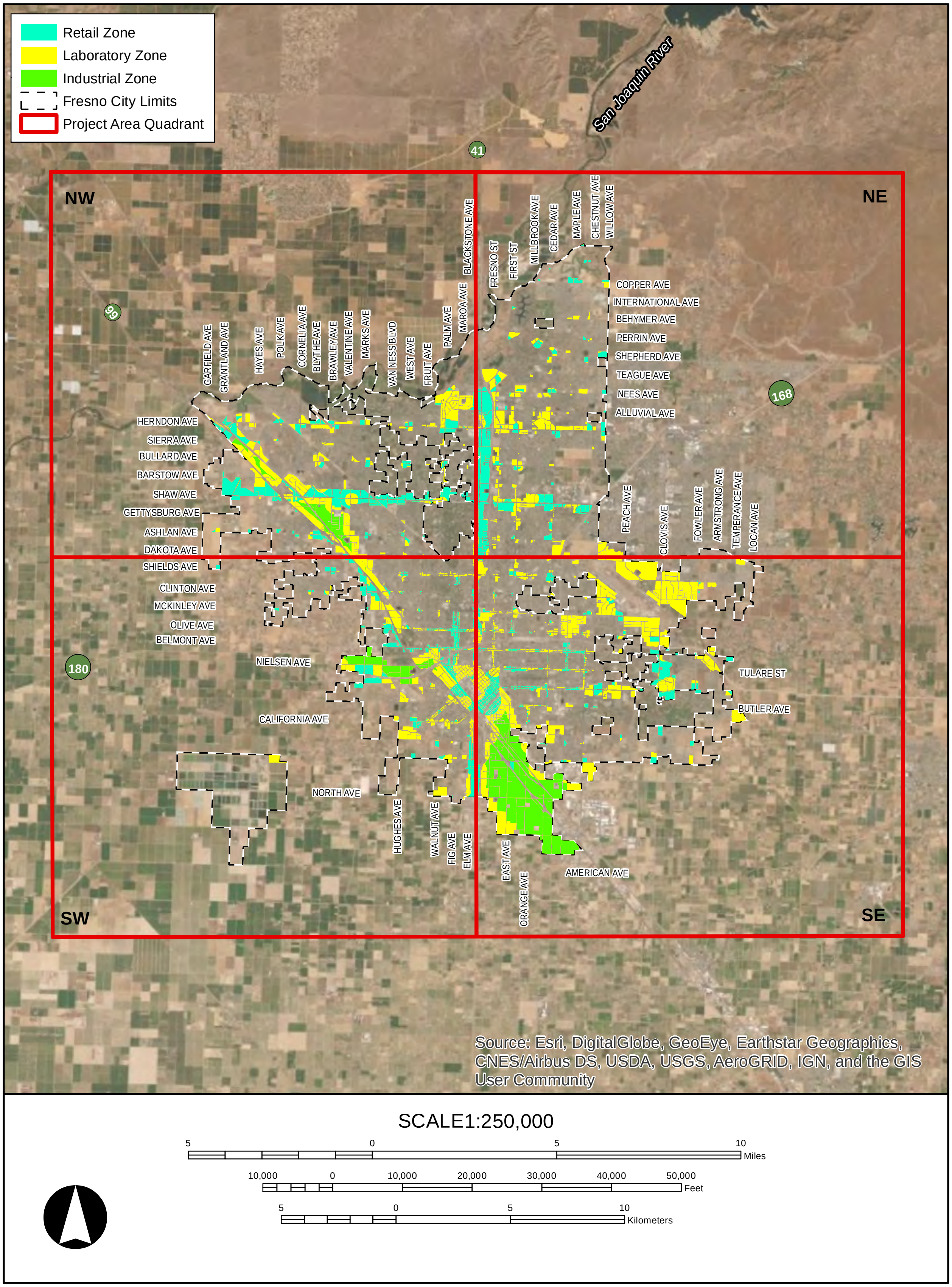

Figure 1-3 Aerial view of Project area showing proposed ordinance zones for development, maintenance, and operation of cannabis cultivation as well as laboratory and retail locations.

The City is responsible for compliance with CEQA and related Assembly Bill (AB) 52 requirements. To assist the City in fulfilling CEQA requirements and on behalf of QK Inc., Æ completed the cultural resource investigation described herein, which includes: (1) a records search at the California Historical Resources Information System (CHRIS) Southern San Joaquin Valley Information Center (SSJVIC) at California State University, Bakersfield, to identify reports and cultural resources previously recorded in the Project area; (2) desktop research to identify the presence of Historic Districts and built environment resources in the Project area (3) a search of the Native American Heritage Commission's (NAHC) Sacred Lands File to determine the presence of sacred sites or areas of concern to tribes; and (4) a geographic information system (GIS)-based buried site sensitivity study to determine areas with high, moderate, or low potential for subsurface archaeological deposits within the Project area.

1.2 REGULATORY CONTEXT

Although the Project must comply with state regulations and local policies, in the event that historical resources within the Project area are also listed or recommended eligible for inclusion in the National Register of Historic Places (NRHP) and are identified as having potential for adverse effects as a result of proposed Project activities, then mitigation to address effects is required under the National Historic Preservation Act (NHPA) Section 106. Therefore, a brief description of the NHPA Section 106 is included below, followed by brief discussion of state and local regulations, ordinances, and policies relevant to cultural resources in the City of Fresno.

1.2.1 Federal Laws

1.2.1.1 National Historic Preservation Act, Section 106

Section 106 of the NHPA has become the foundation and framework for historic preservation in the United States. Briefly, the act authorizes the U.S. Secretary of the Interior to expand and maintain the NRHP; it establishes an Advisory Council on Historic Preservation (ACHP) as an independent federal entity; it requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the ACHP a reasonable opportunity to comment on such undertakings; and it identifies the federal agencies as responsible for the preservation of historic properties located within lands owned or controlled by their agencies.

Section 106 of the NHPA is implemented through the regulations at 36 CFR 800, which defines the process to identify and evaluate historic properties, assess effects, and resolve any adverse effects identified. All steps in this process include consultation with the ACHP should they choose to participate, the appropriate State Historic Preservation Officers (SHPO), Indian tribes, other consulting parties, and the public.

Criteria for determining eligibility for listing in the NRHP are set forth at 36 CFR 60.4. To be listed in the NRHP, a property must be at least 50 years old (or be of exceptional historic significance if less than 50 years old); possess integrity of location, design, setting, materials, workmanship, feeling, and association; and meet one or more of criteria listed below:

- Criterion A—Are associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion B—Are associated with the lives of persons significant in our past;

- Criterion C—Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic value; or represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D—Have yielded or may be likely to yield information important in prehistory or history.

1.2.1.2 Certified Local Government

The Certified Local Government Program is jointly administered by the National Park Service (NPS) and the SHPOs. The California Office of Historic Preservation manages the Certified Local Government (CLG) Program, in which the City participates. CLG status requires that the City meet certain requirements, including a Historic Preservation ordinance, a citizen's commission, an inventory of local historic properties, adequate public participation, and compliance with CEQA.

1.2.2 State Laws and Regulations

1.2.2.1 CEQA and Assembly Bill 52 (2015)

The CEQA Statute (PRC Section 21000 et seq.) and Guidelines (Title 14, California CCR Section 15000 et seq.) direct lead agencies to determine whether cultural resources are "historically significant." Generally, a cultural resource shall be considered "historically significant" if it is 50 years old or older; possesses integrity of location, design, setting, materials, workmanship, feeling, and association; and meets the requirements for listing on the CRHR under any one of the following criteria (14 CCR 15064.5):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Unique archaeological resources are also protected under CEQA. Unique archaeological resources are those resources that may not meet the above criteria but can clearly demonstrate that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC Section 21082.2[g]):

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; and
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition, PRC section 21074 defines a tribal cultural resource (TCR) as "a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe." TCRs may also include "non-unique archaeological resources" that may not be scientifically significant but still hold sacred or cultural value to a consulting tribe. A TCR is considered significant if it is: (1) listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k); or (2) a TCR determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying these criteria applicable to TCRs, the lead agency must consider the significance of the resource to a California Native American tribe.

Under CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource or a TCR is a project that may have a significant effect on the environment (14 CCR 15064.5[b]). Substantial adverse change in the significance of a historical resource or TCR is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings in a manner that materially impairs the significance of the resource that justifies its inclusion or eligibility to be included in the CRHR. Additionally, a project may have a substantial adverse change in the significance of a TCR if the adverse change is identified through consultation with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project (PRC Section 21084.2).

The cited statute and guidelines specify how cultural resources and TCRs are to be managed in the context of projects, such as the present Project. Briefly, archival and field surveys must be conducted, government-to-government consultation with California Native American tribes must occur, and identified resources must be inventoried and evaluated in prescribed ways. Impacts on TCRs, prehistoric and historical archaeological resources, and built-environment resources such as standing structures, buildings, and objects deemed "historically significant" must be avoided or mitigated to the extent feasible (PRC Section 21081).

1.2.2.2 California Register of Historical Resources

According to the CEQA Guidelines, for a resource to be eligible for the CRHR, it must meet at least one of the criteria defined in Section 5024.1 of the California PRC:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in history or prehistory.

In addition to these criteria, cultural resources must, except in rare circumstance, be 50 years old or older (OHP 1995:2).

Integrity refers to the degree or extent to which a resource retains its original character. Ultimately, the question of integrity is answered by deciding whether the resource retains the identity for which it is significant. To facilitate this assessment, the OHP (1995) recognizes that the National Parks Service (2002:44–45) has identified seven aspects of integrity:

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

Only after significance is fully established is the issue of integrity addressed. To be eligible for the CRHR, a resource must possess both significance and integrity. Thus, cultural resources that are not significant per CRHR criteria are ineligible for inclusion in the CRHR and do not require an integrity assessment.

1.2.2.3 California Health and Safety Codes

California Health and Safety Code (CHSC) 7050.5 and PRC 5097.98 both concern the treatment of human remains. Per CHSC 7050.5, if human remains are exposed during Project-related construction work, the Fresno County Coroner is to be notified immediately to arrange for proper treatment and disposition. If the coroner determines the remains to be Native American, per CHSC 7050.5 and PRC 5097.98 the coroner must notify the Native American Heritage Commission within 24 hours of discovery.

1.2.3 Local Policies and Guidelines

1.2.3.1 City of Fresno General Plan (2014)

The City of Fresno General Plan (City of Fresno 2014) outlines several policies for the protection and preservation of prehistoric and historic cultural resources. These include the following three goals:

Goal 6 Protect, preserve, and enhance natural, historic, and cultural resources. Emphasize the continued protection of important natural, historic and cultural resources in the future development of Fresno. This includes both designated historic structures and neighborhoods, but also "urban artifacts" and neighborhoods that crate the character of Fresno.

Goal 15 **Improve Fresno's visual image and enhance its form and function through urban design strategies and effective maintenance.**

Goal 17 **Recognize, respect, and plan for Fresno's cultural, social, and ethnic diversity, and foster an informed and engaged citizenry.** Emphasize shared community values and genuine engagement with and across different neighborhoods, communities, institutions, businesses and sectors to solve difficult problems and achieve shared goals for the success of Fresno and all its residents.

In addition, Chapter 8, *Historic and Cultural Resources Element* of the General Plan (City of Fresno 2014) establishes four main objectives with implementing policies for a citywide program focused on identifying, protecting, and preserving cultural resources within the City. These include the Citywide Program (with implementing policies Historic and Cultural Resources ([HCR]-1a to -1c), Identification and Preservation (HCR-2a to -2n), New City Beautiful Ethos (HCR-3a to -3c), and Outreach and Education (HCR-4a to -4f).

Additional goals, policies, and objectives for specific portions of the City exist, which depending on the specific location of proposed Project development, could overlap with portions of the Project area and come into effect, such as the Downtown Neighborhoods Community Plan-Fulton Corridor Specific Plan (FirstCarbon Solutions 2016).

1.2.3.2 Historic Preservation Ordinance

In 1979, the City adopted a Historic Preservation Ordinance, which was amended and updated in 1999, 2009, and 2012. The Ordinance establishes a Historic Preservation Commission and a Local Register of Historic Resources (Local Register). The latter includes three separate landmark programs: individual designation on the Local Register, inclusion within a Local Register District, and inclusion in the Heritage Property program.

1.3 PROFESSIONAL QUALIFICATIONS

Æ Senior Archaeologist Diana T. Dyste (M.A.), a Registered Professional Archaeologist (RPA 39362477), served as project manager responsible for gathering the data, conducting the analysis, and authoring this report. GIS Supervisor, Michelle Wienhold (Ph.D.) conducted the GIS analysis. Staff Archaeologist Jessica Jones (B.A.) assisted with report graphics. Résumés for key personnel are provided in Appendix A.

2
ENVIRONMENTAL SETTING

2.1 NATURAL SETTING

The Project is in the San Joaquin Valley, the southern two-thirds of an elongated trough known as the Great Valley, or more commonly referred to as the Central Valley. The Central Valley is a 50-mile-wide lowland that extends approximately 400 miles south from the Cascade Range to the Tehachapi Mountains. The Central Valley is divided by two prominent hydrologic features, the Sacramento and San Joaquin rivers, which drain into the San Francisco Bay and Pacific Ocean. Between the Mesozoic and Cenozoic eras, the Central Valley served as a shallow marine embayment containing numerous lakes, primarily within the San Joaquin Valley (Norris and Webb 1990:412; U.S. Geological Survey 2017). As a result, the upper levels of the Central Valley floor are composed of thick layers of alluvium that extend up to 6 miles below the ground surface. Underneath alluvial strata are layers of marine and nonmarine rocks, including claystone, sandstone, shale, basalt, andesite, and serpentine. Waters began to diminish about 10 million years ago, eventually dwindling to the drainages, tributaries, and small lakes that have characterized much of the Holocene Epoch (Hill 1984:28).

The San Joaquin Valley comprises two distinct hydrologic regions: the San Joaquin River and Tulare Basin (Department of Water Resources 2003). The San Joaquin hydrologic region is drained by the San Joaquin River. Before historic drainage projects and modern reclamation efforts, seasonal flooding produced extensive wetlands. Lakes, marshes, and sloughs once covered more than 5,000 square kilometers in the San Joaquin Valley (Moratto 1984:168). The Fresno Slough has historically served as the northern flood outlet of Tulare Lake and the Kings River. The Fresno Slough was also a flooded backwater swamp of the San Joaquin River.

The San Joaquin River, which bounds the north side of the Project, and its many sloughs and tributaries once provided rich habitat for plants and animals during prehistory and into the historic period. Common native plants included white, blue, and live oaks (*Quercus* spp.) as well as walnut (*Juglans* sp.), cottonwood (*Populus fremontii*), willow (*Salix* sp.), and tule (*Schoenoplectus* sp.), especially hardstem bulrush (*Scirpus acutus*). Also prominent is cattail (*Typha* sp.) and various grasses, forbs, and sedges. A variety of animals lived in and around the Project area prior to the modern era, including mule deer (*Odocoileus hemionus*), white-tailed deer (*O. virginianus*), tule elk (*Cervus* sp.), pronghorn (*Antilocapra americana*), grizzly bears (*Ursus arctos californicus*), black bears (*U. americanus*), and mountain lions (*Puma concolor*) (Preston 1981:245–247).

Mammals commonly noted today and throughout history include the valley coyote (*Canis latrans*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), kit fox (*Vulpes macrotis*), and rabbit (Leporidae). Avian species include American osprey (*Panidon* sp.), redwing blackbird (*Agelaius phoeniceus*), marsh hawk (*Circus cyaneus*), Nuttall's woodpecker (*Dryobates nuttallii*), western meadowlark (*Sturnella neglecta*), and quail (*Odontophoridae*). The lakes, rivers, and streams throughout the vicinity provided habitat for anadromous fish, including

Chinook salmon (*Oncorhynchus tshawytscha*), white sturgeon (*Acipenser transmontanus*), Sacramento perch (*Archoplites interruptus*), and rainbow trout (*Oncorhynchus mykiss*) (Preston 1981:249). Potamodromous fish include thick-tailed chub (*Gila crassicauda*) and Sacramento sucker (*Catostomidae* sp.).

Agriculture, ranching, and damming of natural watercourses has spurred the replacement of native plants and animals with domesticated species. Urban development of the valley floor and adjacent foothill areas has further reduced available habitat for native flora and fauna. The Project area contains very few native plant and animal species because it has undergone extensive cultivation and residential development since the nineteenth century. For example, the thick-tailed chub was once a major dietary component for Native Americans in the Central Valley but is now extinct. Other native flora and fauna are extant in the Project area, albeit in exponentially smaller populations.

2.2 CULTURAL SETTING

2.2.1 Prehistory

The Central Valley prehistoric record is among the least understood of all regions in California. Reconstruction of past cultural patterns, particularly in the southern San Joaquin Valley, has been stymied by two key factors: geomorphology and human activity (Dillon 2002; Siefken 1999). The valley floor that encompasses the Project area has been repeatedly inundated by thick alluvial deposits resulting from granitic and sedimentary outflow from the San Joaquin River, particularly during mass flood events. This pattern has continued for millennia and has resulted in the burial of early to middle Holocene archaeological sites, estimated to be buried as deep as 11 meters (Moratto 1984:214; Onken 2019). Thus, compared to other regions in the state, there is a paucity of research and a related lack of data from which to build a complete understanding of past human behavior specific to Fresno County.

In addition, archaeological sites buried in shallow deposits (i.e., less than 6 feet below the ground surface) have been heavily impacted by agricultural, transportation, and urban development since the historic period. Development has effectively removed mounds and shallow subsurface cultural deposits that once existed in great numbers across the valley floor (Rosenthal et al. 2007). Thus, geomorphology and recent human activity have created a challenge for archaeologists interested in gaining a clearer understanding of human behavioral change through time in the San Joaquin Valley.

Nevertheless, an increasing body of data is available for sites in valley lacustrine environs, which are helpful in broadly identifying key cultural changes in the central San Joaquin Valley. The summary of cultural traits presented below is based on a review of San Joaquin Valley lacustrine, riverine, and valley floor site data discussed in Rosenthal et al. (2007) as well as and foothill site data summarized by Lloyd et al. (2011). Cultural periods and accompanying dates (given as calibrated years before present [cal B.P.]) are based on Rosenthal et al. (2007:150–159), Moratto (1984:333), McGuire and Garfinkel (1980:49–53), and Fredrickson (1973, 1974).

The Paleo-Indian Period (13,500–10,500 cal B.P.) is represented by ephemeral lacustrine hunting sites dominated by atlatl and spear projectile points. The earliest evidence of distinct valley and foothill cultural patterns appears during the Lower Archaic Period (10,500–7450 cal B.P.).

Valley sites of this period contain crescents and stemmed projectile points, and they indicate the consumption of freshwater fish, waterfowl, mussels, deer, and pronghorn. In contrast, foothill sites are dominated by dense ground stone and flaked stone assemblages with a diet narrowly focused on deer, bighorn sheep, and presumably nuts or seeds. The Middle Archaic (7450–2500 cal B.P.) includes the Lamont Phase (5950–3150 cal B.P.), a time when semipermanent villages first appear along riverbanks in tandem with larger, more established lacustrine villages. An abundance of stone tools exists in later prehistory, meanwhile ground stone tool kits and long-distance trade and exchange networks emerge focused on obsidian, shell beads, and ornaments. In the foothills, lithic and dietary patterns of the Early Archaic continue.

New cultural patterns emerge during the Upper Archaic Period (2500–850 cal B.P.), especially during the Canebrake Phase (3150–1350 cal B.P.) when a distinct shift in burial practices occurs and geographic differences in site and artifact types appear. Changes in the Sawtooth Phase (1350–650 cal B.P.) are marked by the sudden presence of mound sites in the valley. Widespread proliferation of specialized technology is evident, including new types of bone tools, projectile points, and ceremonial objects such as wands and blades. The use of labor-intensive and seasonally abundant resources occurs, including acorns, pine nuts, salmon, and shellfish.

Similarly, the Emergent Period (850 cal B.P.–Historic era) is marked by continued variation in settlement and burial patterns across valley and foothill regions, coupled with the disappearance of atlatl and dart tool kits that are replaced with bow-and-arrow technology (i.e., small corner-notched and Desert Series points) at about 650 cal B.P. Fishing tool kits expand to include more efficient harpoons, bone fishhooks, and gorge hooks

2.2.2 Native American Ethnography

The Project area is within an ethnographic transitional zone in which Northern Valley and Northern Hill Yokuts groups likely overlapped. The Yokuts are one of eight subgroups of the Penutian linguistic phylum that is present across the western coast and inland regions of North America from Canada to Mexico (Golla 2011:128). There were many Yokuts language subgroups across the southern and central San Joaquin Valley and in the Sierra Nevada. Yokuts in these regions spoke a variety of dialects, and many groups could converse across dialects with relative ease (Golla 2011).

The Project area is within territory typically ascribed to the Pitkachi, who populated the southern banks of the San Joaquin River, and the Gashowu, a tribelet that occupied the drainages of Big Dry Creek and Little Dry Creek. The villages Kohuou, Weshiu, and Gewachiu are associated with the Pitkachi (Kroeber 1976:481, plate 47). All three villages are 8–12 miles northwest of the Project area. Two major settlements are attributed to the Gashowu: Pohonui, below Letcher on Big Dry Creek, and Yokau, on Little Dry Creek in Auberry Valley (Kroeber 1976:481, plate 47). These villages appear to be central year-round settlements that were occupied more densely in the winter. However, within the Project area the Gashowu’s activities were likely limited to trade and seasonal food-gathering forays on to the valley floor.

The San Joaquin River and nearby drainages were critical for sustaining the lifeways of the Northern Valley and Northern Hill Yokuts near the Project. The riparian plant communities and flow of freshwater provided humans with a source of constant food, building materials, and avenues of travel for small watercraft. Yokuts homes were constructed of tule reeds, and villages were situated near major waterways and built on low mounds to prevent spring flooding (Cook 1960; Gifford and Schenck 1926:132; Schenck and Dawson 1929:308; Wallace 1978:465–466). Fish provided the major source of protein. Fall and spring spawning brought abundant supplies of salmon to the inhabitants along the San Joaquin River and its tributaries (Baumhoff 1963:174; Cook 1960). The Yokuts diet was supplemented by various species of fowl (e.g., geese, ducks) that were attracted to the riverine environment. The Yokuts also relied on seasonally available acorns, which were harvested from groves of valley oak, processed using mortars and pestles, and then cooked as a gruel or bread. Awls from animal bone allowed the Yokuts to create a broad range of baskets that facilitated food storage and transportation.

As with other Native American groups in California, the lifeways of the Yokuts were dramatically altered as a result of contact with early Spanish explorers and missionaries, miners, ranchers, and other immigrants who entered the San Joaquin Valley after A.D. 1800. The introduction of European culture and new diseases resulted in a drastic reduction in Yokuts population size. However, there are at least 25 fluent-speaking groups of various Yokuts dialects alive today, including Chukchansi speakers, who live near the Picayune and Table Mountain rancherias northeast of Fresno. Others include the Tule-Kaweah and Yawelmani (also known as Yowlumne), who mostly reside on the Tule River Reservation near Porterville, the Choynimni (also known as Choinumne), who live throughout the Kings River region, and the Tachi, who live at the Santa Rosa Rancheria near Lemoore. Native Americans from these tribal groups have established language and culture schools and actively participate in master-apprentice language partnerships to ensure the continuity of their cultures and languages (Golla 2011:154).

2.2.3 History

Spanish soldiers and priests were the first non-Native Americans to encounter the Southern Valley Yokuts when Pedro Fages led a group of soldiers through Tejon Pass into the San Joaquin Valley in 1772 (Wallace 1978:459). Four years later, Francisco Garcés also explored the region. Other Europeans did not follow until Lieutenant Gabriel Moraga led a group of Spanish explorers into the valley in 1806 (Clough and Secrest 1984:25–27). This party intended to locate new lands for missions, find and return runaway neophytes, and relocate stolen livestock.

Expansion of missions in California ceased by the early 1820s as a result of Mexico’s independence from Spain, thus preventing the creation of any missions in the San Joaquin Valley. The Mexican government granted several large tracts of land (ranchos) to individuals during the 1830s and 1840s. In addition, fur trappers began forays into the California interior. Jedidiah S. Smith likely entered the area during a fur trapping expedition in 1827. Smith’s adventures included friendly encounters with the Southern Valley Yokuts near the Kings River and trapping and camping along the San Joaquin River (Clough and Secrest 1984:27). In 1844, John C. Fremont led an expedition to the Tulare Lake basin; his favorable reports of the Kings River fan foreshadowed the agricultural development of the area (Preston 1981:62).

The discovery of gold in the Sierra Nevada in 1848 and the accession of California to the Union in 1850 were watershed events in the history of the state and valley. During the late 1840s and early 1850s, prospectors from across the nation and around the world flocked to California to mine the precious ore. Many of the prospectors entered and traveled through the valley via the Stockton–Los Angeles Road, which later became the Butterfield Overland Mail Route. The road hugged the western edge of the foothills and crossed the countless rivers and streams flowing down from the highlands as well as the valley sloughs.

Demographic data from the 1860 U.S. Census suggests that the county's population was ethnically diverse, fairly transient, and mostly male. According to local historian Paul Vandor (1919:105), 7,899 people lived in Fresno County, including 4,305 white settlers, 300 Chinese, and 3,294 Indians. A closer look at the records indicates that the census takers subsumed Californios (i.e., native Californians with both Spanish and Native American ancestry) together with Yokuts into the same racial category of "Indian." Many of the county's Native American population lived in a village near the county seat at Millerton (Clough and Secrest 1984:68), while the Californios—who are identified by their Spanish surnames—were found in San Juan, Fresno City, and Firebaugh. Much of the white population resided in Millerton, Scotsburg (which later became Centerville), and Kingston. The Chinese, whose actual population may have exceeded 300, were segregated in their own quarter of Millerton (Clough and Secrest 1984:68; Vandor 1919:105). Virtually all of the Chinese were listed as miners, as were a significant number of Californios. Some whites also engaged in gold prospecting, but the fact that mining was undertaken primarily by the non-white segment of the population strongly suggests that it was not a lucrative business within the county. Throughout the California gold rush, white miners excluded Chinese and Latinos from the choice claims through various means, relegating them to the worked-over placers or poorer diggings outside the Mother Lode (like Fresno County). Census data for personal property indicate that the economic weight of the county lay in ranching. With an estimated $30,000 in livestock, Andrew M. Darwin of Scotsburg led the local industry, followed by George F. Smith of Millerton ($28,000) and Charles Lewis of Kingston ($22,000).

2.2.3.1 Agriculture in the Central Valley

Although ranching had been a part of the state's economy since the Mexican period, the industry's growth accelerated as many successful prospectors and businessmen reinvested their profits from the gold rush in cattle and sheep herds. In the early days of ranching, sheep were a valued commodity because they not only could be sold for consumption but could be sheared for their wool. From 1857 to 1871 the amount of wool produced in California increased more than twenty-fold, while revenue grew at an average annual rate of 30 percent (Vandor 1919:164). Similarly, cattle provided beef and dairy products as well as hides.

By the early 1870s, however, scales began to tip in favor of agriculture. The construction of extensive irrigation systems, which are discussed in greater detail below, typically financed by developers like A. Y. Easterby and others who converted the valley's dry soils into fertile farmlands. The 1874 "no fence" law underscored the growing dominance of agricultural interests and resulted in both operation and monetary repercussions to the sheep and cattle industry:

> The "no fence" law obligated the stock owner to herd his cattle and sheep, whereas before the stock roamed at will and was not assembled except for the annual rodeo. He was also made responsible for damage done by his beasts. The farmer was not required to fence his holdings, though . . . he occasionally did so [Vandor 1919:163].

2.2.3.2 Irrigation Systems of the Central Valley

Irrigation began modestly within Fresno County when Anderson Akers and S. S. Hyde built a 4-foot-wide and 2-foot-deep ditch from the west bank of the Kings River in 1866 (Elliot 1882:102). Two years later, the Centerville Canal and Irrigation Company bought the ditch and expanded the channel to 20 feet wide and 4 feet deep. J. B. Swum built a similar ditch in 1869. Moses Church and A. Y. Easterby and their Fresno Canal and Irrigation Company constructed one of the first extensive irrigation system in the valley, which began supplying water to their agricultural colony in 1876 (Clough and Secrest 1984:143). In the coming decades, a network of canals and ditches sprouted from the banks of the Kings River to provide water to various other farming colonies (Mead 1901).

For Church and other wealthy landowners, the intended effect of irrigation was to increase the value of their properties so that they could be subdivided and sold to newly arriving homesteaders at a hefty profit. While this primary purpose was certainly achieved, the advent of intensive irrigation additionally led to a shift in both the types of crops grown and the size of the typical farm. Prior to intensive irrigation and colonization, valley pioneers initially grew wheat and other grain crops or raised cattle—both large-scale ventures requiring substantial acreage. As irrigation water became more readily available, individual farmers realized that premium crops like grapes, citrus, and tree fruit could be profitably grown on lots as small as 20 acres.

Technological improvements in electric water pump technology allowed wells to extend even deeper into the aquifer, seriously impacting the water table in the valley. Beginning in the mid twentieth century, water management methods became more diverse and included the development of major irrigation projects such as the Central Valley Project, the integration of local irrigation systems with these larger projects, the storage of runoff in reservoirs for hydroelectric power and flood control, and maintenance of underground water tables for such uses as irrigation and drinking water. By the 1950s, these advancements spurred further agricultural development, creating the agricultural system as it exists today.

The routes of the various interconnecting canals of the Fresno Canal system have remained essentially the same for the past 140 years (Willison 1980:270). From the head gate at the Kings River, the Fresno Canal is the system's primary channel, flowing westerly for about 12 miles. In his report on California irrigation, Mead (1901:287) notes that the alignment of the old CCIC ditch formed part of the alignment of the Fresno Canal. As work progressed farther from the Kings River, Church took advantage of existing natural channels and portions of the canal follow the routes of natural drainages. At the terminus of the Fresno Canal, the Fancher Creek Canal continued to convey the water in a southwesterly direction for another 9 miles; this canal irrigated the Easterby Rancho. By 1876, the Fancher Creek leg of the system had been expanded to reach agricultural subdivisions southwest of Fresno (Willison 1980:84). A second leg also branches from the terminus of the Fresno Canal. From this point, the Mill Ditch flows westerly for about 8 miles where it connects with the Dry Creek Canal and the 27-mile-long Herndon Canal, which irrigates northwest Fresno.

2.2.3.3 Railroad

After visiting Easterby's thriving wheat fields in late 1871, Southern Pacific Railroad boss Leland Stanford decided to place the local train stop and town site near the ranch (Clough and

Secrest 1984:121). In the spring of 1872, the Southern Pacific Railroad rolled into Fresno County, connecting this previously remote region with the northern part of California. Shortly after the arrival of the railway, the town of Fresno was born and within 2 short years displaced Millerton as the county seat. Early infrastructural development within the City focused on development of the electric intra-urban railway. Between 1905 and 1910, 15.5 miles of track had been constructed within the City by the Fresno Tract Company, which were then sold to Southern Pacific Railroad (FirstCarbon Solutions 2014). In 1913, 11 miles of track were added giving the City's residents access to the San Joaquin River beach, after which Southern Pacific Railroad purchased the railroad. Streetcar service was terminated in the City in 1939 following a decade of increased automobile use which truncated many track routes.

2.2.3.4 Development of Fresno

Fresno County was established in 1856, at a time when gold seekers were flocking to the Sierra Nevada and livestock grazed freely on the valley floor. For the county's first 18 years, the seat of government lay in the mining town of Millerton, located along the San Joaquin River within what is now the Millerton Reservoir (or Millerton Lake). About 25 miles to the south was the cattle town of Centerville, situated just below the foothills and beside the well-wooded banks of the Kings River. The 1857 California State Register clearly identifies the bases of the county's economy, and much of its tax revenue came from the assessment of livestock and foreign miners' fees (Clough and Secrest 1984:83). At the time, only 2,000 acres were under cultivation.

By 1860, the gold rush had lost its momentum in Fresno County and surrounding areas and was becoming less a factor in the local economy. After the Civil War, displaced southerners began to trickle into the county to graze their herds or flocks in the pastures around its two major rivers. During this time, the valley was not a particularly hospitable place for farming. Founded in 1868 just north of the San Joaquin River in present-day Madera County, the Alabama Settlement ended in disappointment after drought and free-roaming cattle had spoiled the efforts of its residents to raise grain (Elliot 1882:118; Vandor 1919:170–171). Yet it was toward the end of this decade that plans began to take shape for two interrelated infrastructures that would eventually shift the county's economy from cattle ranching to agriculture: these were the laying of a rail line through the Central Valley and construction of a wide-ranging irrigation system within Fresno County.

It is no coincidence that the town of Fresno grew alongside county agriculture. As a commercial pursuit, agriculture, particularly the cultivation of vineyards and orchards, involves much more than farming per se and requires a host of other attendant sectors, including shippers, packers, blacksmiths, hardware merchants, and (most importantly) laborers. It was primarily this economic opportunity that brought people down from the foothills and drew other newcomers to Fresno. That influx, in turn, resulted in the creation of infrastructure (education, law enforcement, fire protection, etc.) necessary to support a population which, in time, would become the largest in the Central Valley.

Statistics taken from local histories chart this growth. In November 1872, about 6 months after the arrival of the railroad to what was then known as the Fresno Station, the new settlement had two stores, three stables, four hotels and restaurants, and three saloons (Elliot 1882:121). By 1874, the same year the county seat moved from Millerton to Fresno, the commercial sector had expanded in size and scope. From 1876 to 1878, the town of Fresno had about 700 inhabitants (Vandor 1919:268). In 1880 its population was 1,112 (Clough and Secrest 1984:141).

Located a few miles from the San Joaquin and Kings rivers on the dry plain, the site of Fresno was an unlikely place to build a city. The continued existence of Fresno would not have been possible without a reliable supply of domestic water. Founded in 1876, the Fresno Water Works piped water to the town from its 23,000-gallon tank, which tapped a local aquifer via a well that was 100 feet deep (Elliot 1882:122). One year later, the utility was sold to the Fresno Water Company. The new owners added a 12,000-gallon tank in 1878, a steam pump and another well in 1881, 17,000 feet of additional piping in 1882, and more powerful Holly duplex pumps in 1884.

Since its founding in 1872, Fresno has had its own post office, which was housed in a series of businesses during the 1870s and 1880s (Clough and Secrest 1984:129–130). Telegraph service also began that same year (Vandor 1919:314). In 1874, the *Weekly Expositor* joined the exodus of businesses and residents from the old county seat at Millerton to Fresno; its first Fresno issue came out on April 22 of that year (Vandor 1919:327).

Farms, which were the economic backbone of Fresno’s economy in the late 1800s, grew smaller as urban residential areas grew larger. This trend continued well into the twentieth century. Between 1900 and 1920, 45,000 new farms were established in California, of which about 85 percent were less than 50 acres (Hall 1986:170). World War I resulted in increased demand for agricultural goods, especially those resistant to damage from storage and transportation (i.e., canned fruits and vegetables, dried and preserved fruit, wine, and cotton). However, the end of World War I and the onset of Prohibition in the early 1920s, which stymied local viticulture, resulted in hard times for farmers and the local businesses that relied upon agriculture. Despite economic hardship caused by the Great Depression, several residential neighborhoods were constructed less than a mile north of the Project area in the 1930s. Like much of California, the Fresno area experienced robust growth after World War II, albeit not as extreme as the periods from 1880 to 1890 and 1900 to 1920. From 1940 to 1960, the city’s population climbed from 60,685 to 133,929, an average annual increase of about 4 percent (Waiczis and Secrest 1985). During the 1960s, the city’s population had grown at a modest 2.2 percent per year, reaching 165,655 in 1970 (Waiczis and Secrest 1985). It was during that time Fresno began to resemble the sprawling metropolis that it is today.

3
METHODS

3.1 RECORDS SEARCHES

On July 19, 2019, Æ requested an expedited records search of the Project area from the CHRIS SSJVIC at the California State University, Bakersfield. The purpose of the search was to identify previously recorded archaeological sites and prior surveys within the Project area. SSJVIC staff responded on July 29, 2019 (Records Search No. 19-295) with GIS shapefiles and lists of sites and previous reports in the Project area. A copy of the SSJVIC findings is provided in Appendix B. Æ staff also reviewed the City of Fresno's General Plan (City of Fresno 2014) and General Plan and Development Code Update Master Environmental Impact Report (FirstCarbon Solutions 2014); City of Fresno Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code Draft EIR (First Carbon Solutions 2016); City of Fresno North Park Survey: Historic Context and Survey Report (Galvin Preservation Association Inc. 2008); and Downtown Fresno (Fulton Corridor) Historic Resources Survey (Historic Resources Group 2014). In addition, Æ staff completed online research to identify previously recorded built environment resources within the Project area, including searches of the:

- National Register of Historic Places;
- California Register of Historical Resources;
- California Historical Landmarks;
- California Points of Historical Interest; and
- City of Fresno's Development and Resource Management website.

3.2 NATIVE AMERICAN HERITAGE COMMISSION

On July 30, 2019, Æ submitted a request to the NAHC for a search of the Sacred Lands File to identify recorded sacred sites or areas of importance to local tribes within the Project area. The NAHC responded on August 20, 2019 with its findings. A copy of the NAHC response letter is included in Appendix C.

3.3 CULTURAL RESOURCE SENSITIVITY MODELING

A prehistoric and historic archaeological site sensitivity model was developed by Æ through analysis of GIS data gathered during records searches. GIS software (i.e., ArcGIS 10.7 and Maxtent) were used to analyze key predictive factors including known site locations; proximity to water; placement within late Pleistocene and Holocene sediments; and landscape conditions such as topography, slope, and aspect. Results for the Project area were then ranked as having high (red), moderate (yellow), or low (green) potential for containing archaeological deposits at or below the ground surface.

In addition, Æ gathered built environment spatial data from online sources pertaining to the City and performed a simple overlay analysis to identify specific Project areas containing known historic-era buildings, structures, and objects that are listed in or recommended eligible for inclusion in the NRHP or CRHR. The results of the built environment GIS analysis and archaeological buried site sensitivity analysis are presented in Chapter 4.

4
FINDINGS

4.1 RECORDS SEARCHES

The SSJVIC records search (No. 19-295) identified 268 prior cultural resource studies that intersect with or are within the Project area (see Appendix B). Approximately 22 percent of the Project area has been previously surveyed. No prehistoric archaeological sites have been recorded within the Project area; however, the SSJVIC identified 10 historic-era archaeological sites in the Project area. These consist of refuse scatters, privies, concrete building pads, and segments of historic-era railroad tracks (Table 4-1; see also Appendix B).

Table 4-1
Identified Archaeological Resources in the Project Area

Primary No. (P-10-)	Trinomial (CA-FRE-)	Age	Description	Recommended NRHP and CRHR Eligibility
003930	003109H	1929–1930	Biola Branch Extension Railroad	Ineligible
004702	003195H	Late 19th to 20th centuries	Historic-era refuse scatter	Unevaluated
005265	Not issued	1888–1948	Fresno railroad spurs	Ineligible
006142	003617H	1880–Post 1945	Fresno Block 534 Site	Unevaluated
006143	Not issued	1918–1948	Fresno Block 1052 Concrete Pad	Unevaluated
006144	003618H	19th–20th centuries	Fresno Chinatown Block 50	Unevaluated
006654	003824H	1939–1940s	Fresno-1 Manufactured Gas Plant	Eligible
006962	003814H	1902–1951	3 historic-era buildings	Unevaluated
006977	003817H	1870–1945	Historic-era refuse deposit	Unevaluated
007082	003846H	1848–1914	China Alley Historic-era feature	Eligible

Æ’s desktop research identified four Historic Districts listed on the City’s Local Register of Historic Resources (Local Register) within the Project area (Table 4-2). There are an additional 10 Historic Districts proposed for inclusion in the Local Register encompassing portions of the northwestern, northeastern, and southwestern Project area (Figure 4-1). The City Planning and Development website also lists numerous cultural resources potentially within the Project area, including the Fresno Sanitary Landfill, dating to 1937, which is a National Landmark, and 274 historic-era buildings, structures, or objects. Of the 274 built environment resources, 31 are listed in the NRHP and CRHR and 207 buildings are contributors to the 4 Historic Districts listed on the Local Register. Figure 4-2 presents Project areas that contain cultural resources listed in or eligible for listing in the NRHP, CRHR, or Local Register.

Table 4-2
City of Fresno Local Register of Historic Resources

Historic District	Description	Location	Local Register Eligibility Status
Chandler Field/Fresno Municipal Airport	Four WPA-era buildings, including administration (terminal), administration annex, electrical control, and bathroom buildings	Approximately 2 miles west of the heart of Fresno, along the north side of historic Kearney Blvd.	Listed
Huntington Boulevard	Consists of 116 residential properties	East end of the boulevard at the intersection of E. Huntington Blvd. and Cedar Ave.	Listed
The Porter Tract	Housing tract designed by John G. Porter consisting of 45 buildings	Boundaries are Weldon Ave. on the south; Maroa Ave. on the west; the rear property line of Yale Ave. on the north, and College Ave. on the east	Listed
Wilson Island	Encompasses 80 properties within the larger Wilson's North Fresno Tract, which was first developed in 1908 by Rosanna C. Wilson and her son A. Polette Wilson	Bounded by N. Echo Ave. on the west, E. Carmen Ave. on the north, the northern side of E. Floradora Ave. on the south, and the back side of the commercial lots along N. Wishon Ave.	Listed
L Street	Includes 50 contributing structures out of 64 total	Irregular boundaries but generally abuts Divisdaero St. on the north, Stanislaus St. on the southeast, extends to the rear property line of N St. on the northeast, and Van Ness Ave. on the southwest	Proposed
St. John's Cathedral	Composed of various structures and buildings	Composed of approximately seven city blocks, bounded on the northwest by Fresno St., on the north by Divisadero St., on the northeast by U St., on the southeast by Tulare St. and on the southwest by the Santa Fe Railroad tracks	Proposed (Determined ineligible for inclusion in NRHP)
Santa Fe Warehouse	Composed of various structures and buildings	Bounded by P St. on the southwest, Tulare St. on the northwest, R St. on the northeast, and Ventura St. on the southeast	Proposed
Bellevue Bungalow	Includes 15 residences	On Howard Ave. and Thesta St. south of Belmont Ave.	Proposed
East Madison Avenue	Includes 46 contributing building properties	On Madison Ave.	Proposed
North Park	Composed of 434 contributing building properties	Boundaries include Divisadero St. on the south, Blackstone Ave. on the east, Freeway 180 on the north, and Roosevelt Ave. on the west; Overlaps with Lower Fulton Van Ness District	Proposed

Table 4-2 (continued)
City of Fresno Local Register of Historic Resources

Historic District	Description	Location	Local Register Eligibility Status
Lower Fulton-Van Ness	Composed of various buildings	Boundaries are Voorman St. on the south; Belmont Ave. on the north; the rear property line of Wishon Ave. (north of Mildreda) and Yosemite St. (south of Mildreda) on the west, and College Ave. on the east; Overlaps with North Park District	Proposed
Wilson's North Fresno Tract	Composed of various buildings in an 18-block area	Bounded by Olive Ave. on the south; Broadway (south of Floradora Ave.) and the rear property line of Echo Ave. (north of Floradora Ave.) on the west; McKinley Ave. on the north, and Maroa Ave. on the east	Proposed
Adoline-Palm	Composed of various buildings	Boundaries extend from the rear property line east of Safford Ave. west along Thomas Ave. to the rear property line beyond Farris Ave.; north to Dudley Ave.; west to the rear property line of Adoline; north to Floradora Ave.; east to the rear property line beyond Safford Ave.; south to the second property before Olive Ave.; west to Safford Ave.; south to Olive Ave.; west to Harrison Ave.; south to Dennett Ave.; east to the rear property line beyond Safford Ave., and south to Thomas Ave.	Proposed
Terrace Gardens	Composed of various buildings	Boundaries include from the corner of Van Ness Ave. and Clinton Ave. west to Palm Ave.; north to the rear property line of Brown Ave.; east to the second property beyond Wilson Ave.; south to Brown Ave.; east to the fourth property from Van Ness Ave.; south to Harvard Ave.; east to Van Ness Ave., and south to Clinton Ave.	Proposed

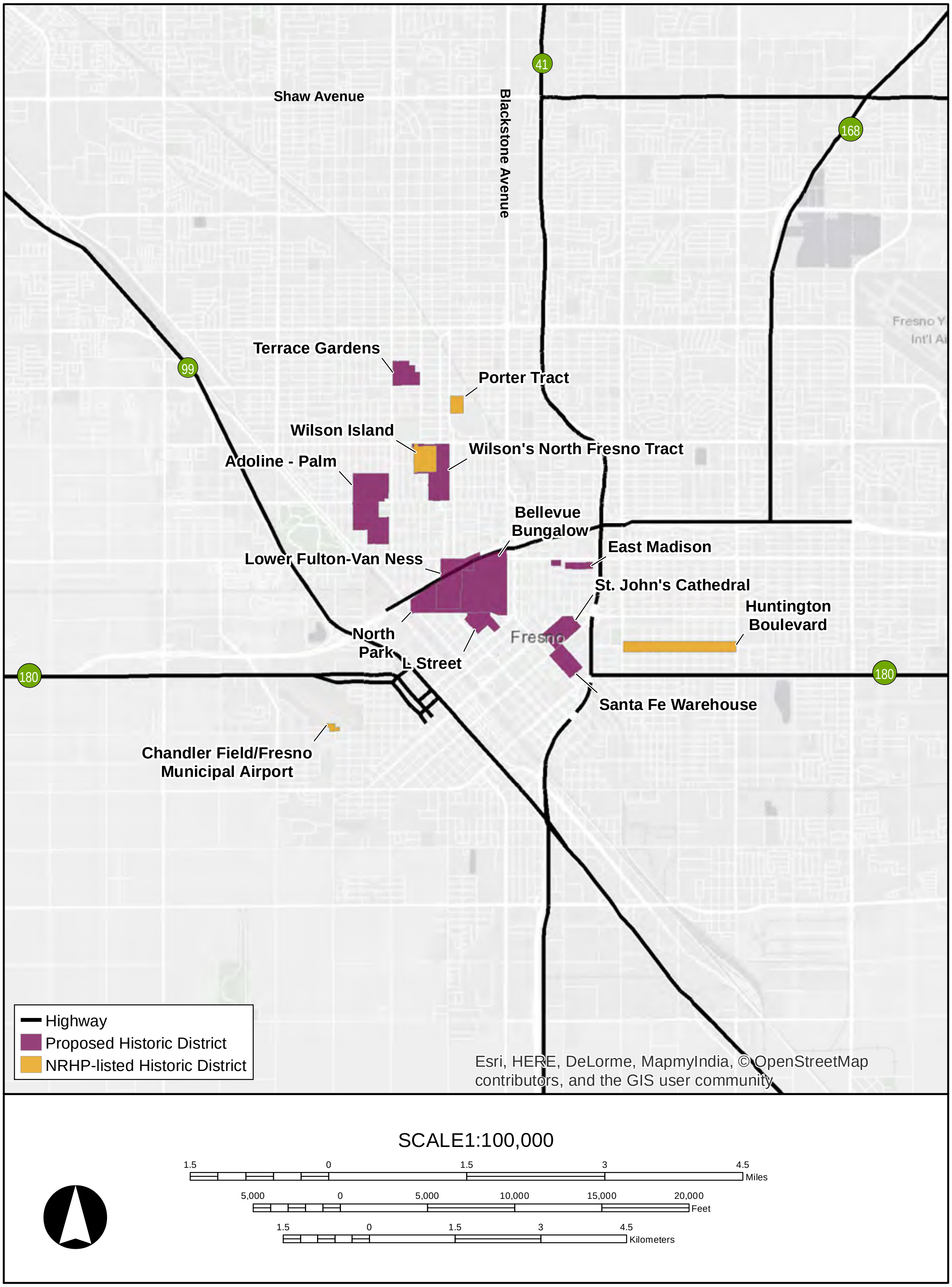

Figure 4-1 NRHP-listed and proposed Historic Districts in the Project area.

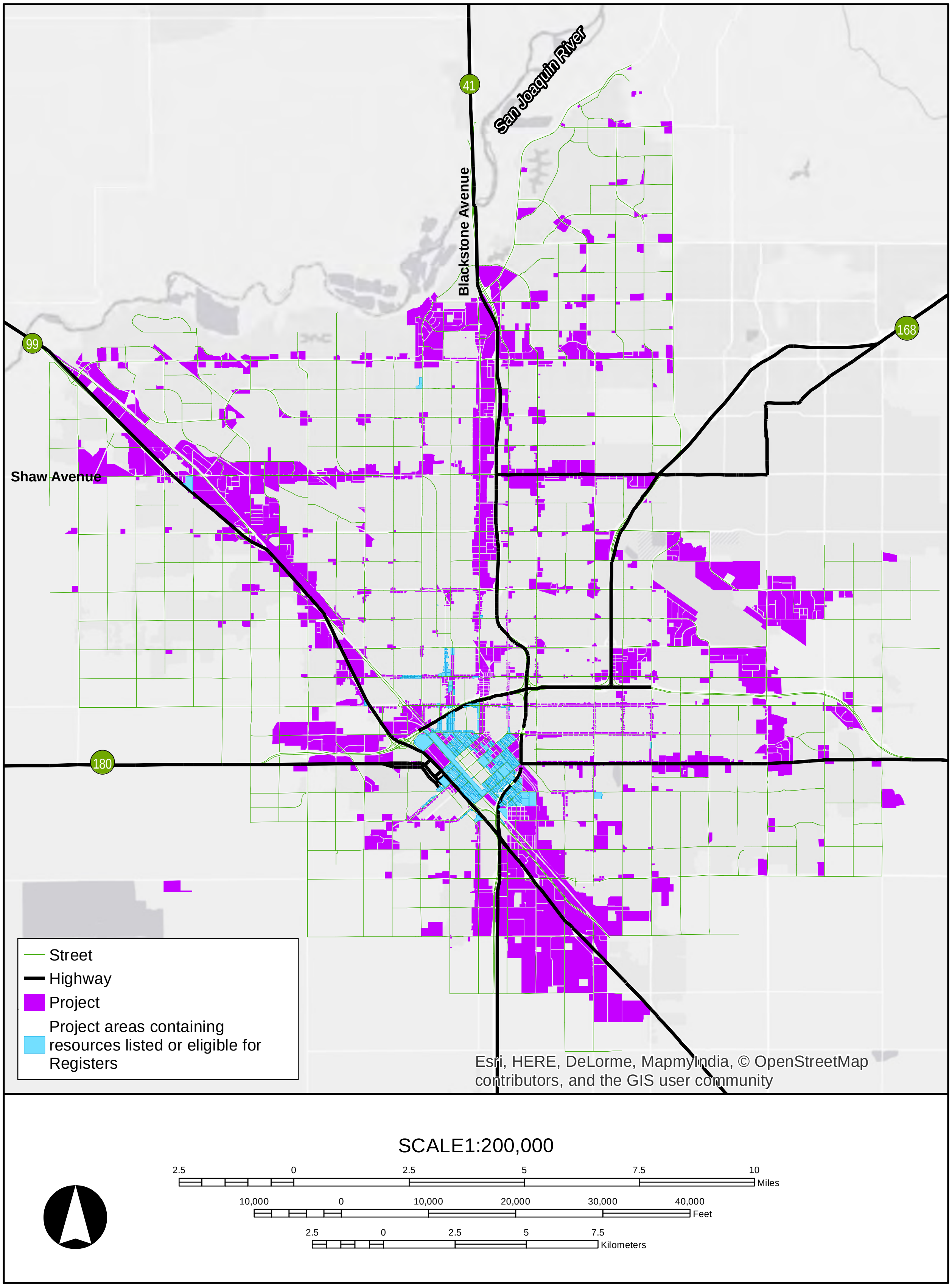

Figure 4-2 Project areas containing cultural resources listed in or eligible for listing in the NRHP, CRHR, or local register.

4.2 TRIBAL CULTURAL RESOURCES

On August 20, 2019, the NAHC reported that its search of the Sacred Lands File did not identify any sacred sites or places of tribal importance in the Project area. The NAHC recommended follow-up with tribes having an ancestral connection to the Project area to give Native American groups the opportunity to share information about other cultural or tribal cultural resources that may be in or near the Project area. The NAHC provided a contact list for outreach purposes (see Appendix C). However, Æ did not conduct further outreach to tribes because the City will conduct government-to-government tribal consultation in compliance with AB 52. Æ recommends that the results of AB 52 consultation be included in an EIR analysis to satisfy the requirements of the CEQA Guidelines, Appendix G Checklist, Section XVIII(a), Tribal Cultural Resources.

4.3 CULTURAL RESOURCE SENSITIVITY WITHIN THE PROJECT AREA

Æ's buried site sensitivity model predicts Project areas that have high, moderate, and low potential for containing buried prehistoric archaeological sites within the Project area and surrounding city. As shown in Figure 4-3 and summarized in Table 4-3, the Project area contains several areas where Project-related activities involving disturbance of the ground surface would have potential for unanticipated discovery of cultural resources and/or have potential to cause inadvertent adverse effects resulting in a substantial change in the significance of a resource. In particular, Project areas along Golden State Highway (Hwy) 99, Hwy 41, and the southern extent of Hwy 168 near the central Fresno area have the highest sensitivity. Table 4-3 identifies additional areas of high sensitivity in each Project area quadrant and relates these to proposed ordinance areas. The entire Hwy 99 corridor has high to moderate sensitivity, while much of the far eastern and northeastern portion of the Project area have low sensitivity.

Table 4-3
Cultural Resource Sensitivity Within the Project Area

Quadrant	Area of High Sensitivity	Ordinance Location
Northwest	Southern half, especially southwest quarter	Laboratory; Retailer
Northeast	Northwest quarter	Cultivation, Distribution and Manufacturing; Laboratory; Retailer
Southeast	Western half	Cultivation, Distribution and Manufacturing; Laboratory; Retailer
Southwest	Northern half, especially northeast quarter	Cultivation, Distribution and Manufacturing; Laboratory; Retailer

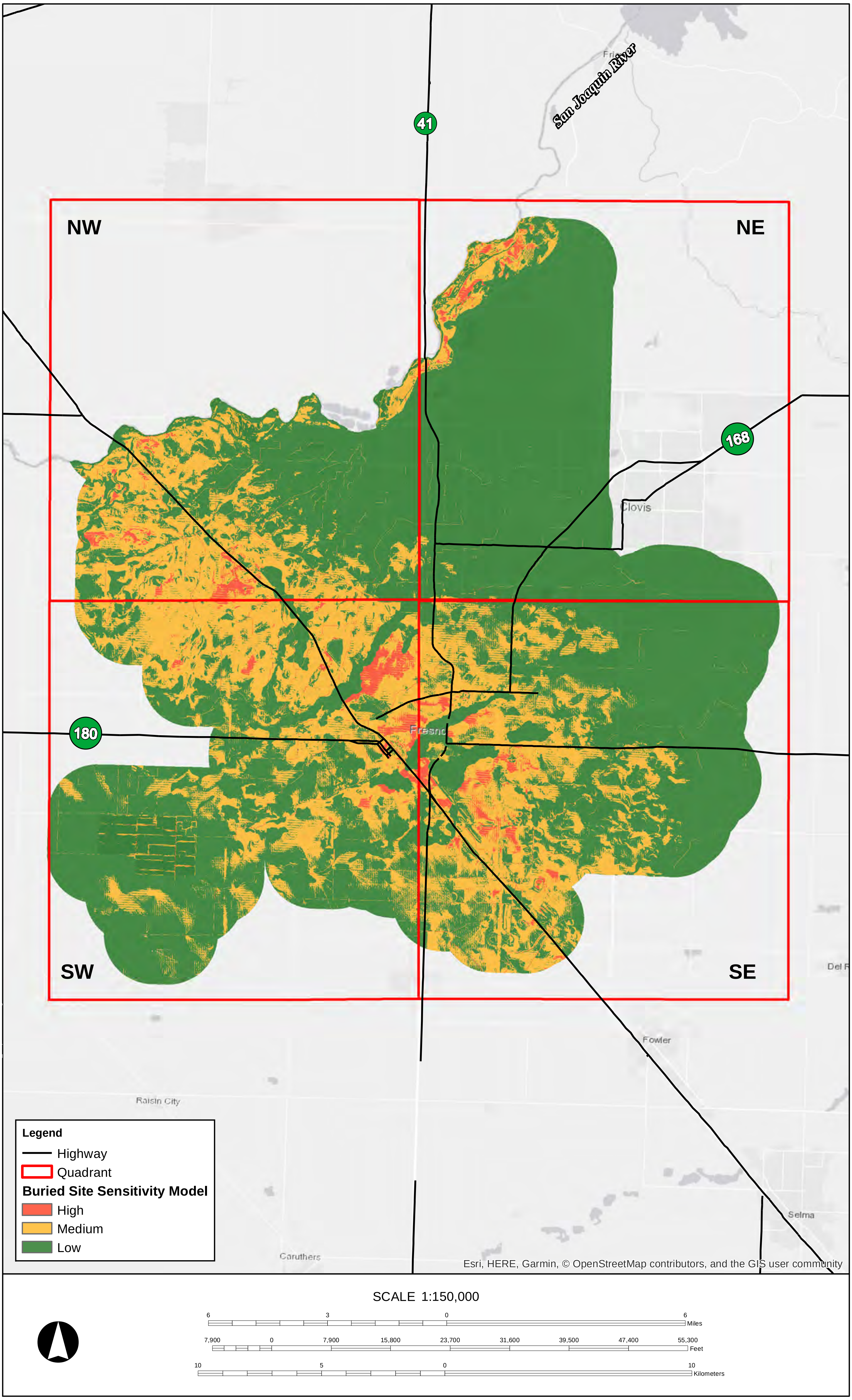

Figure 4-3 Prehistoric buried site sensitivity model for the Project area.

5
SUMMARY AND RECOMMENDATIONS

Æ provided cultural resources services for the proposed City of Fresno's Cannabis Ordinance Environmental Impact Report in Fresno, California. The City proposes to make changes to the Fresno Municipal Code (Text Amendment P19-02978), Article 33 to Chapter 9, and Article 1 to Chapter 12 of City Ordinance 2018-68 including the deletion of existing regulations in Sections 15-2739 and 15-2739.1 relating to medical marijuana dispensaries and the addition of new regulations to Section 15-2739 that would define and govern adult use as well as medicinal retail and commercial cannabis business. These additions would regulate the development, maintenance, and operation of cannabis cultivation, distribution, and manufacturing locations; as well as laboratory and retailer locations in the City with a requisite 800- and 1,000-foot-wide buffer from other cannabis retailers, schools, daycare centers, and other youth facilities.

On behalf of the City and at the request of QK, Inc. Consulting Engineers, Æ conducted a cultural resource inventory to identify previously recorded archaeological or historic-era built environment cultural resources within the Project area. Æ was tasked with ascertaining cultural resource sensitivity patterns to aid in making recommendations to avoid or mitigate Project-related adverse effects, should any occur as a result of implementation of the City's proposed changes to the City Ordinance 2018-68. Accordingly, Æ obtained a records search from the SSJVIC of the CHRIS, performed desktop research to identify and characterize built environment resources, requested a search of the NAHC Sacred Lands File, and conducted GIS-based cultural resource sensitivity analyses based on the data gathered.

The results of Æ's research and analyses indicate that the majority of the Project is in areas that have high sensitivity for containing buried archaeological sites, or that contain historical resources that are either listed in or proposed for listing in the NRHP, CRHR and/or the City's Local Register. In addition, the results demonstrate that only a small portion (approximately 22 percent) of the Project area has been subject to archaeological and built environment study. Thus, Æ recommends that programmatic mitigation measures be implemented on an application-specific, or individual Project basis, and that these measures include requirements for completing archaeological and built environment studies. Furthermore, to reduce potential adverse effects resulting from Project-specific activities, Æ recommends preparation of mitigation measures that provide a clear process for responding to inadvertent discovery of buried archaeological sites and unexpected discovery of human remains.

6
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APPENDIX A

Key Personnel

Applied EARTHWORKS Inc.

DIANA TERESA DYSTE

Senior Archaeologist

Areas of Expertise

- Cultural resource management
- Ethnography
- Tribal consultation
- Zooarchaeological, paleoethnobotanical, and lithics analysis

Years of Experience

- 19

Education

Ph.D., Anthropology/Feminist Studies, University of California, Santa Barbara, 2018

M.A., Anthropology (Archaeology/ Cultural Resource Management emphasis), University of California, Santa Barbara, 2010

B.A., Anthropology, University of California, Santa Barbara, 2002

A.A., Liberal Arts and Sciences, Ventura College, 1999

Registrations/Certifications

- Registered Professional Archaeologist 39362477

Professional Affiliations

- American Anthropological Association
- American Cultural Resources Association
- Santa Barbara Museum of Natural History
- Society for American Archaeology
- Society for California Archaeology
- World Archaeological Congress

Professional Experience

2018–	Senior Archaeologist, Applied EarthWorks, Inc., Fresno, California
2015–2018	Interim Cultural Resources Supervisor and Senior Archaeologist/Ethnographer, Aspen Environmental Group
2007–2009	Archaeologist (GS-9), U.S. Department of Agriculture, Los Padres National Forest
2005–2007	Archaeologist (GS-7), U.S. Department of Agriculture, Los Padres National Forest
2004–2005	Archaeological Contractor, Padre, Inc., Ventura, California
2000–2005	Archaeologist (GS-4/5), U.S. Department of Agriculture, Los Padres National Forest

Technical Qualifications

Ms. Dyste has 19 years of experience in cultural resources management and meets the Secretary of the Interior's qualification criteria as an archaeologist and ethnographer. She has extensive experience preparing environmental documents and managing complex projects pursuant to applicable federal, state, and local regulations. Her work includes senior review or prime authorship of cultural resources documents for National Historical Preservation Act Section 106, National Environmental Policy Act, and California Environmental Quality Act compliance, including public and tribal comment and response; development of research designs; design and implementation of cultural resources plans. Ms. Dyste is qualified to conduct archaeological survey, including the supervision of small to large sized field crews, as well as zooarchaeological, paleoethnobotanical, lithics, and ethnographic analyses. She is able to analyze cultural spatial patterns via use of Total Station and Geographic Information Systems software. Ms. Dyste's Assembly Bill 52 and NHPA Section 106 tribal consultation services are informed by her knowledge and training in Native American jurisprudence, cultural sensitivity training, and graduate seminars in Native American environmental law, indigenous research methodologies, and community-based Participatory Action Research with tribal and special interest groups. She has project experience in coastal, highlands, grasslands, desert, and remote mountain settings across the state of California, although her academic region of specialty is in central and southern California with a focus on Salinan, Esselen, northern/interior/coastal Chumash prehistoric and modern political tribal groups. Ms. Dyste is a native Spanish speaker and assists clients with the translation of English to Spanish signage and public notices.

Applied EARTHWORKS Inc.

MICHELLE WIENHOLD

Geographic Information Systems Analyst

Areas of Expertise

- GIS software applications
- Terrestrial laser scanning
- Digital photogrammetry
- Aerial balloon photography
- Geospatial analysis
- Predictive modeling

Years of Experience

- 19

Education

Ph.D., Archaeology, University of Central Lancashire, Preston, United Kingdom, 2014

M.S., GIS and Spatial Analysis in Archaeology, London, United Kingdom, 2008

B.A., Anthropology, University of Iowa, 2000

Registrations/Certifications

- Registered Professional Archaeologist 33421061

Professional Affiliations

- Society of American Archaeology
- University of Iowa GIS Users Group (Group Lead)
- Computer Applications and Quantitative Methods in Archaeology

Professional Experience

2016–	GIS Analyst, Applied EarthWorks, Inc.
2014–	GIS Analyst, Iowa Flood Center, University of Iowa, Iowa City
2010–2014	Associate Lecturer, Archaeology, University of Central Lancashire, Preston, United Kingdom
2009–2014	Data Officer, Biodiversity Information Service (BIS) for Powys and Brecon Beacons National Park, Brecon, Wales
2011–2012	Volunteer Research Assistant/Ph.D. Research, Los Padres National Forest, Santa Barbara Ranger District, California
2008–2009	GIS Consultant, exeGesIS Spatial Data Management, Ltd., Talgarth, United Kingdom
2004–2007	Assistant Geospatial Analyst (2005–2007), Geospatial Technician (2004–2004), Statistical Research, Inc., Tucson, Arizona
2002–2004	Mapping and Survey Technician, University of Iowa Office of the State Archaeologist, Iowa City
2001–2004	Field and Laboratory Technician, University of Iowa Office of the State Archaeologist, Iowa City

Technical Qualifications

Dr. Wienhold has an extensive background in the archaeological applications of Geographic Information Systems (GIS) technology. She is highly proficient in the collection of field data using total stations, geophysical equipment, Global Positioning System (GPS) receivers, terrestrial laser scanning, digital photogrammetry, and aerial balloon photography. Dr. Wienhold also has extensive experience with a wide array of GIS software, including ArcGIS10.X, Microimages (TNTmips), GRASS GIS, QuantumGIS (QGIS), MapInfo, Idrisi, and Penmap. Her expertise includes processing and analysis of aerial and terrestrial lidar data and detailed knowledge of international digital datasets. She is familiar with the use of Java programming to produce simple agent-based models and also is proficient in python scripting for geoprocessing in ArcGIS 10.X. Dr. Wienhold has experience in GIMP and Adobe Illustrator to produce figures for contract completion reports and in using R (Linux and Windows platforms) to run statistical analyses. She is also skilled in developing predictive models for presence data or presence/absence data for both archaeological and ecological datasets. Her research work includes an extensive background in California and Arizona for her doctoral dissertation and master's thesis, respectively.

APPENDIX B

Records Search Result

Confidential Information Removed

*Archaeological site location information is exempt from the Freedom of Information Act (FOIA) and California Public Records Act (CPRA).

California
Historical
Resources
Information
System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

7/29/2019

Diana Dyste
Applied EarthWorks, Inc.
1391 W. Shaw Ave., Suite C
Fresno, CA 93711

Re: City of Fresno Cannabis Ordinance EIR
Records Search File No.: 19-295

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on the Clovis, Fresno North, Fresno South, Friant, Herndon, Kearney Park, Lanes Bridge, and Malaga USGS 7.5' quads. The following reflects the results of the records search for the project area:

As indicated on the data request form, the locations of archaeological resources and reports are provided in the following format: ☐ custom GIS maps ☒ shapefiles

Archaeological resources within project area:	10 archaeological resources (list enclosed)
Reports within project area:	237 reports (list enclosed)

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 Historic Properties 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: Not available at SSJVIC; please see

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

Ethnographic Information: Not available at SSJVIC

Historical Literature: Not available at SSJVIC

Historical Maps: Not available at SSJVIC; please see
http://historicalmaps.arcgis.com/usgs/

Local Inventories: Not available at SSJVIC

GLO and/or Rancho Plat Maps: Not available at SSJVIC; please see
http://www.glorecords.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1 and/or
http://www.oac.cdlib.org/view?docId=hb8489p15p;developer=local;style=oac4;doc.view=items

Shipwreck Inventory: Not available at SSJVIC; please see
http://www.slc.ca.gov/Info/Shipwrecks.html

Soil Survey Maps: Not available at SSJVIC; please see
http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

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. Invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

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

Sincerely,

Celeste M. Thomson
Coordinator

APPENDIX C

Native American Heritage Commission Response

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

August 20, 2019

Diana Dyste
Applied EarthWorks

VIA Email to: ddyste@appliedearthworks.com

RE: City of Fresno Cannabis EIR Project, Fresno County

Dear Ms. Dyste:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

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 lists contain current information. If you have any questions or need additional information, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn

Steven Quinn
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Native American Contacts List
8/20/2019

Big Sandy Rancheria of Western Mono Indians Elizabeth D. Kipp, Chairperson PO. Box 337 Auberry ,CA 93602 lkipp@bsrnation.com (559) 374-0066 (559) 374-0055	Western Mono
Cold Springs Rancheria Carol Bill, Chairperson P.O. Box 209 Tollhouse ,CA 93667 coldsprgstribe@netptc.net (559) 855-5043 (559) 855-4445 Fax	Mono
Dumna Wo-Wah Tribal Goverment Robert Ledger Sr., Chairperson 2191 West Pico Ave. Fresno ,CA 93705 ledgerrobert@ymail.com (559) 540-6346	Dumna/Foothill Yokuts Mono
Dunlap Band of Mono Indians Benjamin Charley Jr., Tribal Chair P.O. Box 14 Dunlap ,CA 93621 ben.charley@yahoo.com (760) 258-5244	Mono
Dunlap Band of Mono Indians Dick Charley, Tribal Secretary 5509 E. McKenzie Avenue Fresno ,CA 93727 dcharley2016@gmail.com (559) 554-5433	Mono
Kings River Choinumni Farm Tribe Stan Alec 3515 East Fedora Avenue Fresno ,CA 93726 (559) 647-3227 Cell	Foothill Yokuts Choinumni
North Fork Mono Tribe Ron Goode, Chairperson 13396 Tollhouse Road Clovis ,CA 93619 rwgoode911@hotmail.com (559) 299-3729 Home (559) 355-1774 - cell	Mono
Santa Rosa Rancheria Tachi Yokut Tribe Rueben Barrios Sr., Chairperson P.O. Box 8 Lemoore ,CA 93245 (559) 924-1278 (559) 924-3583 Fax	Tache Tachi Yokut
Table Mountain Rancheria Leanne Walker-Grant, Chairperson P.O. Box 410 Friant ,CA 93626 rpennell@tmr.org (559) 822-2587 (559) 822-2693 Fax	Yokuts
Table Mountain Rancheria Bob Pennell, Cultural Resources Director P.O. Box 410 Friant ,CA 93626 rpennell@tmr.org (559) 325-0351 (559) 325-0394 Fax	Yokuts

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

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, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed:
City of Fresno Cannabis EIR Project.

Native American Heritage Commission
Native American Contacts List
8/20/2019

Traditional Choinumni Tribe David Alvarez, Chairperson 2415 E. Houston Avenue Fresno ,CA 93720 davealvarez@sbcglobal.net (559) 217-0396 Cell	Choinumni
Traditional Choinumni Tribe Rick Osborne, Cultural Resources 2415 E. Houston Avenue Fresno ,CA 93720 (559) 324-8764 lemek@att.net	Choinumni
Wuksache Indian Tribe/Eshom Valley Band Kenneth Woodrow, Chairperson 1179 Rock Haven Ct. Salinas ,CA 93906 kwood8934@aol.com (831) 443-9702	Foothill Yokuts Mono Wuksache

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

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, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed:
City of Fresno Cannabis EIR Project.

APPENDIX E

PALEONTOLOGICAL TECHNICAL MEMORANDUM

Applied EARTHWORKS Inc.

1391 W. Shaw Ave., Suite C
Fresno, CA 93711-3600
O: (559) 229-1856 | F: (559) 229-2019

August 20, 2019

Christopher Mynk, AICP
QK, Inc.
5080 California Ave., Suite 220
Bakersfield, CA 93309
Transmitted via email to Christopher.Mynk@QKinc.com

RE: *Revised* Paleontological Technical Memorandum in Support of Environmental Impact Report for City of Fresno Text Amendment No. P19-02978—Evaluating the Proposed Regulation and Permitting of Commercial Cannabis Activities, Fresno County, California

Dear Mr. Mynk,

Quad Knopf, Inc. (QK) retained Applied EarthWorks, Inc. (Æ) to complete a paleontological resource technical study to support the preparation of an Environmental Impact Report (EIR) for the City of Fresno Text Amendment No. P19-02978—Evaluating the Proposed Regulation and Permitting of Commercial Cannabis Activities (Project) evaluating the proposed regulation and permitting of commercial cannabis activities for the City of Fresno (City) in Fresno County, California. Æ understands that the Project is subject to the California Environmental Quality Act (CEQA) and the City is the lead agency.

Baseline data collection and technical report writing comprised Æ's scope of work. This technical memorandum was written and approved by Æ staff who meet the Society of Vertebrate Paleontology qualifications standards for Project Paleontologist/Principal Investigator (SVP, 2010). This technical memorandum satisfies the requirements of the CEQA.

PROJECT DESCRIPTION AND BACKGROUND

On December 13, 2018, the Fresno City Council adopted regulatory ordinance 2018-68 relating to adult use of cannabis, medicinal retail distribution, and commercial retail business (City of Fresno, 2019). This technical memo serves as the initial evaluation of potential impacts to paleontological resources for the EIR for the City's Text Amendment No. P19-02978 – Evaluating the Proposed Regulation and Permitting of Commercial Cannabis Activities. The City is proposing an amendment to several portions of its Municipal Code, namely Sections 15-2739 and 15-2739.1, Article 33 to Chapter 9, and Article 21 to Chapter 12, as relate to adult use and medicinal cannabis retail business and commercial cannabis business. The Cannabis Ordinance EIR will focus on land-use areas capable of supporting cultivation, distribution, manufacturing, testing, and retail facilities for cannabis development with a requisite 800-foot and 1,000-foot-wide buffers from other cannabis retailers, schools, daycare centers, and other youth facilities.

REGULATORY CONTEXT

The CEQA requires state and local agencies to identify the significant environmental effects of their actions and to avoid or mitigate those impacts, if feasible. CEQA Guidelines Appendix G (Environmental

Checklist Form) Section VII(f) requires agencies to consider whether a project will “directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.” If unique paleontological resources or sites are identified as being within the proposed project area, then the agency must take those resources into consideration when evaluating project effects.

In addition to CEQA requirements, the City’s General Plan and Development Code Update Master EIR contains policies to ensure protection of paleontological resources (FirstCarbon Solutions, 2014:5.5-20).

- **G-10-c. Policy:** Unique prehistoric resource sites shall be considered as those archaeological and paleontological/geological sites which:
    - Contain information needed to answer important scientific research questions.
    - Have special quality or unique features, such as being the oldest, largest, or most complete example of a particular type of site or are directly associated with a scientifically recognized prehistoric or historic event or person.
- **G-11-d. Policy:** Prehistoric resources (those containing archaeological and paleontological/ geological material) shall be protected.
- **G-11-e. Policy:** If the site of a proposed development or public works project is found to contain unique prehistoric (archaeological or paleontological/geological) resources, and it can be demonstrated that the project will cause damage to these resources, reasonable efforts shall be made to permit any or all of the resource to be scientifically removed, or it shall be preserved in situ (left in an undisturbed state).

EVALUATION OF PALEONTOLOGICAL RESOURCE POTENTIAL

Professional paleontologists in California generally adhere to the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP, 2010) to guide the course of paleontological impact assessment and mitigation for projects on private- and state lands, unless city, county, or other specific guidelines are available. The SVP guidelines establish detailed protocols for the assessment of the paleontological sensitivity of a project area and outline measures to follow in order to mitigate adverse impacts to known or unknown fossil resources during project development (SVP, 2010).

Following the SVP’s established process, baseline information is used to assign the paleontological sensitivity of a geologic unit (or members thereof) to one of four categories— High, Undetermined, Low, and No Potential (SVP, 2010). Geologic units are considered to be “sensitive” for paleontological resources and have a High Potential if vertebrate or significant invertebrate, plant, or trace fossils have been recovered anywhere in their extent, even if outside the Project area, or if the units are sedimentary rocks that are temporally or lithologically suitable for the preservation of significant fossils. The SVP considers significant fossils as those that contribute new and useful taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data (SVP, 2010).

The SVP (2010:2) defines the other categories as follows:

Undetermined—Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.

Low—Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule. Rock units with low potential typically will not require impact mitigation measures to protect fossils.

No Potential—Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection nor impact mitigation measures relative to paleontological resources.

Methodology

As stated above, Æ collected baseline data regarding the Project area's geologic units to assess the overall paleontological sensitivity of geologic units exposed at the ground surface of the Project area as well as those thought to be buried at unknown depths within the Project area. For purposes of this analysis, it is important to note that the Project area consists of specific and, in some cases, non-contiguous areas where cultivation, distribution, manufacturing, testing, and retail facilities for cannabis could be permitted. However, for purposes of this review, Æ did not obtain specific information for each of these areas. Rather, Æ paleontologists completed a desktop review of readily available geological and paleontological information, including published geologic maps and cross sections, paleontological publications, and prior paleontological assessments for other projects in Fresno County and within the City. Æ did not send paleontological locality records requests to museums for searches of their collections, but a 2012 search of the University of California Museum of Paleontology (UCMP) vertebrate paleontology database records conducted for another project within Fresno County was utilized and is discussed in detail below.

Resource Context

The Project area is along the east margin of the southern San Joaquin Valley, part of the Great Valley Geomorphic Province (FirstCarbon Solutions, 2016). A geomorphic province is a region of unique topography and geology that is distinguished from other regions based on its landforms and tectonic history. The Great Valley is an alluvial plain in the central part of California, approximately 50 miles wide and 400 miles long, bordered to the west by the Coast Ranges and to the east by the Sierra Nevada range (California Geological Survey, 2002). This province is divided into the Sacramento Valley portion in the north and the larger San Joaquin Valley portion in the south. The San Joaquin Valley occupies a trough created from the collision of the Pacific and North American plates and is subdivided into northern and southern regions by differences in tectonic deformation (Bartow, 1991; Galloway et al., 1999).

The basement beneath the San Joaquin Valley is formed by pre-Paleogene Epoch igneous and metamorphic rocks associated with the Sierra Nevada to the east (FirstCarbon Solutions, 2016). Sediments within the valley have been deposited almost continuously since the Late Jurassic Period, approximately 160 million years ago (Bartow, 1991). Stratigraphically, offshore and nearshore marine sediments comprise the deepest geologic units of the San Joaquin Valley. During periods when the valley was below sea level, sedimentation within a shallow sea occurred (FirstCarbon Solutions, 2014). Continental sediments overlying marine sediments were largely deposited by streams draining from the Sierra Nevada and Coast Ranges (Bartow and Nilsen, 1990) as well as lakes in the San Joaquin Valley (Galloway et al., 1999). Tremendous volumes of sediment filled the valley by the end of the Pliocene Epoch (5–2 million years ago), raising the valley elevation above sea level. The San Joaquin Valley became a major freshwater trap with ancient Lake Corcoran filling the southern and middle valley (FirstCarbon Solutions, 2014). During the subsequent Pleistocene Epoch, comparatively deep areas became freshwater lakes. The San Joaquin River and Kings River are the principal streams draining the western slope of the middle and southern thirds of the Sierra Nevada, respectively. Alluvial fans formed by these rivers and their tributaries are pronounced geomorphic features in Fresno County, especially on the western slopes of the foothills (Bull, 1964; FirstCarbon Solutions, 2016).

The Matthews and Burnett (1965) surface geology map indicates two geologic units in the Project area—the Pleistocene nonmarine Riverbank Formation (Qc) and more recent, unnamed, nonmarine fan deposits (Qf). The Riverbank Formation, similar to many of the other nonmarine geologic units within the San Joaquin Valley, is dominated by alluvial deposits. According to Lettis (1982), the Riverbank Formation (Qr) consists of cyclic deposits of arkosic and micaceous arkosic glacial outwash derived mainly from the central Sierra Nevada overlain by mixed arkosic alluvial clays, silts, sands, and gravels derived from the central Sierra Nevada and foothills, which are capped by extensive lacustrine and paludal deposits (Lettis, 1982). Alluvial deposits within the Great Valley generally increase in thickness from the northeast to the southwest (Bartow, 1991; Lettis, 1982). The Riverbank Formation is known to be fossiliferous, as are the overlying Pleistocene-age Modesto and the underlying Turlock Lake and Tulare Formations (Dundas et al., 1996; Dundas, Harmsen, and Wakabayashi, 2009; Dundas, Ibarra et al., 2009; Lettis, 1982; Marchand and Allwardt, 1981).

In contrast to the robustly described Riverbank Formation, comparatively little is known definitively about the unnamed nonmarine fan deposits. This lack of information poses analytical challenges because of the generality of the geological description and the unestablished chronology. Such a description lacking in specificity is not reliably searchable in databases or literature reviews, and terminology varies among publications and maps. For instance, Finger (2012) suggests a Pleistocene-Holocene age for the sediments, while Matthews and Burnett (1965) list the unit generically as “recent fan deposits,” and “recent” typically refers to the Holocene. Lettis (1982) presents the fan deposits as post-Modesto arkosic clays, silts, sands, and gravels (Qh), which may represent up to four aggradational cycles in the Holocene Epoch. These descriptions suggest that the main distinction between the Riverbank Formation and the unnamed fan deposits is temporal (Bartow, 1991). The more recent and likely Holocene-age alluvial fan deposits are generally too young to contain fossilized material (SVP, 2010). Such deposits do not typically yield significant and intact fossil material, but they may shallowly overlie the fossiliferous Modesto, Riverbank, Turlock Lake, and Tulare formations (Marchand and Allwardt, 1981).

Lettis (1982) describes the Turlock Lake Formation (Qt) as principally undifferentiated micaceous arkosic alluvial clays, silts, sands, and gravels derived from the central Sierra Nevada and foothills. The Tulare Formation is not illustrated or described by Lettis (1982). Matthews and Burnett (1965) similarly describe "QP" as Plio-Pleistocene nonmarine sedimentary deposits comprised of two units: the Turlock Lake Formation of granitic clays, silts, sands, and cobbles, and the Tulare Formation of poorly consolidated siltstones, sandstones, and conglomerates.

Previous Records Search Results

A UCMP records search for Fresno County completed in 2012 for the Master EIR in support of the City's General Plan (FirstCarbon Solutions, 2014:Appendix D.1) identified three Pleistocene-age localities with vertebrate specimens in the Riverbank Formation (V4401, V65100, and V81121) in addition to 12 plant localities in the Pleistocene-age Modesto, Riverbank, and Turlock Lake formations. The three localities with vertebrate fossils produced 151 specimens, 149 of them occurring at V4401 in the community of Tranquility. A number of these specimens have been documented in scientific publications and have been identified as type specimens for their species. Represented taxa include Pacific pond turtle (*Clemmys marmorata*), rattlesnake (*Crotalus* sp.), loon (*Gavia* sp.), broad-footed mole (*Scapanus latimanus*), jackrabbit (*Lepus* sp.), vole (*Microtus* sp.), woodrat (*Neotoma* sp.), pocket gopher (*Thomomys* sp.), badger (*Taxidea* sp.), gray fox (*Urocyon* sp.), true fox (*Vulpes* sp.), coyote (*Canis latrans*), horse (*Equus* sp.), bison (*Bison* sp.), elk (*Cervus* sp.), and mule deer (*Odocoileus* sp.). It should be noted that the records search covered all of Fresno County, where other paleontologically sensitive units are more likely exposed at the surface than those within the City limits. Furthermore, the Late-Pleistocene Broach Locality yielded a bone of *Bison* cf. *B. latifrons* eroding from an outcrop of the upper unit of the Modesto Formation along the San Joaquin River Parkway trail near Friant and Rice roads within the City limits (Dundas, Ibarra, et al., 2009).

The Paleontological Resources Technical Report prepared for the Merced to Fresno section of the High-Speed Rail Project (AECOM and CH2M HILL, 2012) identified only eight localities within the Riverbank Formation from a UCMP database search for Fresno County, although some of the collections attributed to the Modesto Formation may have come from the Riverbank Formation. This database search yielded specimens of mammoth (*Mammuthus* sp.), camel (*Camelops* sp.), three genera of ground sloth (*Glossotherium*, *Nothrotheriops*, and *Megalonyx*), two genera of saber-toothed cat (*Smilodon* and *Homotherium*), pronghorn (*Tetrameryx* sp.), dwarf pronghorn (*Capromeryx* sp.), large-headed llama (*Hemiauchenia* sp.), American cheetah (*Miraecinonyx* sp.), kangaroo rat (*Dipodomys* sp.), and shrew (*Notiosorex* sp.). In addition to the UCMP database search, the Paleobiology database records search yielded two localities with specimens belonging to an unspecified fish family; large mammals, such as horse (*Equus* sp.), camel (*Camelops* sp.), ground sloth (*Paramylodon* sp.), mammoth (*Mammuthus* sp.), deer (*Odocoileus* sp.), bison (*Bison* sp.), and the canines (*Canis* sp.); and rodents, such as mole (*Scapanus* sp.), cottontail rabbit (*Sylvilagus* sp.), pocket-gopher (*Thomomys* sp.), ground squirrel (*Spermophilus* sp.), vole (*Microtus* sp.), harvest mouse (*Reithrodontomys* sp.), and woodrat (*Neotoma* sp.).

In addition to the reported paleontological localities for the Riverbank Formation, AECOM and CH2M HILL (2012) also report 12 localities recorded in the UCMP Database for the Tulare Formation, which is age-equivalent to the Turlock Lake Formation, both underlying the Riverbank Formation and possible at unknown depths beneath the City. At the time of the AECOM and CH2M HILL (2012) report, the

Paleobiology Database listed four fossil localities in the Tulare Formation and one locality in the Turlock Lake Formation. Some of the vertebrate fossil fauna recovered from the upper unit of the Turlock Lake Formation in nearby Madera County at the well-known Fairmead Landfill Locality (Dundas et al., 1996; Dundas, Harmsen, and Wakabayashi, 2009; Dundas and Chatters, 2013) included large mammals, such as Columbian mammoth (*Mammuthus columbi*), horse (*Equus* sp.), giant short-faced bear (*Arctodus* sp.), Leidy's peccary (*Platygonus* cf. *P. vetus*), four-horned antelope (*Tetrameryx irvingtonensis*) and dwarf pronghorn antelope (*Capromeryx* sp.), deer (*Odocoileus* sp.), camel (*Camelops* sp.) and camelid (*Hemiauchenia* sp.), ground sloth (*Glossotherium harlani*, *Nothrotheriops* cf. *N. shastensis*, and *Paramylodon harlani*), two-toed sloth (*Megalonyx* sp.), Armbruster's wolf (*Canis armbrusteri*) and coyote (*Canis* cf. *C. latrans*), saber-toothed cat (*Smilodon* cf. *S. fatalis*) and scimitar-toothed cat (*Homotherium* sp.); rodents, such as smoothed-toothed pocket gopher (*Thomomys* sp.), kangaroo rat (*Dipodomys* sp.), woodrat (*Neotoma* sp.), deer mouse (*Peromyscus* sp.), vole (*Microtus* sp.), ground squirrel (*Spermophilus* sp.), and hare (*Lepus* sp.); reptiles, such as Pacific pond turtle (*Clemmys marmorata*); and waterfowl (Anatidae).

FINDINGS AND RECOMMENDATIONS

Based on Æ's review of existing records for the Fresno region, four rock formations, all of which have yielded significant paleontological resources outside the Project area, likely do occur at unknown depths within the Project area's boundaries—Modesto, Riverbank, Tulare, and Turlock Lake formations. Poorly described, unnamed Holocene nonmarine fan deposits likely too young to yield significant and intact fossil material may shallowly overlie the fossiliferous Modesto, Riverbank, Turlock Lake, and Tulare formations.

Æ used the SVP's (2010) sensitivity criteria to assess the paleontological resource potential of the Project area. Based on these criteria, Holocene alluvial fan deposits are considered to have Low Potential as they are not temporally or lithographically suitable for the preservation of significant fossils. The Modesto, Riverbank, Tulare, and Turlock Lake formations all have High Potential for significant paleontological resources, as they have previously yielded vertebrate or significant invertebrate, plant, or trace fossils. Figure 1 represents the approximate spatial distribution at the ground surface of high and low paleontological sensitivity areas within the City based on units mapped by Matthews and Burnett (1965). In Figure 1, locations ranked as High paleontological sensitivity correspond to surface outcrops of the Modesto, Riverbank, Tulare, and Turlock Lake formations. Low paleontological sensitivity areas in Figure 1 are derived from the same maps that illustrate the ground surface at those locations as covered by the veneer of young Holocene-age alluvium. Because the mapping is based on the known surface distributions of geologic units, it is emphasized that any or all of the high-sensitivity geologic units likely will be encountered during proposed Project-related development, even in locations shown in Figure 1 as having low sensitivity on the ground surface. The likelihood of encountering High Potential geologic units will depend on the specific location of the proposed Project and the depths of Project-related ground disturbance.

Therefore, in line with City of Fresno General Plan and Development Code Master EIR Mitigation Impact CUL-3, Æ recommends completion of a site-specific paleontological resource assessment (PRA) for all projects that involve ground disturbance of intact terrain and/or deposits prior to permit approval for each individual project proposed within the Project area (i.e., no PRA should be required for projects in previously developed commercial and industrial areas where intact terrain and/or deposits are absent).

Project-specific records searches of the UCMP and Paleobiology databases should be conducted in addition searches at regional repositories such as the Natural History Museum of Los Angeles County.

If a Project-specific PRA indicates High Potential for encountering significant paleontological resources, Æ recommends a Project-specific paleontological resource impact mitigation program (PRIMP) be prepared prior to issuance of grading permits. The PRIMP would be prepared by a professional paleontologist who meets or exceeds the SVP (2010) qualification standards for Project Paleontologist/Principal Investigator. The PRIMP would specify the steps to be taken to mitigate impacts to paleontological resources. For instance, Worker's Environmental Awareness Program (WEAP) training should be prepared prior to the start of Project-related earth-moving activities and presented in person to all field personnel to describe the types of fossils that may be found and the procedures to follow if any are encountered. A PRIMP would also specify whether construction monitoring is required, and, if so, the frequency of required monitoring (i.e., full-time, spot-checks, etc.); provide details about fossil collection, analysis, and preparation for permanent curation at an approved repository; and describe the different reporting standards to be used—monitoring with negative findings versus monitoring resulting in fossil discoveries.

It has been a pleasure assisting you with this Project. If you have any questions, please do not hesitate to contact me at (831) 809-0172 or srohlf@appliedearthworks.com.

Sincerely,

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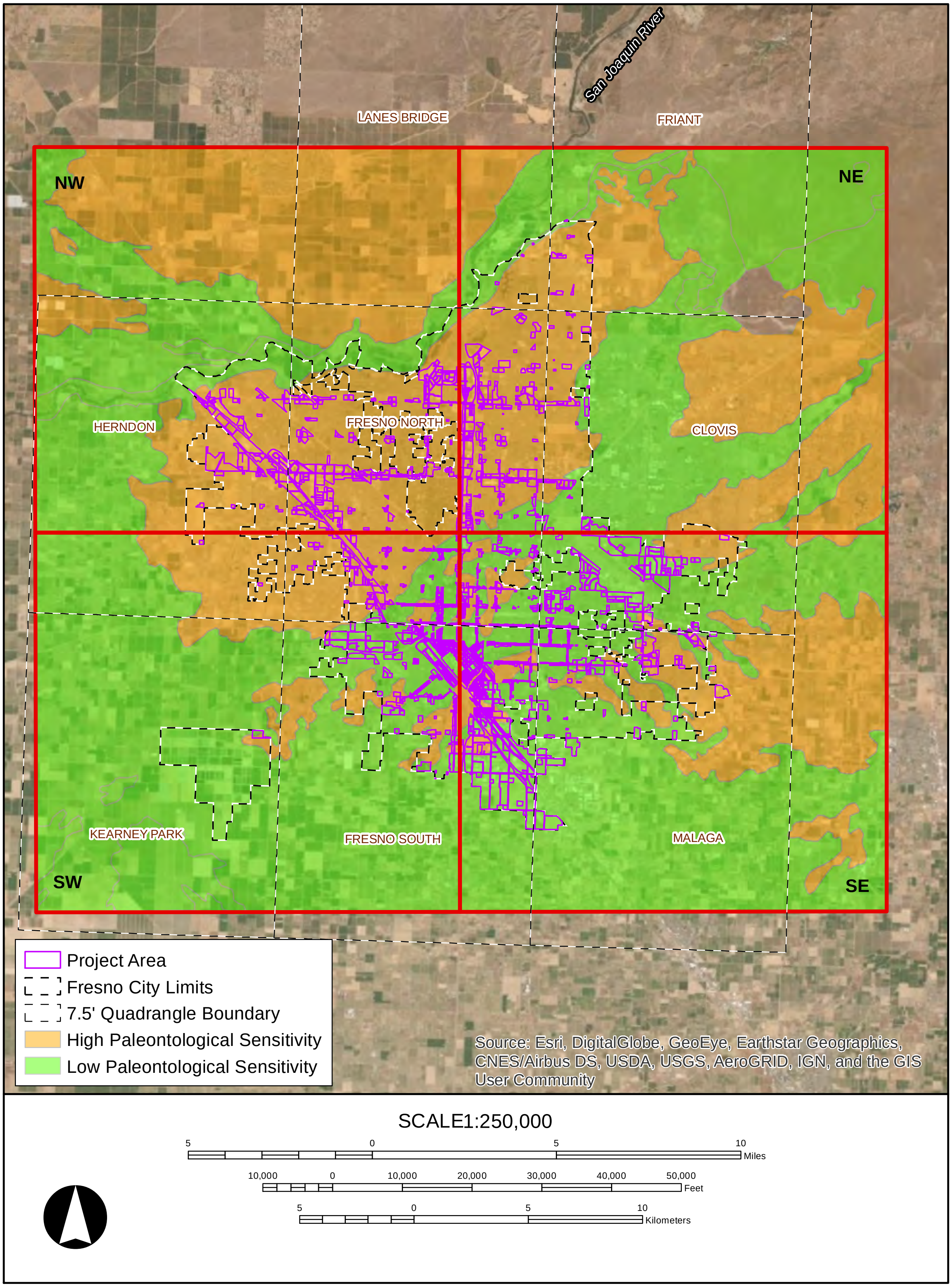

Figure 1 Paleontological sensitivity at the ground surface within the Fresno city limits (Project area) based on units mapped by Matthews and Burnett (1965).

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APPENDIX F

ENVIRONMENTAL NOISE ASSESSMENT

ENVIRONMENTAL NOISE ASSESSMENT

TEXT AMENDMENT NO. P19-02978
EVALUATING THE PROPOSED REGULATION AND PERMITTING OF COMMERCIAL CANNABIS ACTIVITIES
FRESNO, CALIFORNIA

WJVA Report No. 19-026

wjv acoustics

PREPARED BY

WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA

JULY 31, 2019
(REVISED OCTOBER 24, 2019)

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1. INTRODUCTION

1.1 Project Description

The Fresno City Council directed staff to initiate the process to amend the zoning code to allow medicinal cannabis operations, cultivation, manufacturing, extraction, testing, distribution, delivery, and dispensaries within the City. Subsequently, in March 2018, the Director initiated an amendment to the zoning code to allow for adult use cannabis cultivation, manufacturing, extraction, testing, and distribution. On December 13, 2018, the Fresno City Council adopted a cannabis regulatory ordinance which includes requirements for medicinal and adult use cannabis permits, operation requirements, location restrictions, and application requirements.

1.2 Location

The project area is located within the City of Fresno. Specific cannabis-related activities are restricted to specific areas within the City, as described below.

1.3 Cannabis Retail Business

Cannabis retail businesses include any business where cannabis or cannabis products are offered for retail sale, including any retail establishment (whether fixed or mobile) that delivers cannabis or cannabis products. The project would provide for a maximum of 55,000 square feet of cannabis retail space and add 22 possible retail locations within the City. Under the proposed project, cannabis retails businesses will be limited by location to the following requirements:

- Located on property zoned DTN (Downtown Neighborhood), DTG (Downtown General), CMS (Commercial Main Street), CC (Commercial Community), CR (Commercial Regional), CG (Commercial General), CH (Commercial Highway), NMX (Neighborhood Mixed-Use), CMX (Corridor/Center Mixed Use), RMX (Regional Mixed-Use), and must meet all of the development standards and hours of operation.

- All buildings in which a cannabis retail business is located shall be no closer than eight hundred (800) feet from any property boundary containing a cannabis retail business, a school providing instruction for any grades pre-school through 12 (whether public, private, or charter, including pre-school, transitional kindergarten, and K-12), a day care center licensed by the state Department of Social Services that is in existence at the time a complete commercial cannabis business permit application is submitted, a youth center that is in existence at the time a complete commercial cannabis business permit application is submitted.

1.4 Commercial Cannabis Business

Commercial cannabis businesses include any business or operation which engages in commercial cannabis activity, except for delivery or sales of cannabis. It does not include a cannabis retail business or medicinal cannabis retail business. Commercial cannabis businesses may include any cultivation, manufacture, processing, storing, laboratory testing, labeling, transporting or distribution of cannabis and cannabis products. The project would provide for a maximum of 700,000 square feet (approximately 16 acres) of cultivation, distribution and manufacturing space and a maximum of 100,000 square feet of testing labs. Under the proposed project, commercial cannabis businesses will be limited by location to the following requirements:

- Laboratory testing may take place in a Commercial, Employment, or Downtown District and must meet all of the requirements for development in these zones, including, but not limited to, parking, lighting, building materials, etc.

- Cultivators, distributors, or manufacturers must be located within the Cannabis Innovation Zone, inside a Cannabis Innovation Hub, or within one-half (1/2) mile of State Route 99 between Shaw Avenue and Clinton Avenue, one (1) mile of State Route 99 north of Shaw Avenue or south of Clinton Avenue, or within one (1) mile of State Route 180 west of State Route 99, must be zoned either IL (Light Industrial) or IH (Heavy Industrial), and must meet all of the requirements for development in these zones. All buildings in which a cultivator, distributor, or manufacturer is located shall be no closer than one thousand (1,000) feet from any property boundary containing any residentially zoned parcel in the city, including any legal non-conforming residential uses as of the date a complete commercial cannabis business permit application is submitted, a school providing instruction for any grades pre-school through 12 (whether public, private, or charter, including pre-school, transitional kindergarten, and K-12), a day care center licensed by the state Department of Social Services that is in existence at the time a complete commercial cannabis business permit application is submitted, a youth center that is in existence at the time a complete commercial cannabis business permit application is submitted.

Furthermore, the following descriptors have been adopted by the City of Fresno to further delineate and describe areas within the City where cannabis related activities will be permitted to occur.

1.5 Cannabis Innovation Hub

An area of land which has many cannabis related businesses grouped together which must be no less than three (3) contiguous acres and no more than one hundred (100) contiguous acres. No more than eight (8) are permitted within the city. Each individual business would be clearly defined, with a unique entrance and immovable physical barriers between every premises. All Cannabis Innovation Hubs must be located within one-half (1/2) mile of State Route 99 between Shaw Avenue and Clinton Avenue, one (1) mile of State Route 99 north of Shaw Avenue or south of Clinton Avenue, or within one (1) mile of State Route 180 west of State Route 99, and must be zoned either IL (Light Industrial) or IH (Heavy Industrial), and must meet all of the requirements for development in these zones.

1.6 Cannabis Innovation Zone

The Cannabis Innovation Zone represents the area bounded by State Route 41, Golden State Boulevard, Church Avenue, East Avenue, and Parallel Avenue. Eight (8) business would be allowed inside the Cannabis Innovation Zone. Figure 1 provides a map of the City of Fresno, with the 1000-foot buffer analysis for Cannabis Innovation Hubs within IL and IH zoned districts and Cannabis Innovation Zone. Figure 2 provides a map of the City of Fresno, with the 800-foot buffer of analysis of schools, daycares and youth facilities.

1.7 Environmental Noise Assessment

This Environmental Noise Assessment has been prepared by WJV Acoustics, Inc. (WJVA) to determine if significant noise impacts would occur as a result of the project and to describe mitigation measures for noise if significant impacts are determined.

Appendix A provides definitions of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported in this analysis are A-weighted sound pressure levels in decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighted sound levels, as they correlate well with public reaction to noise. Appendix B provides typical A-weighted sound levels for common noise sources.

2. REGULATORY SETTING

The Environmental Checklist Form of the CEQA Guidelines indicates that significant noise impacts may be assumed to occur when a project results in the 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.

2.1 Noise Level Standards

2.1.1 Municipal Code

Section 15-2506 of the City of Fresno Municipal code establishes hourly acoustical performance standards for non-transportation noise sources. The standards, provided in Table I, are made more restrictive during the nighttime hours of 10:00 p.m. to 7:00 a.m. Additionally, the municipal code states that when ambient noise levels exceed or equal the levels described in Table I, mitigation shall only be required to limit noise to the existing ambient noise levels, plus five (5) dB. Section 15-2506 of the Municipal Code is consistent with Implementing Policy NS-1-I of the Noise Element of the City of Fresno General Plan (adopted 12/18/14).

TABLE I

NON-TRANSPORTATION NOISE LEVEL STANDARDS, dBA
CITY OF FRESNO MUNICIPAL CODE, SECTION 15-2506

Daytime (7 a.m.-10 p.m.)		Nighttime (10 p.m.-7 a.m.)	
L_{eq}	L_{max}	L_{eq}	L_{max}
50	70	45	60

Source: City of Fresno Municipal Code

Additional guidance is provided in Section 10-102(b) of the City's Municipal Code. Section 10 provides existing ambient noise levels to be applied to various districts, further divided into various hours of the day. Table II describes the assumed minimum ambient noise levels by district and time. Section 10-102(b) states *"For the purpose of this ordinance, ambient noise level is the level obtained when the noise level is averaged over a period of fifteen minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made. Where the ambient noise level is less than that designated in this section, however, the noise level specified herein shall be deemed to be the ambient noise level for that location".*

TABLE II ASSUMED MINIMUM AMBIENT NOISE LEVEL, dBA CITY OF FRESNO MUNICIPAL CODE, SECTION 10-102(B)		
DISTRICT	TIME	SOUND LEVEL, dB L_{eq}
RESIDENTIAL	10 PM TO 7 AM	50
RESIDENTIAL	7 PM TO 10 PM	55
RESIDENTIAL	7 AM TO 7 PM	60
COMMERCIAL	10 PM TO 7 AM	60
COMMERCIAL	7 AM TO 10 PM	65
INDUSTRIAL	ANYTIME	70

Source: City of Fresno Municipal Code

Section 10-106 (Prima Facie Violation) States *"Any noise or sound exceeding the ambient noise level at the properly line of any person offended thereby, or, if a condominium or apartment house, within any adjoining living unit, by more than five decibels shall be deemed to prima facie evidence of a violation of Section 8-305."*

For noise sources that are not transportation related, which usually includes commercial or industrial activities and other stationary noise sources (such as amplified music), it is common to assume that a 3-5 dB increase in noise levels represents a substantial increase in ambient noise levels. This is based on laboratory tests that indicate that a 3 dB increase is the minimum change perceptible to most people, and a 5 dB increase is perceived as a "definitely noticeable change."

Appendix A provides definitions of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported in this analysis are A-weighted sound pressure levels in decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighted sound levels, as they correlate well with public reaction to noise. Appendix B provides typical A-weighted sound levels for common noise sources.

2.1.2 General Plan

The City of Fresno General Plan Noise Element (adopted 12/18/14) provides noise level criteria for land use compatibility for both transportation and non-transportation noise sources. The General Plan sets noise compatibility standards for transportation noise sources in terms of the Day-Night Average Level (L_{dn}). The L_{dn} represents the time-weighted energy average noise level for a 24-hour day, with a 10 dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The L_{dn} represents cumulative exposure to noise over an extended period of time and are therefore calculated based upon *annual average* conditions. Table III provides the General Plan noise level standards for transportation noise sources.

TABLE III CITY OF FRESNO GENERAL PLAN NOISE LEVEL STANDARDS TRANSPORTATION (NON-AIRCRAFT) NOISE SOURCES			
Noise-Sensitive Land Use	Outdoor Activity Areas[1]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq} dB[2]
Residential	65	45	---
Transient Lodging	65	45	---
Hospitals, Nursing Homes	65	45	---
Theaters, Auditoriums, Music Halls	---	---	35
Churches, Meeting Halls	65	---	45
Office Buildings	---	---	45
Schools, Libraries, Museums	---	---	45

1 Where the location of the outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.

2 As determined for a typical worst-case hour during periods of use.

Source: City of Fresno General Plan

The General Plan also provides noise level standards for non-transportation (stationary) noise sources. The General Plan noise level standards for non-transportation noise sources are identical to those provided in the City's Municipal code, provided above in Table I.

Implementation Policy NS-1-i of the General Plan Noise Element provides guidance in regards to mitigation for new developments and projects that have potential to result in a noise-related impact at existing noise-sensitive land uses.

> ***Mitigation by New Development.*** *Require an acoustical analysis where new development of industrial, commercial or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise levels that exceed the noise level exposure criteria established by [Table III] and [Table I] to determine impacts, and require developers to mitigate these impacts in conformance with Tables 9-2 and 9-3 as a condition of permit approval through appropriate means.*
>
> *Noise mitigation measures may include:*

- *The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment;*
- *Providing increased setbacks for noise sources from adjacent dwellings;*
- *Installation of walls and landscaping that serve as noise buffers;*

- *Installation of soundproofing materials and double-glazed windows; and*

- *Regulating operations, such as hours of operation, including deliveries and trash pickup.*

  Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility, with no City funding.

Implementation Policy NS-1-j of the General Plan Noise Element provides guidance in regards to the establishment of a significance threshold when determining an increase in noise levels over existing ambient noise levels.

> ***Significance Threshold.*** *Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB L_{dn} or CNEL or more above the ambient noise limits established in this General Plan Update.*
>
> *Commentary: When an increase in noise would result in a "significant" impact (increase of three dBA or more) to residents or businesses, then noise mitigation would be required to reduce noise exposure. If the increase in noise is less than three dBA, then the noise impact is considered insignificant and no noise mitigation is needed. By setting a specific threshold of significance in the General Plan, this policy facilitates making a determination of environmental impact, as required by the California Environmental Quality Act. It helps the City determine whether (1) the potential impact of a development project on the noise environment warrants mitigation, or (2) a statement of overriding considerations will be required.*

2.2 Construction Noise and Vibration

There are no known state or federal standards that specifically address construction noise or vibration. The City of Fresno Municipal Code does not explicitly provide guidance on construction noise or vibration. However, Section 10.109 (Exceptions) of the Municipal Code states that the noise provisions shall not apply to *"Construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday."* Although not specifically stated in the Noise Element or the Municipal Code, it is also a standard requirement of many jurisdictions that all construction equipment be properly maintained and muffled to minimize noise generation at the source.

The City of Fresno does not have regulations that define acceptable levels of vibration. One of the most recent references suggesting vibration guidelines is the California Department of Transportation (Caltrans) Transportation and Construction Vibration Guidance Manual. The Manual provides guidance for determining annoyance potential criteria and damage potential threshold criteria. These criteria are provided below in Table IV and Table V, and are presented in terms of peak particle velocity (PPV) in inches per second (in/sec). The PPV levels reported in Table IV and Table V represent those measured at the potential receiver location.

TABLE IV

GUIDELINE VIBRATION ANNOYANCE POTENTIAL CRITERIA

Human Response	Maximum PPV (in/sec) at Receiver	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.1
Severe	2.0	0.4

Source: Caltrans

TABLE V

GUIDELINE VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

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

Source: Caltrans

3 SETTING/ EXISTING NOISE ENVIRONMENT

The project site encompasses numerous potential areas throughout the City of Fresno, but limited to specific requirements, as described above in Section 1.b. A discussion of the existing noise environment throughout the City of Fresno is not feasible due to the geographic size of the project area and the wide range of locations where the proposed project could be implemented.

Within the City of Fresno city limits, noise levels are typically dominated by transportation noise sources (roadway traffic, railroad operations and aircraft operations) and, to a lesser extent, noise from stationary sources, including industrial and commercial noise sources and heating-ventilation-air-conditioning (HVAC) equipment (both residential and commercial).

3.1 Transportation Noise Sources

The three main sources of transportation noise within the City of Fresno are roadway noise, railroad noise and aircraft noise. Roadway noise exists throughout the City, and is a factor of proximity to major transportation routes and is dependent on vehicle speed, vehicle volume and the overall percentages of truck traffic in relation to vehicle volume. Other factors include existing shielding (noise barriers) and topography. Railroad noise is generally limited to two main corridors, with numerous spur lines. Three airports are associated with aircraft noise throughout the City.

3.1.1 Roadway Noise

There are four state highways within the City of Fresno (State Route 99, State Route 41, State Route 180 and State Route 168). Additionally, vehicle traffic occurs throughout the City on surface roads (arterials, collectors, local roads, etc.). Traffic noise exposure levels vary widely throughout the City, based upon proximity to major roadways, vehicle speeds, truck percentages, existing shielding, topography and roadway conditions. Figure 3 provides the existing traffic noise exposure contours and Figure 4 provides the future traffic noise exposure contours, as provided in the City of Fresno General Plan Noise Element.

3.1.2 Railroad Noise

The Union Pacific Railroad and the BNSF Railroad represent the two major railroad corridors within the City of Fresno. The BNSF mainline carries approximately 40 train operations per day while the Union Pacific mainline carries approximately 15 train operations per day. Additionally, numerous spur lines carry infrequent train operations throughout the City of Fresno. Train noise exposure levels are affected by numerous varying factors (in addition to the number of daily operations) including train speed, train length, existing noise barriers, toppography and proximity to an at-grade roadway crossing. Train engineers are required to sound their warning horns before a grade crossing, typically at a distance of approximately ¼ mile before the grade crossing (although certain noise-sensitive areas may be classified as quiet zones). Where noise-sensitive land uses are located in proximity to railroad grade crossings, train horn noise represents a significant source of noise.

3.1.3 Aircraft Noise

Fresno Yosemite International Airport represents the dominant source of aircraft noise levels throughout the City. Fresno Yosemite International Airport accounts for numerous daily operations including commercial air carrier operations, military operations and private aircraft operations. In addition to the Fresno Yosemite International Airport, two municipal airports are located within the City of Fresno, the Fresno Chandler Executive Airport and Sierra Sky Park Airport. The noise contours provided in the City of Fresno General Plan Noise Element for these three airports are provided as Figure 5, Figure 6 and Figure 7, respectively.

3.2 Non-Transportation (Stationary) Noise Sources

Non-transportation noise sources within the City of Fresno are predominantly associated with industrial land uses, but also include community noise sources such as HVAC equipment, landscaping activities and other commercial sources.

3.2.1 Industrial Noise Sources

Sources of industrial noise located within the City of Fresno are generally located in industrial and commercially zoned portions of the City, and typically not in the vicinity of residential land uses or other noise-sensitive land uses. While industrial sources of noise are located throughout several pockets within the City, they tend to be located near major transportation corridors such as State Route 99, State Route 41 as well as the Union Pacific and BNSF mainline railroad corridors. Such areas are consistent with the Cannabis Innovation Zone, described above.

Industrial noise may be contained within buildings and structures and it may also represent sources of exterior noise, generally associated with exhaust fans, HVAC equipment, agricultural processing activities or on-site truck movements. Due to zoning regulations, sources of industrial noise are generally located away from noise-sensitive land uses such as residential, schools, places of worship and hospitals or nursing homes.

3.2.2 Community Noise Sources

Sources of community noise may include HVAC equipment and landscaping activities, which may vary widely based upon time of year and time of day (climatic conditions). Other sources of community noise include commercial activities, including car washes, automotive repair shops, retail stores with loading docks and trash compactors, parking lot activities, parks, outdoor sports facilities and other outdoor recreational activities.

4 PROJECT-RELATED IMPACT ASSESSMENT

CEQA guidelines indicate that a significant noise impact occurs when a project results in the 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. The complete City of Fresno noise level standards are provided above in Section 2.

Noise levels generated by the project are considered a significant impact if any of the following conditions would be expected to occur:

1. The project will cause noise levels exterior to any noise-sensitive receptor to exceed an hourly equivalent sound level (L_{eq}) of 50 dB during the daytime hours (7:00 a.m.-10:00 p.m.) or 45 dB during the nighttime hours (10:00 p.m.-7:00 a.m.).

2. The project will cause noise levels exterior to any noise-sensitive receptor to exceed an hourly maximum sound level (L_{max}) of 70 dB during the daytime hours (7:00 a.m.-10:00 p.m.) or 60 dB during the nighttime hours (10:00 p.m.-7:00 a.m.).

3. The project will cause transportation-related noise levels exterior at any noise-sensitive receptor location to exceed 65 dB L_{dn}. Noise-sensitive uses include residential, transient lodging, churches, meeting halls, theaters, auditoriums or music Halls.

4. The project will cause noise levels within interior spaces to exceed 45 dB L_{dn} for residential, transient lodging, hospitals or nursing homes or exceed an hourly L_{eq} noise level of 45 dB for churches, meeting halls, office buildings, schools, libraries or museums, or 35 dB hourly L_{eq} for theaters, auditoriums and music halls.

Potential impacts and recommended mitigation measures are discussed below in accordance with the CEQA guidelines for noise assessment.

4.1 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 (Less Than Significant)

Depending on proximity to existing noise-sensitive land uses, project implementation and the establishment of cannabis related land uses could potentially result in noise levels that exceed the City's applicable noise level standards. Sources of noise from cannabis-related activities could include (but are not limited to) construction activities, operational noise levels associated with specialty equipment used in the cultivation, harvesting, processing, packaging and distribution of cannabis products, HVAC equipment, as well as project-related increases in traffic noise exposure at existing noise-sensitive land uses. The exact types of equipment (and their associated noise levels) are not known, and must be addressed on a project-specific, case-by-case basis.

4.1.2 Construction Noise

Construction noise could occur at various locations within the project areas. During construction, noise from construction activities could potentially impact noise-sensitive land uses if such uses are located in the immediate area. However, due to required setback distances established for the project, it is unlikely that construction noise levels would result in an impact at noise-sensitive land uses within the City. Activities involved in construction would generate noise levels at distances of 100, 200, 300 and 500 feet as indicated by Table VI. Compliance with Mitigation Measures MM-1 would further ensure compliance with the City's noise level standards.

TABLE VI

TYPICAL CONSTRUCTION EQUIPMENT MAXIMUM NOISE LEVELS, dBA

Type of Equipment	100 Ft.	200 Ft.	300 Ft.	500 Ft.
Backhoe	72	66	62	58
Concrete Saw	84	78	74	70
Crane	75	69	65	61
Excavator	75	69	65	61
Front End Loader	73	67	63	59
Jackhammer	83	77	73	69
Paver	71	65	61	57
Pneumatic Tools	79	73	69	65
Dozer	76	70	66	62
Rollers	74	68	64	60
Trucks	80	74	70	66
Pumps	74	68	64	60
Scrapers	81	75	71	67
Portable Generators	74	68	64	60
Front Loader	80	74	70	66
Backhoe	80	74	70	66
Excavator	80	74	70	66
Grader	80	74	70	66

Source: FHWA
Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek & Newman, 1987

4.1.3 Operational Noise

Noise associated with cannabis-related operational activities may include (but is not limited to) specialty equipment used in the cultivation, harvesting, processing, packaging and distribution of cannabis products, HVAC equipment, ventilation fans, generators, pumps, trash compactors, loading dock activities and on-site vehicle and truck movements. Noise levels associated with such sources vary widely based upon equipment size, type and manufacturer. Noise levels associated with such activities, at a reference distance of 100 feet from the noise source, can be generalized as follows:

- Passing car in parking lot: 55-60 dB
- HVAC equipment: 50-70 dB
- Ventilation fans: 25-45 dB
- Loading dock activities: 70-80 dB
- Trash compactor: 50-55 dB
- Truck movements: 60-70 dB
- Idling refrigerated truck trailers: 50-55 dB
- Irrigation Pumps: 60-70 dB
- Diesel Generator: 65-75 dB

The required setbacks between cannabis-related activities and specific noise-sensitive land uses would likely preclude potential noise impacts associated with project implementation. However, in situations where potential noise impacts may occur, noise levels should be analyzed at a project-specific, case-by-case basis to ensure compliance with the City's applicable noise level standards. Compliance with City of Fresno noise level standards and the implementation of Mitigation Measures MM-2 and MM-3 would further ensure noise level standards are not exceeded.

4.1.4 Project-Related Increases in Traffic Noise Exposure

The project could result in localized increases in traffic noise levels in the vicinity of cannabis-related activities, specifically, cannabis retail locations. However, due to the proposed location requirements (including setback distances, zoning requirements and geographical imitations) project-related traffic impacts would not be considered likely. Generally speaking, project-related traffic volumes would likely contribute (increase over existing) a small portion of existing traffic on local roadways, and would therefore be unlikely to account for any measurable increase over existing traffic noise exposure at existing noise-sensitive land uses. However, in situations where potential traffic noise impacts may occur, traffic noise exposure levels should be analyzed at a project-specific, case-by-case basis to ensure compliance with the City's applicable noise level standards. Compliance with City of Fresno noise level standards and the implementation of Mitigation Measures MM-2 would further ensure noise level standards are not exceeded.

4.2 Generation of Excessive Groundborne Vibration or Groundborne Noise Levels (Less Than Significant)

Vibration from construction activities could be detected if there are sensitive uses located near a construction site. Typical vibration levels at a reference distance of 100 feet and 300 feet are summarized by Table VII. The vibration levels described below at a distance of 100 feet and 300 feet are below the thresholds of annoyance or damage, as previously described in Table IV and Table V. Vibration levels exceeding the threshold levels associated with annoyance or damage would not be expected to occur as a result of the project.

TABLE VII

TYPICAL VIBRATION LEVELS DURING CONSTRUCTION

	PPV (in/sec)	
Equipment	**@ 100´**	**@ 300´**
Bulldozer (Large)	0.011	0.006
Bulldozer (Small)	0.0004	0.00019
Loaded Truck	0.01	0.005
Jackhammer	0.005	0.002
Vibratory Roller	.03	0.013
Caisson Drilling	.01	0.006

Source: *Caltrans*

Vibration from operational sources could occur as a result of vehicle and truck movements, trash collection, loading dock activities, HVAC equipment or other cannabis-specific equipment associated with the processing, packaging and manufacturing of cannabis products. However, such vibration levels would typically be localized and would not be felt at the required setback distances at sensitive receptor locations.

4.3 For a Project Located Within the Vicinity of a Private Airstrip or an Airport Land Use Plan or, Where Such a Plan Has Not Been Adopted, Within Two Miles of a Public Airport or Public Use Airport, Would the Project Expose People Residing or Working in the Project Area to be Exposed to Excessive Noise Levels? (Less Than Significant)

Cannabis-related activities could occur within the vicinity of a private airstrip or within the jurisdiction of an Airport Land Use Compatibility Plan (and within the 65 dB CNEL contours). As described above, there are three airports located within the City of Fresno, the Fresno Yosemite International Airport, the Fresno Chandler Executive Airport and the Sierra Sky Park Airport. Each airport has its own Airport Land Use Compatibility Plan (ALUCP) which provides guidelines in regards to land use compatibility criteria for specific land use designations to be located within close proximity to each airport. In addition, each ALUCP provides existing noise level contours, in terms of the CNEL noise level metric. If cannabis-related activities are proposed within the jurisdiction of an airport ALUCP, the compatibility guidelines should be assessed at a project-specific, case-by-case basis.

4.4 Mitigation Measures

MM-1 The following mitigation measures shall be implemented during construction of Cannabis related facilities:

1. Per the City of Fresno Municipal Code, construction activities should not occur outside the hours of 7:00 a.m. to 10:00 p.m., Monday through Saturday. Construction activities should not occur during any hours on Sunday. If construction is permitted outside of these hours, all sensitive receptors within 1000 feet from any property boundary containing a residence, school, daycare or youth center shall be notified at least one week prior;

2. All construction equipment shall be properly maintained and muffled to minimize noise generation at the source;

3. Noise-producing equipment shall not be operating, running, or idling while not in immediate use by a construction contractor;

4. All noise-producing construction equipment shall be located and operated, to the extent possible, at the greatest possible distance from any noise-sensitive land uses; and

5. Signs shall be posted at the construction site displaying hours of construction activities and a contact phone number.

MM-2 As part of the application submittal for a conditional use permit for all new commercial cannabis businesses, located in the Cannabis Innovation Zone and within 1000 feet from any property boundary containing a residence, school, daycare or youth center, the applicant shall submit a site-specific acoustical analysis to ensure operational noise compliance with applicable City of Fresno noise level standards. The following mitigation measures shall be implemented to ensure operational noise compliance with applicable City of Fresno noise level standards, in areas within the Cannabis Innovation Zone, if Cannabis-related activities are to be located within 1,000 feet of a sensitive receptor:

1. All ground- and roof-amounted HVAC equipment HVAC equipment located within 300 feet of a sensitive receptor shall be properly screened to provide acoustic shielding of associated noise levels. This may include the implementation of roof parapets, solid screening walls or the placement of the unit as such to block line-of-sight of sensitive receptors.

2. Daytime (7:00 a.m. to 10:00 p.m.) loading dock activities shall not occur within 350 feet of a sensitive receptor and Nighttime (10:00 p.m. to 7:00 a.m.) loading dock activities

shall not occur within 1000 feet of a sensitive receptor, without the preparation of a site-specific acoustical analysis.

3. Daytime (7:00 a.m. to 10:00 p.m.) generator activities shall not occur within 200 feet of a sensitive receptor and Nighttime (10:00 p.m. to 7:00 a.m.) generator activities shall not occur within 600 feet of a sensitive receptor, without the preparation of a site-specific acoustical analysis.

4. Daytime (7:00 a.m. to 10:00 p.m.) on-site truck movements shall not occur within 100 feet of a sensitive receptor and Nighttime (10:00 p.m. to 7:00 a.m.) on-site truck movements shall not occur within 325 feet of a sensitive receptor, without the preparation of a site-specific acoustical analysis.

FIGURE 1: 1000-FOOT BUFFER ANALYSIS FOR CANNABIS INNOVATION HUBS

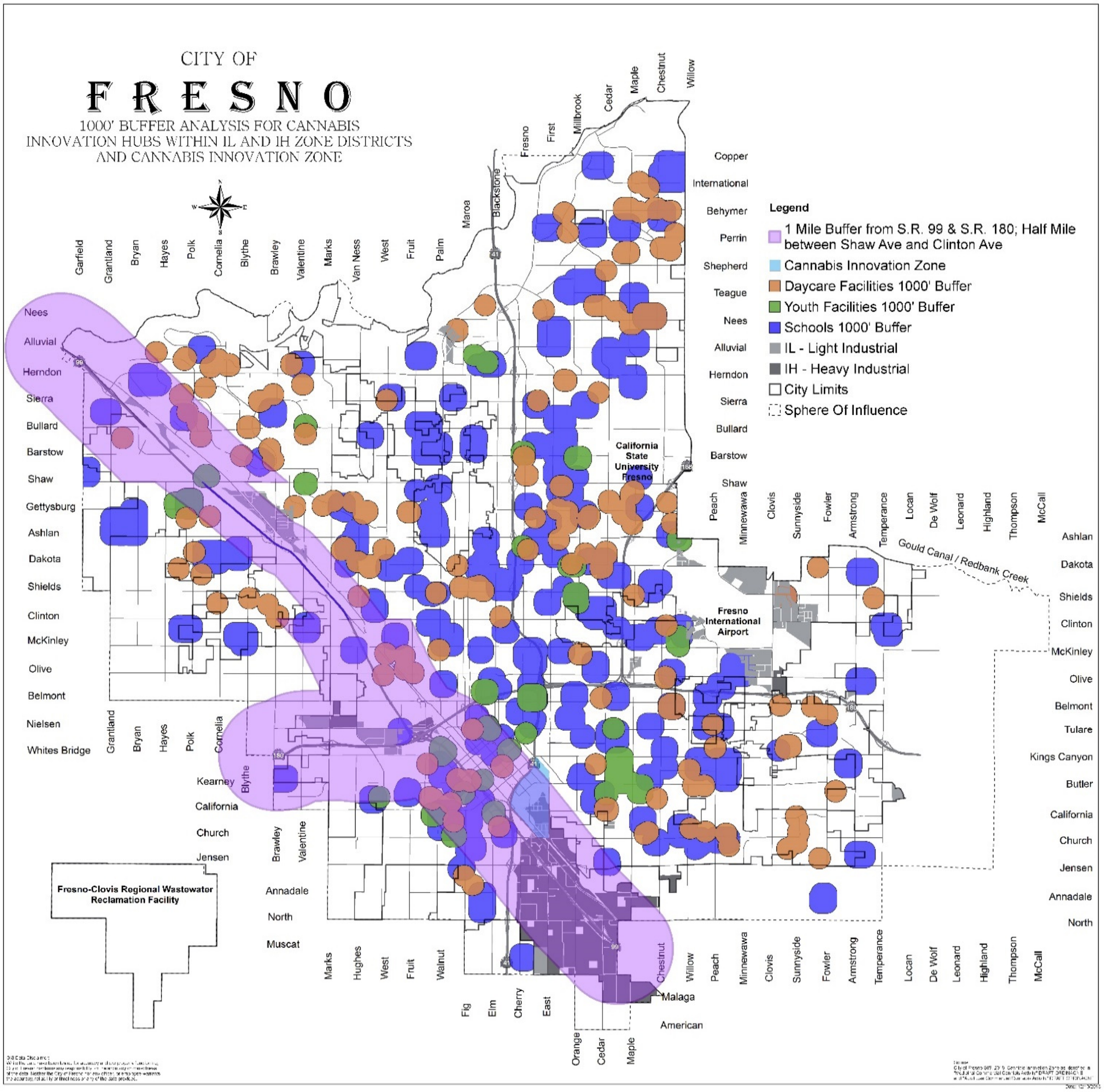


FIGURE 2: 800-FOOT BUFFER ANALYSIS OF SCHOOLS, DAYCARE, AND YOUTH FACILITIES

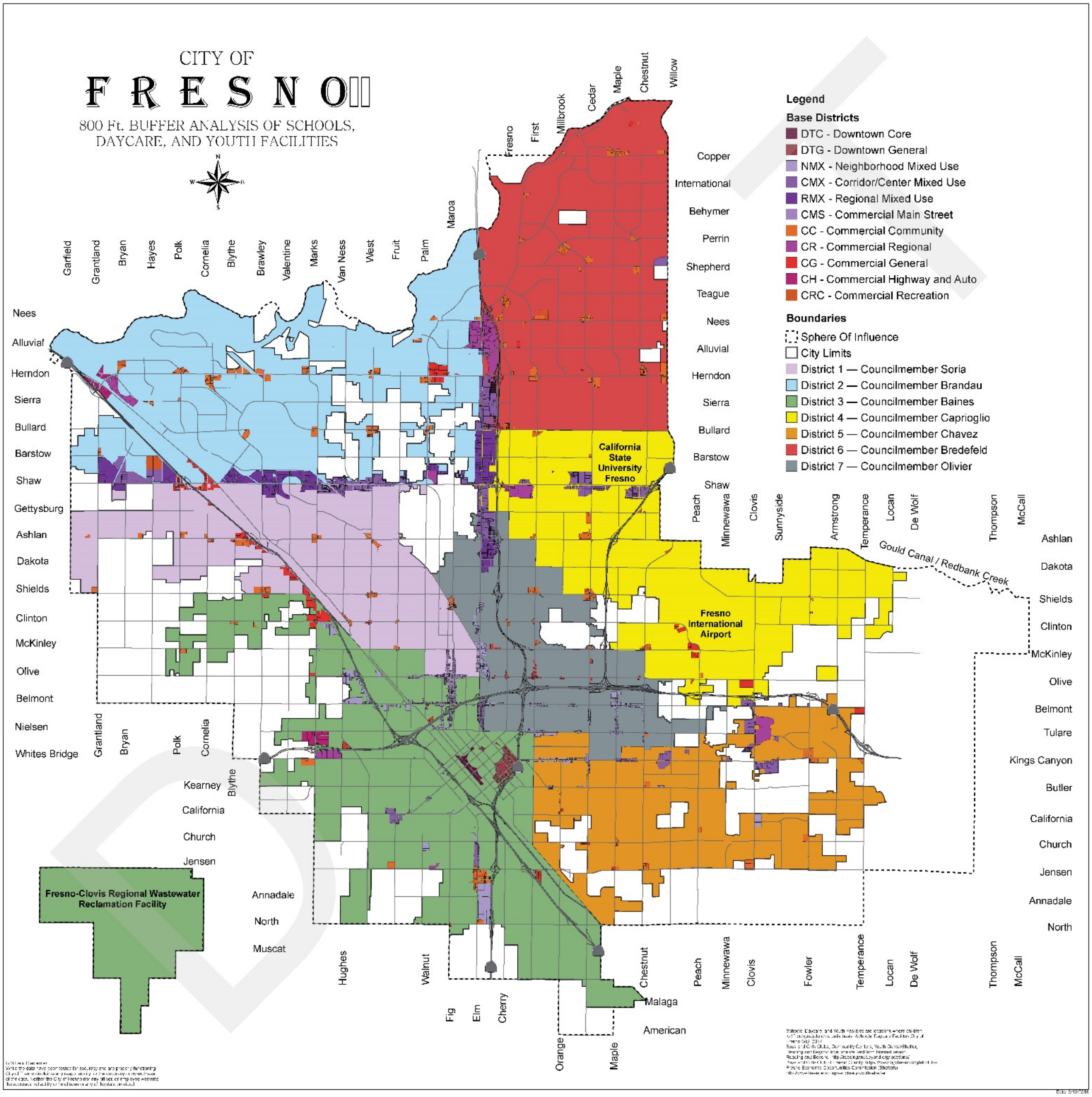
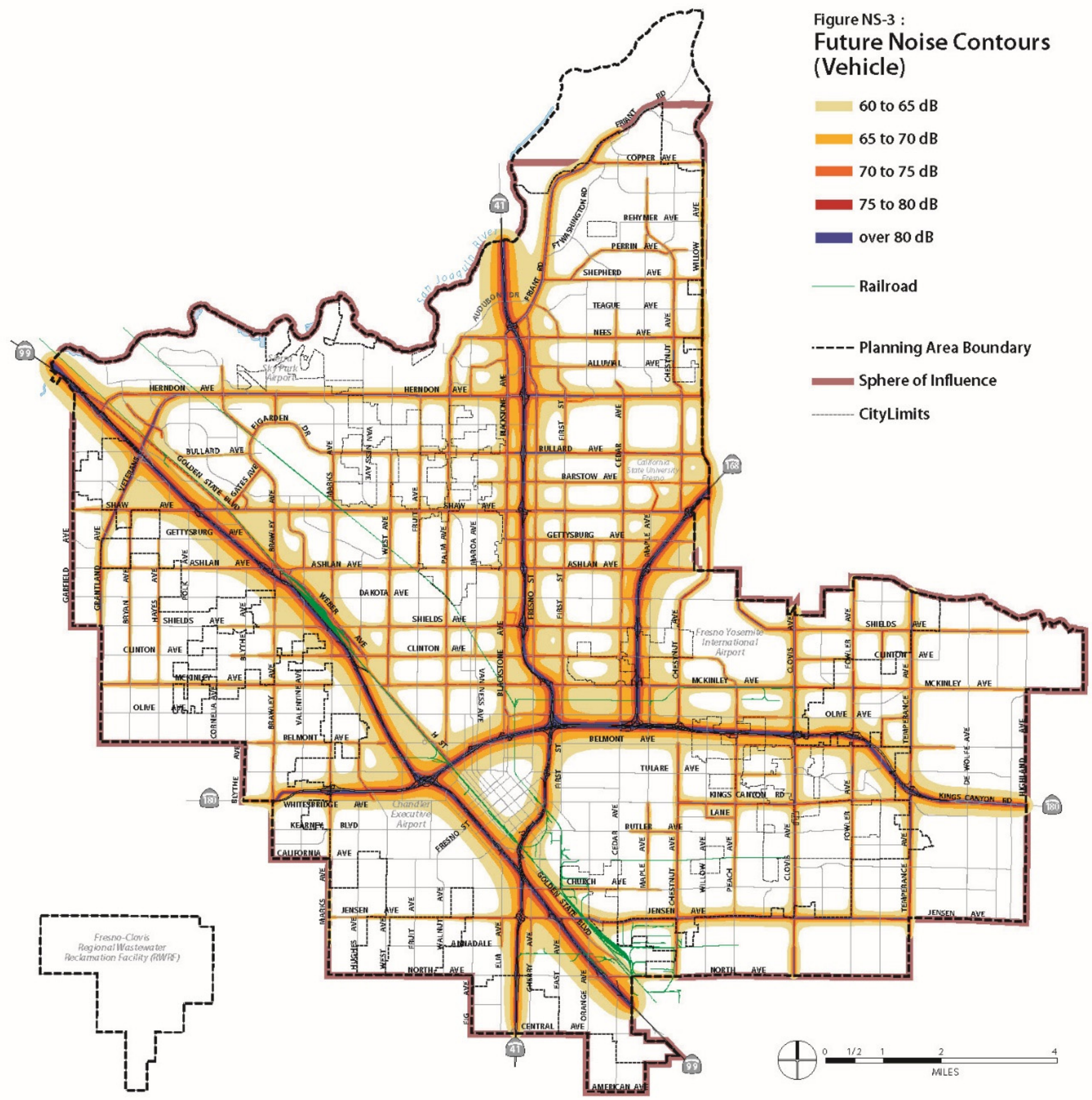


FIGURE 3: EXISTING CITY OF FRESNO TRAFFIC NOISE LEVEL EXPOSURE CONTOURS

Note: The Fresno Air National Guard Base, a military airport, and the Fresno Yosemite International Airport are located in the area represented as Fresno Yosemite International Airport.

Source: City of Fresno, 2011; Salter Associates, 2012 Dyett & Bhatia, 2012.

FIGURE 4: FUTURE CITY OF FRESNO TRAFFIC NOISE LEVEL EXPOSURE CONTOURS



Note: The Fresno Air National Guard Base, a military airport, and the Fresno Yosemite International Airport are located in the area represented as Fresno Yosemite International Airport.

Source: City of Fresno, 2011; Salter Associates, 2012 Dyett & Bhatia, 2012.

FIGURE 5: FRESNO YOSEMITE INTERNATIONAL AIRPORT NOISE CONTOURS

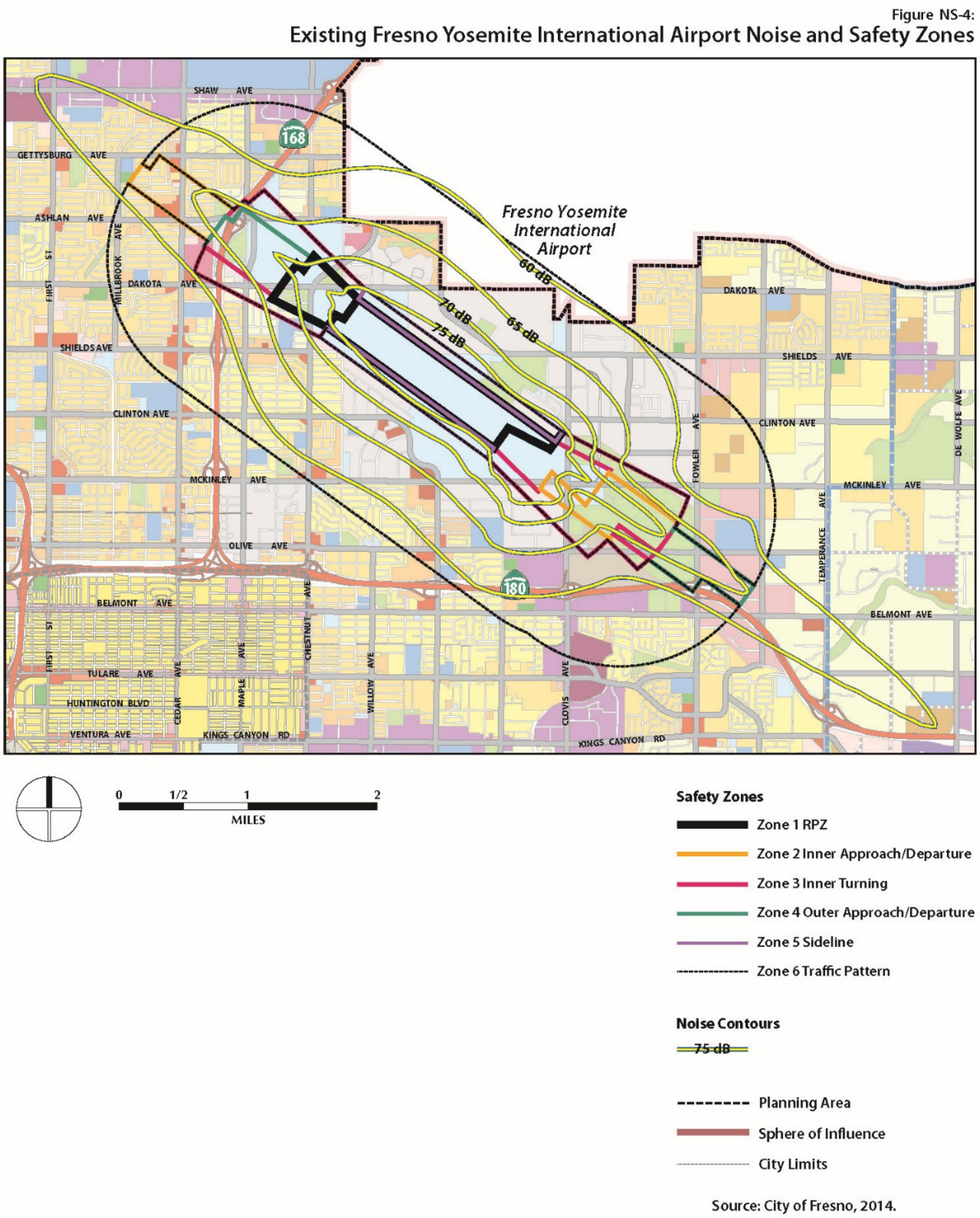


FIGURE 6: FRESNO CHANDLER EXECUTIVE AIRPORT NOISE CONTOURS

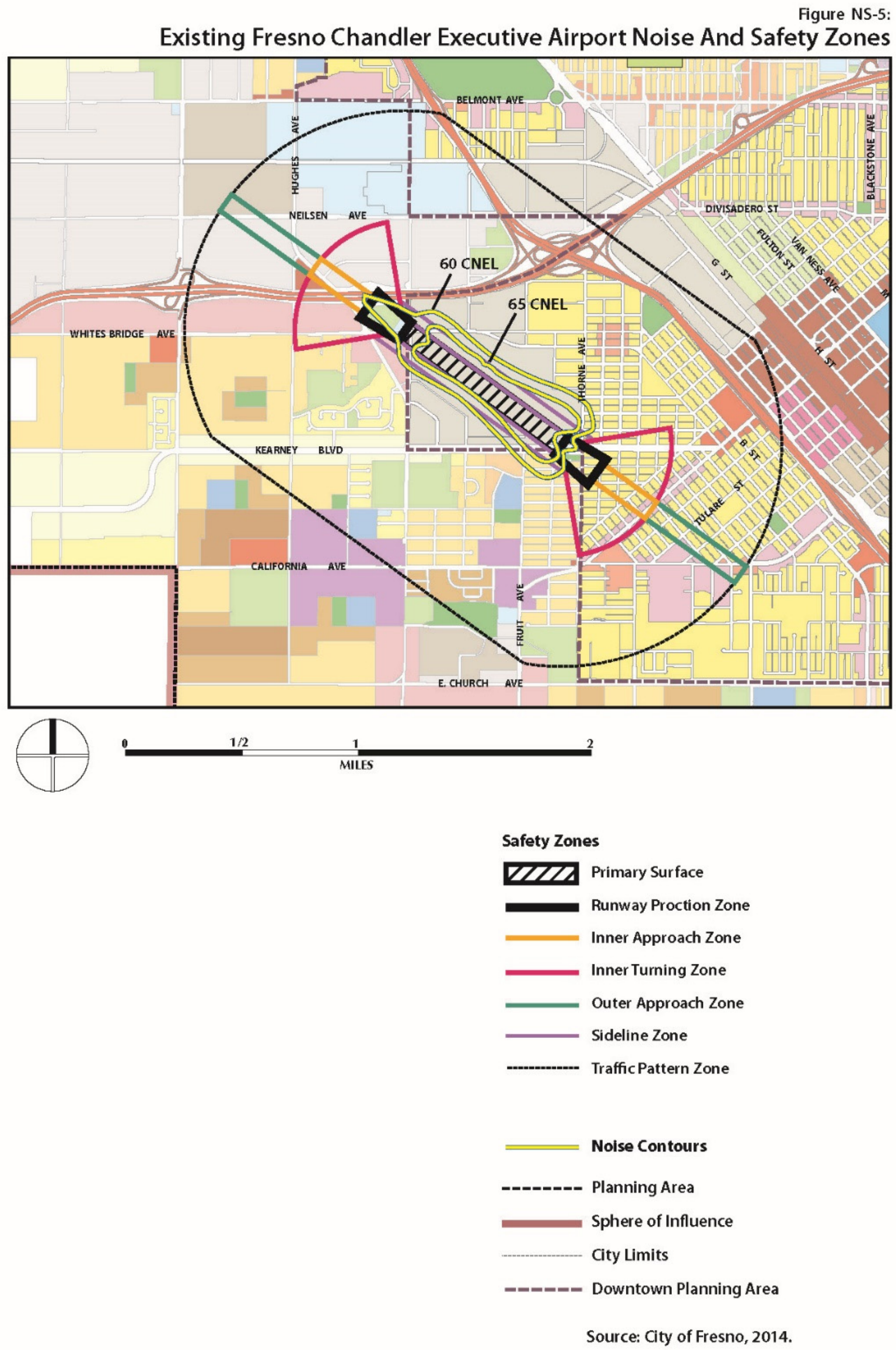
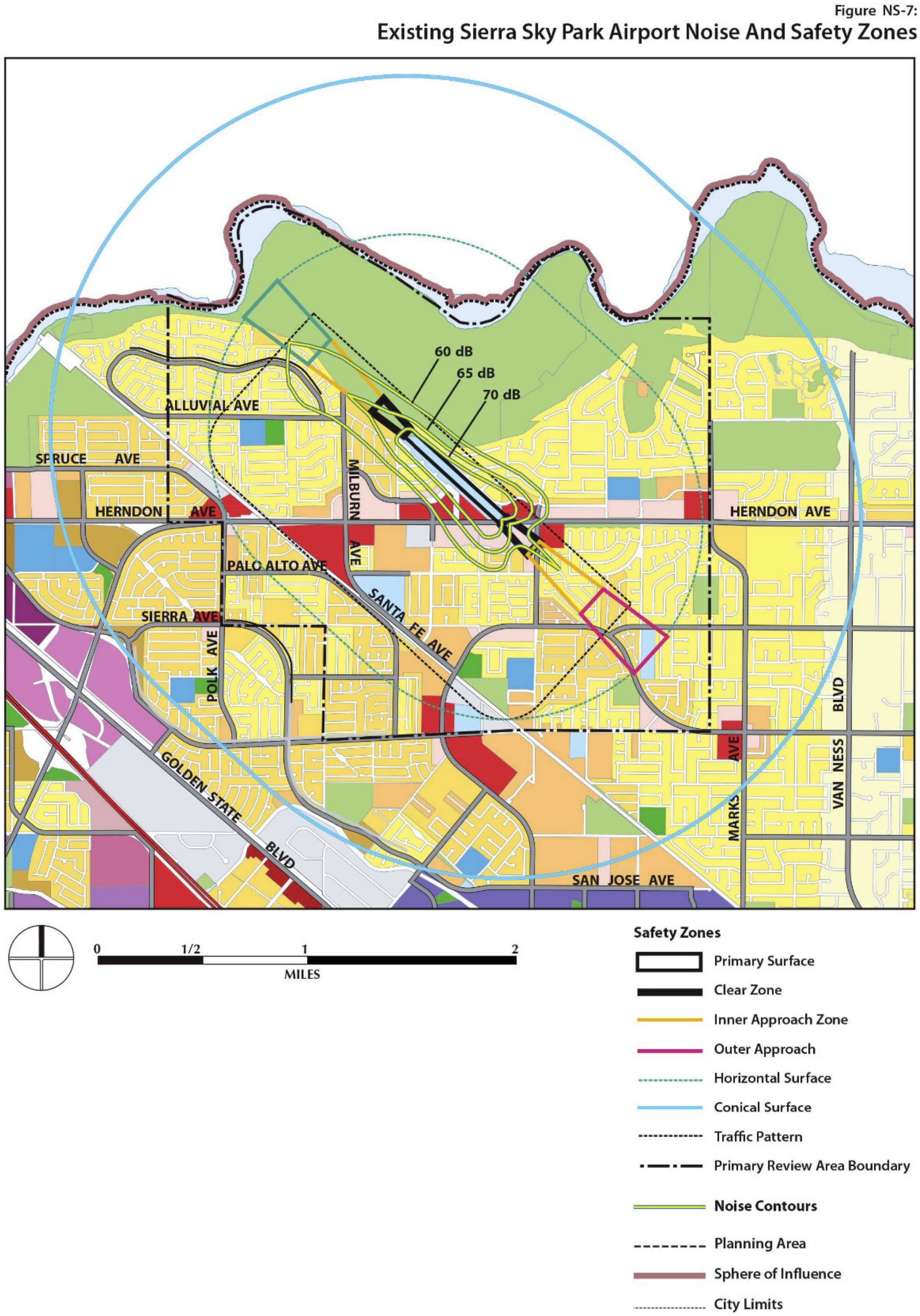


FIGURE 7: SIERRA SKY PARK AIRPORT NOISE CONTOURS



APPENDIX A

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

APPENDIX A (concluded)

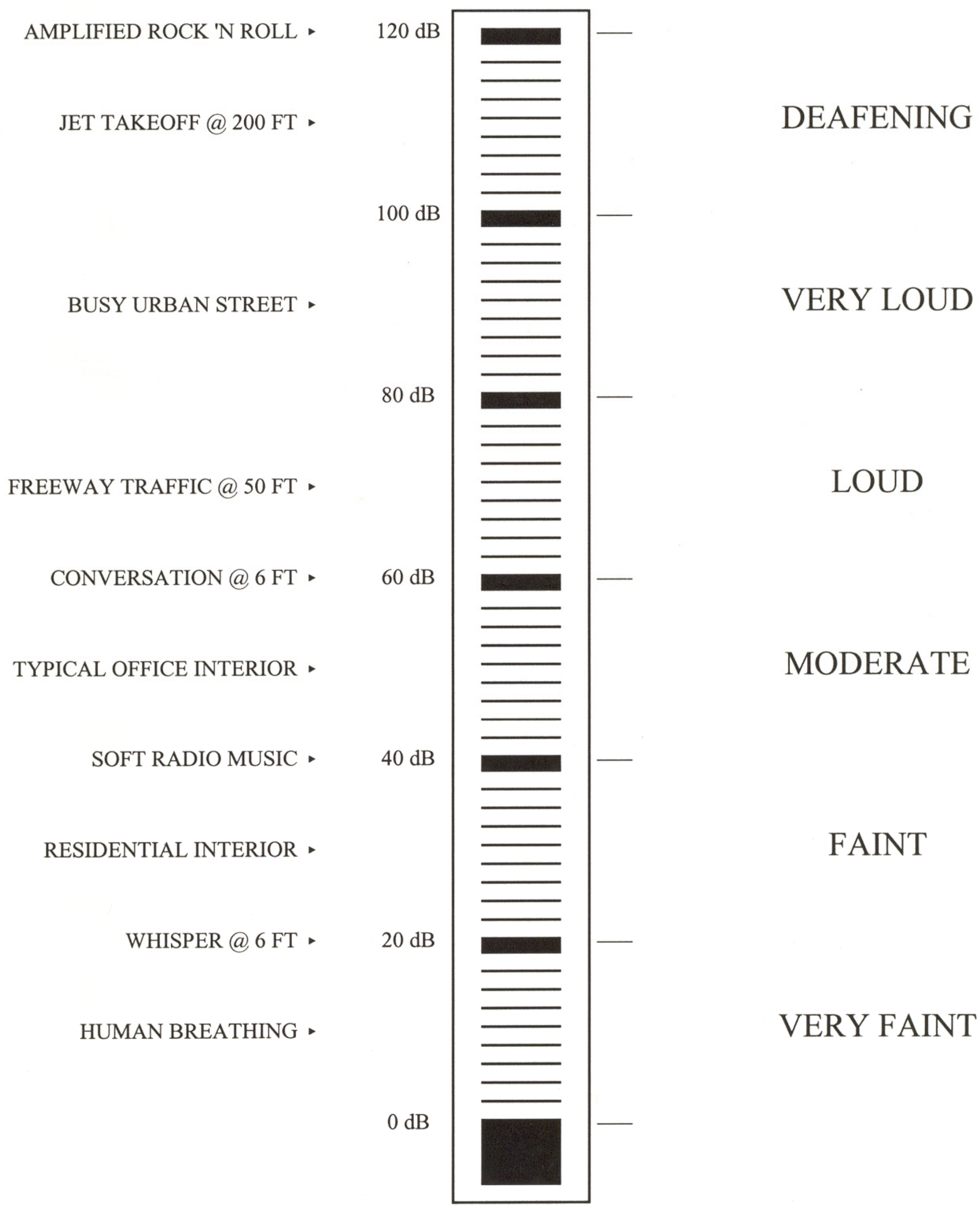
ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS:	Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.
NOISE LEVEL REDUCTION (NLR):	The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of "noise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.
SEL or SENEL:	Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.
SOUND LEVEL:	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.
SOUND TRANSMISSION CLASS (STC):	The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

APPENDIX B

EXAMPLES OF SOUND LEVELS

NOISE SOURCE	SOUND LEVEL	SUBJECTIVE DESCRIPTION



APPENDIX G

TRAFFIC IMPACT STUDY

1.0 Introduction

This Traffic Impact Study (TIS) has been prepared for the purpose of identifying and evaluating potential traffic impacts associated with the Proposed Regulation and Permitting of Commercial Cannabis Activities (Project) in the City Fresno.

1.1 Description of the Region

The City of Fresno (City) is located in Fresno County and is situated in the central portion of the San Joaquin Valley, in the State of California. The City encompasses approximately 113 square miles. Fresno is the largest city in Fresno County and has a current estimated population of 536,683 residents (California Department of Finance, 2019). Figures 1 and 2 show the location of the Project along with major roadways and highways in the Project area.

The topography of the City is relatively flat with little topographic variation. It occurs at an elevation of approximately 328 feet above mean sea level (AMSL). The surrounding land is relatively flat with a sharp rise towards the foothills of the Sierra Nevada Mountain Range to the east. State Route (SR) 99 runs northwest-southeast on the western edge of the City, connecting it with Sacramento and Bakersfield. SR-41 runs north-south through the heart of the City, connecting it with Yosemite National Park. SR-168 links the downtown to Clovis, and SR-180 runs east-west along the southern edge of the City.

1.2 Description of the Project

The City of Fresno is proposing an amendment to Sections 15-2739 and 15- 2739.1 of the Fresno Municipal Code, Article 33 to Chapter 9 of the Fresno Municipal Code, and Article 21 to Chapter 12 of the Fresno Municipal Code, relating to adult use and medicinal cannabis retail business and commercial cannabis business. The text amendment and cultivation ordinance amendment would require the appropriate licensing and land use entitlements. In general, the ordinances would allow for the following:

✓ Cultivation, Distribution, and Manufacturing

- Eight (8) businesses would be permitted inside the Cannabis Innovation Zone, defined as the area bounded by State Route 41, Golden State Boulevard, Church Avenue, East Avenue, and Parallel Avenue.
- Eight (8) businesses would be permitted within industrial zoned property within ½ mile of Highway 99 between Shaw and Clinton Avenues, or within 1 mile of Highway 99 north of Shaw and south of Clinton Avenues, or within 1 mile of Highway 180 west of Highway 99. All buildings in which a cultivator, distributor, or manufacturer is located shall be located no closer than one thousand (1,000) feet from any property boundary containing a residence, school, daycare, or youth center.

- ✓ Testing Laboratories
  - Testing laboratories may take place in a Commercial, Employment, or Downtown District. There is no limit on how many may be permitted.
- ✓ Cannabis Retailers
  - 21 total possible cannabis retail locations – this includes up to 14 medicinal and/or adult use cannabis retail locations (2 per Council District); with the potential to add 7 additional retailers (1 additional per Council District) upon Council Resolution.
  - Retailers would be restricted to the DTN (Downtown Neighborhood), DTG (Downtown General), CMS (Commercial Main Street), CC (Commercial Community), CR (Commercial Regional), CG (Commercial General), CH (Commercial Highway), NMX (Neighborhood Mixed-Use), CMX (Corridor/Center Mixed-Use), or RMX (Regional Mixed Use) zone districts. In addition, retailers would be required to maintain a minimum distance of 800 feet from any property boundary containing another cannabis retailer, schools, daycare centers, and youth centers (i.e. parks, playgrounds, facilities hosting activities for minors)
  - Hours of operation for retailers would be limited to 6:00 am to 10:00 pm
  - Retail delivery allowed if part of store-front operation
- ✓ Cannabis Cultivation
  - The ordinance prohibiting all cultivation does not apply to a private residence with 6 plants or less grown indoors or to any person/property that obtains a City commercial cannabis business permit

Figures 3, 4, and 5 provide a map of potential Cultivation, Distribution, Manufacturing, Testing Laboratory, and Cannabis Retailer locations throughout the City of Fresno.

1.3 Regulatory Context

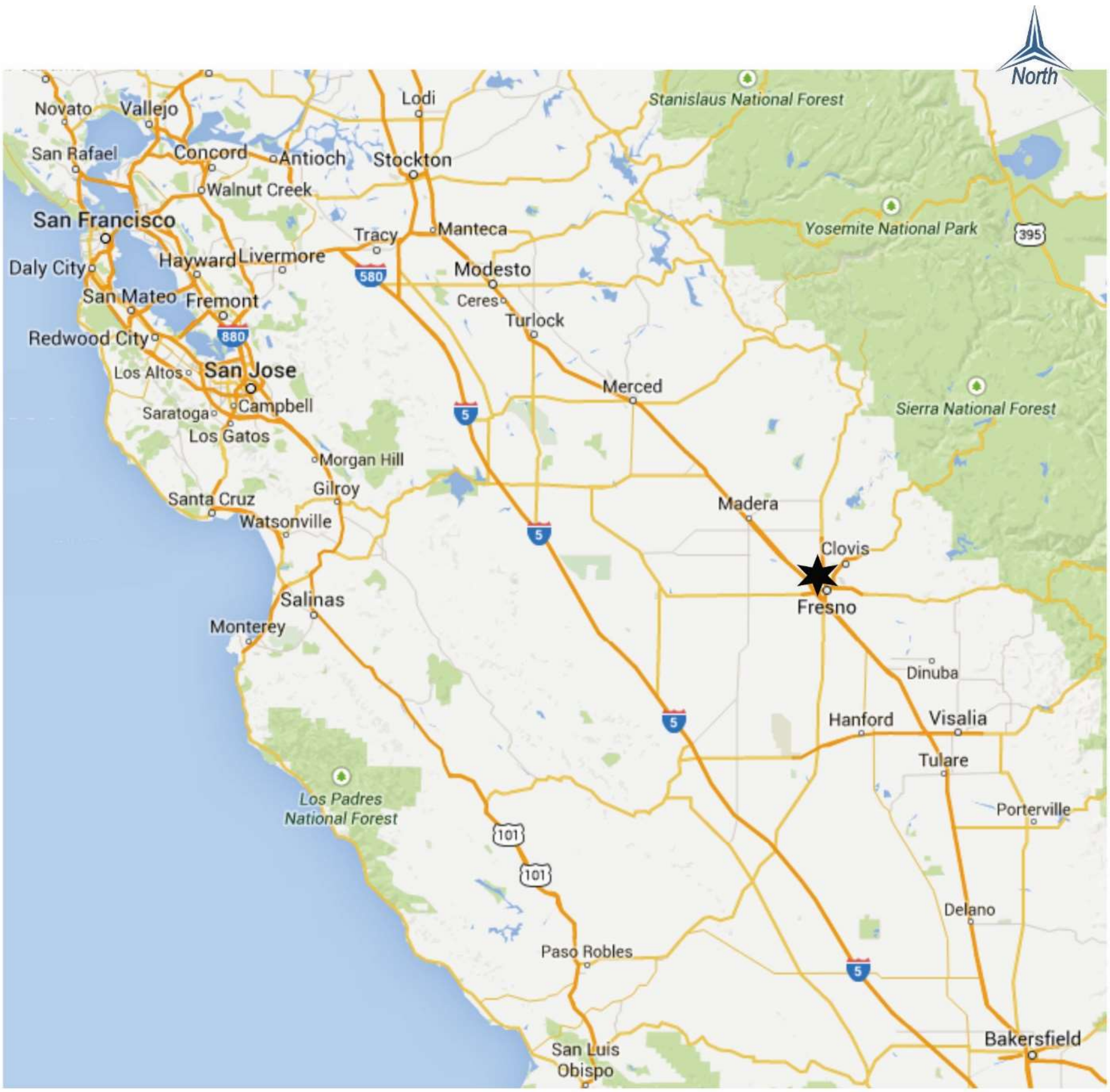
The laws and regulations surrounding cannabis cultivation and manufacturing are complex and vary considerably among the federal, State, and local levels of government. The Federal Controlled Substances Act of 1970 makes it a crime under federal law to manufacture, distribute or dispense, or possess cannabis. However, States and local jurisdictions can regulate cannabis if their laws do not positively conflict with the Controlled Substances Act. Key elements of the recent City regulatory history and current regulatory framework are summarized below:

- ✓ **June 2012** - Fresno City Council adopted a regulatory ordinance that added Article 21 to Chapter 12 to the Fresno Municipal Code. Section 12-2103 prohibited the outdoor cultivation of cannabis; however, no prohibition was placed on indoor cultivation and/or within an outdoor fully enclosed and secured structure (special permit required)
- ✓ **March 2014** - Fresno City Council adopted a regulatory ordinance that repealed Article 21 of Chapter 12 and added Section 12-2104 prohibited all cannabis cultivation by any person in all

zone districts within the City

- ✓ **September 2017** – Fresno City Council adopted a text amendment prohibiting recreational cannabis activities by Section 15-2739.1 to the Fresno Municipal Code
- ✓ **December 2017** - Fresno City Council directed staff to initiate the process to amend the zoning code to allow medicinal cannabis operations, cultivation, manufacturing, extraction, testing, distribution, delivery, and dispensaries within the City
- ✓ **March 2018** – Development and Resource Management Director initiated an amendment to the zoning code to allow for adult use cannabis cultivation, manufacturing, extraction, testing, and distribution – but not adult use retail sales or delivery
- ✓ **December 2018** - Fresno City Council adopted a cannabis regulatory ordinance which includes requirements for medicinal and adult use cannabis permits, operation requirements, location restrictions, and application requirements

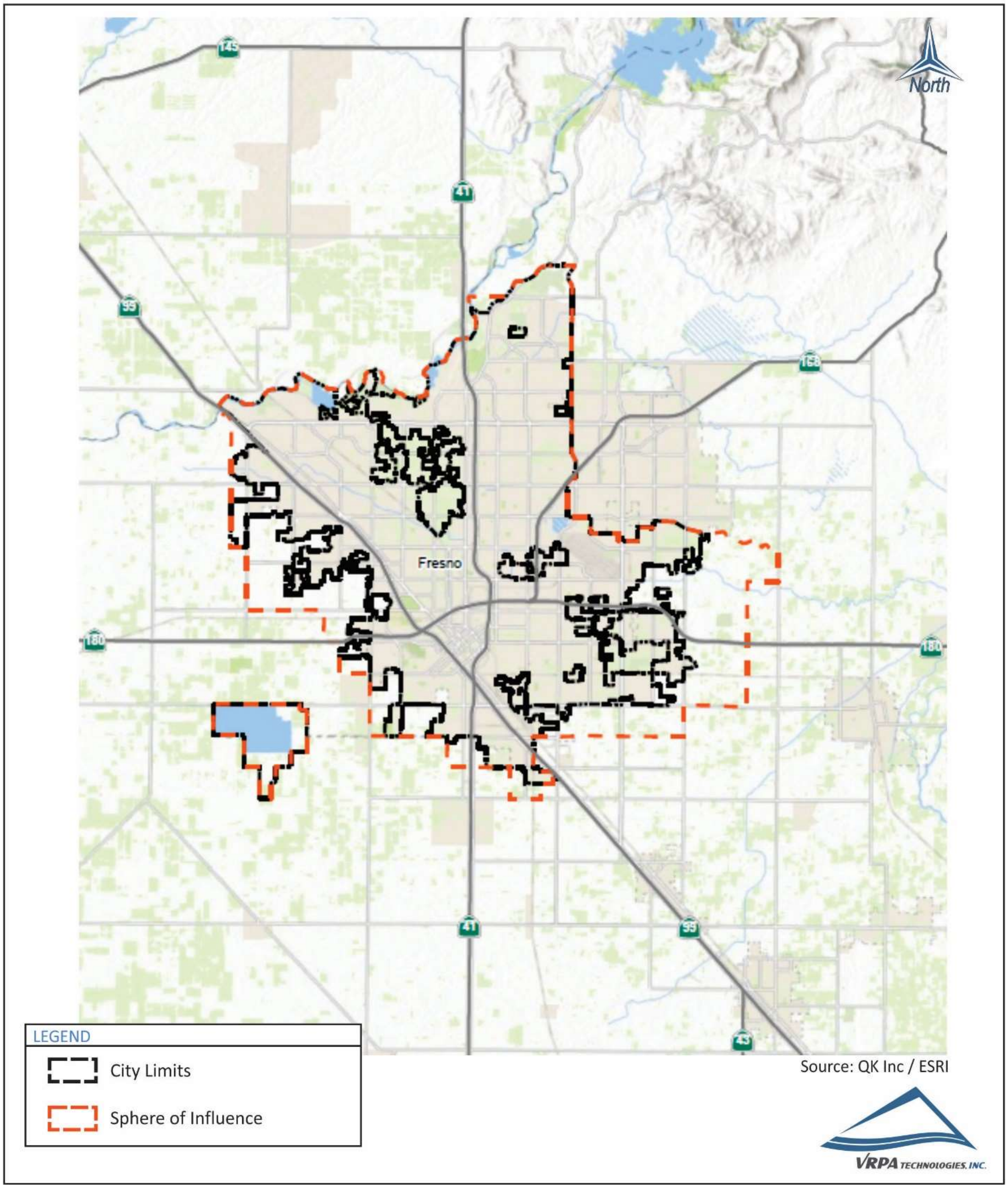
Regional Location
Figure 1



LEGEND

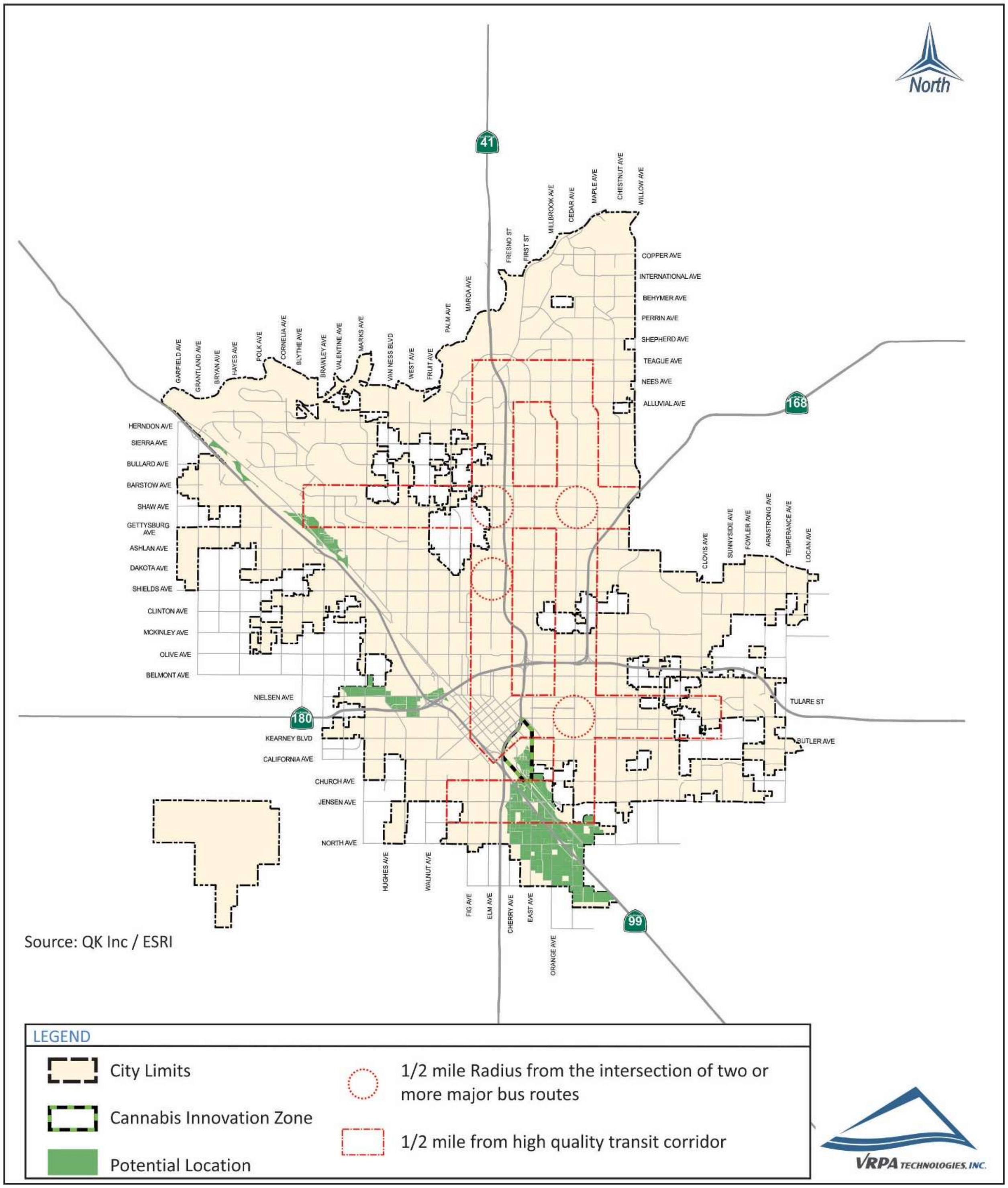
Project Location

Project Vicinity
Figure 2

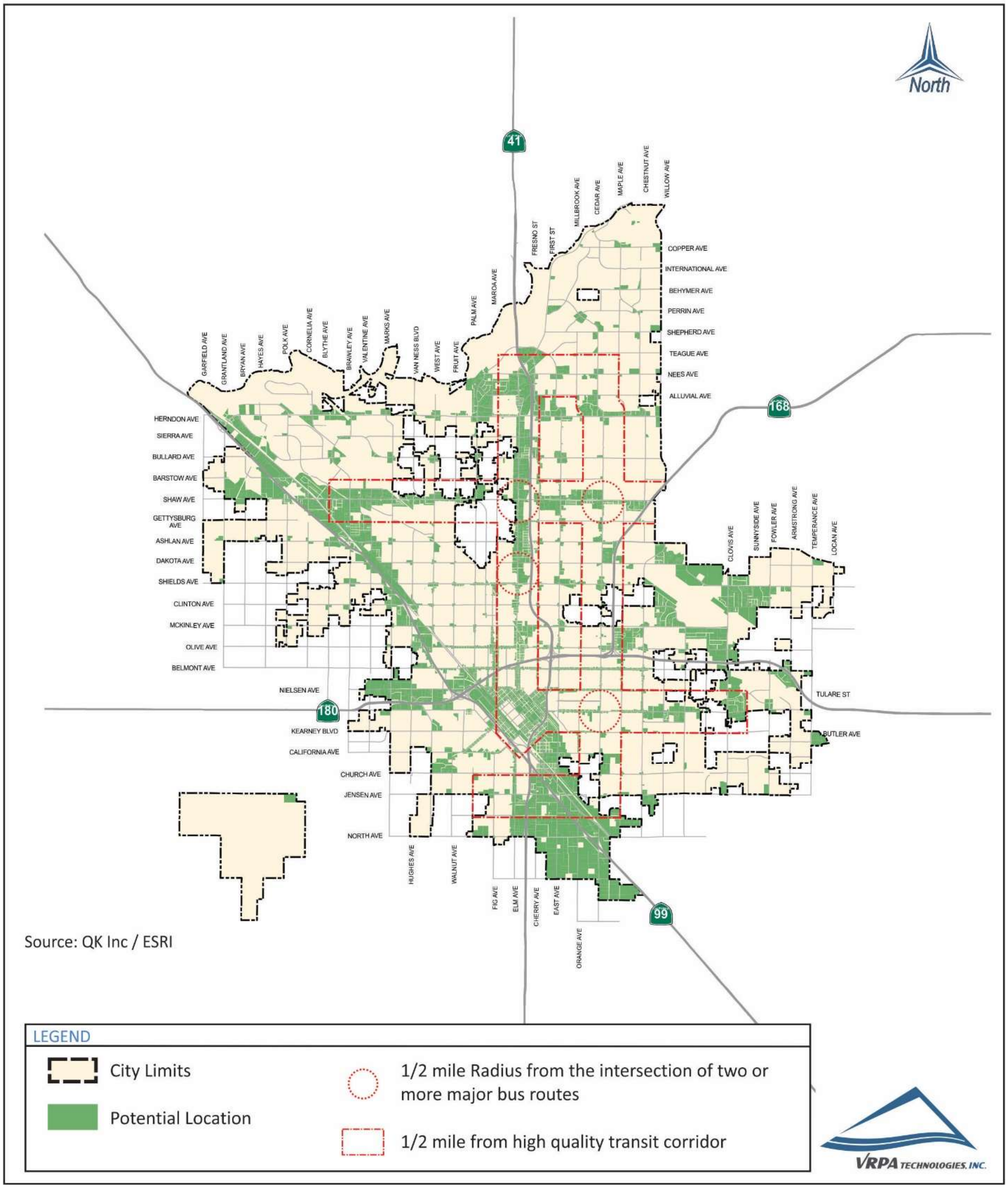


Source: QK Inc / ESRI

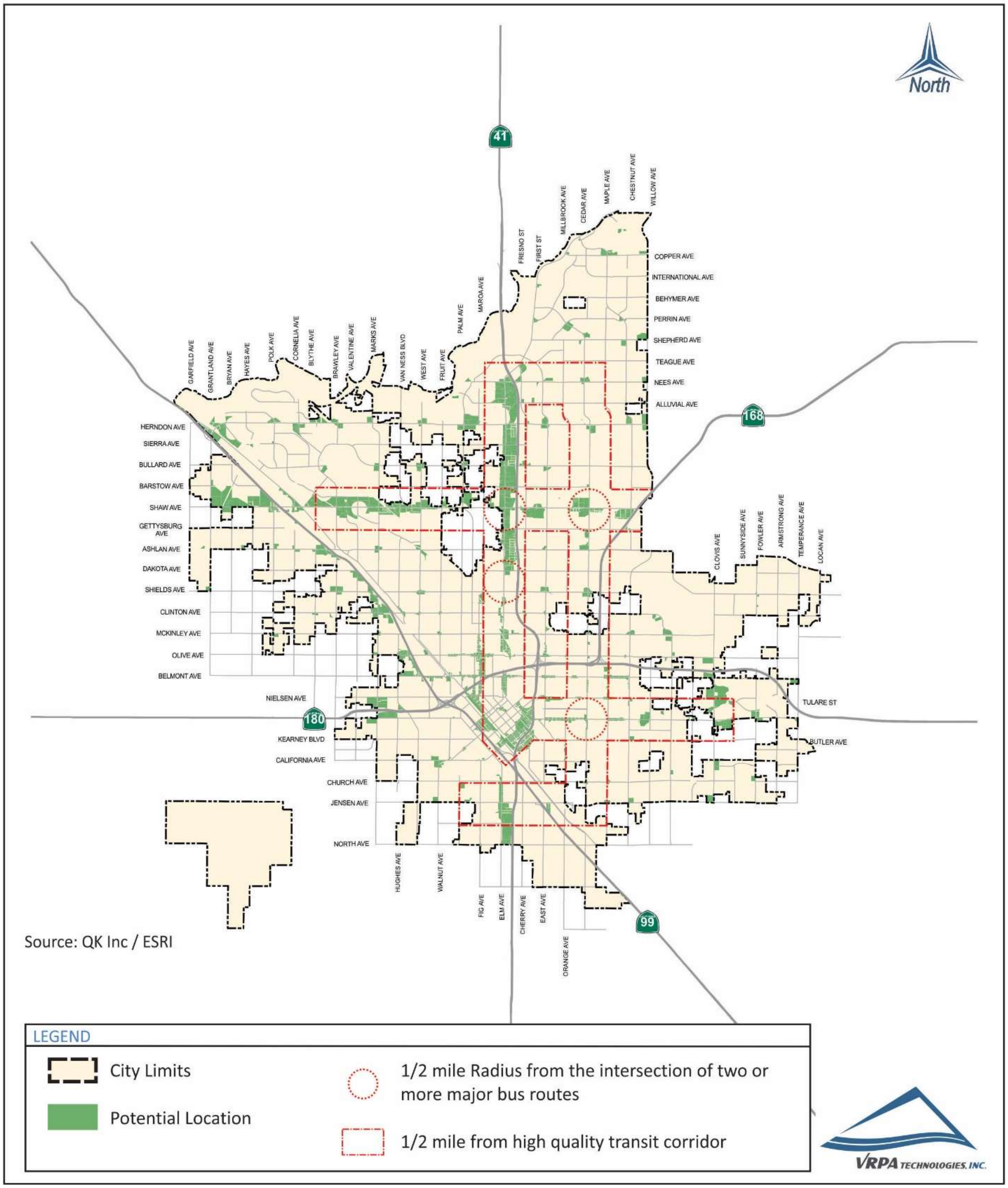
Cultivation, Distribution, and Manufacturing Locations
Figure 3



Testing Laboratory Locations
Figure 4



Cannabis Retailer Locations
Figure 5



2.0 Methodology and Thresholds for Evaluation of Impacts

The City of Fresno has established guidelines for purposes of assessing project impacts. Typically, intersection and roadway capacities are evaluated against Level of Service (LOS) methodologies as documented in the Highway Capacity Manual (6^{th} Edition). LOS methodologies are applied by the City of Fresno to quantitatively assess a street and highway system's performance. The City of Fresno's General Plan (Adopted December 18, 2014), policy number MT-1-n, identifies a peak hour LOS standard of D or better for all roadway areas outside of identified Activity Center and Bus Rapid Transit Corridor districts, unless the City Traffic Engineer determines that mitigation to maintain this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.

Given the broad distribution of the commercial cannabis business locations throughout the City of Fresno, a screening level threshold will be applied for purposes of determining the need for a focused traffic impact analysis. As noted in the latest edition (02/02/2009) of the City of Fresno Traffic Impact Study Report Guidelines, a Traffic Impact Study (TIS) is generally required by the City under the following conditions:

- ✓ When project-generated traffic is expected to be greater than 100 vehicle trips during any peak hour;
- ✓ When a project includes a General Plan Amendment (GPA) which changes the land use;
- ✓ When the project traffic will substantially affect an intersection or roadway segment already identified as operating at an unacceptable level of service; or
- ✓ When the project will substantially change the offsite transportation system or connection to it as determined by the Traffic Engineering Manager.

In addition, the need for a TIS is also based on a project's location within the City's Sphere of Influence (SOI) as documented in the City of Fresno's General Plan Policy MT-2-I. The City has identified four (4) Traffic Impact Zones (TIZ) within the City's SOI along with a corresponding threshold to determine if a focused traffic analysis is warranted. The TIZ's are graphically displayed in Figure 6. Based upon Figures 3, 4, and 5, the Project may potentially site commercial cannabis activities in every TIZ within the City of Fresno's SOI.

- ✓ **TIZ I** – Represents the Downtown Planning Area. A TIS is required for all development projected to generate 200 or more peak hour new vehicle trips.
- ✓ **TIZ II** – Generally represents areas of the City currently built up and wanting to encourage infill development. A TIS is required for all development projected to generate 200 or more peak hour new vehicle trips.

- ✓ **TIZ III** – Generally represents areas near or outside the City Limits but within the SOI as of December 31, 2012. A TIS is required for all development projected to generate 100 or more peak hour new vehicle trips.

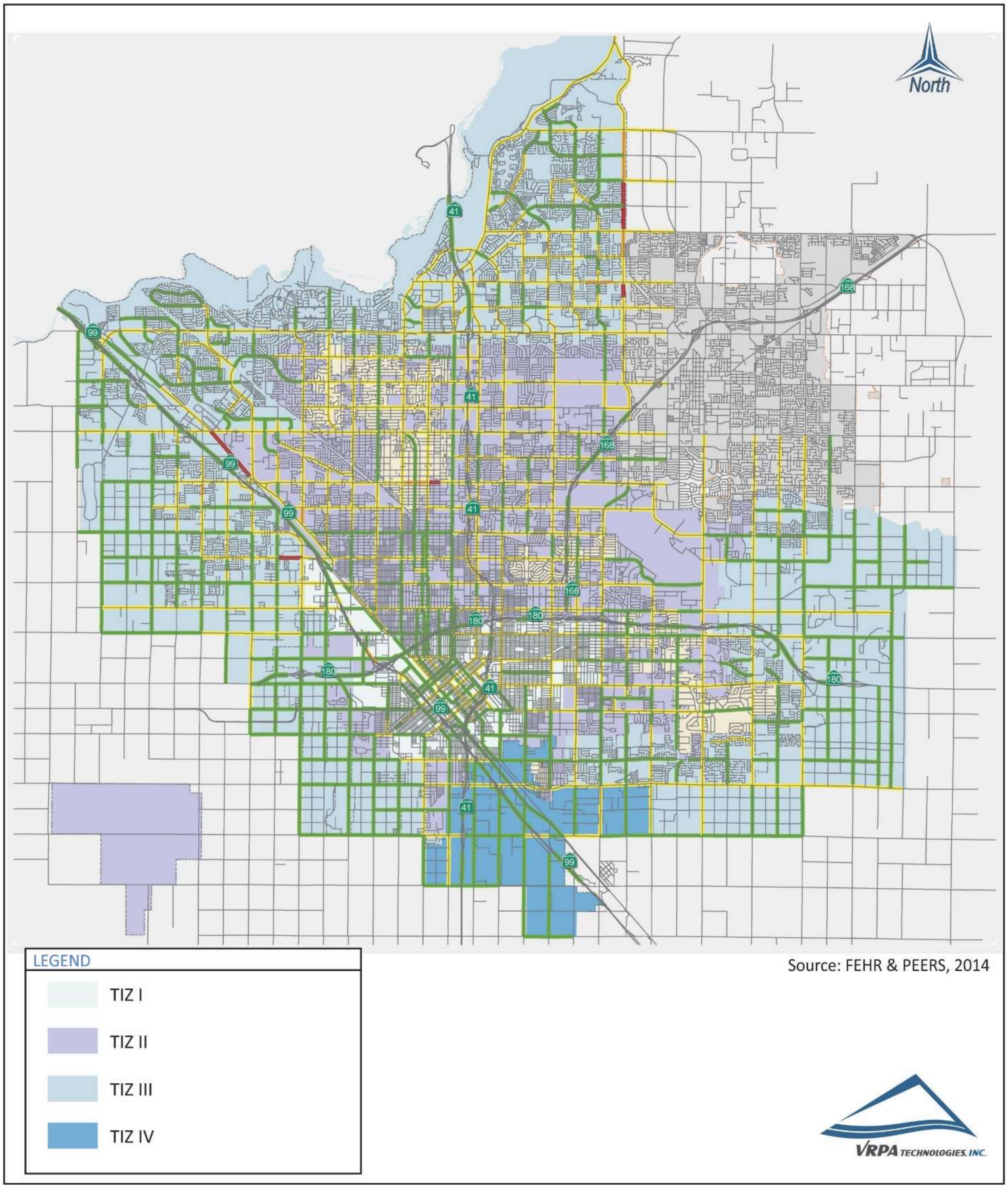
- ✓ **TIZ IV** – Represents the southern employment areas within and planned by the City. A TIS is required for all development projected to generate 200 or more peak hour new vehicle trips.

Therefore, individual commercial cannabis business locations that fall below 100 or 200 vehicle trips, depending on location, will not require a focused traffic analysis and are therefore considered regionally/locally insignificant. However, a focused traffic analysis may be required if it is determined by the City Traffic Engineer that the project site is located adjacent to intersections or roadway segments already operating at a deficient LOS. Individual commercial cannabis business locations that exceed 100 or 200 vehicle trips, depending on location, during any peak hour will be required to provide a focused traffic analysis to assess project specific impacts. Outcomes of the analysis resulting in a level of service "F" are generally considered potential significant impacts unless individual sites are located in TIZ I.

In the fall of 2013, Senate Bill 743 (SB 743) was passed by the legislature and signed into law by the governor. This legislation will eventually change the way that transportation studies are conducted for environmental documents. In the areas where SB 743 is implemented, delay-based metrics such as roadway capacity and level of service will no longer be the performance measures used for the determination of the transportation impacts of projects in studies conducted under CEQA. Instead, new performance measures such as vehicle miles travelled (VMT) or other similar measures will be used. It should be noted that City of Fresno staff has indicated that the City will still require intersection and roadway level of service analysis in addition to the new performance measure.

July 1, 2020 is the statewide implementation date and agencies may opt-in use of new metrics prior to that date. The Office of Planning and Research (OPR) has determined that projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact. In addition, the City of Fresno is in the process of establishing VMT thresholds for the implementation of the new rules adopted into CEQA in December of 2018.

City of Fresno Traffic Impact Zones
Figure 6



3.0 Trip Generation

To assess the impacts that the Project may have on the surrounding roadway network in the City of Fresno, the first step is to determine Project trip generation. The trip generation was based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. The ITE Trip Generation, 10th Edition manual, includes a Marijuana Dispensary Land Use (882), which is a standalone facility where cannabis is sold to patients or consumers. Land Use 882 would only be applicable to the 'Cannabis Retailers' portion of the Project or ordinance. The ordinances would allow for Cultivation, Distribution, and Manufacturing and Testing Laboratories in addition to Cannabis Retailers. The most closely related ITE code (General Light Industrial-110) was used for the Cultivation, Distribution, and Manufacturing and Testing Laboratories portions of the Project. The three (3) land uses being considered in the City of Fresno, as noted above, include:

- ✓ Cultivation, Distribution, and Manufacturing
  - ITE Code 110 – General Light Industrial
  - Cultivation activities and General Light Industrial are similar in regard to the ratio of acreage to personnel and equipment.
  - Eight (8) total businesses would be permitted inside the Cannabis Innovation Zone.
  - Eight (8) total businesses would be permitted within industrial zoned property within ½ mile of Highway 99 between Shaw and Clinton Avenues, or within 1 mile of Highway 99 north of Shaw and south of Clinton Avenues, or within 1 mile of Highway 180 west of Highway 99.
  - It is assumed that Cultivation, Distribution, and Manufacturing will be limited to a combined total of 700,000 sq. ft (~16 acres).
  - It is assumed that 'Individual' Cultivation, Distribution, and Manufacturing sites will be approximately 43,750 sq. ft in size.

- ✓ Testing Laboratories
  - ITE Code 110 – General Light Industrial
  - Testing Laboratories activities and General Light Industrial are similar in regard to the 'Type' of use. General Light Industrial has an emphasis on activities other than manufacturing and typically has minimal office space. Typical light industrial activities include printing, material testing, and assembly of data processing equipment.
  - There is no limit on how many may be permitted.
  - It is assumed that Testing Laboratories will be limited to a combined total of 100,000 sq. ft.
  - It is assumed that 'Individual' Testing Laboratory sites will be approximately 20,000 sq. ft in size.

- ✓ Cannabis Retailers
  - ITE Code 882 – Marijuana Dispensary
  - 21 total possible cannabis retail locations would be restricted to the DTN (Downtown

Neighborhood), DTG (Downtown General), CMS (Commercial Main Street), CC (Commercial Community), CR (Commercial Regional), CG (Commercial General), CH (Commercial Highway), NMX (Neighborhood Mixed-Use), CMX (Corridor/Center Mixed-Use), or RMX (Regional Mixed Use) zone districts. In addition, retailers would be required to maintain a minimum distance of 800 feet from any property boundary containing another cannabis retailer, schools, daycare centers, and youth centers (i.e. parks, playgrounds, facilities hosting activities for minors)

- It is assumed that Cannabis Retailers will be limited to a combined total of 55,000 sq. ft.
- It is assumed that 'Individual' Cannabis Retailers sites will be approximately 2,500 sq. ft in size.

The Project's estimated Daily, AM peak hour, and PM peak hour trips considering individual commercial cannabis business locations are shown in Table 1a, 1b, and 1c. Results show that trips generated from individual commercial cannabis businesses will not exceed 60 peak hour trips based on the assumptions identified above. As noted previously, the text amendment and cultivation ordinance amendment would allow for eight (8) total Cultivation, Distribution, and Manufacturing businesses inside the Cannabis Innovation Zone and eight (8) total businesses within industrial zoned property within ½ mile of Highway 99 between Shaw and Clinton Avenues, or within 1 mile of Highway 99 north of Shaw and south of Clinton Avenues, or within 1 mile of Highway 180 west of Highway 99. Table 2 provides trip generation estimates associated with eight (8) Cultivation, Distribution, and Manufacturing businesses. The text amendment and cultivation ordinance amendment also allows for up to 14 medicinal and/or adult use cannabis retail locations or two (2) medicinal and/or adult use cannabis retail locations per Council District (7 total Council Districts), with the potential to add one (1) additional retailer per Council District upon Council Resolution. Tables 3 and 4 provide trip generation estimates for cannabis retailer sites. Testing Laboratories will also be permitted and may be located in a Commercial, Employment, or Downtown District. Even though there is no limit on how many may be permitted, it was assumed that Testing Laboratories will be limited to a combined total of 100,000 sq. ft. Trip generation estimates for Testing Laboratories are provided in Table 5.

Table 1a

Trip Generation for Individual Cultivation, Distribution, and Manufacturing Sites

LAND USE	Quantity	DAILY TRIP ENDS	DAILY (ADT)	WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
Cultivation, Distribution, and Manufacturing (110)	43.750 k.s.f	T = 3.79(X) + 57.96	224	0.70	88:12	27	4	31	0.63	13:87	4	24	28
TOTAL TRIP GENERATION			**224**			**27**	**4**	**31**			**4**	**24**	**28**

Source: Generation factors from ITE Trip Generation Manual, 10th Edition.
Trip ends are one-way traffic movements, entering or leaving.
The numbers in parenthesis are ITE land use codes.

Table 1b
Trip Generation for Individual Testing Laboratory Sites

LAND USE	Quantity	DAILY TRIP ENDS	DAILY (ADT)	WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
Testing Laboratories (110)	20.000 k.s.f	T = 3.79(X) + 57.96	134	0.70	88:12	12	2	14	0.63	13:87	2	11	13
TOTAL TRIP GENERATION			**134**			**12**	**2**	**14**			**2**	**11**	**13**

Source: Generation factors from ITE Trip Generation Manual, 10th Edition.
Trip ends are one-way traffic movements, entering or leaving.
The numbers in parenthesis are ITE land use codes.

Table 1c
Trip Generation for Cannabis Retailer Sites

LAND USE	Quantity	DAILY TRIP ENDS	DAILY (ADT)	WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
Cannabis Retailers (882)	2.500 k.s.f	252.7	632	10.44	56:44	15	11	26	21.83	50:50	27	28	55
TOTAL TRIP GENERATION			**632**			**15**	**11**	**26**			**27**	**28**	**55**

Source: Generation factors from ITE Trip Generation Manual, 10th Edition.
Trip ends are one-way traffic movements, entering or leaving.
The numbers in parenthesis are ITE land use codes.

Table 2
Trip Generation for Cultivation, Distribution, and Manufacturing Businesses

LAND USE	Quantity	DAILY TRIP ENDS	DAILY (ADT)	WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
8 Cultivation, Distribution, and Manufacturing Businesses (110)	350.000 k.s.f	T = 3.79(X) + 57.96	1,384	0.70	88:12	216	29	245	0.63	13:87	29	191	220
TOTAL TRIP GENERATION			**1,384**			**216**	**29**	**245**			**29**	**191**	**220**

Source: Generation factors from ITE Trip Generation Manual, 10th Edition.
Trip ends are one-way traffic movements, entering or leaving.
The numbers in parenthesis are ITE land use codes.

Table 3
Trip Generation for 2 Cannabis Retailers

LAND USE	Quantity	DAILY TRIP ENDS	DAILY (ADT)	WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
2 Cannabis Retailers per Council Dostrict (882)	5.000 k.s.f	252.7	1,264	10.44	56:44	29	23	52	21.83	50:50	55	54	109
TOTAL TRIP GENERATION			**1,264**			**29**	**23**	**52**			**55**	**54**	**109**

Source: Generation factors from ITE Trip Generation Manual, 10th Edition.
Trip ends are one-way traffic movements, entering or leaving.
The numbers in parenthesis are ITE land use codes.

Table 4
Trip Generation for 3 Cannabis Retailers

LAND USE	Quantity	DAILY TRIP ENDS	DAILY (ADT)	WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
3 Cannabis Retailers per Council Dostrict (882)	7.500 k.s.f	252.7	1,895	10.44	56:44	44	34	78	21.83	50:50	82	82	164
TOTAL TRIP GENERATION			**1,895**			**44**	**34**	**78**			**82**	**82**	**164**

Source: Generation factors from ITE Trip Generation Manual, 10th Edition.
Trip ends are one-way traffic movements, entering or leaving.
The numbers in parenthesis are ITE land use codes.

Table 5
Trip Generation for Testing Laboratories

LAND USE	Quantity	DAILY TRIP ENDS	DAILY (ADT)	WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
		RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
						IN	OUT	TOTAL			IN	OUT	TOTAL
Testing Laboratories (110)	100.000 k.s.f	T = 3.79(X) + 57.96	437	0.70	88:12	62	8	70	0.63	13:87	8	55	63
TOTAL TRIP GENERATION			**437**			**62**	**8**	**70**			**8**	**55**	**63**

Source: Generation factors from ITE Trip Generation Manual, 10th Edition.
Trip ends are one-way traffic movements, entering or leaving.
The numbers in parenthesis are ITE land use codes.

4.0 Traffic Evaluation

4.1 Traffic Impact Analysis

The majority of eligible sites in the City are currently developed with existing commercial and industrial uses. These parcels have been previously analyzed for their impacts to traffic in a combination of different ways. Some of these developed sites are within historic areas, in which their existing traffic generation has been accounted for as part of the Fresno General Plan. Some of the sites are located in newer developments that were individually analyzed for traffic related impacts as part of a discretionary process, i.e. zone change, conditional use permit, etc. In these cases, the City has analyzed traffic impacts and placed conditions on these developments to mitigate their impacts. Examples of these conditions include the installation of traffic signals, deceleration lanes, controlled egress and ingress points, etc.

Since the proposed Project will allow for any combination of conversion of existing sites and new construction of vacant sites, it will be necessary for all new development to analyze their impacts to traffic and mitigate those impacts on a case-by-case basis. New commercial cannabis facilities that fall below 100 or 200 vehicle trips, depending on location, may not require a focused traffic analysis. However, a focused traffic analysis may be required if it is determined by the City Traffic Engineer that the new commercial cannabis facility is located adjacent to intersections or roadway segments already operating at a deficient LOS. New commercial cannabis facilities that exceed 100 or 200 vehicle trips, depending on location, during any peak hour will be required to provide a focused traffic analysis to assess project specific impacts. Outcomes of the analysis resulting in a level of service “F” are generally considered potential significant impacts unless individual sites are located in TIZ I.

Considering the trip generation process described in Section 3.0, trips generated from individual commercial cannabis businesses will not exceed 60 peak hour trips. Individual Cannabis Retailer sites will generate an estimated 632 daily trips, 26 AM peak hour trips, and 55 PM peak hour trips. Individual Cultivation, Distribution, and Manufacturing sites, Testing Laboratories, and Cannabis Retailers are estimated to generate a combined total of 990 daily trips, 71 trips during the AM peak hour, and 96 trips during the PM peak hour. Based on the number of peak hour trips generated per individual site, Project traffic from ‘individual’ commercial cannabis business locations will not exceed the City of Fresno’s threshold of 100 or 200 peak hour trips and will not require a focused traffic analysis for individual sites. Therefore, Project traffic from ‘individual’ sites are considered regionally/locally insignificant. However, a focused traffic analysis may be required if it is determined by the City Traffic Engineer that the project site is located adjacent to intersections or roadway segments already operating at a deficient LOS. As noted above, assumptions in building size were made for purposes of estimating traffic generated by each individual use. Individual sites with Project traffic that is anticipated to generate peak hour trips that exceed the City of Fresno’s threshold of 100 peak hour trips for TIZ III or 200 peak hour trips for TIZ’s I, II, and IV will require a focused traffic analysis.

✓ Cultivation, Distribution, and Manufacturing

As shown in Table 2, eight (8) total Cultivation, Distribution, and Manufacturing businesses are estimated to generate 1,384 daily trips, 245 trips during the AM peak hour, and 220 trips during the PM peak hour considering individual sites. The Cannabis Innovation Zone is located within TIZ's that allow up to 200 peak hour trips before a focused traffic analysis is needed to assess impacts. Eight (8) Cultivation, Distribution, and Manufacturing businesses will generate more than 200 peak hours trips as noted above. As noted previously, it was assumed that 'Individual' Cultivation, Distribution, and Manufacturing sites are approximately 43,750 sq. ft in size. The City of Fresno should limit Cultivation, Distribution, and Manufacturing sites within the Cannabis Innovation Zone to a combined total of 280,000 sq. ft. The City of Fresno should also require a focused traffic analysis when the combined total square footage of the Cultivation, Distribution, and Manufacturing sites exceed 285,000 sq. ft to ensure minimum LOS standards are maintained.

Eight (8) total Cultivation, Distribution, and Manufacturing businesses would also be permitted within industrial zoned property within ½ mile of Highway 99 between Shaw and Clinton Avenues, or within 1 mile of Highway 99 north of Shaw and south of Clinton Avenues, or within 1 mile of Highway 180 west of Highway 99. As shown in Table 1a, 'Individual' Cultivation, Distribution, and Manufacturing sites (43,750 sq. ft) will generate approximately 31 AM peak hour trips and 28 PM peak hour trips. It should be noted that 'Individual' Cultivation, Distribution, and Manufacturing sites that exceed 285,000 sq. ft would generate 200+ peak hour trips and would require additional analysis to determine traffic impacts. As a result, new Cultivation, Distribution, and Manufacturing sites exceeding 140,000 sq. ft. within TIZ III and 282,000 sq. ft. within TIZ I, II, and IV will require a focused traffic study.

The majority of Cultivation, Distribution, and Manufacturing businesses are located within close proximity to State Route (SR) 41 and SR 99 as shown in Figure 3 above. Impacts to state facilities are possible depending upon the specific commercial cannabis business location and existing level of service operations in the Project's vicinity. The California Department of Transportation's (Caltrans) *Guide for the Preparation of Traffic Impact Studies* has identified the following criteria in determining when a traffic analysis is needed:

- Generates over 100 peak hour trips assigned to a State highway facility
- Generated 50 to 100 peak hour trips assigned to a State highway facility and affected facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS 'C' or 'D')
- Generates 1 to 49 peak hour trips assigned to a State highway facility and affected facilities are experiencing:
  - Significant delay; unstable or forced traffic flow conditions (LOS 'E' or 'F')
  - The potential risk for traffic incident is significantly increased (i.e. congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.)

- Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.)

As a result, commercial cannabis businesses should, at a minimum, conduct a trip distribution analysis to determine AM and PM peak hour trips assigned to State facilities. Coordination with Caltrans staff will be needed to determine if further analysis is required.

✓ Cannabis Retailers

As shown in Table 2, two (2) medicinal and/or adult use cannabis retail locations are estimated to generate 1,264 daily trips, 52 trips during the AM peak hour, and 109 trips during the PM peak hour. Three (3) medicinal and/or adult use cannabis retail locations are estimated to generate 1,895 daily trips, 78 trips during the AM peak hour, and 164 trips during the PM peak hour. TIZ III allows up to 100 peak hour trips before a focused traffic analysis is needed to assess impacts and TIZ's I, II, and IV allow up to 200 peak hour trips. Figure 5 shows potential cannabis retailer locations throughout the City of Fresno which includes potential sites in all four (4) of the TIZ's.

The majority of the eligible sites available for retail businesses are developed and have previously been analyzed for traffic related impacts. However, new retail businesses could be developed as part of the Conditional Use Permit process. In order to mitigate any traffic related impacts associated with up to three new cannabis retail businesses being located in close proximity to each other (minimum of 800 feet), a focused traffic analysis will be required for new cannabis retail businesses when the combined total square footage of the cannabis retail sites in TIZ III exceed 4,500 sq. ft. and exceed 9,000 sq. ft. in TIZ I, II, or IV.

✓ Testing Laboratories

It is assumed that Testing Laboratories will be limited to a combined total of 100,000 sq. ft. As shown in Table 5, the Testing Laboratory sites are estimated to generate 496 daily trips, 70 trips during the AM peak hour, and 63 trips during the PM peak hour. Based on the number of peak hour trips generated by the Testing Laboratory use, Project traffic from Testing Laboratory sites will not exceed the City of Fresno's threshold of 100 or 200 peak hour trips and will not require a traffic analysis for individual sites. Therefore, Project traffic from 'individual' Testing Laboratory sites are considered regionally/locally insignificant. However, a focused traffic analysis may be required if it is determined by the City Traffic Engineer that the project site is located adjacent to intersections or roadway segments already operating at a deficient LOS.

4.2 Safety Impact Analysis

With proper access planning and traffic engineering, the average daily trips generated by specific sites are not anticipated to create any undue traffic safety issues. Beyond the site level, there is a reasonable concern that marijuana use will result in more impaired drivers on the road. This in turn would have negative effects on traffic safety.

The experience of other western states with legal recreational marijuana sales is relevant. Colorado was the first state to legalize recreational marijuana for adults 21 and older in the United States. Voters approved the measure in November 2012 and sales began in January 2014. Washington voters also approved recreational marijuana in November 2012 and sales began in July 2014. Oregon followed suit two years later, legalizing marijuana in November 2014, with sales starting in October 2015.

Some studies from these states appear to show an increase in traffic accidents and deaths attributable to the use of marijuana. According to one study, traffic deaths in Colorado in which a driver tested positive for THC, the psychoactive ingredient in marijuana, more than doubled between 2013 (the last year before legal sales) and 2016[1]. While this is a substantial increase, there are confounding factors. Most of the drivers testing positive for THC also tested positive for alcohol and/or other drugs. A more fundamental problem is the fact that, unlike alcohol, THC remains in the bloodstream for weeks, long after the user is affected by the drug. In other words, presence of THC does not necessarily mean the person is under the influence of marijuana.

A study by Aydelotte et al[2] used the federal Fatality Analysis Reporting System to determine the annual numbers of motor vehicle crash fatalities between 2009 and 2015 in Washington, Colorado, and eight control states. Researchers compared year-over-year changes in motor vehicle crash fatality rates (per billion vehicle miles traveled) before and after recreational marijuana legalization, using an approach that controlled for underlying trends and state-specific population, economic, and traffic characteristics. Pre–recreational marijuana legalization annual changes in motor vehicle crash fatality rates for Washington and Colorado were similar to those for the control states.

The study found that post–recreational marijuana legalization changes in motor vehicle crash fatality rates for Washington and Colorado also did not significantly differ from those for the control states. The study concludes that three years after recreational marijuana legalization, changes in motor vehicle crash fatality rates for Washington and Colorado were not statistically

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[1]Rocky Mountain High Intensity Drug Trafficking Area, *Legalization of Marijuana in Colorado: The Impact*. 2017. www.rmhidta.org/html/FINAL 2017 Legalization of Marijuana in Colorado The Impact.pdf. Retrieved August 5,

[2] Jayson D. Aydelotte MD et al "Crash Fatality Rates After Recreational Marijuana Legalization in Washington and Colorado American Journal of Public Health (AJPH). August 2017. Retrieved August 5, 2019. https://ajph.aphapublications.org/doi/10.2105/AJPH.2017.303848. Retrieved August 5, 2019.

different from those in similar states without recreational marijuana legalization. It notes that future studies over a longer time are warranted.

The Highway Loss Data Institute (HLDI) published a study[3] analyzing changes in collision claim frequencies in Colorado, Washington and Oregon, relative to nearby states, following the inception of legal recreational use in those three states. The analyses controlled for differences in the rated driver populations, the insured vehicle fleet, the mix of urban versus rural exposure, unemployment, weather, and seasonality. The results indicated that for all three states, the legalization of retail marijuana sales was correlated with increases in collision claim frequency.

HLDI's analysis found an association (though not a firm causal link) between legalization of retail sales and increases in collision claim frequencies. Collision claim frequencies in Colorado were 12.5 percent higher than in Nebraska, Utah, and Wyoming after legalization. Similarly, claim frequencies in Washington state increased by 9.7 percent compared with Idaho and Montana. Both results were statistically significant. In Oregon, the increase in collision claim frequency was not significant and less than 1 percent higher than in Idaho and Montana.

A recent Reason Foundation report reviews several prior studies including the studies summarized above. The report concludes that "Every analysis that has used [statistical] controls has found no relationship between legalization and auto accidents and fatalities, including our own." However, it does not directly refute the HLDI report's finding of an association between legal marijuana and an increase in non-fatal collision claim frequencies. Furthermore, one experimental study cited by the Reason Foundation is worth noting: A study by the National Institute on Drug Abuse compared driving simulator performance by persons under the influence of marijuana with a control group. It found that marijuana use does impair certain driving functions, e.g., the ability to stay centered in a traffic lane.

Based on the foregoing studies, marijuana use while driving increases the risk of traffic collisions on roadways, but the exact magnitude of this increase is not yet known. What is clearer is that education and prevention of driving while under the influence of marijuana is worth pursuing.

Cannabis Dispensaries and Traffic Safety Education - the Colorado Approach

In March 2017, the Colorado Department of Transportation (CDOT) announced that it was partnering with marijuana dispensaries across Colorado as part of a "Drive High, Get a DUI" campaign to reach cannabis users at point-of-sale locations. CDOT hopes the partnerships will encourage responsible use and highlight the dangers and consequences of driving high. CDOT provides dispensaries with toolkits containing a variety of materials with the "Drive High, Get a

[3] Highway Loss Data Institute (HLDI), *Recreational marijuana and collision claim frequencies*. April 2017. https://www.iihs.org/media/e0028841-76ee-4315-a628-32a704258980/gmJeDw/HLDI%20Research/Bulletins/hldi_bulletin_35-08.pdf. Retrieved August 5, 2019.

DUI" message—including fliers, graphics for in-store video screens, website information, social media posts, FAQ and more.

Recommendation

Under California law, marijuana consumption remains illegal in public places, and it remains illegal to drive under the influence of marijuana. Thus, it is illegal use of marijuana and not specifically its production and sale that may have an impact on traffic safety. While the State of California places responsibility for illegal and dangerous use of marijuana on the user and not on legitimate retailers,[4] the likelihood of illegal and dangerous use – notably in conjunction with driving – represents a traffic safety issue. To reduce the potential for increased traffic accidents due to marijuana use, it is recommended that dispensaries in Fresno post information making their customers aware of the law and the consequences of its violation.

The link below provides potential educational materials:

https://www.trafficsafetymarketing.gov/get-materials/drug-impaired-driving/drive-high-get-dui

4.3 VMT Analysis

After the implementation of SB 743 on July 1, 2020, delay-based metrics such as roadway capacity and level of service will no longer be the performance measures used for the determination of the transportation impacts of projects in studies conducted under CEQA. Instead, new performance measures such as VMT or other similar measures will be used. Although July 1, 2020 is the statewide implementation date, agencies may opt-in use of new metrics prior to that date. The California Governor's Office of Planning and Research (OPR) has recommended that projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact. It should be noted that updated CEQA Guidelines will apply prospectively only and would not affect projects that have already completed environmental review.

Upon implementation of SB 743, Section 15064.3 of the California Environmental Quality Act (CEQA) Guidelines will establish VMT as the most suitable measure of determining a project's transportation impacts on nearby roadways and intersections in lieu of LOS analysis. Section 15064.3 presumes no significant transportation impacts for land use projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor, or land use projects that reduce VMT below existing conditions. Figures 3, 4, and 5 provide one-half mile boundaries from major transit stops and stops along existing high-quality transit corridors in the City of Fresno. Individual commercial cannabis businesses located within these

[4] Robert Miller & Associates. "Can you sue whoever sold you the alcohol that resulted in your DUI?" www.expertlawfirm.com/can-you-sue-whoever-sold-you-the-alcohol-that-resulted-in-your-dui/. Retrieved August 5, 2019.

boundaries would have a less than significant transportation impact.

July 1, 2020 is the statewide implementation date, however, agencies may opt-in use of new metrics prior to that date. The traffic operations impact analysis in this TIS, as summarized above, follows traditional practice of evaluating potential impacts related to levels of service. However, an estimate of VMT associated with individual commercial cannabis businesses located outside of the one-half mile boundary of a major transit stop or stop along an existing high-quality transit corridor is provided in Table 6 for the purposes of disclosure and in consideration of the intent of SB 743 and CEQA Guidelines. The estimated VMT is derived from the default trip length for commercial-work trips from the California Emissions Estimator Model (CalEEMod) program. The 9.5 miles/trip for automobiles was derived from the Regional Shopping Center and General Light Industrial land uses. These land uses are the most consistent with the land uses utilized in the trip generation tables above. Individual commercial cannabis business sites processed after July 1, 2020 will require a VMT-focused transportation analysis depending on whether they meet future VMT thresholds determined by the City of Fresno. It should be noted that the City of Fresno is in the process of establishing VMT thresholds for the implementation of the new rules.

Table 6
Estimated Project VMT - Individual Sites

LAND USE	ADT VOLUME	RATE	AVERAGE DAILY VMT
Cultivation, Distribution, and Manufacturing	224	9.5 miles/trip	2,128
Testing Laboratories	134	9.5 miles/trip	1,273
Cannabis Retailers	632	9.5 miles/trip	6,004
		TOTAL	9,405

APPENDIX H

WATER SUPPLY ASSESSMENT

WATER SUPPLY ASSESSMENT

CITY OF FRESNO

CANNABIS ORDINANCE PROJECT

FEBRUARY 2020

WATER SUPPLY ASSESSMENT

CANNABIS ORDINANCE PROJECT

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February 2020

Project #190215

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SECTION 1 - INTRODUCTION

1.1 - Regulatory Requirements

Senate Bill 610 (Chapter 643, Statutes of 2001) amended State law, effective January 1, 2002, to improve the link between information on water supply availability and land use decisions made by cities and counties. The statute requires detailed information regarding water availability to be provided to city and county decision-makers prior to approval of specified large development projects which are subject to CEQA (the California Environmental Quality Act) approval. The statute also requires this detailed information to be included in the administrative record that serves as the evidentiary basis for an entitlement action by the city or county on such projects. The statute-required Water Supply Assessment (WSA) must examine the availability and sufficiency of an identified water supply under normal year, single dry year, and multiple dry year conditions over a 20-year projection, accounting for the projected water demand of the Project in addition to other existing and planned future uses of the identified water supply.

The State Department of Water Resources "Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001" (Guidebook) and the sample format presented in the Guidebook were used as guides in preparing this WSA. The full text of Chapter 643, Statutes of 2001 (SB 610) is included in Appendix A.

1.2 - Project Location

The "Project site" is the entire City of Fresno. Figure 1-1 depicts the City's location with respect to key groundwater-defining boundaries.

The City of Fresno (City) is located in Fresno County and is situated in the central portion of the San Joaquin Valley, in the State of California. The City encompasses approximately 113 square miles. Fresno is the largest city in Fresno County and has a current population of 536,683 residents (California Department of Finance, 2019).

Figure 1-2 shows the City of Fresno and its relationship to the Project-affect locations.

1.3 - The Project

The City of Fresno is proposing the adoption of an Ordinance Regulating and Permitting Commercial Cannabis Activities by the City of Fresno. The proposed Project, an amendment to Sections 15-2739 and 15-2739.1 of the Fresno Municipal Code, an amendment to Article 33 of Chapter 9 of the Fresno Municipal Code, and to Article 21 of Chapter 12 of the Fresno Municipal Code, relating to adult use and medicinal cannabis retail business and commercial cannabis business[1]. It will be the objective of this assessment to determine if the City's water system can, in compliance with Senate Bill 610, supply the water needed over a 20-year analysis period, for the Project.

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[1] Appendix D – Ordinance Amendments (Project)

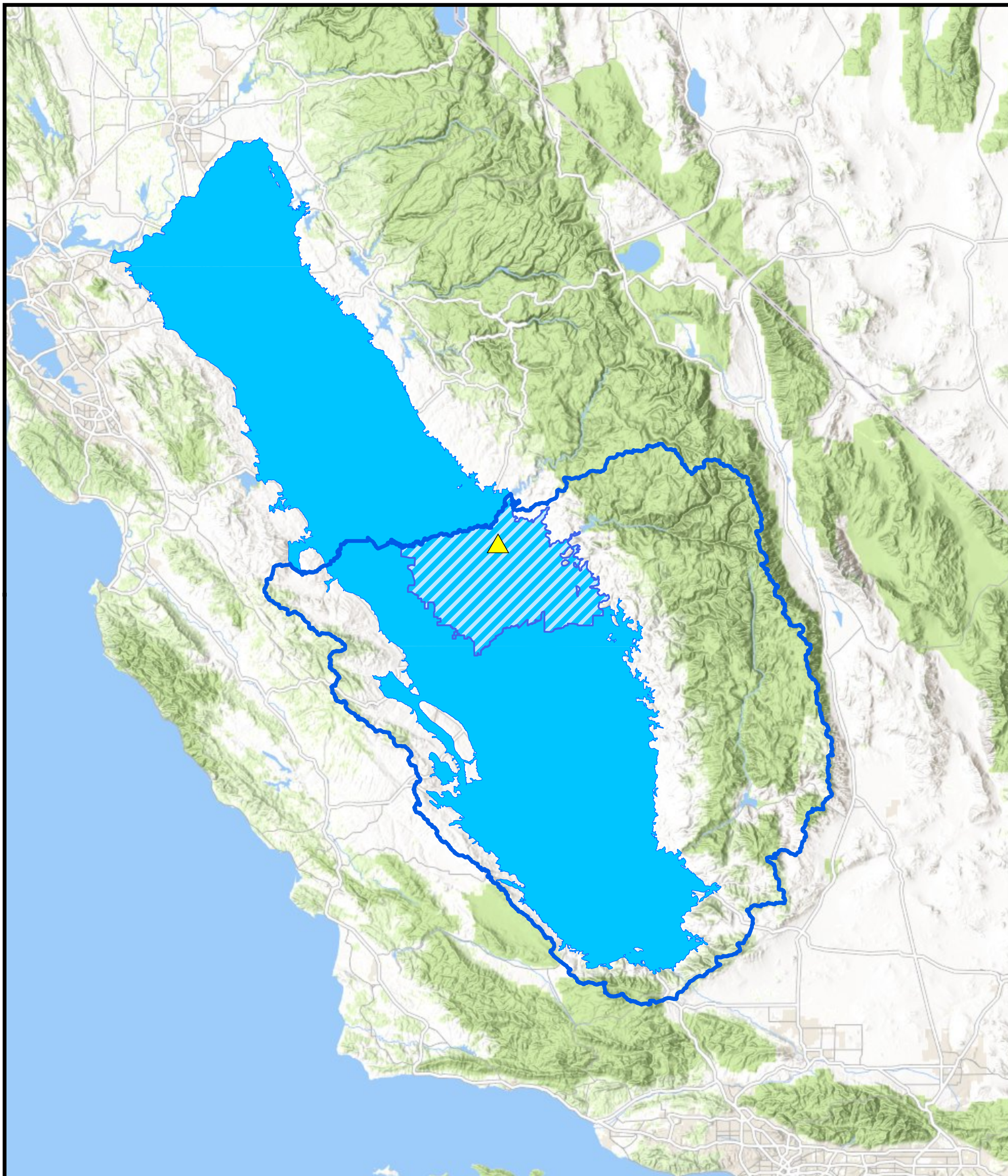


Figure 1-1

Project Location - Groundwater

Project Location

San Joaquin Valley Groundwater Basin

Tulare Lake Hydrologic Region

Kings Groundwater Subbasin

N

0 Miles 50

QK Sources:
ESRI Sources: Esri, HERE,

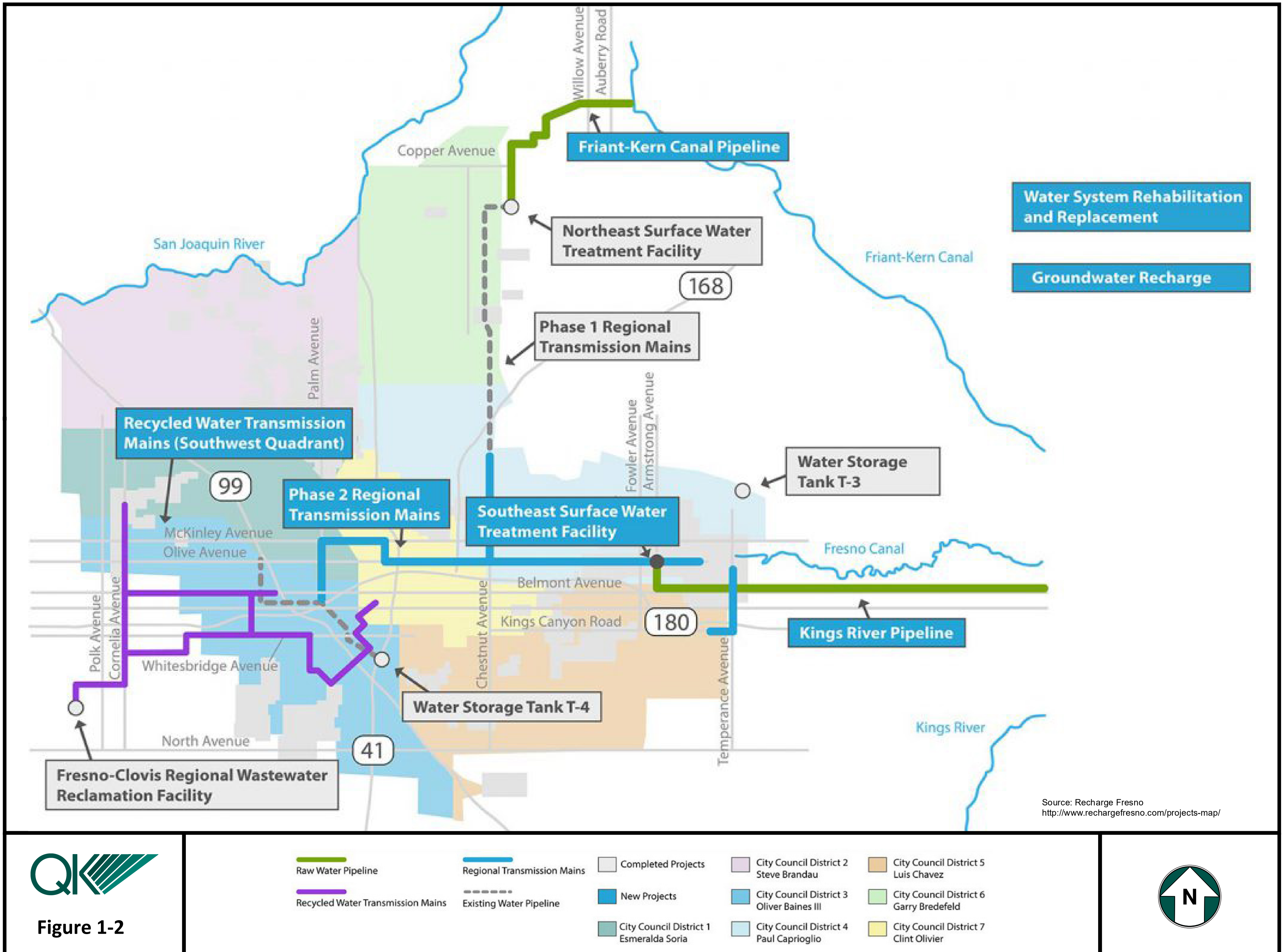

Friant-Kern Canal Pipeline
Willow Avenue
Auberry Road
Copper Avenue
Northeast Surface Water Treatment Facility
San Joaquin River
Friant-Kern Canal
Water System Rehabilitation and Replacement
Groundwater Recharge
168
Phase 1 Regional Transmission Mains
Palm Avenue
Recycled Water Transmission Mains (Southwest Quadrant)
99
Phase 2 Regional Transmission Mains
Southeast Surface Water Treatment Facility
Fowler Avenue
Armstrong Avenue
Water Storage Tank T-3
McKinley Avenue
Olive Avenue
Fresno Canal
Belmont Avenue
Kings Canyon Road
180
Chestnut Avenue
Kings River Pipeline
Polk Avenue
Cornelia Avenue
Whitesbridge Avenue
Water Storage Tank T-4
Temperance Avenue
Kings River
North Avenue
41
Fresno-Clovis Regional Wastewater Reclamation Facility
Source: Recharge Fresno
http://www.rechargefresno.com/projects-map/
Raw Water Pipeline
Recycled Water Transmission Mains
Regional Transmission Mains
Existing Water Pipeline
Completed Projects
New Projects
City Council District 1 Esmeralda Soria
City Council District 2 Steve Brandau
City Council District 3 Oliver Baines III
City Council District 4 Paul Caprioglio
City Council District 5 Luis Chavez
City Council District 6 Garry Bredefeld
City Council District 7 Clint Olivier
N

Figure 1-2

The Project proposes to permit up to 8 commercial cannabis cultivation, distribution, and manufacturing facilities within the "cannabis innovation zone" defined as the area bounded by State Route 41, Golden State Boulevard, Church Avenue, East Avenue, and Parallel Avenue, and up to 8 facilities within industrial zoned property within one-half mile of Highway 99 between Shaw and Clinton Avenues, or within one mile of Highway 99 north of Shaw and south of Clinton Avenues, or within one mile of Highway 180 west of Highway 99. All buildings in which a cultivator, distributor, or manufacturer is located shall be located no closer than 1,000 feet from any property boundary containing a residence, school, daycare, or youth center (see Figure 1-3). The proposed Project will also allow for testing laboratories and up to 21 cannabis retail businesses (Figure 1-2).Based on current maximum square footage allowed by State Cannabis licensing and the future allowed square footage reguirementsm the assumed maximum total acreage of indoor cannabis production is limited to a16 acres (700,000 sq ft). Section 4 of this assessment evaluates the water demands for all permitted activities: cultivation, distribution, manufacturing, retail, and testing. Table 1-1 below, summarizes the proposed commercial cannabis uses.

Table 1-1
Commercial Cannabis Uses

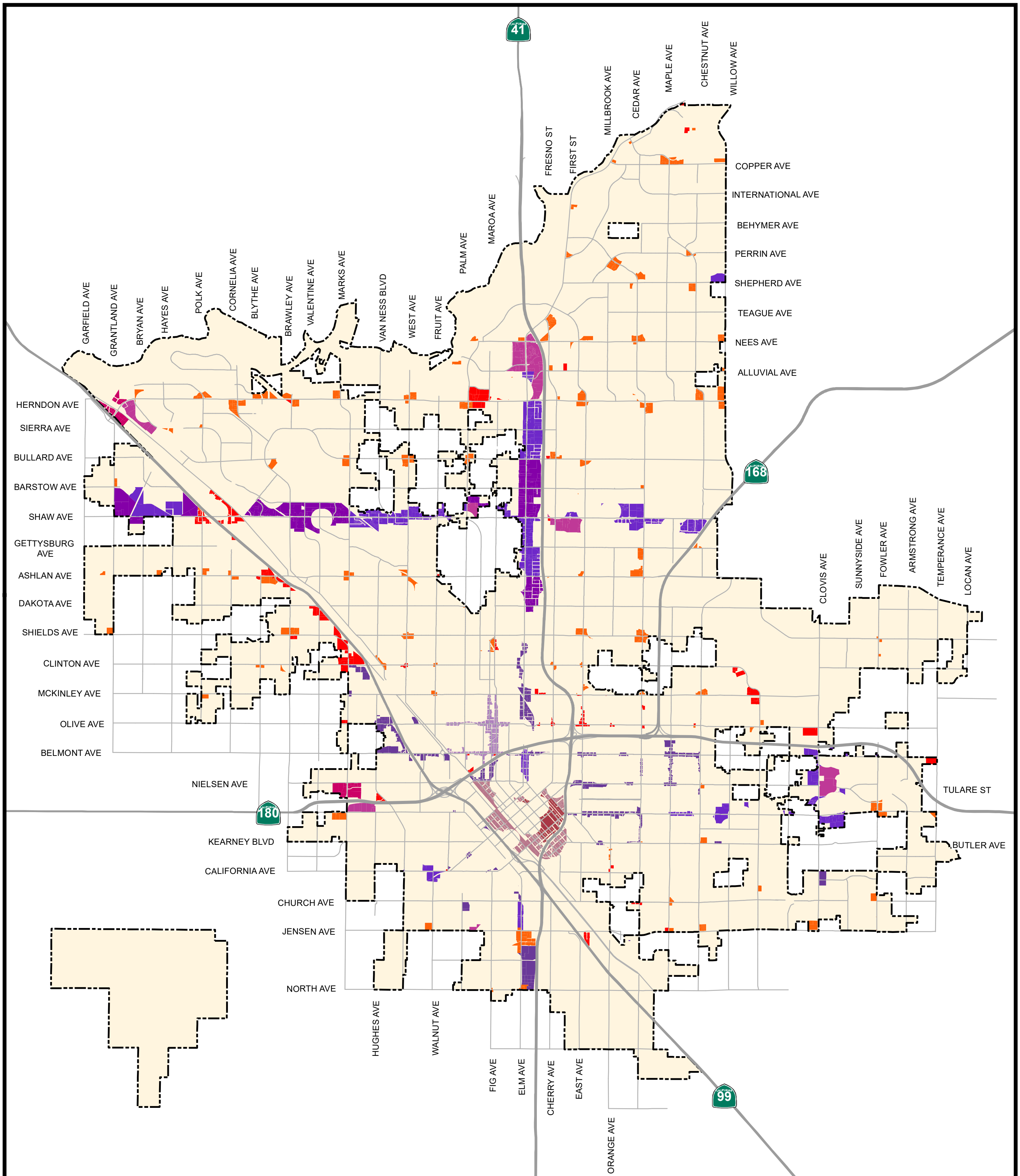
Commercial Cannabis Uses	Eligible Sites	Max. Permits	Max. SF[1]
Cultivation, Distribution, and Manufacturing Within Cannabis Innovation Zone	591	8	700,000
Cultivation, Distribution, and Manufacturing Outside of Cannabis Innovation Zone	953	8	
Cannabis Retail Businesses	5,564	21	55,000
Testing Laboratories	13,807	Unlimited	100,000
Totals	**20,915**	**N/A**	**855,000**

[1]Maximum square foot used for analysis in this WSA

1.4 - Data Sources and Collection

Data collection was conducted through review of the following resources: aerial photographs; United states Geological Survey (USGS) topographic maps; the City of Fresno 2015 Urban Water Management Plan; the 2006 Clean Water Act (CWA) Section 303(d) List of Water Quality Limited Segments from the State Water Resources Control Board (SWRCB); groundwater basin data from Bulletin 118 – Update 2003 published by the California Department of Water Resources (DWR); personal contact with City of Fresno Water Department staff; flood hazard data from the Federal Emergency Management Agency (FEMA); soils data from the Natural Resources Conservation Service (NRCS); environmental documents from California Bureau of Cannabis Control (CalCannabis) and California Department of Food and Agriculture (CDFA); and field reconnaissance.

Vital data input was received from key staff of the City of Fresno Water Division, Department of Public Works.



Project Sites

DTG - Downtown General
DTN - Downtown Neighborhood
CMS - Commercial Main Street
CC - Commercial Community
CG - Commercial General
CH - Commercial Highway and Auto
CR - Commercial Regional
CMX - Corridor/Center Mixed-Use
NMX - Neighborhood Mixed-Use
RMX - Regional Mixed-Use
City Limits

N

0 Miles 2

Figure 1-3

QK Sources: ESRI

SECTION 2 - PROJECT SETTING

2.1 - City of Fresno

The Project is applicable to the entire City of Fresno. The Project sites will occupy both existing urban facilities and vacant areas within the City. The City is located within the Tulare Lake Hydrologic Region, the San Joaquin Valley Groundwater Basin, and the Kings Subbasin thereof (see Figure 1-1).

The City of Fresno provides water service to a variety of customer types within the city limits. It has approximately 133,000 service connections, and as of 2018, provides approximately 120,067-acre feet (af) of potable water annually (36% surface water and 64% ground water). The City currently relies on a combination of surface water and groundwater supplies to meet water demands of the citizens and businesses. As indicated in Table 2-1 below, the City's overall reliance on groundwater as a principal source of water has decreased over the years and is now supplemented with surface water.

Table 2-1
Groundwater Volume Pumped

	2011	2012	2013	2014	2015
Total	119,813	115,615	128,510	110,313	83,360

2.2 - Hydrologic Area Climate

The City of Fresno's service area is located in California's San Joaquin Valley in Fresno County along Highway 99. The climate of the area is best described as Mediterranean, characterized by hot dry summers and cool winters. Precipitation in the area averages around 11 inches per year, as shown in Table 2-2, which also shows the average monthly temperature and rainfall. Average evapotranspiration (ETo) is based on data taken from a monitoring station located at California State University Fresno, while precipitation and temperature data are taken from a station at the Fresno Yosemite International Airport.

Table 2-2
Climate Characteristics

Month	Standard Monthly Average ETo (inches)(a)	Monthly Average Rainfall (inches)(b)	Monthly Average Temperature (°F)(b)	
			Min.	Max
January	1.14	2.09	37.6	54.6
February	1.92	1.90	40.7	61.5
March	3.68	1.89	43.8	67.0
April	5.36	1.03	48.0	74.4
May	7.34	0.36	54.3	83.5
June	8.32	0.16	60.5	91.7
July	8.71	0.01	65.7	98.3
August	7.74	0.01	64.0	96.4
September	5.62	0.15	59.7	90.8
October	3.62	0.53	51.2	79.7
November	1.79	1.13	42.4	65.3
December	1.07	1.64	37.3	54.7
Annual Total/Average	**56.31**	**10.89**	**50.4**	**76.5**

(a) CIMIS Website: http://www.cimis.water.ca.gov, Station 80 Fresno State (1988 to 2015) Monthly Average ETo Report, December 2015 (downloaded January 12, 2016)
(b) Data from Western Regional Climate Center (http://www.wrcc.dri.edu) for Fresno WSO AP, California Period of Record 01/01/1948 to 1/20/2015 (downloaded January 12, 2016)

The City's water use in the summer months is significantly higher than in the winter, reflecting increased water use for irrigation purposes during the hot, dry summers.

2.3 - The Groundwater Resource

The Kings Subbasin, is generally bounded on the north by the San Joaquin River; on the west by the Fresno Slough; on the south by the Kings River and Cottonwood Creek; and on the east by the Sierra foothills. The State Department of Water Resources (DWR) has classified the Kings Subbasin as being in a state of critical overdraft [in its Bulletin 118-2003]. Figure 1- 1 shows the City's location relative to the Kings Subbasin boundaries.

The upper several hundred feet of alluvium within the Kings Subbasin generally consists of highly permeable, coarse-grained, deposits which are termed older alluvium. Coarse-grained stream channel deposits, associated with deposits by the ancestral San Joaquin and Kings Rivers, underlie much of the northwest portion of the City. A recent study (completed in 2004) confirmed the presence of a laterally extensive clay layer, at an average depth of approximately 250 feet below the ground surface, beneath most of the south and southeastern portions of the City.

Below the older alluvium, to depths ranging from about 600 to 1,200 feet below ground surface, the finer-grained sediments of Tertiary-Quaternary continental deposits are typically encountered. Substantial groundwater has been produced and utilized from these depths by the City; however, deeper deposits located in the southeastern and northern portions of the City have produced less groundwater.

There are also reduced deposits in the northern and eastern portions of the City, at depths generally below 700 or 800 feet, which are associated with high concentrations of iron, manganese, arsenic, hydrogen sulfide, and methane gas. Groundwater at these depths does not generally provide a significant source for municipal supply wells.

2.4 - The Groundwater Overdraft

The City has long made efforts towards offsetting the decline of groundwater levels and minimizing overdraft conditions through an active recharge program that started in 1971. Through cooperative agreements with the Fresno Municipal Flood Control District (FMFCD) and Fresno Irrigation District (FID), the City has access to not only City-owned basins, but also those of these two agencies. Utilizing available surface water supplies, the City was able to recharge approximately 50,000 af/yr for the period of 2000-2013; however, with the reduction in available surface water supplies, intentional recharge declined to 34,700 af in 2014 and 19,800 af in 2015.

In recent years intentional groundwater recharge has increased. Recharge in 2016 was 65,650 af/yr, 2017 was 72,116 af/yr, and 2018 was 63,833 af/yr. This increase will be attained despite the direct usage increase of surface water currently (2019) occurring as a result of the new northeast Fresno surface water supply pipeline and southeast Fresno surface water treatment facility now in service. The Fresno City Council has adopted the Fresno Metropolitan Water Resources Management Plan which has a goal to attain a balanced use of groundwater by the year 2025. Peak groundwater use occurred in 2002 with 165,542 af produced. Groundwater produced in 2018 was 76,797 af. By attaining this level of recharge, the City would optimize the use of available supplies, and further improve groundwater conditions as declines in natural recharge occur due to urbanization.

The City's successful metering program, and concurrent drought-related restrictions on water usage, have made a significant difference in subbasin overdraft since 2002.

2.5 - Water Quality

Groundwater within the Kings Subbasin generally meets primary and secondary drinking water standards for municipal water use and is described as being bicarbonate-type with calcium, magnesium, and sodium as the dominant ions. Total dissolved solids (TDS) concentrations rarely exceed 600 mg/L, and typically range from 200 to 700 mg/L. However, the groundwater basin is threatened by chemical contaminants that affect the City's ability to fully use the groundwater basin resources without some type of wellhead treatment in certain areas. Many different types of chemical pollutants have contaminated portions of the Kings Subbasin. Some of the major contaminant plumes include 1,2-Dibromo-3-Chloropropane (DBCP), ethylene dibromide (EDB), trichloropropane (TCP), other volatile organic compounds (VOCs) such as trichloroethylene (TCE) and tetrachloroethylene (PCE), methyl tertiary butyl ether (MTBE), nitrate (NO3), manganese (Mn), radon (Rn), chloride (Cl), and iron (Fe). The City has received settlements in a number of lawsuits related to these contaminants and has constructed wellhead treatment systems and implemented blending plans for a number of wells impacted by nitrates. As a result of

State reductions in available surface water supplies, intentional recharge declined to 34,700 af in 2014 and 19,800 af in 2015. The City now has 16 wells (of these tested to date, out of service for excessive TCP levels, and anticipates expenditure of in excess of $300 million to treat all contaminated wells.

The City's second source of water is surface water from the Sierra Nevada (the Kings and San Joaquin Rivers) delivered via Fresno Irrigation District and Friant-Kern Canals. This water is stored in both Millerton and Pine Flat Lakes, located in the foothills east of Fresno. Both surface water and groundwater are treated to drinking water standards at state-of-the-art treatment facilities. Surface water treatment facilities are illustrated on Figure 4.10-2; groundwater treatment is at wellheads. The Central Valley Project contract is for 60,000 af/yr. The Fresno Irrigation District contract is based on a percentage of annexed land in the City that is part of the District's boundaries.

SECTION 3 - APPLICABLE CODES AND REGULATIONS

The complexity of the Project warrants a summary of the various codes and regulations which will affect its implementation.

Federal

CLEAN WATER ACT (CWA) AND ASSOCIATED PROGRAMS

The CWA (33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires individual states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The State Water Resources Control Board (SWRCB) has elected to adopt one statewide general permit for California that applies to all construction-related stormwater discharges.

Construction activities that are subject to this general permit include clearing, grading, stockpiling, and excavation that result in soil disturbances to at least one acre of the total land area. Construction activities that disturb less than one acre are still subject to this general permit if the activities are part of a large common plan of development or if significant water quality impairment would result. In California, the Construction General Permit, revised in September 2009, is implemented by the SWRCB.

The discussion below specifies provisions of the CWA that may relate to cultivation activities. Of particular relevance are Sections 401,402,404, and 303.

Section 401

CWA Section 401 requires an evaluation of water quality when a proposed activity requiring a federal license or permit could result in a discharge to waters of the United States. In California, USEPA has delegated to SWRCB and the RWQCBs the authority to issue water quality certifications. Each RWQCB is responsible for implementing Section 401 in compliance with the CWA and that region's water quality control plan (also known as a Basin Plan). Applicants for a federal license or permit to conduct activities that might result in the discharge to waters of the United States must also obtain a Section 401 water quality certification to ensure that any such discharge would comply with the applicable provisions of the CWA.

Section 402

Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES). Under Section 402, a permit is required for point-source discharges of pollutants into navigable waters of the United States (other than dredge or fill material, which are addressed under Section 404). In California, the NPDES permit program is also administered by the SWRCB. Permits contain specific water quality-based limits and establish pollutant monitoring and reporting requirements. Discharge limits in NPDES permits may be based on water quality criteria designed to protect designated beneficial uses of surface waters, such as recreation or supporting aquatic life. The various NPDES permits that may apply to the proposed Project are discussed below.

Section 404

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the U.S., which include all navigable waters, their tributaries, and some isolated waters, as well as some wetlands adjacent to the afore-mentioned waters (33 CFR Section 328.3). Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial waterbodies such as swimming pools, and water-filled depressions (33 CFR Part 328). Areas meeting the regulatory definition of waters of the U.S. are subject to the jurisdiction of USACE under the provisions of CWA Section 404. Construction activities involving placement of fill into jurisdictional waters of the U.S. are regulated by USACE through permit requirements. No USACE permit is effective in the absence of state water quality certification pursuant to Section 401 of the CWA.

With respect to cannabis cultivation, dredge or fill activities within waters of the U.S. would primarily be associated with site development (i.e., access road crossings of creeks), and not cultivation activities themselves, which would have less potential to result in dredge or fill within jurisdictional waters.

NPDES General Permit for Construction Activities

Most construction projects that disturb one-acre or more of land are required to obtain coverage under the SWRCB's *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ - "Construction General Permit") (SWRCB 2009). The Construction General Permit requires the applicant to file a Notice of Intent to discharge stormwater and prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP must include a site map and a description of the proposed construction activities; demonstrate compliance with relevant local ordinances and regulations; and present a list of best management practices (BMPs) that will be implemented to prevent soil erosion and protect against discharge of sediment and other construction-related pollutants to surface waters.

Permittees are further required to conduct monitoring and reporting to ensure that BMPs are implemented correctly and are effective in controlling the discharge of construction-related pollutants. Additionally, if a project that receives coverage under the Construction General Permit is located in an area that is not subject to a municipal stormwater permit (described below), the project must implement post-construction stormwater controls in accordance with permit Section XIII, Post-Construction Standards.

Construction of facilities that may eventually be used for licensed cultivation under the Proposed Program, if that construction involves construction and/or land disturbance activities on one-acre or more of land, may require coverage under the Construction General Permit. The Construction General Permit would not apply to cultivation itself.

NPDES Permits for Municipal Stormwater Discharges

The Municipal Storm Water Permitting Program regulates stormwater discharges from municipal separate storm sewer systems (MS4s). Storm water is runoff from rain or snow melt that runs off surfaces such as rooftops, paved streets, highways, or parking lots, and it can carry pollutants such as oil, pesticides, sediment, trash, bacteria, and metals. This runoff ultimately may reach surface waterbodies.

The municipal or urban areas addressed by the MS4 permit program commonly include large areas of impervious surface. These large impervious surfaces can contribute to increased pollutant loads, with results such as turbid water, nutrient enrichment, bacterial contamination, increased temperature, and accumulation of trash. In addition, these impervious areas can contribute to an increase in runoff duration, volume, and velocity, and streams may be affected by streambed scouring, sedimentation, and loss of aquatic and riparian habitat.

MS4 permits were established in two phases. Under Phase I, which started in 1990, the RWQCBs adopted NPDES permits for medium-sized (serving 100,000-250,000 people) and large (serving more than 250,000 people) municipalities. Most of these permits have been issued to groups of co-permittees, encompassing entire metropolitan areas. Phase I MS4 permits generally require the discharger to develop and implement a Storm Water Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Section 402(p) of the CWA. These management programs specify measures used to address various program areas, including public education and outreach; illicit discharge detection and elimination; construction and post-construction; and good housekeeping for municipal operations. MS4 permits themselves may specify management measures for the program areas, eliminating the need for dischargers to develop a Storm Water Management Plan/Program. In general, medium-sized and large municipalities also are required to conduct monitoring.

Under Phase II, the SWRCB issued the first General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ) in 2003, to provide permit coverage for smaller municipalities (population less than 100,000), including nontraditional Small MS4s, which are facilities such as military bases, public campuses, and prison and hospital complexes. The current Phase II Small MS4 General Permit, *NPDES General Permit No. CAS000004, Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small MS4s,* was adopted in 2013. The Phase II Small MS4 General Permit addresses Phase II permittees statewide.

Proposed Program activities may occur in locations with permit coverage under the MS4 program and as such, licensed cultivation activities may be subject to the requirements of such permits with regard to their stormwater discharges.

Section 303

Section 303 of the federal CWA (as well as the State-level Porter-Cologne Act, discussed further below) requires that California adopt water quality standards. In addition, under CWA Section 303(d), states are required to identify a list of "impaired waterbodies" (those not meeting established water quality standards), identify the pollutants causing the impairment, establish priority rankings for waters on the list, and develop a schedule for preparation of control plans to improve water quality. USEPA then approves or modifies the state's recommended list of impaired waterbodies. Each RWQCB must update its Section 303(d) list every two years. Waterbodies on the list are defined to have no further assimilative capacity for the identified pollutant, and the Section 303(d) list identifies priorities for development of pollution control plans for each listed waterbody and pollutant.

The pollution control plans mandated by the CWA Section 303(d) list are called Total Maximum Daily Loads (TMDLs). The TMDL is a "pollution budget," designed to restore the health of a polluted waterbody and provide protection for designated beneficial uses. The TMDL also contains the target reductions needed to meet water quality standards and allocates those reductions among the pollutant sources in the watershed (i.e., point sources, non-point sources, and natural sources) (40 Code of Federal Regulations [CFR] Section 130.2). *A* TMDL is unique to a specific waterbody and its surrounding pollutant sources and is not applicable to other waterbodies.

The current effective USEPA-approved Section 303(d) list for waterbodies in California is the 2010 list, which received final approval by USEPA on October 11, 2011. For the Proposed Program, cultivation activities that may result in discharge of a contaminant to waterbodies listed as impaired for that contaminant would be of particular concern because of the water bodies' lack of assimilative capacity for that contaminant.

National Toxics Rule and California Toxics Rule

USEPA issued the National Toxics Rule (NTR) in 1992. The goal of the NTR is to establish numeric criteria for specific priority toxic pollutants, to ensure that all states comply with the requirements in CWA Section 303. *A* total of 126 priority toxic pollutants currently are specified in the NTR.

In 2000, USEPA promulgated the California Toxics Rule (CTR), which contains additional numeric water quality criteria for priority toxic pollutants for waters in the state. The CTR fills a gap in California water quality standards that was created in 1994 when a State court overturned the State's water quality control plans containing water quality criteria for priority toxic pollutants. These federal criteria are legally applicable in California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the CWA.

The NTR and CTR include toxicity thresholds for freshwater and saltwater systems and human health for a number of chemicals which may be used for permitted or unpermitted cannabis cultivation, including heavy metals (which may be found in fertilizers, irrigation water, soils, and other grow media), hydrocarbons (found in fuels and lubricants for powered equipment used in cultivation), and pesticides.

Federal Antidegradation Policy

The federal antidegradation policy includes minimum criteria to protect existing beneficial uses, ensure that the level of water quality is offset to maintain existing uses, and prevent degradation of water quality. This policy stipulates that states must adopt the following minimum provisions and allows states to adopt even more stringent rules (40 CFR Part 131):

(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2) Where the quality of waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the state finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the state's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(3) Where high quality waters constitute an outstanding National resource, such as waters of National and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Permits issued by the SWRCB and RWQCBs under the CWA or Porter-Cologne Act, including permits for activities conducted in accordance with the proposed Project, must incorporate provisions to ensure this policy is met.

SAFE DRINKING WATER ACT

The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the United States. This SDWA focuses on all waters either designed or potentially designed for drinking water use, whether from surface water or groundwater sources. The SDWA and subsequent amendments authorized the EPA to establish health-based standards, or maximum contaminant levels (MCLs), for drinking water to protect public health against both natural and anthropogenic contaminants. All owners or operators of public water systems are required to comply with these primary (health-related) standards. State governments, which can be approved to implement these primary standards for the EPA, also encourage attainment of secondary (nuisance-related) standards. At the federal level, the EPA administers the SDWA and establishes MCLs for bacteriological, organic, inorganic, and radiological constituents (United States Code Title 42, and Code of Federal Regulations Title 40). At the State level, California has adopted its own SDWA, which incorporates the federal SDWA standards with some other requirements specific only to California (California Health and Safety Code, Section 116350 et seq.).

The 1996 SDWA amendments established source water assessment programs pertaining to untreated water from rivers, lakes, streams, and groundwater aquifers used for drinking water supply. According to these amendments, the EPA must consider a detailed risk and cost assessment, as well as best available peer-reviewed science, when developing standards for drinking water. These programs are the foundation of protecting drinking water resources from contamination and avoiding costly treatment to remove pollutants. In California, the Drinking Water Source Assessment and Protection (DWSAP) program fulfills these federal mandates. The California Department of Public Health is the primary agency for developing and implementing the DWSAP program and is responsible for performing the assessments of existing groundwater sources.

State

Department of Water Resources (DWR)

DWR's major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources; planning, designing, constructing, operating, and maintaining the State Water Resources Development System; regulating dams; providing flood protection; assisting in emergency management to safeguard life and property; educating the public; and serving local water needs by providing technical assistance. In addition, DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water facilities voluntary water transfers; and, when needed, operates a State drought water bank.

The California Water Code (Water Code) section 13149 was enacted to require the State Water Resources Control Board (Board), in consultation with the California Department of Fish and Wildlife (CDFW), to adopt interim and long-term principles and guidelines for the diversion and use of water for cannabis cultivation in areas where cannabis cultivation may have the potential to substantially affect instream flows. The legislation requires the Board to establish these principles and guidelines as part of a state policy for water quality control. The Board has adopted policies to guide cannabis production. The Cannabis Cultivation Policy: Principles and Guidelines for Cannabis Cultivation (2019) guide outlines requirements for cannabis cultivation with regard to management practices and permits required prior to operation (State Water Resources Control Board, 2019).

The State of California has directed that, under the direction of the Board, local agencies representing each critically impacted groundwater basin in the State submit to the State by January 2020 a plan for sustainable groundwater management for that basin (SGMA). In Fresno County that document is under preparation and public review. The City is a member of the North Kings Groundwater Sustainability Authority (NKGSA). The draft Groundwater Sustainability Plan for NKGSA was submitted it to the California Department of Water Resources (DWR) on January 28, 2020.

State Water Resources Control Board

The National Pollution Discharge Elimination System (NPDES) was established per the 1972 amendments to the Federal Water Pollution Control Act, or Clean Water Act (CWA), to control discharges of pollutants from point sources (Section 402). Amendments to the CWA created a new section to the Act, which is devoted to stormwater permitting, with individual states designated for administration and enforcement of the provisions of the CWA and the NPDES permit program. The State Water Resources Control Board (SWRCB) issues both general construction permits and individual permits under this program.

As required by the California Water Code (Section 13240) and supported by the CWA, each RWQCB must formulate and adopt a water quality plan (Basin Plan) for its region. The Basin Plan includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the CWA, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain water quality standards. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels needed to meet the beneficial uses, plans for improving water quality are included. The Basin Plan reflects, incorporates and implements applicable portions of a number of national and statewide water quality plans and policies, including the Porter-Cologne Act, California Water Code and the CWA.

The SWRCB developed a policy for water quality control to establish principles and guidelines for cannabis cultivation statewide. The principles and guidelines include measures to protect springs, wetland, and aquatic habitats from negative impacts of cannabis cultivation. The policy includes instream flow objectives, limits on diversions, and requirements for screening of diversions and elimination of barriers to fish passage. The policy also includes requirements that apply to groundwater extractions, forbearance periods, off-stream storage requirements, riparian buffers, and irrigation conservation measures as well as other best management practices.

As discussed above, the primary responsibility for the protection of water quality in California rests with the SWRCB. The SWRCB sets Statewide policy for the implementation of State and Federal laws and regulations. To do this more effectively, the SWRCB is divided into nine regional water quality control boards (RWQCBs). The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans) that recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities.

The City of Fresno is within the Central Valley RWQCB (Regional Board 5F). The jurisdiction of the Central Valley RWQCB extends from the Oregon border, over the valley and foothills from Redding to Fresno, through the Central Valley, to the border with Los Angeles County.

Central Valley Regional Water Quality Control Board

On October 2, 2015, the Central Valley Regional Water Quality Control Board adopted the General Waste Discharge Requirements Order for Discharges of Waste Associated with Medical Cannabis Cultivation Activities Order No. RS-2015-0113 (Central Valley Order). The CVWQCB separates the cultivators into Tiers based on the criteria including area of cultivation, slopes and presence of watercourses. These Tiers are shown in *Table 4.10-2: CVWQCB Tiers,* below. All cannabis cultivators not currently enrolled under the Central Valley Regional Water Quality Control Board Order No. RS-2015-0113 (Central Valley Order) are required to apply for coverage under the Cannabis General Order. Once an online application is submitted and the applicable fee is paid, a Notice of Applicability (NOA) will be issued to the enrollee by the appropriate Regional Water Quality Control Board. However, beginning July 1, 2019, the General Order will default to the SWRCB standards and individual RWQCBs will no longer set their own criteria.

Table 3-1 – CVWQCB Tiers

Tier 1	Cannabis Cultivators whose cultivation areas and associated facilities are located on less than 30% slopes, occupy and/or disturb less than 1/4 acre, AND are not located within 200 feet of a wetland, Class I or II watercourse
Tier 2	Cannabis Cultivators whose cultivation areas and associated facilities are located on less than 30% slopes, occupy and/or disturb less than 1 acre and less than 50% of the Cultivator's/Landowner's parcel, AND are not located within 200 feet of a wetland, Class I or II watercourse
Tier 3	Cannabis Cultivators whose cultivation areas and associated facilities are located on greater than 30% slopes, occupy and/or disturb more than 1 acre or more than 50% of the Cultivator's/Landowner's parcel, OR are within 200 feet of a wetland, Class I or II watercourse

Cannabis Cultivation Regulation

Pursuant to the Medicinal and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA), the SWRCB and RWQCBs are developing a regulatory program to protect waters of the State from harmful activities that could result from cannabis cultivation. As stated above, SWRCB and the nine RWQCBs are the primary agencies tasked with water regulation and water quality protection; therefore, while CDFA is the lead agency for this PEIR, potential water quality and related impacts from cannabis cultivation remain under the water agencies' primary jurisdiction. SWRCB's and RWQCB's regulatory program would prohibit waste discharges from cannabis-related agricultural practices, land clearing, and grading activities in rural areas and forests. SWRCB adopted a general order on October 17, 2017, regarding waste discharge requirements for cannabis cultivation operations. Cultivators whose operations occupy and/or disturb areas above a certain threshold and/or are within certain designated setbacks or above certain slope designations must apply for coverage under the SWRCB's order for waste discharge. At the same time, SWRCB adopted a Cannabis Cultivation Policy that outlines policies for water quality and water rights including flow and gaging requirements, waste discharge requirements, exemptions, and enforcement. The SWRCB's guidance will apply to cannabis cultivation sites statewide.

SWRCB 's final guidance document and order will take effect following adoption by the Office of Administrative law. This is expected to be prior to the issuance of licenses for cannabis cultivation (January 1, 2018). In the interim period while the guidance is being established, other permits (e.g., General Construction Permit, General Industrial Permit, Irrigated Lands Regulatory Program (ILRP), MS4 permits, general permits established by the NCRWQCB and CVRWQCB, and/or individual WDRs) may apply to cannabis cultivation activities.

State Drinking Water Standards

Title 22, Division 4, Chapter 15, of the California Code of Regulations establishes parameters for safe drinking water throughout the state. These drinking water standards are similar to, but in many cases more stringent than, federal standards. Title 22 contains both primary standards, and secondary standards related to aesthetics (taste and odor). These standards include limits for water quality parameters that may be found in runoff from permitted or unpermitted cultivation sites, such as heavy metals, pesticides, petroleum hydrocarbons, color, foaming agents, turbidity, and total dissolved solids/specific conductance.

Policy for Implementation of Toxics Standards in Inland Surface Waters, Enclosed Bays, and Estuaries of California

In 1994, SWRCB and USEPA agreed to a coordinated approach for addressing priority toxic pollutants in inland surface waters, enclosed bays, and estuaries of California. In March 2000, SWRCB adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, commonly referred to as the State Implementation Policy. This policy implements NTR and CTR criteria and applicable Basin Plan objectives for toxic pollutants. When a RWQCB issues any permit allowing the discharge of any toxic pollutant(s) in accordance with the CWA or the Porter-Cologne Act, the permit's promulgation and implementation must be consistent with the State Implementation Policy's substantive or procedural requirements. Any deviation from the State Implementation Policy requires the concurrence of USEPA if the RWQCB is issuing any permit under the CWA Consistency with the State Implementation Policy would occur when water permits are issued for Proposed Program activities.

California Antidegradation Policy

SWRCB enacted the Statement of Policy with Respect to Maintaining High Quality of Waters in California, which is also referred to as the California antidegradation policy. This policy is used to ensure that high-quality water is maintained, and it limits the discharge of pollutants into high-quality water in the state (Resolution Number 68-16; SWRCB 1968), as follows:

> (1) Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.
>
> (2) Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

Similar to the federal anti-degradation policy (described above), permits issued by SWRCB and the RWQCBs under the CWA or Porter-Cologne Act for activities conducted under the Proposed Program must incorporate provisions to ensure that this State-level policy is met.

California Pesticide Management Plan for Water Quality

The California Pesticide Management Plan for Water Quality is a joint effort between the California Department of Pesticide Regulation (CDPR), county agricultural commissioners, SWRCB, and the RWQCBs to protect water quality from pesticide pollution. To reduce the possibility of pesticides entering groundwater or surface water, a four-stage approach was designed by CDPR and SWRCB. Stage 1 involves educational outreach to the community to prevent pesticide contamination in water supplies. Stage 2 occurs after pesticides are detected in a water supply, and an appropriate response is selected that is safe and site specific. If Stage 2 is not effective, then Stage 3 tactics are employed, which include implementing restricted material use permit requirements, regulations, and other regulatory authority by CDPR and the county agricultural commissioners. In addition, SWRCB and the RWQCBs can employ Stage 4 and a variety of water quality control planning programs and other regulatory measures to protect water quality as necessary.

Surface Water Protection Program

CDPR implements the California Pesticide Management Plan for surface water protection through its Surface Water Protection Program, under a Management Agency Agreement with SWRCB. The Surface Water Protection Program is designed to characterize pesticide residues, identify contamination sources, determine flow of pesticides to surface water, and prepare site-specific mitigation measures. The program addresses both agricultural and nonagricultural sources of pesticide residues in surface waters. It has preventive and response components that reduce the presence of pesticides in surface waters. The preventive component includes local outreach to promote management practices that reduce pesticide runoff. Prevention also relies on CDPR's registration process, in which potential adverse effects on surface water quality, and particularly those in high-risk situations, are evaluated. The response component includes mitigation options to meet water quality goals, recognizing the value of self-regulating efforts to reduce pesticides in surface water as well as regulatory authorities of CDPR, SWRCB, and the RWQCBs.

Pesticide Contamination Prevention Act

The Pesticide Contamination Prevention Act, approved in 1985, was developed to prevent further pesticide contamination of groundwater from legal agricultural pesticide applications. The act defines pesticide pollution as "the introduction into the groundwaters of the state of an active ingredient, other specified product, or degradation product of an active ingredient of an economic poison above a level, with an adequate margin of safety that does not cause adverse health effects." CDPR has compiled a list of pesticide active ingredients on the Groundwater Protection List that have the potential to pollute groundwater. These various pesticides are reviewed, and their use is modified when they are found in groundwater.

Groundwater Protection Program

CDPR implements the Pesticide Contamination Prevention Act through its Groundwater Protection Program, which is coordinated with SWRCB under the California Pesticide Management Plan. The Groundwater Protection Program evaluates and samples pesticides to determine whether they may contaminate groundwater, identifies areas sensitive to pesticide contamination, and develops mitigation measures to prevent the movement of pesticides. CDPR may adopt regulations to carry out these mitigation measures. CDPR conducts four groundwater monitoring programs. The first monitors whether pesticides on the Groundwater Protection List with the potential to pollute have been found in groundwater. The second type is four-section monitoring, which monitors wells in the vicinity of a contaminated well. The third monitoring type is sensitive-area monitoring that identifies areas sensitive to pesticide pollution. The fourth type is investigative monitoring, used to identify and understand the factors that affect pesticide movement into groundwater.

State Water Rights System

SWRCB administers a water rights system for the diversion of surface waters (springs, streams, and rivers), including diversion of water from subterranean streams flowing in known and definite channels. The granting of a water right provides permission to withdraw water from a river, stream, or groundwater source for a "reasonable" and "beneficial" use. Water right permits and licenses identify the amounts, conditions, and construction timetables for a proposed diversion. Before issuing the permit, SWRCB must take into account all prior rights and the availability of water in the basin, as well as the flows needed to preserve instream uses such as recreation and fish and wildlife habitat. Water rights are administered using a seniority system based on the date of applying for the water right- commonly referred to as "first in time, first in right." Junior water rights holders may not divert water in a manner that would reduce the ability of senior water rights holders to exercise their water right.

All surface water used for cannabis cultivation must be associated with a valid water right, whether the cultivator personally holds such a water right or it is held by the water purveyor supplying the cultivation operation (i.e., a municipal water system or a water delivery service).

Water Rights Administration for Cannabis Cultivation

MAUCRSA contains provisions that are directly relevant to SWRCB's water rights permit process. For example, Section 26060.l(b) of the Business and Professions Code requires that SWRCB, in accordance with Section 13149 of the California Water Code and in consultation with the California Department of Fish and Wildlife (CDFW) and CDFA, shall ensure that individual and cumulative effects of water diversion associated with cultivation of cannabis do not affect the instream flows needed for fish spawning, migration, and rearing or the flows needed to maintain natural flow variability. California Water Code Section 13149 goes on to describe that this is to be accomplished through adoption of principles and guidelines for diversion and use of water for cannabis cultivation in areas where cannabis cultivation may have the potential to substantially affect instream flows. The principles and guidelines adopted in October 2017 by the SWRCB address topics such as instream flow objectives, limits on diversions, and requirements for screening of diversions and elimination of barriers to fish passage. The principles and guidelines include requirements that apply to groundwater extraction where it may affect surface flows. SWRCB, CDFW, and CDFA are actively coordinating on the development and implementation of the principles and guidelines.

As part of this, under MAUCRSA, applicants proposing to divert surface water must possess a valid water right. Specifically, an application for a license issued by CDFA will be required to identify at least one of the following water sources:

1. Retail water supplier;
2. Groundwater well;
3. Rainwater catchment system; or
4. Diversion from a surface water body or underground stream flowing in a known and definite channel.

CDFA's regulations will describe the supplemental information requirements for water diversions:

1. A copy of a registration, permit, or license issued under Part 2 (commencing with Section 1200) of Division 2 of the California Water Code that covers the diversion;

2. A copy of any statements of diversion and use filed with the SWRCB before October 31, 2017 detailing the water diversion and use;

3. A copy of a statement of water diversion and use, filed with SWRCB before October 31, 2017, demonstrating that the diversion is authorized under a riparian right and that no diversion occurred in any calendar year between January 1, 2010, and January 1, 2017;

4. For a water source where the applicant has claimed an exception from the requirement to file a statement of diversion and use, documentation, submitted to SWRCB, establishing that the diversion is subject to subdivision (a), (c), (d), or (e) of Section 5101 of the California Water Code.

SWRCB issued a notice on May 19, 2017, providing guidance and making available the forms to be filed to meet these requirements.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), passed in 2014, became law in 2015, and created a legal and policy framework to manage groundwater sustainably at a local level. The SGMA allows local agencies to customize groundwater sustainability plans to their regional economic and environmental conditions and needs and establish new governance structures, known as groundwater sustainability agencies (GSAs) (State of California 2015). The SGMA requires that a groundwater sustainability plan (GSP) be adopted for groundwater basins designated as high and medium priority (127 out of 515 basins and sub basins) under the California Statewide Groundwater Elevation Monitoring program (described below) by 2020 for basins with critical overdraft of underground aquifers. GSPs are intended to facilitate the use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results. Undesirable results are defined as the following:

1. Chronic lowering of groundwater levels (not including overdraft during a drought if a basin is otherwise managed);

2. Significant and unreasonable reduction of groundwater storage;

3. Significant and unreasonable seawater intrusion;

4. Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies;

5. Significant and unreasonable land subsidence that substantially interferes with surface land uses; and

6. Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

GSPs are required to include measurable objectives, as well as interim milestones in 5-year increments, to achieve the sustainability goal for the basin for the long-term beneficial uses of groundwater. The GSP may, but is not required to, address undesirable results that occurred before, or had not been corrected prior to the date that the SGMA went into effect. The GSA has the discretion to decide whether to set measurable objectives and the timeframes for achieving any objectives for undesirable results that occurred before 2015. Additionally, GSPs are required to include components related to the monitoring and management of groundwater levels within the basin, mitigation of overdraft, and a description of surface water supply used or available for use for groundwater recharge or in lieu use.

As with other local regulatory requirements, GSP requirements may apply to licensed cultivators located within the boundaries of a GSA and using groundwater as a source; the source could include on- or off-site wells, as well as supplies from water purveyors or water delivery services that have groundwater as some component of their supply.

California Statewide Groundwater Elevation Monitoring Basin Prioritization

In 2009; the California State Legislature amended the California Water Code with SBx7-6, which mandates a statewide groundwater elevation monitoring program to track seasonal and long-term trends in groundwater elevations in California. Under this amendment, DWR established the California Statewide Groundwater Elevation Monitoring (CASGEM) program, which establishes the framework for regular, systematic, and locally managed monitoring in all of California's groundwater basins. To facilitate implementation of the CASGEM program and focus limited resources, as required by the California Water Code, DWR ranked all of California's basins by priority: High, Medium, Low, and Very Low. DWR's basin prioritization was based on the following factors:

1. Population overlying the basin

2. Rate of current and projected growth of the population overlying the basin

3. Number of public supply wells that draw from the basin

4. Total number of wells that draw from the basin

5. Irrigated acreage overlying the basin

6. Degree to which persons overlying the basin rely on groundwater as their primary source of water

7. Any documented impacts on the groundwater within the basin, including overdraft, subsidence, saline intrusion, and other water quality degradation

8. Any other information determined to be relevant by DWR

Cannabis General Order

On October 17, 2017, the State Water Resources Control Board (State Water Board) adopted the current Cannabis Cultivation Policy Principles and Guideline for Cannabis Cultivation (Cannabis Policy) and the General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (Cannabis General Order), which implements the Cannabis Policy (WQ 2017-0023-DWQ). On December 18, 2017, the state's Office of Administrative Law approved the Cannabis Policy, making the Cannabis Policy and Cannabis General Order effective as of that date. The Cannabis Policy is implemented through the Small Irrigation Use Registration (SIUR) Program and the Cannabis General Order. Compliance with the Cannabis Policy is required to obtain a license from the California Department of Food and Agriculture (CDFA) under its CalCannabis Licensing Program.

On September 28, 2018, the State Water Board released proposed updates to the Cannabis Cultivation Policy - Principles and Guidelines for Cannabis Cultivation (Cannabis Policy), Cannabis Cultivation Policy Staff Report (Staff Report), and General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (Cannabis Cultivation General Order) for public comment. Hearings on the revised policy are to be held on February 5, 2019 and the revised General Order would be adopted after that time. It should be noted that some existing Dischargers may qualify for conditional exemption from the General Order; some previously exempted activities may need to obtain coverage under the Waiver or enroll under this General Order. Once and if the new rules take effect, all cannabis cultivation within the County will be required to comply with this order.

Accordingly, no new applications will be accepted under the Central Valley Order. Cannabis cultivators currently enrolled under the Central Valley Order may continue to operate under and comply with the requirements of their respective order until they enroll in the Cannabis General Order. All enrollees under the Central Valley Order must transition the Cannabis General Order by July 1, 2019.

The General Order also uses a tiered approach, which includes Tier 1 and Tier 2 but also includes categorization for personal use, indoor commercial cultivation, and outdoor cultivation less than 2,000sf. This system would be applicable statewide upon adoption of the statewide General Order. The General Order also assigns risk factors to cultivation areas based on the slope of the cultivation sites. *Table 4.10-3 - RWQCB General Order Tiers,* and *Table 4.8-4 - Summary of Risk Designations,* show these criteria below:

Table 3-2 - RWQCB General Order Tiers

Personal Use	Personal use exempt Dischargers are very small non-commercial cultivators that are exempt from this General Order (Refer to the General Order for specific exemptions for more information).
Indoor Commercial Cultivation	Indoor commercial cultivation activities are conditionally exempt under this General Order (Refer to the General Order for specific exemptions for more information)
Outdoor Cultivation (<2,000 sf)	Cultivation activities that disturb less than 2,000 square feet may be conditionally exempt under this General Order (Refer to the General Order for specific exemptions and more information.)
Tier 1	Tier 1 Dischargers cultivate cannabis commercially outdoors and have a disturbed area equal to or greater than 2,000 square feet and less than 1 acre (43,560 square feet).
Tier 2	Tier 2 Dischargers cultivate cannabis commercially outdoors, and have a disturbed area equal to or greater than 1 acre
Source: RWQCB, 2018 Notes: Regarding Personal Use, Indoor Commercial Cultivation, and Outdoor Cultivation <2,000 sf, (Refer to the General Order for specific exemptions and for more information). Under the revised General Order, there are no proposed changes to the tiers.	

Table 3-3 - Summary of Risk Designations

Low Risk	Moderate Risk	High Risk
No portion of the disturbed area is located on a slope greater than 30 percent, and	Any portion of the disturbed area is located on a slope greater than 30 percent, and less than 50 percent, and	Any portion of the disturbed area is located within the setback requirements
All of the disturbed area complies with the setback requirements	All of the disturbed area complies with the setback requirements	
Source: RWQCB, 2018 Notes: less than 50 percent, and is the only revised language. Setbacks are defined as follows: 150 ft from perennial watercourses, waterbodies (e.g. lakes ponds, springs); 100 ft from intermittent watercourses or wetlands; and 50 ft from ephemeral watercourses.		

California Green Building Standards Code (CALGreen Code)

The State of California enacted The California Green Building Standards Code (CALGreen Code) as part 11 of The California Building Standards Code (Title 24). The 2016 CALGreen Code, effective on January 1, 2017, contains measures that are designed to improve public health, safety, and general welfare by utilizing design and construction methods that reduce the negative environmental impact of development and encourage sustainable construction practices.

Under the CALGreen Code, all residential and non-residential sites are required to keep surface water from entering buildings and to incorporate efficient outdoor water use measures. Construction plans are required to show appropriate grading and surface water management methods. Plans should also include outdoor water use plans that utilize weather or soil moisture-controlled irrigation systems. In addition to the above-mentioned requirements, non-residential structures are also required to develop:

1. A SWPPP;
2. An irrigation budget for landscapes greater than 2,500 square feet, and
3. A quantified plan to reduce wastewater by 20 percent through use of water-efficient fixtures or non-potable water systems, such as use of harvested rainwater, grey water, and/or recycled water.

CALGreen also offers a tiered set of voluntary measures to encourage residential and non-residential development that goes beyond the mandatory standards to reduce soil erosion, rainwater capture and infiltration, and use of recycled and/or grey water systems. Non-residential developers are further encouraged to integrate treatment BMPs that result in zero net increase in runoff due to development and can treat runoff from the 85th percentile storms.

Senate Bills 610 (Chapter 643, Statutes of 2001) and 221 (Chapter 642, Statutes of 2001) (see Appendix A)

Senate Bill (SB) 610 and SB 221 are companion measures that seek to promote more collaborative planning among local water suppliers and cities and counties. They require that water supply assessments occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. They also require an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries. In addition, the supply and demand analysis must address water supplies during single and multiple dry years presented in five-year increments for a 20-year projection. Under Senate Bill 221, approval by a county of a subdivision of more than 500 homes, or an equivalent project in terms of water demand, requires an affirmative written verification of a sufficient water supply.

Porter-Cologne Water Quality Control Act

The Porter Cologne Act, passed in 1969, acts in concert with the Federal CWA. The Act established the SWRCB and divided the State into nine regions, each overseen by a RWQCB.

The SWRCB is the primary State agency responsible for protecting the quality of the State's surface and groundwater supplies; however, much of its daily implementation authority is delegated to the nine RWQCBs.

The Porter Cologne Act provides for the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters.

RESOLUTION NO. 68-16 (ANTIDEGRADATION POLICY)

SWRCB Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality Water of the State* (Antidegradation Policy), requires that high quality waters of the State of California be maintained consistent with their beneficial uses and water quality objectives as defined in a basin plan. Resolution No. 68-16 prohibits degradation of groundwater by waste discharges unless dischargers meet specific conditions.

RECYCLED WATER POLICY

On February 3, 2009, by Resolution No. 2009-0011, the SWRCB adopted a Recycled Water Policy in an effort to move towards a sustainable water future. In the Recycled Water Policy, it is stated "we declare our independence from relying on the vagaries of annual precipitation and move towards sustainable management of surface waters and groundwater, together with enhanced water conservation, water reuse and use of stormwater."

The following goals were included in the Recycled Water Policy:

- Increase use of recycled water over 2002 levels by at least one million-acre feet per year by 2020 and at least two million-acre feet per year by 2030.
- Increase the use of stormwater over use in 2007 by at least 500,000-acre feet per year by 2020 and at least one million-acre feet by year 2030.
- Increase the amount of water conserved in urban and industrial areas by comparison to 2007 by at least 20 percent by 2020.

Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.

The Recycled Water Policy provides direction to the RWQCBs regarding issuing permits for recycled water projects, addresses the benefits of recycled water, addresses a mandate for uses of recycled water and indicates that the SWRCB will exercise its authority to the fullest extent possible to encourage the use of recycled water.

TULARE LAKE BASIN PLAN

The Tulare Lake Basin Plan provides quantitative and narrative criteria for a range of water quality constituents applicable to receiving water bodies and groundwater basins within the basin. Specific water quality objectives are provided for the larger designated water bodes within the region, and more general narrative water quality objectives are provided for all surface waters and groundwater. In general, the narrative objectives require that degradation of water quality not occur due to increases in pollutant loads that will adversely impact the designated beneficial uses of a water body. For example, the narrative objective for inland surface waters for sediment states, "the suspended sediment load and suspended sediment discharge rate of water shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses." Water quality criteria apply within receiving waters as opposed to applying directly to runoff; therefore, water quality from the Basin Plan are utilized as benchmarks to evaluate the potential ecological impacts of Projects runoff on the receiving waters of the proposed Project.

Waterbodies, including surface water and groundwater, with a municipal and domestic supply designated beneficial use (MUN) are not to have concentrations that exceed maximum contaminant levels (MCLs). Federal MCLs are established by U.S. EPA, and California MCLs are established by the California Department of Public Health (CDPH) (California MCLs are in CCR Title 22). The MCLs consist of (1) primary MCLs, which are enforceable standards for contaminants that present a risk to human health, and (2) secondary MCLs, which are non-mandatory standards established to assist public water systems in managing drinking water for aesthetic considerations, such as taste, color and odor, but do not relate to a health risk. The U.S. EPA sets the secondary MCL for TDS at 500 milligrams per liter (mg/L). The CDPH sets a recommended MCL of 500 mg/L, and upper concentrations of 1,000 mg/L and a short-term upper limit of 1,500 mg/L.

California Codes

State of California, Sections 2600(c) and 26100 Business and Professions Code.

State of California Department of Public Health Food and Drug Branch Regulations.

State of California, Section 19353 of the Business and Professions Code, and Sections 11362.775 and 11362.9 of the Health and Safety Code, Federal FDA Practices and Standard Operating Procedures.

Local (City)

Urban Water Management Plan (2015)

This 2015 UWMP describes the City's water demands and supplies, reliability and water conservation strategies. The 2015 UWMP includes data covering the years from 2011 to 2015. The 2015 UWMP has been prepared to include the recommended chapters, discussions and data reporting required by the CWC and is based on the 2015 UWMP Guidebook provided by DWR.

Recycled Water Master Plan

The Recycled Water Master Plan is intended to serve as a basis to support the City's decision-making process in selecting recycled water projects. The expansion of the recycled water system will enable the City to offset potable water use, enhance the sustainability of the water supply, and lessen the burden on the wastewater treatment plant percolation ponds that are currently used for effluent discharge.

Municipal Code

Chapter 6-Municipal Services and Utilities includes the following Articles specific to Hydrology and Water Quality.

- Article 3 - Sewage and Water Disposal establishes provisions for the protection of the City's Publicly Owned Treatment Works (POTW) as related to wastewater collection and treatment systems. This Chapter provides a list of discharge prohibitions and local limits for wastewater discharged into the City's POTW. It includes control authority to exercise permitting, inspections and/or enforcement of violations related to the conditions and/or prohibitions set forth in the Fresno Municipal Code or the National Pretreatment Program.

- Article 4 – Wells, includes compliance requirements and development standards specific to water wells.

- Article 5 – Water Regulations, provides the rules and regulations specific to water systems and service connections.

- Article 7 - Urban Storm Water Quality Management and Discharge Control, of the Fresno Municipal Code establishes provisions regarding stormwater discharges. The purpose and intent of Article 7 is to ensure the health, safety, and general welfare of residents, and to protect the water quality of surface water and groundwater resources in a manner pursuant to and consistent with the Federal CWA by reducing pollutants in urban stormwater, discharges to the maximum extent practicable, and by effectively prohibiting non-stormwater discharges to the storm drain system.

- Article 9 – Recycled Water Ordinance, provides the processes, procedures, and requirements to provide recycled water to all service areas in the City identified in the Recycled Water Master Plan (currently under development).

Other applicable City of Fresno Code sections affecting cannabis cultivation, processing and sales are:

- City of Fresno Article 35, Municipal Code Section 9-3312, prohibiting outdoor cultivation of cannabis.

- City of Fresno, Municipal Code Chapter 11, Building Permits and Regulations; Chapter 15, Citywide Development Code; Article 21 of Chapter 12; California Building Code, Title 21.

- City of Fresno, Municipal Code, Article 33, Chapter 9, defining permitted types of retail and commercial cannabis businesses.

- The Project: Fresno Municipal Code, amendment to Sections 15-2739 and 152739.1 Article 33, Chapter 9 and Article 21, Chapter 12 relating to adult use and medicinal cannabis retail and commercial business.

CITY OF FRESNO GENERAL PLAN

Policy PU-7-c. Wastewater Recycling. Pursue the development of a recycled water system and the expansion of beneficial wastewater recycling opportunities, including a timely technical, practicable, and institutional evaluation of treatment, facility siting, and water exchange elements.

Objective PU-8. Manage and develop the City's water facilities on a strategic timeline basis that recognizes the long life cycle of the assets and the duration of the resources, to ensure a safe, economical, and reliable water supply for existing customers and planned urban development and economic diversification.

Policy PU-8-a Forecast Need. Use available and innovative tools, such as computerized flow modeling to determine system capacity, as necessary to forecast demand on water production and distribution systems by urban development, and to determine appropriate facility needs.

Policy PU-8-b Potable Water Supply and Cost Recovery. Prepare for provision of increased potable water capacity (including surface water treatment capacity) in a timely manner to facilitate planned urban development consistent with the General Plan. Accommodate increase in water demand from the existing community with the capital costs and benefits allocated equitably and fairly between existing users and new users, as authorized by law, and recognizing the differences in terms of quantity, quality and reliability of the various types of water in the City's portfolio.

Policy PU-8-c Conditions of Approval. Set appropriate conditions of approval for each new development proposal to ensure that the necessary potable water production and supply facilities and water resources are in place prior to occupancy.

Policy PU-8-d CIP Update. Continue to evaluate Capital Improvement Programs and update them, as appropriate, to meet the demands of both existing and planned development consistent with the General Plan.

Policy PU-8-e Repairs. Continue to evaluate existing water production and distribution systems and plan for necessary repair or enhancement of damaged or antiquated facilities.

Policy PU-8-f Water Quality. Continue to evaluate and implement measures determined to be appropriate and consistent with water system policies, including prioritizing the use of groundwater, installing wellhead treatment facilities, constructing above-ground storage and surface water treatment facilities, and enhancing transmission grid mains to promote adequate water quality and quantity.

Policy PU-8-g Review Project Impact on Supply. Mitigate the effects of development and capital improvement projects on the long-range water budget to ensure an adequate water supply for current and future uses.

City of Fresno Specific Plans

The City of Fresno has 11 Specific Plans. Specific Plans guide future development within its defined area. Plans layout long-term goals, as well as an implementation plan for immediate and midterm actions. Policies that assist in implementing these goals, provide a basis for urban and economic growth with the plan area. Development within those plan areas that have been repealed, development standards will be deferred to the Development Code for the corresponding zone district. The Specific Plan and Community Plans are intended to be consistent with the General Plan. During the development of these plans, full implementation of the General Plan is intended.

City of Fresno Community Plans

The City of Fresno has eight Community Plans. Community Plans establish the City's statement of policy for the development of the specific area defined in the plan. Community Plans lays out the quality and character of future development, a service plan for distribution, extent, and capacity of public and private services, which are essential to the development of a community. Any development, within the community plan areas that have been repealed, development standards will be deferred to the Development Code for the corresponding zone district.

City of Fresno Neighborhood Plans

The City of Fresno has three Neighborhood Plans. Neighborhood Plans include the areas of Pinedale, El Dorado Park, and Old Fig Garden. A Neighborhood Plan can provide guidelines which depicts how a neighborhood grows by adopting policies pertaining to those certain goals. This provides a channel of communication between residents and the local agency by being engage with the decision making as it affects the development of the neighborhood.

SECTION 4 - PROJECT WATER DEMAND

The proposed Project ordinance would allow for cultivation, distribution, and manufacturing and testing laboratories in addition to Cannabis retailers. In general, the proposed Project would allow for the following:

Cultivation, Distribution, and Manufacturing

- Warehousing.
- Cultivation activities and Warehousing are similar in regard to the ratio of acreage to personnel and equipment.
- Eight total businesses would be permitted inside the Cannabis Innovation Zone. Eight would be permitted within industrial zoned property within one-half mile of Highway 99 between Shaw and Clinton Avenues, or within one mile of Highway 99 north of Shaw and south of Clinton Avenues, or within one mile of Highway 180 west of Highway 99. All buildings in which a cultivator, distributor, or manufacturer is located shall be located no closer than 1,000 feet from any property boundary containing a residence, school, daycare, or youth center.
- It is assumed that Cultivation, Distribution, and Manufacturing will be limited to a combined total of 16 acres

Testing Laboratories

- General Light Industrial
- Testing Laboratories activities and General Light Industrial are similar in regard to the 'Type' of use. General Light Industrial has an emphasis on activities other than manufacturing and typically has minimal office space. Typical light industrial activities including printing, material testing, and assembly of data processing equipment.
- There is no limit on how many may be permitted.
- It is assumed that Testing Laboratories will be limited to a combined total of 100,000 sq. ft.

Cannabis Retailers

- Marijuana Dispensary
- 21 total retail locations, this includes up to 14 medicinal and/or adult use cannabis retail locations (two per Council District); with the potential to add seven additional retailers (one additional per Council District) upon Council Resolution, located in Downtown Neighborhood (DTN, Downtown General (DTG, Commercial Main Street (CMS), Commercial Community (CC), Commercial Regional (CR), Commercial General (CG), Commercial Highway (CH), Neighborhood Mixed-Use (NMX), Corridor/Center Mixed-Use (CMX), or Regional Mixed-Use (RMX) zone districts. In addition, retailers would be required to maintain a minimum distance of 800 feet from any property boundary containing another cannabis retailer, school, daycare

center, or youth center (i.e. parks, playgrounds, facilities hosting activities for minors).
- It is assumed that Cannabis Retailers will be limited to a combined total of 55,000 sq. ft.

Figure 1-2 depicts the location of the land use sites. In summary, uses are assumed to affect the following acreages:

- Warehousing (Cultivation, Distribution, and Manufacturing) – 700,000 sq. ft. (16 acres);
- General Light Industrial (Testing Laboratories) – 100,000 sq. ft.; and
- Marijuana Dispensary (Cannabis Retailers) – 55,000 sq. ft.

Based on available data on water usage by land use type, light industrial warehousing and distribution uses are estimated to have an annual water usage of 0.07-acre feet per year per 1,000 sq. ft (City of Santa Barbara, 2009). If all 16 commercial cannabis licenses were for distribution only, the estimated water usage would be 48.8-acre feet per year (16 acres x 43,560 square feet per acre x .07-acre feet per year/ 1,000 sq. ft.). Light manufacturing uses are estimated to have an annual water usage of 0.15-acre feet per year per 1,000 sq. ft. If all 16 commercial cannabis licenses were for manufacturing only, the estimated water usage would be 104.5-acre feet per year (16 acres x 43,560 square feet per acre x 0.15-acre feet per year/ 1,000 sq. ft.).

Water usage for indoor cultivation of cannabis can vary widely based on many factors (type of watering techniques, crop rotation, species, etc.). In order to calculate an estimated amount of water consumption for this proposed Project, certain assumptions were used based on available data. CalNORML estimates one gram of cannabis requires one gallon of water to produce (California NORML, 2015). Indoor cannabis cultivation is estimated to produce 40 grams per sq. ft. per harvest (BOTEC Analysis Corporation). Available data suggests the total number of harvests per year range from 1-12, with most sources using 4 harvests as a reasonable estimate (Caulkins, 2010).

Using these assumptions, 160 grams of cannabis would be produced per sq. ft. per year. Assuming a total of 700,000 sq. ft. of cultivation, 112,000,000 grams of Cannabis could be produced per year. This would equate to 112,000,000 gallons of water per year, or 343-acre feet per year, if all 700,000 sq. ft. were permitted as cultivation only.

There is no significant water usage for testing laboratories or retail businesses, apart from that customary for these types of non-cannabis usage (restrooms, sinks, etc.). Conservatively, water usage for testing laboratories would be 2.06-acre feet (100,000 sq. ft./43,560 x 0.9-acre feet per acre per year). Retail businesses would use 2.15-acre feet (55,000 sq. ft./43,560 x 1.7-acre feet per acre). The maximum estimated water use for both testing laboratories and retail businesses would be 4.21-acre feet per year.

It is reasonable to assume there would be a mix of cultivation, distribution, manufacturing, retail and testing laboratories. In order to accurately estimate the total water demand for the proposed Project, the following combination of facilities were used:

- Eight commercial cannabis licenses would be used for cultivation
- Four for manufacturing
- Four for distribution
- 21 retail businesses (55,000 sq. ft.)
- Five testing laboratories (100,000 sq. ft.)

Table 441
Project Estimated Water Demand

License Type	Number of Licenses	Water Demand per License (af/yr)	Total Water Demand (af/yr)
Cultivation	8	21.4	171.2
Manufacturing	4	6.5	21.1
Distribution	4	3.1	12.4
Retail	21	0.1	2.1
Testing Laboratories	5	0.4	2.1
Total	42	31.5	208.9

As noted in Table 4-1, the estimated maximum total water demand of the Project is approximately 208.9-acre feet per year, approximately 0.17% of the City's current total water demand (120,067) acre feet per year.

For comparison purposes, with average single-family residential unit in California utilizes approximately 362 gallons of water per day (Aquacraft Water Enginerring & Management, 2011), which equates to 0.41-acre feet per year. Annual estimated water usage for this proposed Project would be equivalent to 510 new single-family homes.

The City of Fresno Municipal Code prohibits open-air, non-structure-housed cannabis production. Available, peer-reviewed, literature discloses no documented wastewater or surface runoff-water quality impacts of structure-housed cannabis production or processing; however, best management practices should include impermeable flooring and the submittal of a Wastewater Control Plan, which will require quantification of wastewater contaminants and proper pretreatment prior to disposal.

A Wastewater Control Plan requires applicants of any cultivation facility to comply with BMPs for the capture and reuse of produced water. Based on information from companies specializing in water reuse systems, wastewater reuse can exceed 80% reductions in overall water use (Doherty, n.d.). Common systems include equipment to capture produced water and store it in holdings tanks. UV sterilization is used to eliminate microbes. Water is then pumped through a reverse osmosis (RO) membrane to remove inorganic solids (salts). Discharge tempering systems are used to regulate the quality and quantity of the discharge to regulate levels of salts and biochemical oxygen demand. These systems allow for data logging to be used to comply with City regulations pertaining to discharge.

The City of Fresno’s water usage, even in multiple dry years, approximates 120,067-acre feet per year. The incremental usage of the potential cannabis facilities is less than one percent (0.17) of that usage. The Project incorporates dispersion of cannabis facilities, assuring no localized impacts to the overall water system.

SECTION 5 - PROJECT WATER SUPPLY ADEQUACY

2015 Urban Water Master Plan

The subject Master Plan documents and analyzes the availability of groundwater and surface water supplies (Kings River, San Joaquin River, recycled water for normal water years, single dry years, and multiple dry years through 2040). Tables 5-1 through 5-5 depict these conclusions.

Table 5-1
Normal Year Supply and Demand Comparison (af)

	2020	2025	2030	2035	2040
Supply totals (af) (DWR Table 6-9)	308,700	329,900	342,000	354,100	366,200
Demand totals (af) (DWR Table 4-3)	235,700	264,000	274,00	292,900	301,100
Difference (af)	73,000	65,900	67,900	61,200	65,100

Reported volumes are rounded to the nearest 100.

Table 5-2
Single Dry Year Supply and Demand Comparison (af)

	2020	2025	2030	2035	2040
Supply totals (af)	198,000	216,400	225,800	235,200	244,500
Demand totals (af)	179,900	205,400	212,900	229,100	234,500
Difference (af)	18,100	11,000	12,900	6,100	10,000

Table 5-3
Multiple Dry Years Supply and Demand Comparison (af)

		2020	2025	2030	2035	2040
First Year	Supply totals	260,900	280,900	291,800	302,700	313,600
	Demand totals	213,800	217,800	229,300	229,100	234,500
	Difference	47,100	63,100	62,500	73,600	79,100
Second year	Supply totals	271,500	291,700	302,800	313,900	325,000
	Demand totals	225,100	229,200	240,900	231,800	241,400
	Difference	46,400	62,500	61,900	82,100	83,600
Third year	Supply totals	219,200	238,600	249,000	259,400	269,700
	Demand totals	179,900	205,400	212,900	229,100	234,500
	Difference	39,300	33,200	36,100	30,300	35,200
Fourth year	Supply totals	198,000	216,400	225,800	235,200	244,500
	Demand totals	179,900	205,400	212,900	229,100	234,500
	Difference	18,100	11,000	12,900	6,100	10,000

Reported volumes are rounded to the nearest 100.

Table 5-4
Multiple Dry Year Water Demands (af)

Demand Type	Dry Period Beginning				
	2020	**2025**	**2030**	**2035**	**2040**
Multiple-dry year first year demand					
Water Consumption	146,930	158,300	165,270	176,360	181,400
Groundwater Recharge	33,900	12,400	16,400	0	0
System Losses	11,740	12,650	13,210	14,100	14,500
Recycled Water	21,200	34,400	34,400	38,600	38,600
Total Demand	213,770	217,750	229,280	229,060	234,500
Multiple-dry year second year demand					
Water Consumption	146,930	158,300	165,270	176,360	181,400
Groundwater Recharge	45,200	23,800	28,000	2,700	6,900
System Losses	11,740	12,650	13,210	14,100	14,500
Recycled Water	21,200	34,400	34,400	38,600	38,600
Total Demand	225,070	229,150	240,880	231,760	241,400
Multiple-dry year second year demand					
Water Consumption	146,930	158,300	165,270	176,360	181,400
Groundwater Recharge	0	0	0	0	0
System Losses	11,740	12,650	13,210	14,100	14,500
Recycled Water	21,200	34,400	34,400	38,600	38,600
Total Demand	179,870	205,350	212,880	229,060	234,500
Multiple-dry year second year demand					
Water Consumption	146,930	158,300	165,270	176,360	181,400
Groundwater Recharge	0	0	0	0	0
System Losses	11,740	12,650	13,210	14,100	14,500
Recycled Water	21,200	34,400	34,400	38,600	38,600
Total Demand	179,870	205,350	212,880	229,060	234,500

Table 5-5
Multiple Dry Year Water Supply (af)

Demand Type	Dry Period Beginning				
	2020	**2025**	**2030**	**2035**	**2040**
Multiple-dry year first year supply					
Groundwater	130,400	135,100	139,700	144,300	148,900
Surface Water – FID	80,952	84,757	88,592	92,427	96,232
Surface Water – USBR	30,000	30,000	30,000	30,000	30,000
Recycled – RWRF Tertiary	7,000	16,000	16,000	16,000	16,000
Recycled – RWRF Secondary	10,000	10,000	10,000	10,000	10,000
Recycled Wells, Tertiary	2,500	5,000	7,500	10,000	12,500
Total Supply	**260,852**	**280,857**	**291,792**	**302,727**	**313,632**
Multiple-dry year second year supply					
Groundwater	130,400	135,100	139,700	144,300	148,900
Surface Water – FID	84,439	88,408	92,408	96,408	100,377
Surface Water – USBR	37,200	37,200	37,200	37,200	37,200
Recycled – RWRF Tertiary	7,000	16,000	16,000	16,000	16,000
Recycled – RWRF Secondary	10,000	10,000	10,000	10,000	10,000
Recycled Wells, Tertiary	2,500	5,000	7,500	10,000	12,500
Total Supply	**271,539**	**291,708**	**302,808**	**313,908**	**324,977**
Multiple-dry year third year supply					
Groundwater	130,400	135,100	139,700	144,300	148,900
Surface Water – FID	69,250	72,505	75,786	79,066	82,322
Surface Water – USBR	0	0	0	0	0
Recycled – RWRF Tertiary	16,000	16,000	16,000	16,000	16,000
Recycled – RWRF Secondary	10,000	10,000	10,000	10,000	10,000
Recycled Wells, Tertiary	2,500	5,000	7,500	10,000	12,500
Total Supply	**219,150**	**238,605**	**248,986**	**259,366**	**269,722**
Multiple-dry year third year supply					
Groundwater	130,400	135,100	139,700	144,300	148,900
Surface Water – FID	48,063	50,322	52,599	54,876	57,135
Surface Water – USBR	0	0	0	0	0
Recycled – RWRF Tertiary	7,000	16,000	16,000	16,000	16,000
Recycled – RWRF Secondary	10,000	10,000	10,000	10,000	10,000
Recycled Wells, Tertiary	2,500	5,000	7,500	10,000	12,500
Total Supply	**197,963**	**216,522**	**225,799**	**235,176**	**244,535**

SECTION 6 - URBAN WATER PLAN DATA UPDATE

Although the Master Plan made limited assumptions regarding multiple dry year water sources, its analysis of supply sufficiency is not (because of groundwater availability), dependent upon such assumptions. This section briefly describes the progress which the City has made in achieving surface water supply reliability and groundwater recharge since 2015.

Figure 6-1 depicts the current (2019) status of the water system upgrade projects referenced to in the 2015 Urban Water Master Plan. They include:

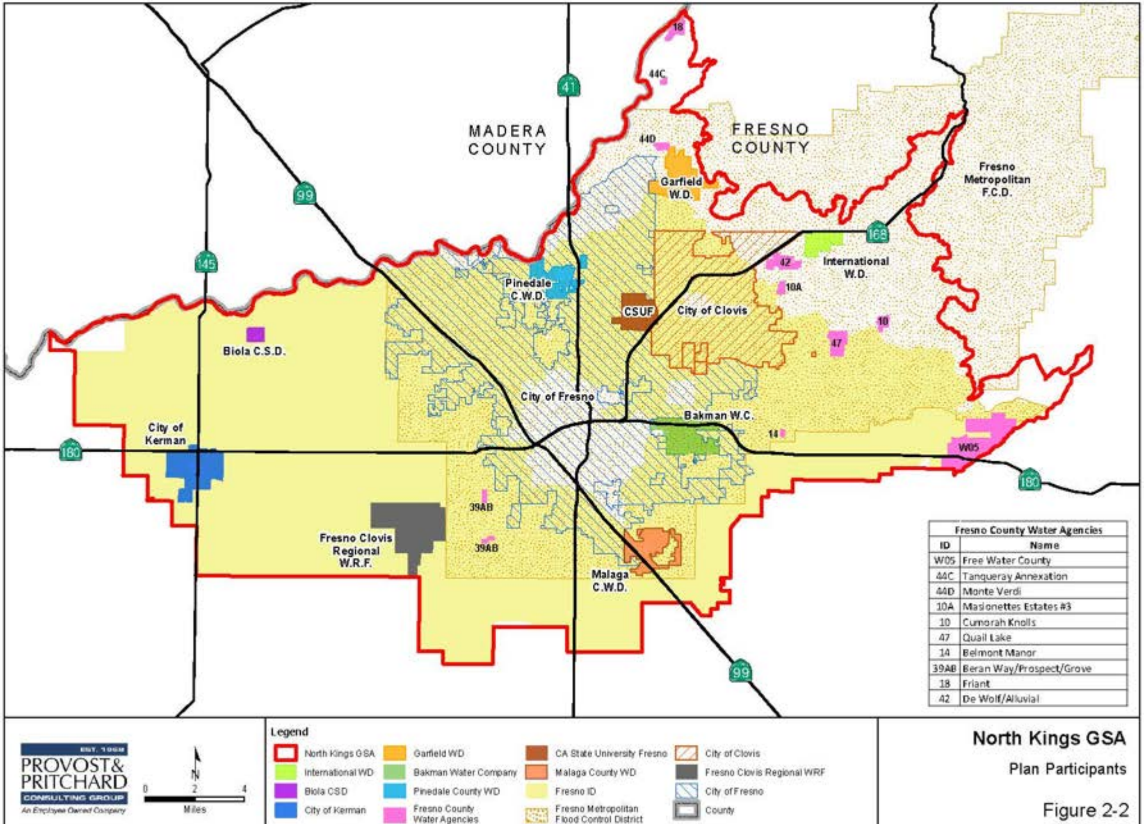
- Southeast area tertiary treatment recharge facilities, at 54 million gallons per day (expandable to 80 million gallons per day) with a 13-mile connecting pipeline;
- A southwest area, five million gallons per day, tertiary treatment recharge facility;
- A Clovis-Fresno 1 ½ mile emergency intertie, 16" diameter; and
- A 5.6-mile U.S. Bureau of Reclamation pipeline intertie to the northeast area surface water treatment facility.

As a result of these and the other Figure 6-1 depicted improvements, "normal year" 2020 water supply for the City may approach 46 percent groundwater, 50 percent surface water and 4 percent reclaimed water.

SECTION 7 - GROUNDWATER SUSTAINABILITY PLAN

The Kings Subbasin is located in the southern part of the San Joaquin Valley with the majority of surface water being supplied from the Kings and San Joaquin Rivers. The North Kings Groundwater Sustainability Agency (NKGSA) is one of seven GSAs within the Kings Groundwater Subbasin (DWR Bulletin 118: 5-022.8). Through its various surface water resources and several decades of proactive groundwater recharge activities, this portion of the Kings Basin have not experienced significant overdraft conditions experienced elsewhere in the basin. Drought and other challenges, however, have contributed to a gradual decline in overall groundwater conditions that will be addressed through implementation of the Groundwater Sustainability Plan (GSP) for the North Kings region.

The North Kings GSA finalized the Groundwater Sustainability Plan (GSP) and submitted it to the California Department of Water Resources (DWR) on January 28, 2020. This document was developed in compliance with the California Department of Water Resources' Groundwater Sustainability Plan Emergency Regulations. Developed pursuant to Water Code Section 10733.2, the regulations describe the components of groundwater sustainability plans, intra-basin coordination agreements, and the methods and criteria to be used by DWR to evaluate those plans and coordination agreements. The NKGSA's GSP has been posted on the DWR SGMA portal and a 75-day public comment period commenced on January 31, 2020 and will end on April 15, 2020. The DWR has 2 years to complete its review of the NKGSA GSP and make a determination about its adequacy.



Fresno County Water Agencies	
ID	Name
W05	Free Water County
44C	Tanqueray Annexation
44D	Monte Verdi
10A	Masionettes Estates #3
10	Cumorah Knolls
47	Quail Lake
14	Belmont Manor
39AB	Beran Way/Prospect/Grove
18	Friant
42	De Wolf/Alluvial

North Kings GSA

Plan Participants

Figure 2-2

8/11/2019 : G:\North Kings GSA-2643\264317001-Groundwater Sustainability Plan\GIS\Map\Presentation\participants.mxd

The NKGSA member agencies and entities have agreed to have each groundwater pumping entity mitigate for the estimate net impact of their pumping. The priority of each agency is to develop projects that augment the water supply using surface water to meet demands or provide groundwater recharge within the area of extraction. As mentioned in Section 2.1 of this WSA, the City of Fresno is decreasing the volume of groundwater pumped by maximizing the use of surface water and groundwater recharge.

All future land-use changes will need to consider the net groundwater impact to the NKGSA. And future General Plan updates are required to consider the NKGSP and the responsibility of each member and participating agency. The proposed Project will not adversely affect the ability of the City of Fresno to comply with the NKGSA GSP.

Chapter 6 of the City of Fresno General Plan discusses the planning, provision, and maintenance of water, wastewater, solid waste systems, and other facilities operated by the City. The objective of Section 6.4 is to – "Manage and develop the City's water facilities on a strategic timeline basis that recognizes the long-life cycle of the assets and the duration of the resources, to ensure a safe, economical, and reliable water supply for existing customers and planned urban development and economic diversification." The relevant policies are listed in Section 3 – Applicable Codes and Regulations, above.
(North Kings Groundwater Sustainability Agency (NKGSA), 2020)

SECTION 8 - CONCLUSION

In review of all the data in this assessment, including the 2015 Urban Water Master Plan projection tables (Section 5), the estimated Project water demands (Section 4), and the updated information regarding the City's water system (Section 6), it is conclusively evident that the City of Fresno's current and projected water supply is adequate to supply Project demands.

The City's water system can easily accommodate the Project water demand and should be found to be adequate in accord with Senate Bill 610 as the Environmental Impact Report (EIR) is considered for approval by the City (See Appendix B).

APPENDIX A

SENATE BILL 610
(CHAPTER 643, STATUTES OF 2001)

Chapter 643, Statutes of 2001 (Senate Bill 610)

An act to amend Section 21151.9 of the Public Resources Code, and to amend Sections 10631, 10656, 10910, 10911, 10912, and 10915 of, to repeal Section 10913 of, and to add and repeal Section 10657 of, the Water Code, relating to water. Approved by Governor October 9, 2001. Filed with Secretary of State October 9, 2001.

The people of the State of California do enact as follows:

SECTION 1. (a) The Legislature finds and declares all of the following:
(1) The length and severity of droughts in California cannot be predicted with any accuracy.

(2) There are various factors that affect the ability to ensure that adequate water supplies are available to meet all of California's water demands, now and in the future.

(3) Because of these factors, it is not possible to guarantee a permanent water supply for all water users in California in the amounts requested.

(4) Therefore, it is critical that California's water agencies carefully assess the reliability of their water supply and delivery systems.

(5) Furthermore, California's overall water delivery system has become less reliable over the last 20 years because demand for water has continued to grow while new supplies have not been developed in amounts sufficient to meet the increased demand.

(6) There are a variety of measures for developing new water supplies including water reclamation, water conservation, conjunctive use, water transfers, seawater desalination, and surface water and groundwater storage.

(7) With increasing frequency, California's water agencies are required to impose water rationing on their residential and business customers during this state's frequent and severe periods of drought.

(8) The identification and development of water supplies needed during multiple-year droughts is vital to California's business climate, as well as to the health of the agricultural industry, environment, rural communities, and residents who continue to face the possibility of severe water cutbacks during water shortage periods.

(9) A recent study indicates that the water supply and land use planning linkage, established by Part 2.10 (commencing with Section 10910) of Division 6 of the Water Code, has not been implemented in a manner that ensures the appropriate level of communication between water agencies and planning agencies, and this act is intended to remedy that deficiency in communication.

(b) It is the intent of the Legislature to strengthen the process pursuant to which local agencies determine the adequacy of existing and planned future water supplies to meet existing and planned future demands on those water supplies.

SEC. 2. Section 21151.9 of the Public Resources Code is amended to read:
21151.9. Whenever a city or county determines that a project, as defined in Section 10912 of the Water Code, is subject to this division, it shall comply with Part 2.10 (commencing with Section 10910) of Division 6 of the Water Code.

SEC. 3. Section 10631 of the Water Code is amended to read:
10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments as described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the location, amount, and sufficiency of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.
(2) A single dry water year.
(3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.
(B) Multifamily.
(C) Commercial
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.

(2) The water use projections shall be in the same five-year increments as described in subdivision (a). (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.
(B) Residential plumbing retrofit.
(C) System water audits, leak detection, and repair.
(D) Metering with commodity rates for all new connections and retrofit of existing connections.
(E) Large landscape conservation programs and incentives.
(F) High-efficiency washing machine rebate programs.
(G) Public information programs.
(H) School education programs.
(I) Conservation programs for commercial, industrial, and institutional accounts.
(J) Wholesale agency programs.
(K) Conservation pricing.
(L) Water conservation coordinator.
(M) Water waste prohibition.
(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of such savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and non-economic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single dry, and multiple dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the ''Memorandum of Understanding Regarding Urban Water Conservation in California,'' dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

SEC. 3.5. Section 10631 of the Water Code is amended to read:
10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments as described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.

(2) A single dry water year.

(3) Multiple dry water years. For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.

(2) The water use projections shall be in the same five-year increments as described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.
(B) Residential plumbing retrofit.
(C) System water audits, leak detection, and repair.
(D) Metering with commodity rates for all new connections and retrofit of existing connections.
(E) Large landscape conservation programs and incentives.
(F) High-efficiency washing machine rebate programs.
(G) Public information programs.
(H) School education programs.
(I) Conservation programs for commercial, industrial, and institutional accounts.
(J) Wholesale agency programs.
(K) Conservation pricing.
(L) Water conservation coordinator.
(M) Water waste prohibition.
(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single dry, and multiple dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the ''Memorandum of Understanding Regarding Urban Water Conservation in California,'' dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).
SEC. 4. Section 10656 of the Water Code is amended to read:
10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

SEC. 4.3. Section 10657 is added to the Water Code, to read:
10657. (a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.

(b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

SEC. 4.5. Section 10910 of the Water Code is amended to read:
10910. (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

(d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water systems or water service contract-holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

(g) (1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

(2) Prior to the expiration of the 90-day period, if the public water system intends to request an extension of time to prepare and adopt the assessment, the public water system shall meet with the city or county to request an extension of time, which shall not exceed 30 days, to prepare and adopt the assessment.

(3) If the public water system fails to request an extension of time, or fails to submit the assessment notwithstanding the extension of time granted pursuant to paragraph (2), the city or county may seek a writ of mandamus to compel the governing body of the public water system to comply with the requirements of this part relating to the submission of the water supply assessment.

(h) Notwithstanding any other provision of this part, if a project has been the subject of a water supply assessment that complies with the requirements of this part, no additional water supply assessment shall be required for subsequent projects that were part of a larger project for which a water supply assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase in water demand for the project.

(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.

(3) Significant new information becomes available which was not known and could not have been known at the time when the assessment was prepared.

SEC. 5. Section 10911 of the Water Code is amended to read:
10911. (a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

(b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

SEC. 6. Section 10912 of the Water Code is amended to read:
10912. For the purposes of this part, the following terms have the following meanings:

(a) ''Project'' means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

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

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then ''project'' means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

(c) ''Public water system'' means a system for the provision of piped water to the public for human consumption that has 3000 or more service connections. A public water system includes all of the following:

(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.

(2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.

(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

SEC. 7. Section 10913 of the Water Code is repealed.

SEC. 8. Section 10915 of the Water Code is amended to read:
10915. The County of San Diego is deemed to comply with this part if the Office of Planning and Research determines that all of the following conditions have been met:

(a) Proposition C, as approved by the voters of the County of San Diego in November 1988, requires the development of a regional growth management plan and directs the establishment of a regional planning and growth management review board.

(b) The County of San Diego and the cities in the county, by agreement, designate the San Diego Association of Governments as that review board.

(c) A regional growth management strategy that provides for a comprehensive regional strategy and a coordinated economic development and growth management program has been developed pursuant to Proposition C.

(d) The regional growth management strategy includes a water element to coordinate planning for water that is consistent with the requirements of this part.

(e) The San Diego County Water Authority, by agreement with the San Diego Association of Governments in its capacity as the review board, uses the association's most recent regional growth forecasts for planning purposes and to implement the water element of the strategy.

(f) The procedures established by the review board for the development and approval of the regional growth management strategy, including the water element and any certification process established to ensure that a project is consistent with that element, comply with the requirements of this part.

(g) The environmental documents for a project located in the County of San Diego include information that accomplishes the same purposes as a water supply assessment that is prepared pursuant to Section 10910.

SEC. 9.
Section 3.5 of this bill incorporates amendments to Section 10631 of the Water Code proposed by both this bill and AB 901. It shall only become operative if (1) both bills are enacted and become effective on or before January 1, 2002, (2) each bill amends Section 10631 of the Water Code, and (3) this bill is enacted after AB 901, in which case Section 3 of this bill shall not become operative.

SEC. 10.
No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because a local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act, within the meaning of Section 17556 of the Government Code.

APPENDIX B

CONSISTENCY WITH DWR GUIDELINES

City of Fresno Cannabis Ordinance WSA – Consistency with DWR Guidelines

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
Section 1.0 (page 2). Does SB 610 or SB 221 apply to the proposed project	Is the project subject to SB 610? Is the project subject to CEQA (Water Code §10910(a)? If yes, continue.	WSA Section 1.2. Yes, the Project is subject to SB 610 and CEQA.
	Is it a "Project" as defined by Water Code §10910(a) or (b)? If yes, to comply with SB 610 go to Section 2.0, page 4.	WSA Section 1.1. Yes, the Project is considered to meet the definition of "project" per Water Code §10912(a) or (b).
	Is the project subject to SB 221? Does the tentative map include a "subdivision" as defined by Government Code §66473.7(a)(1)? If no, stop.	No- the Project is for a commercial ordinance.
Section 2.0 (page 4) who will prepare the SB 610 analysis?	Is there a public water system ("water supplier") for the project (Water Code §10910(b)? If no, go to Section 3.0, page 6.	WSA Section 1.3. Yes, the Project sites will be connected to the City of Fresno public water system.
Section 3.0 (page 6). Has an assessment already been prepared that includes this project?	Has this project already been the subject of an assessment (Water Code §10910(h)? If no, go to Section 4.0, page 8.	No, the Project has not been the subject of an assessment.
Section 4.0 (page 8). Is there a current Urban Water Management Plan?	Is there an adopted urban water management plan (Water Code §10910(c)? If yes, continue. If yes, the information from the UWMP related to the proposed water demand for the project may also be used for carrying out Section 5.0, Steps 1 and 2, Section 7.0; proceed to Section 5.0, page 10 of the Guidelines.	WSA Section 1.3. Yes, there is an adopted UWMP for the Project area (the City of Fresno). Information contained in the UWMP was used in the preparation of the WSA and cited accordingly.
	Is the project water demand for the project accounted for in the most recent UWMP (Water Code §10910(c)(2)? If no, got to Section 5.0, page 10.	No
Section 5.0 (page 10). What information should be included in an assessment?	Step One (page 13). Documenting wholesale water supplies.	The Project is not a retail water supplier and would not include the use of wholesale water supplies.
	Ste Two (page 17). Documenting Supply if Groundwater is a Source.	The Kings Subbasin is a part of the proposed water supply. WSA Section 2.1.
	Specify if a groundwater management plan or any other specific authorization for groundwater management for the basin has been adopted and how	WSA Sections 2.4 and 3.

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	it affects the water supplier's use of the basin.	
	Description and analysis of the amount and location of groundwater pumped by the water supplier for the past five years. Include information on proposed pumping locations and quantities. The description and analysis is to be based on information that is reasonably available, including, but not limited to, historic use records from DWR.	WSA Sections 5 provides a description of the City's groundwater usage.
	Analysis of the location, amount, and sufficiency of groundwater that is projected to be pumped by the water supplier.	WSA Section 4. The quantity of water banked in the Kings Subbasin is sufficient for the Project.
	Step 3 (page 21). Documenting project demand (Project Demand Analysis).	WSA Section 4.
	Step 4 (page 26). Documenting dry year(s) supply.	WSA Section 5.
	Step 5 (page 31). Documenting dry year(s) demand.	WSA Section 5.
Section 6.0 (page 33). Is the projected water supply sufficient or insufficient for the proposed project?		WSA Section 5 concludes that identified water supply/supplies are sufficient for the Project.
Section 7.0 (page 35). If the projected supply is determined to be insufficient	Does the assessment conclude that supply is "sufficient"? If no, continue.	WSA Section 5 concludes that sufficient water supplies are available for the Project.
Section 8.0 (page 38). Final SB 610 assessment actions by lead agencies.	The lead agency shall review the WSA and must decide whether additional water supply information is needed for its consideration of the proposed project. The lead agency "shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses."	The WSA for the Project must be approved prior to or in concurrence with the EIR.
	The description of the groundwater basin may be excerpted from the groundwater management plan, from DWR Bulletin 118, California's Groundwater, or from some other document that has been published and that discusses the	WSA Section 2.3 includes the data from and references to the Urban Water Master Plan's and DWR Bulletin 118's further data.

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	basin boundaries, type of rock that constitutes the aquifer, variability of the aquifer material, and total groundwater in storage (average specific yield times the volume of the aquifer).	
	In an adjudicated basin the amount of water the urban supplier has the legal right to pump should be enumerated in the court decision.	Not applicable; the Basin is not adjudicated.
	The Department of Water Resources has projected estimates of overdraft, or "water shortage", based on projected amounts of water supply and demand (basin management) are projected by the Watermaster agency (AVEK) in WSA Section 3.2, the hydrologic region level in Bulletin 160, California Water Plan Update. Estimates at the basin or subbasin level will be projected for some basins in Bulletin 118. If the basin has not been evaluated by DWR, data that indicate groundwater level trends over a period of time should be collected and evaluated.	Basin groundwater resources are discussed in WSA Section 2.4.
	If the evaluation indicates an overdraft due to existing groundwater extraction, or projected increases in groundwater extraction, describe actions and/or program designed to eliminate the long-term overdraft condition.	WSA Section 3.2. The referenced 2015 Urban Water Master Plan describes in detail the subject actions and programs.

APPENDIX I

SPECIAL-STATUS PLANT SPECIES TABLE

Table D-1
Special-Status Plant Species in the Regional Vicinity of the Project Site
Cannabis Ordinance EIR, Fresno County, California

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
Sensitive Plant Communities				
Great Valley Mixed Riparian Forest	-/-	This community consists of medium to tall (to 100 feet), broad-leaved winter-deciduous trees. This community usually occupies sites that are farther from the active river channel or that are at somewhat higher elevations.	NO	The most current and nearest recorded occurrence is presumed extant (EONDX 15633) and was observed approximately 1.0-miles north of the northern boundary of the Fresno City limits.
Northern Claypan vernal pool	-/-	This community consists of a low, herbaceous community dominated by annual herbs and grasses. Germination and growth begin with winter rains, often continuing even when inundated. Rising spring temperatures evaporate the pools, leaving concentric bands of vegetation. Claypan vernal pools are typically small and contain less cover than northern hardpan vernal pools.	NO	The most current and nearest recorded occurrence is presumed extant (EONDX 26494) and was observed within the northern portion of the northern boundary of the Fresno City limits.
Northern Hardpan vernal pool	-/-	This community occurs on old, very acidic, Fe-Si cemented hardpan soils (Redding, San Joaquin, and similar series). The microrelief on these soils typically is hummocky, with mounds intervening between localized depressions. Winter rainfall perches on the hardpan, forming pools in the depressions. Evaporation (not runoff) empties pools in the spring.	NO	The most current and nearest recorded occurrence is presumed extant (EONDX 14614) and was observed approximately 2.5-miles northeast of the northeastern boundary of the Fresno City limits.
Sycamore alluvial woodland	-/-	This community consists of open to moderately closed, winter-deciduous broadleafed riparian woodland overwhelmingly dominated by well-	NO	The most current and nearest recorded occurrence is presumed extant (EONDX 17208) and was observed approximately 2.5-miles

		spaced *Platanus racemosa*. *Aesculus californica* and *Sambucus mexicana* are widely spaced in the subcanopy. Braided, depositional channels of intermittent streams, usually with cobbly or bouldery substrate. Sycamores have well developed vegetative reproduction, giving the woodland a clumped appearance.		northeast of the northeastern boundary of the Fresno City limits.
Plants				
Calycadenia hooveri Hoover's calycadenia	-/- 2B.3	Annual herb; blooms July – September; occurs on rocky soils in cismontane woodland and valley and foothill grassland; elevation ~ 215-985 feet; threatened by development; documented primarily in eastern foothills of Central Valley.	NO	Habitat to support this species is absent from the Project site. Nearest presumed extant occurrence (EONDX 107183) is approximately 3.5-miles north of the northern boundary of the Fresno City limits.
Castilleja campestris var. *succulenta* succulent owl's clover or Fleshy Owl's-clover	FT/SE 1B.2	Annual herb (hemiparasitic); blooms April – May, sometimes as early as March; occurs vernal pools, swales and some seasonal wetlands, often on acidic soils; elevation ~165-2,460 feet; threatened by urban and agricultural development, flood control, grazing, and trampling; documented primarily on eastern Central Valley floor and foothills from Fresno County north.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 6892) and was observed approximately 3.5-miles north of the northern boundary of the Fresno City limits.
Caulanthus californicus California jewelflower	FE/SE 1B.1	Annual herb; blooms February to May; occurs in slightly alkaline sandy soils in chenopod scrub, valley and foothill grassland, and pinyon and juniper woodland; elevation ~200 to 3,280 feet; found in San Joaquin Valley, Carrizo Plain, and Cuyama Valley from Fresno County south to Santa Barbara County; many occurrences presumed extirpated; threatened by development, grazing, and competition from non-native plants.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is extirpated (EONDX 63230) and was observed within the central area of the Fresno City limits.

Delphinium hansenii ssp. *ewanianum* Ewan's larkspur	-/- 4.2	Perennial herb; blooms March-May; occurs on rocky soils in cismontane woodland and valley and foothill grassland; elevation ~196-1970 feet; populations very local; threatened by development; documented primarily in Sierra Nevada foothills.	NO	Habitat to support this species is absent from the Project site. There are no recorded occurrences for the species within 10-miles of the Fresno City limits.
Downingia pusilla dwarf downingia	-/- 2B.2	Annual herb; blooms March-May; occurs in vernal pools and in moist conditions in valley and foothill grasslands at elevations under 500 feet; threatened by development, grazing, non-native plants, vehicles, and industrial forestry; documented primarily on Central Valley floor and foothills from Fresno County north, and in coastal mountains north of the Bay area.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 62519) and was observed approximately 1.0-mile northeast of the northeastern boundary of the Fresno City limits.
Eryngium spinosepalum spiny-sepaled button celery	-/- 1B.2	Annual or perennial herb; blooms April-June; occurs in vernal pools and moist areas in valley and foothill grasslands; elevation ~260-3200 feet; threatened by development, grazing, road maintenance, hydrological alterations, and agriculture; documented primarily in foothills of Sierra Nevada with scattered occurrences on Central Valley floor and western foothills and lower mountains.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 84444) and was observed approximately 3.0-miles north of the northern boundary of the Fresno City limits.
Imperata brevifolia California satintail	-/- 2B.1	This perennial grass occurs in wet springs, streambanks, meadows, floodplains, and chaparral beneath 1,640 feet. It flowers between September and May.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 69854) and was observed within the central area of the Fresno City limits.
Leptosiphon serrulatus Madera leptosiphon	-/- 1B.2	This annual plant occurs in Cismontane woodland, chaparral, and	NO	Habitat to support this species is absent from the Project site. The

		lower montane coniferous forest. It flowers in April and May, and it ranges in elevation from 985 and 4,265 feet.		most current and nearest recorded occurrence is presumed extant (EONDX 75591) and was observed within the central area of the Fresno City limits.
Orcuttia inaequalis San Joaquin Valley Orcutt grass	FT/SE 1B.1	Annual herb; blooms April to September; occurs in vernal pools; elevation ~32-2,500 feet; threatened by agricultural, development, overgrazing, channelization, and non-native plants; documented primarily on eastern Central Valley floor and foothills from Visalia north.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 11365) and was observed approximately 3.0-miles north of the northern boundary of the Fresno City limits.
Orcuttia pilosa hairy Orcutt grass	FE/SE 1B.1	Annual herb; blooms May to September; occurs in vernal pools; often in acidic and saline-alkaline soils; elevation `150 to 655 feet; threatened by agriculture, urbanization, overgrazing, non-native plants, and trampling; only known from a few locations on the Central Valley floor and lower foothills in Madera, Merced, and Stanislaus counties, and the very northern portion of the valley in Butte, Glenn, and Tehama counties.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 84430) and was observed approximately 3.5-miles north of the northern boundary of the Fresno City limits.
Pseudobahia bahiifolia Hartweg's golden sunburst	FE/SE 1B.1	Annual herb; blooms March-April; occurs on clay soils in cismontane woodland and valley and foothill grasslands often in acidic conditions; elevation ~45 to 500 feet; threatened by development, agricultural, overgrazing, and trampling; many occurrences very small; documented primarily in Sierra Nevada foothills and valley floor margins from Fresno County north.	NO	Habitat to support this species is absent from the Project site. There are no recorded occurrences for the species within 10-miles of the Fresno City limits.
Pseudobahia peirsonii San Joaquin adobe sunburst	FT/SE 1B.1	This annual herb occurs in cismontane woodland, valley and foothill grasslands, and usually adobe clay. It	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded

		flowers between March and May, and it ranges in elevation from 330 to 2,955 feet.		occurrence is presumed extant (EONDX 16860) and was observed approximately 3.0-miles east of the eastern boundary of the Fresno City limits.
Sagittaria sanfordii Sanford's arrowhead	-/- 1B.2	Perennial rhizomatous herb (emergent); blooms May-October, sometimes into November; occurs in assorted shallow freshwater marshes and swamps, and slow-moving waterways, in sandy loam and clay soils; elevation ~0 to 2,130 feet; threatened by grazing, development, recreational activities, non-native plants, road widening, and channel alteration/maintenance; documented primarily throughout Central Valley on valley floor and surrounding foothills.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 18565) and was observed within the central area of the Fresno City limits.
Tropidocarpum capparideum caper-fruited tropidocarpum	-/- 1B.1	This annual plant occurs in valley and foothill grassland in alkaline soils. It is endemic to California. It flowers between March and April and occurs at elevations under 1,315 feet.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 64783) and was observed within the central area of the Fresno City limits.
Tuctoria greenei Greene's tuctoria	FE/SR 1B.1	Annual herb; blooms May-July, sometimes September; occurs in small or shallow vernal pools, primarily on Anita clay and Tuscan loam soils; elevation ~100 to 3510 feet; threatened by agriculture, urbanization, overgrazing, and habitat fragmentation; documented on Central Valley floor and surrounding foothills; many occurrences presumed extirpated.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is extirpated (EONDX 22344) and was observed approximately 4.5-miles east of the eastern boundary of the Fresno City limits.
Invertebrates				
Bombus crotchii Crotch bumble bee	-/- SS	This bee occurs in relatively warm and dry sites, including the inner Coast	NO	Habitat to support this species is absent from the Project site. The

		Range of California and the margins of the Mojave Desert. It can be found in open grassland and scrub habitats. Nesting occurs underground. This species is classified as a short-tongued species, whose food plants include *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia*.		most current and nearest recorded occurrence is presumed extant (EONDX 98701) and was observed within the central area of the Fresno City limits.
Branchinecta conservatio conservancy fairy shrimp	FE/-SS	Found in large, cool-water vernal pools with moderately turbid water that generally last until June; shrimp are generally present in vernal pools from early November to early April; average time to maturity is 49 days, but can be as little as 19 days in warmer pools; eggs laid in spring and persist through dry season as cysts; endemic to the Central Valley and surrounding foothills and mountains; only eight (8) known populations; threatened by habitat loss, degradation, and fragmentation, and interference with vernal pool hydrology.	NO	Habitat to support this species is absent from the Project site. There are no recorded occurrences for the species within 10-miles of the Fresno City limits.
Branchinecta lynchi vernal pool fairy shrimp	FT/-SS	Occur a variety of vernal pool habitats that range from small, clear pools to large, turbid and alkaline pools; more common in pools less than 0.05 acre, typically as part of larger vernal pool complexes; adults active from early December to early May; pools must hold water for at least 18 days, the minimum to complete the life cycle if temperatures are optimal; eggs laid in spring and persist through dry season as cysts; current California distribution includes the Central Valley and coast ranges; threatened by habitat loss, degradation, and fragmentation, and	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 51284) and was observed approximately 3-miles from the northern boundary of the Fresno City limits.

		interference with vernal pool hydrology.		
Branchinecta mesovallensis midvalley fairy shrimp	-/- SS	Found in small, warmer, short-lived vernal pools and grass-bottomed swales less than 663 square feet; can reach maturity in as few as eight (8) days and complete multiple hatchings in a single rainy season; eggs laid in spring and persist through dry season as cysts; endemic to small portion of the Central Valley in Southeastern Sacramento, Southern Sierra Foothill, San Joaquin and Solano-Colusa Vernal Pool Regions; range may be larger as this species was only recently described; potential threatened by habitat loss, degradation, and fragmentation, and interference with vernal pool hydrology.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 95730) and was observed approximately 9-miles from the northeastern boundary of the Fresno City limits.
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT/- SS	Closely associated with elderberry shrubs (*Sambucus* sp.) for food and reproduction; usually along rivers and streams; eggs laid on bark, and larvae hatch and burrow into the stems; adults each elderberry leaves and flowers; stem diameter must be minimum one inch; exit holes in stems are most common methods for identification; ranges from southern Shasta County to Fresno County.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 34390) and was observed within the northern boundary of the of the Fresno City limits.
Efferia antiochi Antioch efferian robberfly	-/- SS	This species is known only from Antioch, Contra Costa County, and Fresno and Scout Island, Fresno County. Adults have been collected from September to December. There is no published information on the life history or behavior of this species, but robberflies eat other insects and larvae usually develop in soil or rotting wood.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 63436) and was observed within the central area of the Fresno City limits.

Linderiella occidentalis California linderiella	-/- SS	Most widely distributed fairy shrimp in California; found in vernal pools from 10.8 square feet to 13 acres supported by most land forms, geologic formations, and soil types; vernal pool types may include swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities; minimum 31 days to maturity with average 43 days to reproduce; eggs laid in spring and persist through dry season as cysts; current distribution is from Central Valley and coast ranges; threatened by habitat loss, degradation, and fragmentation, and interference with vernal pool hydrology.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 104841) and is approximately 3.5-miles north of the Fresno City limits.
Lytta molesta molestan blister beetle	-/- SS	Often found on flowers of native plant species; may be associated with dried vernal pools; adults are herbivorous, with many species feeding mostly on flowers, but some feed on foliage; distribution not well understood but known from Central Valley from Contra Costa County to Tulare and Kern Counties.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is possibly extirpated (EONDX 64456) and was observed within the central area of the Fresno City limits.
Metapogon hurdi Hurd's metapogon robberfly	-/- SS	This species has only been located in sandy habitat in Antioch, Contra Costa County, and Fresno County. There is no published information on the life history or behavior of this species, but robberflies eat other insects and larvae usually develop in soil or rotting wood.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is possibly extirpated (EONDX 60267) and was observed within the central area of the Fresno City limits.
Fish				
Hypomesus transpacificus delta smelt	FT/SE	Small fish endemic to the San Francisco Estuary and the larger Sacramento-San Joaquin Delta; moves between freshwater and low salinity water throughout year; most spawning	NO	Habitat to support this species is absent from the Project site. There are no recorded occurrences for the species within 10-miles of the Fresno City limits.

		happens in tidally influenced backwater sloughs and channel edgewaters; historical distribution did not extend beyond Mossdale on the San Joaquin River and Sacramento on the Sacramento River.		
Amphibians				
Ambystoma californiense California tiger salamander	FT/ST WL	Occurs in ephemeral pools or ponds that mimic them, and that remain inundated for 12 weeks or more; can occupy artificial ponds (ranch stock ponds) if ponds are allowed to go dry in the summer; requires nearby upland habitat containing small mammal burrows or crevices that provide refugia; restricted to grasslands and low foothills; lives underground most of the year.	YES	One occurrence (EONDX 108190) was recorded in 2017 at an apartment complex near the intersection of West Ashlan Avenue and State Route 99.
Rana draytonii California red-legged frog	FT/- SSC	Occurs primarily in and near ponds in forests, woodlands, grasslands, coastal scrub, and stream sides with plant cover; mostly in lower elevations; breeding habitat may be permanent or ephemeral; estivates in animal burrows or other moist refuges when ephemeral habitat is dry; endemic to California and northern Baja California; found throughout coastal California from Mendocino County south; inland distribution includes northern Sacramento Valley and foothills of Sierra Nevada south to Tulare County (possibly Kern County); elevation from sea level to 5,000 feet.	NO	Habitat to support this species is absent from the Project site. There are no recorded occurrences for the species within 10-miles of the Fresno City limits.
Spea hammondii western spadefoot	-/- SSC	Species relies on vernal pools for breeding where predators cannot become established; open areas with sand or gravelly soils in a variety of habitats: grasslands, coastal scrub,	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 23162) and was observed

		woodlands, chaparral, sandy washes, lowland river floodplains, alkali flats, foothills, and mountains; endemic to California and northern Baja California; distribution from Redding south throughout Central Valley and foothills, throughout South Coast Ranges into coastal southern California to Transverse mountains and Peninsular mountains; elevation from sea level to 4,500 feet.		approximately 3-miles from the northern boundary of the Fresno City limits.
Reptiles				
Actinemys [=Emys] marmorata western pond turtle	-/- SSC	Highly aquatic and diurnally active; found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with vegetation and rocky/muddy bottoms; wide variety of habitats; need basking areas near water (logs, rocks, vegetation mats, banks); may enter brackish water and even seawater; digs nest on land near water; range from north of San Francisco Bay area south, including Central Valley.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 106203) and was observed approximately 3-miles from the eastern boundary of the Fresno City limits.
Arizona elegans occidentalis California glossy snake	-/- SSC	Appears to prefer microhabitats of open areas with soil loose enough for easy burrowing. Inhabits arid scrub, rocky washes, grasslands and chaparral.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 63436) and was observed within the central area of the Fresno City limits.
Gambelia silus [=sila] blunt-nosed leopard lizard	FE/SE FP	Occurs in semiarid habitats within the southern Central Valley and Cuyama Valley; habitats typically are flat and have large open areas with scattered shrubs for refuge; uses small mammal burrows for shelter; spends most of year underground, surfacing in spring/early summer to breed and eat; hatchlings surface in fall to eat; may	NO	Habitat to support this species is absent from the Project site. There are no recorded occurrences for the species within 10-miles of the Fresno City limits.

		interbreed with long-nosed leopard lizard in Cuyama Valley; threatened by habitat loss/fragmentation and drought; elevation from 100-2,400 feet.		
Anniella puchra Northern California legless lizard	-/- SS	Prefers moist and warm loose soils with vegetation cover. Preferred habitat must have moisture. Habitats where the species is found can include dunes, desert scrub, chaparral, sandy washes, and pine-oak woodlands.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is presumed extant (EONDX 107017) and was observed within the central area of the Fresno City limits.
Phrynosoma blainvillii Blainville's [=coast] horned lizard	-/- SSC	Prefers sandy/loose soils in grassland, forests, woodlands, and open chaparral; often found along sand washes and dirt roads with scattered shrubs for refuge; specialized in consuming ants; distribution includes coastal California from Baja California north to the Bay Area, southeastern desert regions, southern Central Valley flats and foothills and surrounding mounts on drier, warmer slopes; threatened by habitat loss/fragmentation and spread of invasive ant species displacing native prey; elevation from sea level to 8,000 feet.	NO	Habitat to support this species is absent from the Project site. The most current and nearest recorded occurrence is possibly extirpated (EONDX 103150) and was observed within the central area of the Fresno City limits.
Thamnophis gigas giant gartersnake	FT/ST	Highly aquatic snake found in marshes and sloughs, drainage canals, and irrigation ditches; prefers vegetation close to water for basking; does not venture more than 200 feet from aquatic habitat; elevation from sea level to 400 feet; endemic to California; currently ranges from Glenn County to southern edge of San Francisco Bay Delta, and from Merced County to northern Fresno County.	NO	Habitat to support this species is absent from the Project site. There are no recorded occurrences for the species within 10-miles of the Fresno City limits.

Birds				
Agelaius tricolor tricolored blackbird	-/ST	Colonial breeder that prefers freshwater, emergent wetlands with tall, dense cattails or tules, but also thickets of willow, blackberry, wild rose, and tall herbs; breeding colonies are minimum ~50 pairs; forages in pastures, grain fields, and similar habitats near breeding areas.	NO	Habitat to support this species is absent from the Project site. Nesting colonies The most current and nearest recorded occurrence is presumed extant (EONDX 6583) and is approximately 4.0-miles northeast boundary of the Fresno City Limits.
Ardea alba Great egret	-/- SS	This species occurs in freshwater, brackish, and marine wetlands throughout most of California. Feeds mainly on small fish but also eats amphibians, reptiles, birds, small mammals and invertebrates. Nests are built colonially 20-80 feet off the ground in groves of large trees, often over water; nearby human activity will often result in nest abandonment.	YES	Habitat to support this species is potentially present within the Fresno City limits. Nesting colonies are considered sensitive by the CA Department of Forestry and Fire Protection. The most recent and nearest recorded occurrence is presumed extant (EONDX 103153) and was observed within the southwestern boundary of the Fresno City Limits.
Athene cunicularia burrowing owl	-/- SSC	Occupies variety of open, semi-arid to arid habitats throughout central and southern California, including desert regions; prefers open habitats with few shrubs or trees; most active around sunrise and sunset; utilizes burrows constructed by mammals year-round for shelter and nesting; well documented in urban areas where patches of undeveloped areas are present (e.g., canals, airports, drainage basins), and in areas of dense agricultural development where, particularly where canals provide burrow habitat; forages primarily for rodents and insects within several miles of burrow, usually in open grassy habitats if available; has been observed hunting bats and insects around	YES	Habitat to support this species is potentially present within the Fresno City limits. The most recent and nearest recorded occurrence is presumed extant (EONDX 42847) and is approximately 3.5-miles north of the Fresno City Limits.

		parking lot lights; threats include development resulting in habitat loss/fragmentation.		
Buteo swainsoni Swainson's hawk	-/FT	Occurs in grassland, desert and agricultural landscapes in the Central Valley and Antelope Valley; hawks may be resident or migrant; breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah; also observed breeding in large eucalyptus trees along freeways and in trees over rural residences surrounded by agriculture; may nest on ground if no suitable trees are available; nests are platform of sticks, bark, and fresh leaves at or near top of trees; breeds from late March to late August; forages in grassland, open scrub, and grain fields, primarily for rodents.	YES	Habitat to support this species is potentially present within the Fresno City limits. The most recent and nearest recorded occurrence is presumed extant (EONDX 106840) and was observed within the central portion of the Fresno City Limits.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT/SE	Nests in open riparian woodlands along broad lower flood bottoms of larger river systems; prefers dense stands of willows, often mixed with cottonwood, with understory of blackberry, nettles or wild grape thicket; nest most often placed in willows with cottonwoods used extensively for foraging; also occasionally nests in orchards adjacent to river bottoms; migratory.	NO	Habitat to support this species is absent from the Project site. The only two recorded occurrences for the species are from 1883 and 1902, both extirpated, (EONDX 25589 and 96983) and are located within the northern boundary and approximately 0.3-miles from the eastern boundary of the Fresno City Limits.
Egretta thula Snowy egret	-/- SS	This species occurs in coastal estuarian shores, fresh and saline emergent wetlands, ponds, slow moving waters, irrigation ditches and wet fields. Nests colonially in dense marshes or stands of low trees.	YES	Habitat to support this species is potentially present within the Fresno City limits. The most recent and nearest recorded occurrence is presumed extant (EONDX 103155) and was observed within the southwestern boundary of the Fresno City Limits.

Eremophila aspestris actia California horned lark	-/- WL	Year-round resident in California; occurs in grasslands and deserts with open areas and low growing herbaceous vegetation or sometimes scattered low shrubs near seal to open alpine dwarf-shrub habitat above tree line; ground nester; builds grass-lined nest in cup-shaped depression on ground in the open; threatened by pesticide poisoning and habitat loss.	YES	Habitat to support this species is present within the Fresno City limits. The most recent and nearest recorded occurrence is presumed extant (EONDX 12425) and was observed within the northern boundary of the Fresno City Limits.
Nycticorax nycticorax Black-crowned night heron	-/- WL	Occurs in lacustrine, riverine, and fresh and saline emergent wetland habitats. Nests and roosts in dense foliaged trees and dense emergent wetlands; Nests colonially, typically in close proximity to aquatic and emergent wetland habitats. Non-breeding season roosts may be farther from wetland habitats.	YES	Habitat to support this species is potentially present within the Fresno City limits. Nesting colonies are on CDFW's Watch List. The most recent and nearest recorded occurrence is presumed extant (EONDX 103152) and was observed within the southwest boundary of the Fresno City Limits.
Phalacrocorax auratus double-crested cormorant	-/- WL	Common throughout North America and are considered winter transients in the Central Valley; winter months they are found near freshwater lakes and rivers, including freshwater, saltwater, and brackish waters; adapted to using poles and towers for nesting sites and foraging areas. Historically threatened by pesticide (DDT) use but population numbers have increased since the DDT ban; threatened by habitat loss, nest site disturbance, and altered hydrology, including sea level rise.	NO	This species may inhabit the Project area during the winter, but this species breeds in regions northeast of the Project. Nesting colonies are on CDFW's Watch List. The most recent and nearest recorded occurrence is presumed extant (EONDX 103153) and was observed within the eastern boundary of the Fresno City Limits.
Vireo bellii pusillus least Bell's vireo	FE/SE	Inhabits low, dense riparian growth along waterways or along dry parts of intermittent streams. Typically associated with willow, cottonwood, baccharis, wild blackberry, or mesquite (in desert localities).	NO	Habitat to support this species is absent from the Project site. The only two recorded occurrences for the species are from 1906 and 1912, both possibly extirpated, (EONDX 92586 and 92587) and are located

				within the northeastern boundary of the Fresno City Limits.
Mammals				
Antrozous pallidus pallid bat	-/- SSC	Occurs throughout California in wide variety of habitats: grasslands, shrublands, woodlands, forests up through mixed conifer; most common in open, dry habitats with rocky areas for roosting; yearlong resident; feeds mainly on insects and arachnids on the ground or by gleaning; day roosts in caves, crevices, mines, and occasionally hollow trees and buildings, including bridges; night roosts in more open sites; maternity colonies form early April with young flying by July or August; needs water; very sensitive to disturbance of roosting sites.	YES	Habitat to support this species is potentially present within the Fresno City limits. The most recent and nearest recorded occurrence is presumed extant (EONDX 66606) and was observed within the central area of the Fresno City Limits.
Dipodomys nitratoides exilis Fresno kangaroo rat	FE/SE -	Occurs on alkali open grassland on bare alkaline clay-based soils; nocturnal species; burrows with tunnels approximately 12 to 15 inches below ground; threatened by predation and disease; historically occurred on the valley floor in Kings, Fresno, Madera, and Merced counties, but may be extirpated.	NO	Habitat to support this species is absent from the Project site. The most recent and nearest recorded occurrence is extirpated (EONDX 23963) and was observed within the eastern boundary of the Fresno City Limits.
Eumops perotis californicus western mastiff bat	-/- SSC	Occurs in open, semi-arid to arid habitats throughout southeastern San Joaquin Valley and Coast Ranges from Monterey County southward; also in urban areas; feeds on insects captured in flight; roosts in cliff faces, high buildings, trees, and tunnels; nursery roosts most often in tight rock crevices or crevices in buildings; maternity season begins in March with young flying on their own by September.	YES	Habitat to support this species is potentially present within the Fresno City limits. The most recent and nearest recorded occurrence is presumed extant (EONDX 66374) and was observed within the central area of the Fresno City Limits.

Lasiurus cinereus hoary bat	-/- SS	Can be found anywhere in California from sea level to 13,200 feet; winters on coast and in southern California; breeds inland and north of winter range; bear young in woodlands and forests; feeds primarily on moths; roosts in dense foliage of medium-large trees; requires water; prefer open habits or habitat mosaics; maternity season from mid-May through early July; forages with other bat species; high incidence of rabies.		Habitat to support this species is potentially present within the Fresno City limits. The most recent and nearest recorded occurrence is presumed extant (EONDX 68782) and was observed approximately 0.2-miles west of the southwestern boundary of the Fresno City Limits.
Perognathus inornatus San Joaquin pocket mouse	-/- SS	Occurs in dry, open grasslands or scrublands on fine-textured soils in the Central (mostly west side) and Salinas valleys; elevation from 1,100 to 2,000 feet; feeds primarily on seeds; digs burrows for cover and breeding; nocturnal.	NO	Habitat to support this species is absent from the Project site. The most recent and nearest recorded occurrence is presumed extant (EONDX 23951) and was observed within the western boundary of the Fresno City Limits.
Taxidea taxus American badger	-/- SSC	Occurs mostly in open, drier stages of shrub, forest, and herbaceous habitats, with friable soils; feeds mostly on fossorial rodents; digs burrows for cover and reproduction; can dig new den each night; litters born mostly in March and April; somewhat tolerant of human activities, but avoids cultivated agricultural habitats.	YES	Habitat to support this species is potentially present within the Fresno City limits. The most recent and nearest recorded occurrence is presumed extant (EONDX 56615) and was observed within the northwest boundary of the Fresno City Limits.
Vulpes macrotis mutica San Joaquin kit fox	FE/ST -	Endemic to the Central Valley; found primarily in San Joaquin Valley, Carrizo Plain, Salinas Valley, Cuyama Valley, and other small valleys in western foothills; occurs in arid to semi-arid grasslands, open shrublands, savannahs, and grazed lands with loose-textured soils; highly adaptable and documented in urban developed areas; uses burrows year-round for shelter, escape from predators, and	YES	Habitat to support this species is potentially present within the Fresno City limits. The most recent and nearest recorded occurrence is presumed extant (EONDX 53873) and was observed within the northwestern boundary of the Fresno City Limits.

rearing young; will use man-made structures, such as pipes, for denning; feeds primarily on small mammals, but will also consume birds, reptiles, insects, and scavenge for human food; intensively-maintained agricultural areas avoided; threatened by habitat loss and fragmentation, vehicle strikes, and disease; current mange outbreak in urban population in Bakersfield and in nearby natural areas.

CRPR (California Rare Plant Rank):

1A	Presumed Extinct in California
1B	Rare, Threatened, or Endangered in California and elsewhere
2A	Plants presumed extirpated in California, but more common elsewhere
2B	Plants Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension:

.1	Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2	Fairly endangered in California (20-80% occurrences threatened)
.3	Not very endangered in California (<20% of occurrences threatened)

FE	Federally Endangered
FT	Federally Threatened
FC	Federal Candidate Species
FS	Federally Sensitive
SE	State Endangered
ST	State Threatened
SC	State Candidate
SS	State Sensitive
SSC	State Species of Special Concern
SFP	State Fully Protected
SR	State Rare
WL	Watch List