BAKERSFIELD
THE SOUND OF Something Better

MEMORANDUM

DATE: October 27, 2022

TO: State Clearinghouse

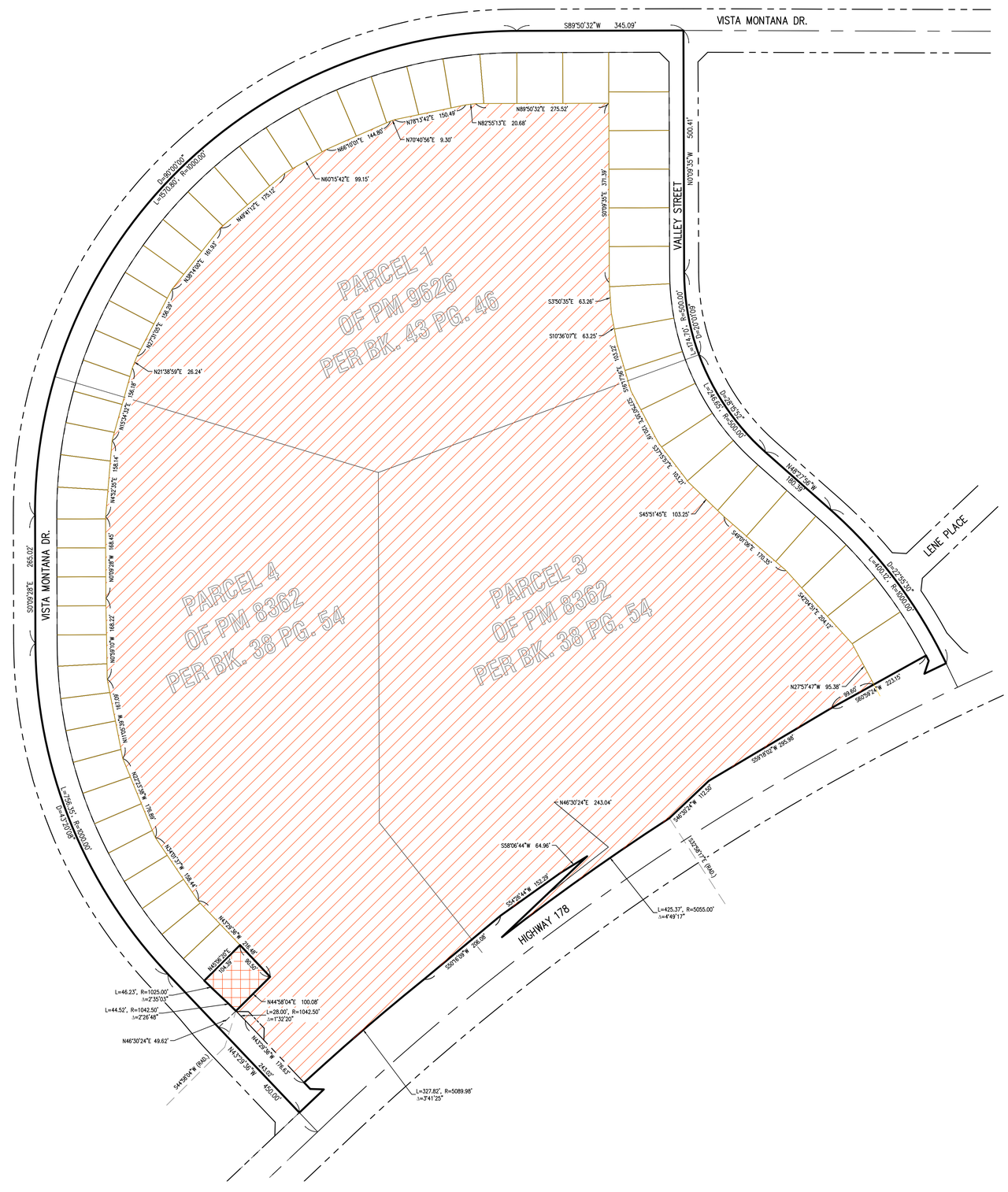
FROM: Jose Fernandez, Associate Planner JF

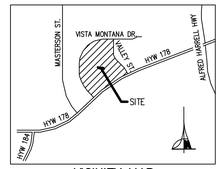
SUBJECT: Addition of Environmental Studies and Maps for General Plan Amendment/Zone Change No. 22-0128 (SCH 2022100477)

Staff would like to add environmental studies and maps pertaining to the MND for the above-referenced project.

MAP SET

EXHIBIT B: GENERAL PLAN AMENDMENT





VICINITY MAP

GENERAL STATISTICS
1. APN: 387-020-34, 29 & 30
2. ADDRESS: VISTA MONTANA DR. & HYW 178
3. ACREAGE: ±44.32 ACRES
4. PROPOSED SEWER: CITY OF BAKERSFIELD
5. PROPOSED WATER: CAL WATER

LEGAL DESCRIPTION OF APN #387-020-34, 29 & 30
A PORTION OF PARCELS 3 AND 4 OF PM 8362, PER CERTIFICATE OF COMPLIANCE RECORDED ON MAY 1, 1989 AS DOCUMENT #0214149478, OFFICIAL RECORDS.

A PORTION OF PARCEL 1 OF PM 9626, PER CERTIFICATE OF COMPLIANCE RECORDED ON DECEMBER 4, 1991 IN BOOK 43 PAGES 45 AND 46 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF KERN COUNTY.

PROPOSED LUD: G-C GENERAL COMMERCIAL
44.11 ACRES TOTAL

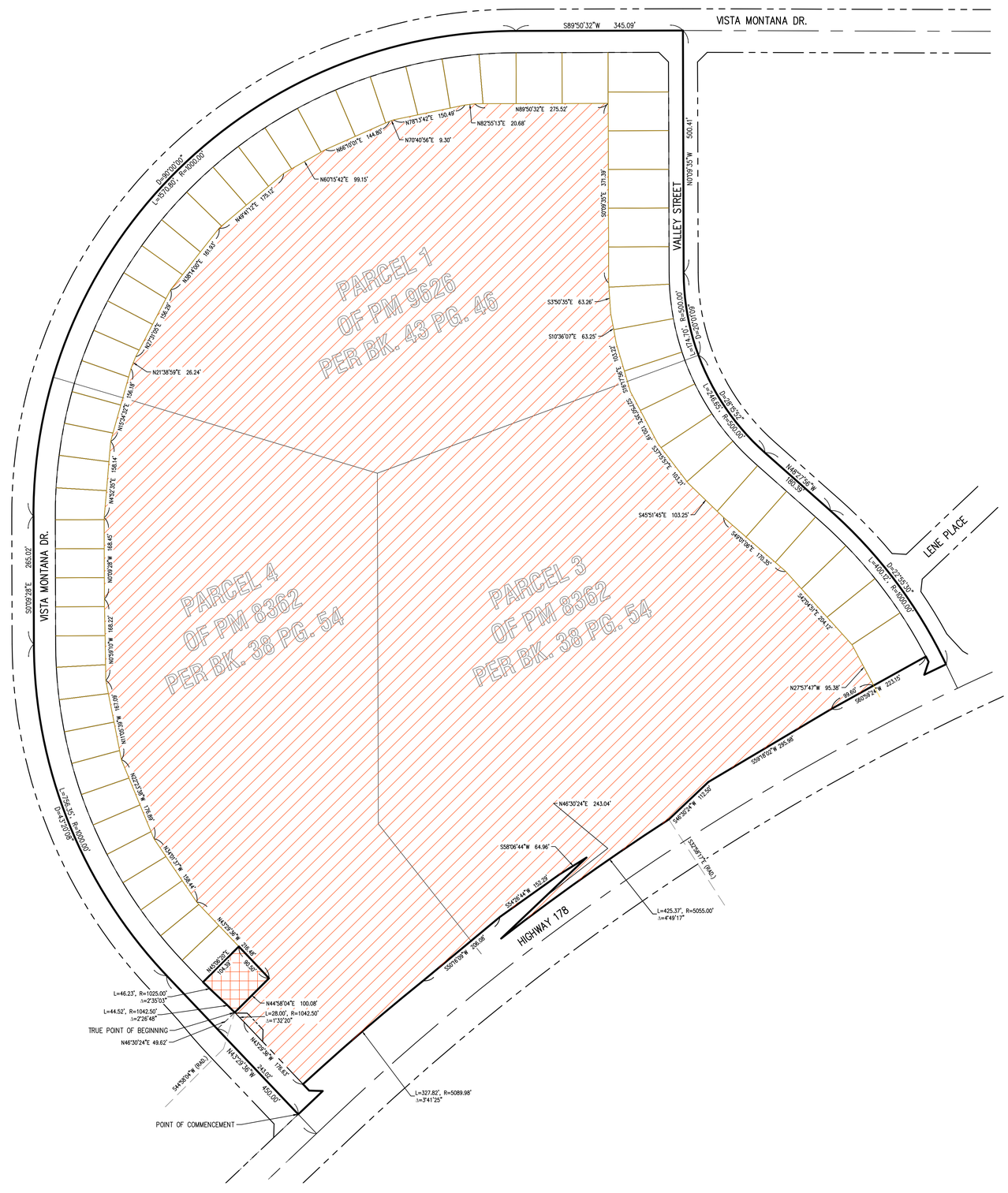
PROPOSED LUD: LMR LOW MEDIUM DENSITY RESIDENTIAL
0.21 ACRES TOTAL

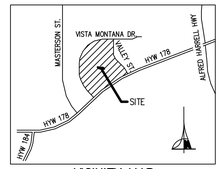
GRAPHIC SCALE
100' 50' 0' 50' 100'
(IN FEET)
1 inch = 100 ft.

CORNERSTONE ENGINEERING
CONSULTANTS • ENGINEERS • LAND SURVEYORS
5509 YOUNG STREET, BAKERSFIELD CA 93311
TEL: (661) 325-9474 FAX: (661) 322-0129
www.cornerstoneeng.com

DATE 09-14-2022 | DRAFTER: BDB | COMP. NO.: 5091000_GPA-ZC.dwg

EXHIBIT B: ZONE CHANGE





VICINITY MAP

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ZONING: R-1
PROPOSED ZONE CHANGE: C-2, PCD COMBINING
44.11 ACRES TOTAL

ZONING: R-2
0.21 ACRES TOTAL

GRAPHIC SCALE
100' 50' 0' 50' 100'
(IN FEET)
1 inch = 100 ft.

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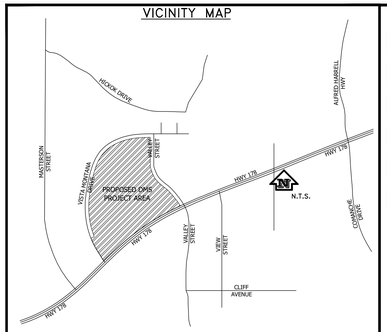
VICINITY MAP



LEGEND

- PROPOSED 5" CONCRETE DRIVEWAYS
- PROPOSED 4" CONCRETE DRIVEWAYS
- LANDSCAPE AREA
- PROPOSED PHASE I BUILDING CONSTRUCTION
- PROPOSED PHASE II BUILDING CONSTRUCTION
- FUTURE BUILDING CONSTRUCTION
- PROPOSED 2-HOUR FIRE WALL
- ARROWS DEPICT DIRECTION OF TRAFFIC
- ACCESSIBLE PARKING SPACE w/SIGN (EXISTING)
- BUILDING NUMBER
- 150 WATT HIGH PRESSURE SODIUM LIGHT AT 7'-6"
- 2A IOBC FIRE EXTINGUISHER IN CABINET AS REQUIRED
- PROPOSED STANDARD DECORATIVE LIGHT FIXTURE
- PROPOSED APPROVED FIRE HYDRANT
- PROPOSED CAMERA POLE

ALLOWABLE SQUARE FOOTAGE

STORAGE BUILDINGS	10,000 SF x 1 x 1 x 1 =10,000 MAX SF	
OFFICE	10,000 SF x 1 x 1 x 1.15=636/9200 SF=.07	
RESIDENCE	UNLIMITED 1,485 SF/UNLIMITED	
OCCUPANCY	STORAGE BUILDINGS	S-1
	OFFICE	B
	RESIDENCE	R-3
TYPE OF CONSTRUCTION	RESIDENCE/OFFICE	V-B
	STORAGE BUILDINGS	V-B

SITE DATA

PROPERTY OWNER
XXXXXX
3265 W. ASHLAN AVE.
FRESNO, CA 93722
(559) 224-9900

PROPERTY ADDRESS
VISTA MONTANA/HWY 178
BAKERSFIELD, CA

A.P.N.
387-020-34, 29 & 30

ZONING
XXXXX

LAND ACREAGE
GROSS: ±45.90 AC.
NET: ±XX AC.

BUILDING SQUARE FOOTAGE
CONSTRUCTION PHASES

PROPOSED PH-I:	189,900 S.F.
PROPOSED PH-II:	65,375 S.F.
FUTURE PH-III:	99,700 S.F.
FUTURE PH-IV:	67,725 S.F.
FUTURE PH-V:	186,000 S.F.
FUTURE PH-VI:	280,400 S.F.
TOTAL STORAGE:	889,100 S.F.
OFFICE:	804 S.F.
RESIDENCE:	1,327 S.F.
GARAGE:	391 S.F.
TOTAL:	891,622 S.F.

RV SQUARE FOOTAGE
ENCLOSED/CARPORTS: 430,290 S.F.

STATISTICAL INFORMATION

APN:	387-020-34, 29 & 30
EXISTING USE	VACANT LAND
PROPOSED USE	MINI STORAGE
ACREAGE (GROSS)	45.90 ACRES
ACREAGE (NET)	XX.XX ACRES
PROPOSED BUILDING HEIGHT:	
OFFICE/RESIDENCE/GARAGE	15'-8" HIGH MAX.
STORAGE BUILDING	12'-6" HIGH MAX.
RV COVERS/ENCLOSED	16'-2" HIGH MAX.
GROUND FLOOR AREA TOTALS (ALL PHASES):	
RESIDENCE	1,327 S.F.
OFFICE	804 S.F.
GARAGE	391 S.F.
STORAGE BUILDING	891,622 S.F.
ENCLOSED/CARPORT RV PARKING	430,290 S.F.
BUILDING COVERAGE	46%
LANDSCAPE AREA	58,760 S.F. (2%)
PARKING SPACES REQUIRED	3 – OFFICE 2 – RESIDENCE
PARKING SPACES PROVIDED	7 – OFFICE 2 – RESIDENCE
SEWAGE DISPOSAL	CITY SEWER
WATER SERVICE	CAL WATER SERVICE
DRAINAGE	PONDING BASIN
PHASE I CONSTRUCTION	192,422 S.F.
STORAGE UNITS PROPOSED	1,500 APPROX.

NOTE:
ALL PARKING SPACES WILL BE 9'x20' IN SIZE WITH
A 25' BACK UP AREA OR DRIVE THROUGH

GENERAL NOTES

1. NO USES OF LAND, BUILDINGS OR STRUCTURES OTHER THAN THOSE SPECIFICALLY APPROVED PURSUANT TO THIS SITE PLAN SHALL BE PERMITTED.
2. ALL NECESSARY BUILDING PERMITS MUST BE OBTAINED FROM THE CITY OF BAKERSFIELD DEPARTMENT OF PUBLIC WORKS.
3. PARKING AREA ILLUMINATION (IF ANY) SHALL BE DIRECTED AWAY FROM ADJOINING PROPERTIES.
4. ALL CONSTRUCTION WORK ON THIS PROJECT IS SUBJECT TO INTERRUPTION IF THE ROAD SYSTEM BECOMES IMPASSABLE FOR FIRE APPARATUS DUE TO RAIN OR OTHER OBSTACLES.
5. ANY SURVEY MONUMENTS WITHIN THE AREA OF OBSTRUCTION SHALL BE PRESERVED OR RESET BY A REGISTERED CIVIL ENGINEER OR A LICENSED LAND SURVEYOR.
6. REPAIR ALL DAMAGED AND/OR OFF-GRADE CONCRETE STREET IMPROVEMENTS AS DETERMINED BY THE CONSTRUCTION MANAGEMENT ENGINEER PRIOR TO OCCUPANCY.
7. THE METHOD OF WATER SUPPLY AND SEWAGE DISPOSAL SHALL BE AS REQUIRED AND APPROVED BY THE APPLICABLE GOVERNING AGENCY.
8. NO DRAINAGE WATERS TO FLOW INTO CITY ROADS UNLESS AUTHORIZED BY THE CITY OF BAKERSFIELD DEPARTMENT OF PUBLIC WORKS. A PLAN FOR THE DISPOSAL OF DRAINAGE WATERS, ORIGINATING ON SITE AND FROM ADJACENT ROADS RIGHT-OF-WAY (IF REQUIRED), SHALL BE APPROVED BY THE PUBLIC WORKS DEPARTMENT.
9. TWO MEANS OF INGRESS/EGRESS MUST BE MAINTAINED DURING ALL PHASES OF DEVELOPMENT.
10. PROVIDE PORTABLE FIRE EXTINGUISHERS PER NFPA 10, 2-A: 10-B:C RATED MINIMUM. MAXIMUM TRAVEL DISTANCE 75 FEET.
11. FIRE HYDRANTS SHALL BE TESTED, PAINTED, NUMBERED AND APPROVED, AND ALL SURFACE ACCESS ROADS SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION.
12. THE ENTRANCE TO ALL EMERGENCY ACCESSES SHALL BE POSTED WITH PERMANENT SIGNS THAT SHALL READ: "FIRE ACCESS (6" LETTERS) VEHICLES REMOVED AT OWNER'S EXPENSE (2" LETTERS) BAKERSFIELD POLICE DEPARTMENT 327-7111 (1" LETTERS)". POST ON BOTH SIDES.
13. ALL AUCTION PARKING SHALL BE PROVIDED ON THE INTERIOR OF THE PROJECT SITE.

SPECIFIC NOTES

1. NOT USED
2. PROPOSED 6'-0" HIGH CONCRETE BLOCK FENCE
3. CITY OF BAKERSFIELD STANDARD REFUSE CONTAINER ENCLOSURE. 8' DEEP BY 10' WIDE INSIDE DIMENSION CURB TO CURB.
4. PROPOSED 6" HIGH CONCRETE CURB
5. PROPOSED 36" WIDE CONCRETE WHEEL STOPS
6. 4" DIAMETER STEEL GUARD POSTS
7. PROPOSED NEW ENTRANCE/EXIT GATES
8. PROPOSED SIDEWALK TO PROVIDE PEDESTRIAN ACCESS PATHWAY FOR PERSONS WITH DISABILITIES TO THE PUBLIC RIGHT-OF-WAY.
9. PROPOSED MONUMENT SIGN – DETAIL SHOWN ON SHEET A-1.1
10. PROPOSED WATER FOUNTAIN EQUIPMENT ROOM.
11. PROPOSED BUILDING HEIGHT CONNECTING WALL TOP MATCH PERIMETER BUILDING WALL. ALL CONNECTING WALLS OVER 10' IN LENGTH TO BE BUILT PER DETAIL SHOWN ON SHEET A-1.1

*FUTURE STORAGE AND CARPORT/ ENCLOSED RV STORAGE OVERLAP SAME LAND AREA, FUTURE STORAGE BUILDINGS WILL BE CONSTRUCTED AS NEEDED AFTER REMOVAL OF OVERLAPPING RV STORAGE. FUTURE STORAGE TO BE PHASED AS NEEDED.

SEE SHEET A-1.1

SEE SHEET A-1.1

VISTA MONTANA DR.

HIGHWAY 178

PHASE II
63,375 s.f. Storage

FUTURE BUILDING PHASE IV
67,725 s.f. Storage

Temporary RV Storage Area
Portable Carports
Open RV Storage
Enclosed Portable Carports
2-Inch Gravel (Dust Binder)
±3.14 Acres
53,830 s.f.

SCALE IN FEET

SITE PLAN

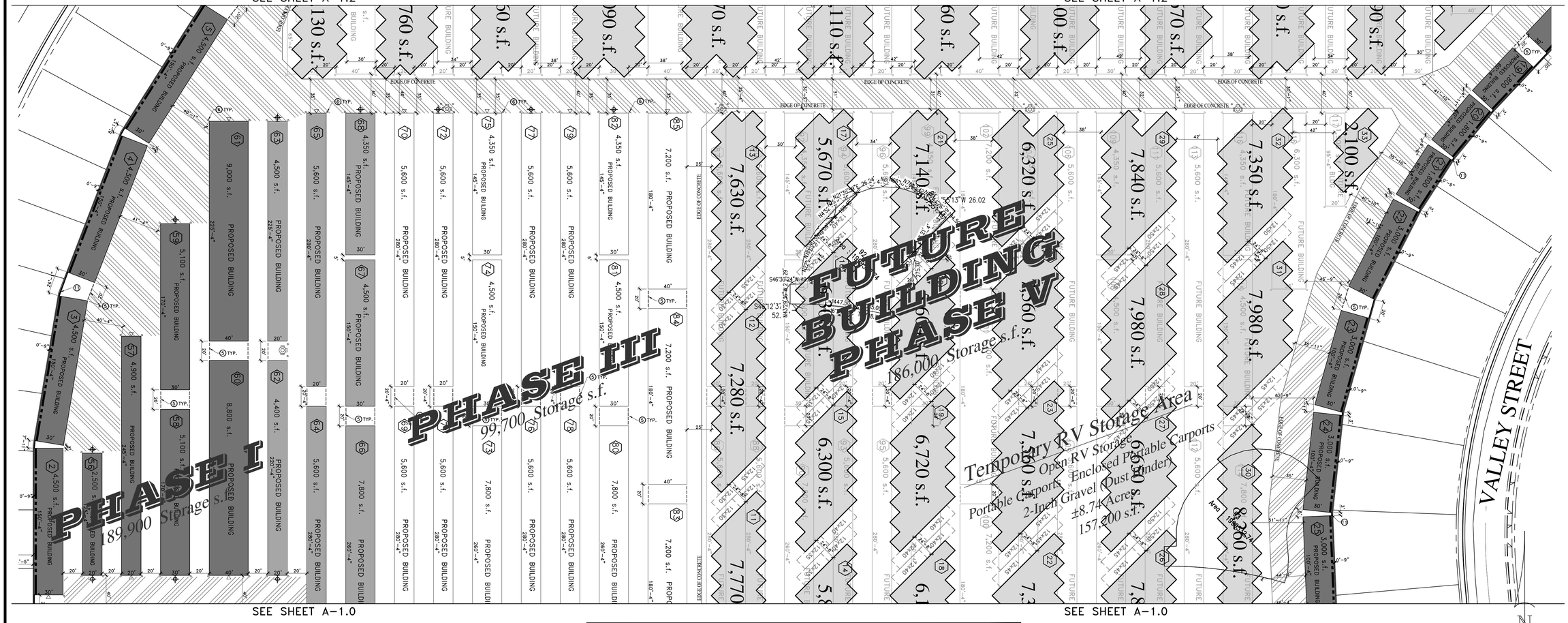
REVISIONS:

DERREL'S MINI STORAGE

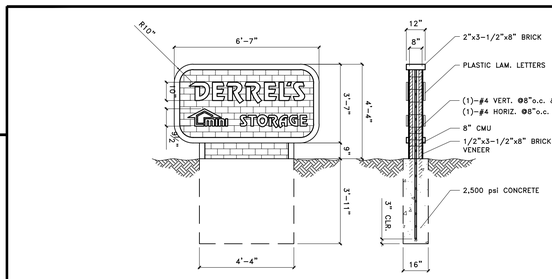
3265 W ASHLAN, AVE FRESNO CA 93722 (559) 224-9900

APPROVALS

C:\My Docs\CADfiles\Projects\Vista Montana-178\PH1\A1.0.dwg
Date: Sept. 11, 2022
Scale: 1" = 60'-0"
Drawn By: DB
Project: Site Plan
Sheet 1 of 3
Bakersfield
Vista Montana/178
Sheet: A-1.0

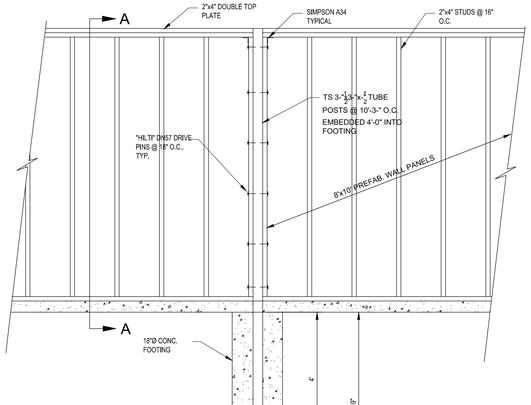


SITE PLAN



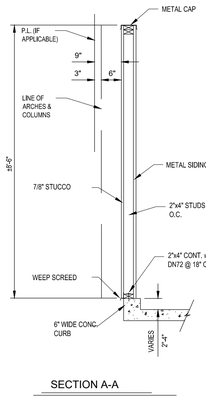
MONUMENT SIGN

SCALE: NONE

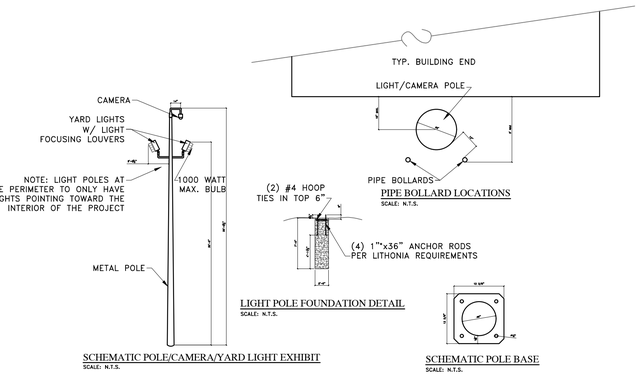


TYPICAL WALL DETAIL FOR CONNECTING WALL LONGER THAN 10'

SCALE: NONE



SECTION A-A



PIPE BOLLARD LOCATIONS

SCALE: N.T.S.

LIGHT POLE FOUNDATION DETAIL

SCALE: N.T.S.

SCHEMATIC POLE/CAMERA/YARD LIGHT EXHIBIT

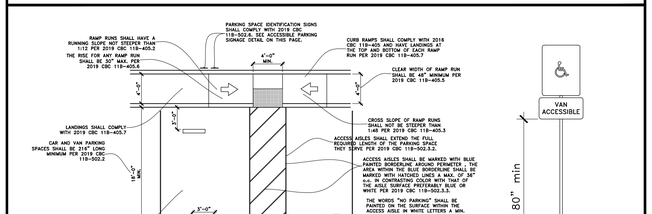
SCALE: N.T.S.

SCHEMATIC POLE BASE

SCALE: N.T.S.

NOTES:
1. LIGHTS ARE TO BE INSTALLED WITH LIGHT FOCUSING LOUVERS. LIGHTS ARE NOT TO EXCEED 35' IN HEIGHT AND NOT TO EXCEED 1000 WATTS.
2. WHERE LIGHTING IS PROVIDED TO ILLUMINATE PARKING, BUILDING ENTRANCES, AISLES, STORAGE, CARETAKER RESIDENCE, OFFICE, AND/OR TRUCK/TRAILER RENTAL AREAS, IT SHALL BE DOWN-DIRECTED, HOODED/SHIELDED AND SO ARRANGED AND CONTROLLED SO AS NOT TO CAUSE A NUISANCE EITHER TO STREET TRAFFIC OR TO THE LIVING ENVIRONMENT.
3. THE AMOUNT OF LIGHT REQUIRED FOR PUBLIC PARKING AND TRUCK/TRAILER RENTAL AREAS SHALL BE PROVIDED ACCORDING TO THE STANDARDS OF THE DEPT. OF PUBLIC WORKS.
4. LIGHTING TO BE DIRECTED AWAY FROM RESIDENTIAL AREAS.

CAMERA/LIGHT POLE DETAILS



PROPOSED ACCESSIBLE PARKING

PER 2019 CBC SCALE: N.T.S.

REVISIONS:

APPROVALS

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Date: Sept. 11, 2022
Scale: 1" = 60'-0"
Drawn By: DB
Project: Site Plan Sheet 2 of 3 Bakersfield Vista Montana/178
Sheet: A-1.1

VISTA MONTANA DR.

20' WIDE X 8' HIGH UNOBSTRUCTED METAL FIRE ACCESS GATE

1 4,500 s.f. PROPOSED BUILDING
2 4,500 s.f. PROPOSED BUILDING
3 2,100 s.f. PROPOSED BUILDING
4 4,200 s.f. PROPOSED BUILDING
5 4,500 s.f. PROPOSED BUILDING
6 4,200 s.f. PROPOSED BUILDING
7 4,500 s.f. PROPOSED BUILDING
8 4,500 s.f. PROPOSED BUILDING
9 4,500 s.f. PROPOSED BUILDING
10 4,500 s.f. PROPOSED BUILDING
11 4,500 s.f. PROPOSED BUILDING
12 4,500 s.f. PROPOSED BUILDING
13 2,100 s.f. PROPOSED BUILDING
14 4,200 s.f. PROPOSED BUILDING
15 4,500 s.f. PROPOSED BUILDING
16 4,200 s.f. PROPOSED BUILDING
17 3,750 s.f. PROPOSED BUILDING
18 3,600 s.f. PROPOSED BUILDING
19 4,800 s.f. FUTURE BUILDING
20 4,800 s.f. FUTURE BUILDING
21 4,800 s.f. FUTURE BUILDING
22 4,800 s.f. FUTURE BUILDING
23 4,800 s.f. FUTURE BUILDING
24 4,800 s.f. FUTURE BUILDING
25 4,800 s.f. FUTURE BUILDING
26 4,800 s.f. FUTURE BUILDING
27 4,800 s.f. FUTURE BUILDING
28 4,800 s.f. FUTURE BUILDING
29 7,800 s.f. FUTURE BUILDING
30 8,000 s.f. FUTURE BUILDING
31 7,500 s.f. FUTURE BUILDING
32 7,500 s.f. FUTURE BUILDING
33 7,200 s.f. FUTURE BUILDING
34 4,900 s.f. FUTURE BUILDING
35 4,760 s.f.
36 3,150 s.f.
37 6,160 s.f.
38 7,840 s.f.
39 6,090 s.f.
40 6,650 s.f.
41 6,790 s.f.
42 7,770 s.f.
43 6,400 s.f. FUTURE BUILDING
44 6,400 s.f. FUTURE BUILDING
45 5,110 s.f.
46 6,650 s.f.
47 6,650 s.f.
48 6,020 s.f.
49 6,160 s.f.
50 7,280 s.f.
51 6,300 s.f.
52 7,200 s.f.
53 6,580 s.f.
54 5,600 s.f.
55 5,670 s.f.
56 6,300 s.f.
57 6,300 s.f.
58 5,950 s.f.
59 7,280 s.f.
60 7,840 s.f.
61 6,650 s.f.
62 5,390 s.f.
63 5,880 s.f.
64 5,880 s.f.
65 6,860 s.f.
66 7,840 s.f.
67 9,660 s.f.
68 4,000 s.f. FUTURE BUILDING
69 5,700 s.f. FUTURE BUILDING
70 1,500 s.f. FUTURE BLDG.
71 7,200 s.f. PROPOSED BUILDING

PROPOSED BASIN

FUTURE BUILDING PHASE VI
280,400 s.f. storage s.f.

Temporary RV Storage Area
Open RV Storage
Enclosed Portable Carports
2-Inch Gravel (Dust Binder)
±2.67 Acres
±116,000 s.f.
219,800 s.f.

EDGE OF CONCRETE

SEE SHEET A-1.1

SEE SHEET A-1.1

ALLEY

N
0' 10' 20' 40'
SCALE IN FEET

SITE PLAN

REVISIONS:

DERELS MINI STORAGE
3765 W ASHLAN, AVE
FRESNO CA 93722 (559) 224-9900

APPROVALS

C:\My Docs\CADfiles\Projects\Vista Montana-178\PH1\A1.2.dwg
Date: Sept. 11, 2022
Scale: 1" = 60'-0"
Drawn By: DB
Project: Site Plan
Sheet 3 of 3
Bakersfield
Vista Montana/178
Sheet: A-1.2

EnviroTech
Consultants, Inc.

5400 Rosedale Hwy
Bakersfield, CA 93308
ph. 661.377.0073

Air Quality Impact Analysis

Project Title

Mini Storage Facility
GPA/ZC No. TBD

Project Location

Vista Montana Drive and Highway 178
City of Bakersfield, California
APN: 387-020-29, 387-020-30 and 387-020-34

May 31, 2022

Submitted to:

Nineda LP
6475 North Sequioa
Fresno, CA 93711

Cornerstone Engineering
208 Oak Street
Bakersfield, CA 93304

Table of Contents

TABLES

EXHIBITS

Exhibit A	Location Map
Exhibit B	Project Location Map
Exhibit C	Project Site Plan
Exhibit D	Assessor's Parcel Maps
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Exhibit F	Topographic Map
Exhibit G	Air Monitoring Station Data
Exhibit H	CalEEMod® Emission Modeling
Exhibit I	Traffic Study (Excerpts)

1.0 INTRODUCTION

This Air Quality Impact Analysis (AQIA) identifies the potential impacts on air quality resulting from the proposed duplex and a mini storage facility located on APNs 387-020-29, 387-020-30 and 387-020-34. The proposed project occupies 45.90 gross acres.

The project site is located in the County of Kern in the northeast portion of the City of Bakersfield and is within the San Joaquin Valley Air Basin (SJVAB). The SJVAB is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD).

This document was prepared using methodology described in the San Joaquin Valley Unified Air Pollution Control District's (SJVUAPCD's) *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI), March 19, 2015 Revision.

2.0 PROJECT DESCRIPTION

The Project site occupies 45.90 gross acres (APN 387-020-29, APN 387-020-30, and APN 387-020-34) and is currently zoned R-1 (one family dwelling) with a land use of LR (low density residential). The proposed zone change is to R-2 (medium density residential) and C-2 (general commercial). The proposed development includes one duplex and a mini storage facility. The Project site is located north of Highway 178 between Valley Street to the east and Masterton Street to the west. The Project was assessed as if it would be developed in one phase. This assessment examines the projected gross impacts to air quality posed by this Project and to the San Joaquin Valley Air Basin to determine whether or not the Project remains below established air quality thresholds of significance.

Table 2-1: Assessor's Parcel Numbers and Area for Project Site

Assessor's Parcel Number	Acreage
387-020-29/-30/-34	45.90
Total Acreage	**45.90**

3.0 AIR QUALITY STANDARDS

There are three categories of air pollutants that are regulated by federal, State, and/or regional governmental agencies: criteria pollutants; hazardous air pollutants (HAPs), and greenhouse gases (GHGs). These air pollutants, which are emitted as a result of everyday activities, can pose significant health and environmental risks. The following provides a discussion of each air pollutant category.

3.1 Criteria Pollutants

The Federal Clean Air Act (FCAA) of 1970, and the subsequent Federal Clean Air Act Amendments (FCAAA) of 1977 and 1990, required the establishment of National Ambient Air Quality Standards (NAAQS) for widespread pollutants considered harmful to public health and the environment. These pollutants are commonly referred to as criteria pollutants. The NAAQS establish acceptable pollutant concentrations which may be equaled continuously or exceeded only once per year. The California Ambient Air Quality Standards (CAAQS) are limits set by the California Air Resources Board (CARB) that cannot be equaled or exceeded. An air pollution control district must prepare an Air Quality Attainment Plan if the standards are not met. The NAAQS and CAAQS are shown in Table 3-1.

The following is a summary of the characteristics of the criteria pollutants and their potential physical and health effects.

Ozone Emissions - Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The ground level, or "bad" ozone layer, is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles up where it meets the second layer, the stratosphere. The stratospheric, or "good" ozone layer, extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

Ozone is a regional air pollutant. It is generated over a large area and is transported and spread by wind. Ozone, the primary constituent of smog, is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, ozone is not emitted directly into the air by specific sources. Ozone is created by sunlight acting on other air pollutants (called precursors), specifically nitrogen oxide (NO_x) and reactive organic gases (VOC). Sources of precursor gases to the photochemical reaction that form ozone number in the thousands. Common sources include consumer products, gasoline vapors, chemical solvents, and combustion products of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

In 1994, approximately 50 million people lived in counties with air quality levels above the EPA's health-based national air quality standard. The highest levels of ozone were recorded in Los Angeles, closely followed by the San Joaquin Valley. High levels also persist in other heavily populated areas, including the Texas Gulf Coast and much of the northeastern United States.

While the ozone in the upper atmosphere absorbs harmful ultraviolet light, ground-level ozone is damaging to the tissues of plants, animals, and humans, as well as to a wide variety of inanimate materials such as plastics, metals, fabrics, rubber, and paints. Societal costs from ozone damage include increased medical costs, the loss of human and animal life, accelerated replacement of industrial equipment, and reduced crop yields.

Table 3-1: Ambient Air Quality Standards

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flouresence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page …

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Health Effects

While ozone in the upper atmosphere protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. Ozone also damages natural ecosystems, such as: forests and foothill communities; agricultural crops; and some man-made materials, such as rubber, paint, and plastic. High levels of ozone may negatively affect immune systems, making people more susceptible to respiratory illnesses, including bronchitis and pneumonia. Ozone accelerates aging and exacerbates pre-existing asthma and bronchitis and, in cases with high concentrations, can lead to the development of asthma in active children. Active people, both children and adults, appear to be more at risk from ozone exposure than those with a low level of activity. Additionally, the elderly and those with respiratory disease are also considered sensitive populations for ozone.

People who work or play outdoors are at a greater risk for harmful health effects from ozone. Children and adolescents are also at greater risk because they are more likely than adults to spend time engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. In addition, children inhale more air per pound of body weight than adults and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures.

Ozone is a powerful oxidant; it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. Exposure to levels of ozone above the current ambient air quality standard could lead to lung inflammation and lung tissue damage and a reduction in the amount of air inhaled into the lungs.

Particulate Matter (PM10 and PM2.5) - Particulate Matter: Also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. In the western United States, there are sources of PM in both urban and rural areas. Because particles originate from a variety of sources, their chemical and physical compositions vary widely. The composition of PM can also vary greatly with time, location, the sources of the material and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM. EPA groups particle pollution into three categories based on their size and where they are deposited:

> "Inhalable coarse particles ($PM_{2.5-10}$)," such as those found near roadways, and dusty industries, are between 2.5 and 10 micrometers in diameter. $PM_{2.5-10}$ is deposited in the thoracic region of the lungs.
>
> "Fine particles ($PM_{2.5}$)," such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
>
> “Ultrafine particles (UFP),” are very, very small particles less than 0.1 micrometers in diameter largely resulting from the combustion of fossils fuels, meat, wood and other hydrocarbons. While UFP mass is a small portion of $PM_{2.5}$, their high surface area, deep lung penetration, and transfer into the bloodstream can result in disproportionate health impacts relative to their mass.

$PM_{2.5-10}$, $PM_{2.5}$, and UFP include primary pollutants (emitted directly to the atmosphere) as well as secondary pollutants (formed in the atmosphere by chemical reactions among precursors). Generally speaking, $PM_{2.5}$ and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while PM 10 sources include these same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust in the Valley.

Health Effects

Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children.

Carbon Monoxide (CO) - Carbon monoxide (CO) is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust that contributes more than two-thirds of all CO emissions nationwide. In urban areas, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO.

Health Effects

CO enters the bloodstream and binds more readily to hemoglobin than oxygen, reducing the oxygen-carrying capacity of blood and thus reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. Healthy individuals are also affected, but only at higher levels of exposure. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and in prolonged, enclosed exposure, death.

The adverse health effects associated with exposure to ambient and indoor concentrations of CO are related to the concentration of carboxyhemoglobin (COHb) in the blood. Health effects observed may include: an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance of young, healthy men; reduced birth weight; sudden infant death syndrome (SIDS); and increased daily mortality rate.

Most of the studies evaluating adverse health effects of CO on the central nervous system examine high-level poisoning. Such poisoning results in symptoms ranging from common flu and cold symptoms (shortness of breath on mild exertion, mild headaches, and nausea) to unconsciousness and death.

Nitrogen Oxides (NO_x) - Nitrogen oxides (NO_x) is a family of highly reactive gases that are primary precursors to the formation of ground-level ozone and react in the atmosphere to form acid rain. NO_x is emitted from combustion processes in which fuel is burned at high temperatures, principally from motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. A brownish gas, NO_x is a strong oxidizing agent that reacts in the air to form corrosive nitric acid, as well as toxic organic nitrates.

Health Effects

NO_x is an ozone precursor that combines with VOC to form ozone. Refer to the discussion of ozone above regarding the health effects of ozone.

Direct inhalation of NO_x can also cause a wide range of health effects. NO_x can irritate the lungs, cause lung damage, and lower resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of nitrogen dioxide (NO_2) may lead to changes in airway responsiveness and lung function in individuals with preexisting respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO_2 may lead to increased susceptibility to respiratory infection and may cause irreversible alterations in lung structure. Other health effects associated with NO_x are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. NO_x can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to production of particulate nitrates. Airborne NO_x can also impair visibility.

NO_x is a major component of acid deposition in California. NO_x may affect both terrestrial and aquatic ecosystems. NO_x in the air is a potentially significant contributor to a number of environmental effects such as acid rain and eutrophication in coastal waters. Eutrophication occurs when a body of water suffers an increase in nutrients that reduce the amount of oxygen in the water, producing an environment that is destructive to fish and other animal life.

NO_2 is toxic to various animals as well as to humans. Its toxicity relates to its ability to combine with water to form nitric acid in the eye, lung, mucus membranes, and skin. Studies of the health impacts of NO_2 include experimental studies on animals, controlled laboratory studies on humans, and observational studies. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, lowering their resistance to such diseases as pneumonia and influenza. Laboratory studies show susceptible humans, such as asthmatics, exposed to high concentrations of NO_2, can suffer lung irritation and, potentially, lung damage. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NO_x contributes to a wide range of environmental effects both directly and when combined with other precursors in acid rain and ozone. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication as discussed above. Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms.

Sulfur Dioxide (SO_2) - The major source of sulfur dioxide (SO_2) is the combustion of high-sulfur fuels for electricity generation, petroleum refining, and shipping.

Health Effects

High concentrations of SO_2 can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Short-term exposures of asthmatic individuals to elevated SO_2 levels during moderate activity may result in breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other effects that have been associated with longer-term exposures to high concentrations of SO_2, in conjunction with

high levels of particulate matter, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. SO_2 also is a major precursor to $PM_{2.5}$, which is a significant health concern and a main contributor to poor visibility. In humid atmospheres, sulfur oxides can react with vapor to produce sulfuric acid, a component of acid rain.

Lead (Pb) - Lead, a naturally occurring metal, can be a constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Lead was used until recently to increase the octane rating in automobile fuel. Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products. Since this has occurred, the ambient concentrations of lead have dropped dramatically.

Health Effects

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates 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. Effects on the nervous systems of children are one of the primary health risk concerns from lead. In high concentrations, children can even suffer irreversible brain damage and death. Children 6 years old and under are most at risk, because their bodies are growing quickly.

Visibility-Reducing Particles - This standard is a measure of visibility. The entire State of California has been labeled unclassified for visibility. CARB has not established a method for measuring visibility with the necessary accuracy or precision needed to designate areas in the State as attainment or nonattainment.

Sulfates - Sulfates are particulate products from combustion of sulfur-containing fossil fuels. When sulfur dioxide (SO_2) is exposed to oxygen, it oxidizes into sulfates (SO_3 or SO_4). Through a variety of chemical and photochemical reactions in the atmosphere, the sulfates can combine with ammonia to form ammonium sulfate particulate. Data collected in the SJVAB has demonstrated that levels of sulfates are significantly less than the applicable health standards. However, sulfates are still one of the wintertime particulate concerns due to secondary formation of ammonium sulfate.

Sulfates (SO_4) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or Hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California, due to regional meteorological features.

Health Effects

The health effects associated with SO_2 and sulfates more commonly known as sulfur oxides (SO_x) include respiratory illnesses, decreased pulmonary disease resistance, and aggravation of cardiovascular diseases. When acidic pollutants and particulates are also present, sulfur dioxide tends to have an even more toxic effect.

Increased particulate matter derived from sulfur dioxide emissions also contributes to impaired visibility. In addition to particulates, SO_3 and SO_4 are also precursors to acid rain. In the SJVAB,

SO_x and NO_x are the leading precursors to acid rain. Acid rain can lead to corrosion of man-made structures and cause acidification of water bodies.

The State standard for SO_2 is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility and, because they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide - Hydrogen sulfide (H_2S) emissions are often associated with geothermal activity, oil, and gas production, refining, sewage treatment plants, and confined animal feeding operations. H_2S in the atmosphere will likely oxidize into SO_2 that can lead to acid rain.

Health Effects

Exposure to low concentrations of H_2S may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Exposure to higher concentrations (above 100 ppm) can cause olfactory fatigue, respiratory paralysis, and death. Brief exposures to high concentrations of H_2S (greater than 500 ppm) can cause a loss of consciousness. In most cases, the person appears to regain consciousness without any other effects. However, in many individuals, there may be permanent or long-term effects such as headaches, poor attention span, poor memory, and poor motor function. No health effects have been found in humans exposed to typical environmental concentrations of H_2S (0.00011 ppm to 0.00033 ppm). Deaths due to breathing large amounts of H_2S have been reported in a variety of different work settings, including sewers, animal processing plants, waste dumps, sludge plants, oil and gas well drilling sites, and tanks and cesspools. Occupational Safety and Health Administrations (OSHA) has the primary responsibility for regulating workplace exposure to H_2S. The entire SJVAB is unclassified for H_2S.

Vinyl Chloride - Vinyl chloride monomer is a sweet-smelling, colorless gas at ambient temperature. Landfills, publicly-owned treatment works, and polyvinyl chloride (PVC) production are the major identified sources of vinyl chloride emissions in California. PVC can be fabricated into several products, such as PVC pipes, pipe fittings, and plastics. In humans, epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers. There are currently no adopted ambient air standards for vinyl chloride.

Health Effects

Short-term exposure to vinyl chloride has been linked with the following acute health effects (Agency for Toxic Substances and Disease Registry 2004; U.S. Department of Health and Human Services 1993):

- Acute exposure of humans to high levels of vinyl chloride via inhalation in humans has resulted in effects on the central nervous system, such as dizziness, drowsiness, headaches, and giddiness.
- Vinyl chloride is reported to be slightly irritating to the eyes and respiratory tract in humans. Acute exposure to extremely high levels of vinyl chloride has caused loss of consciousness, lung and kidney irritation, and inhibition of blood clotting in humans and cardiac arrhythmias in animals.
- Tests involving acute exposure of mice have shown vinyl chloride to have high acute toxicity from inhalation exposure.

Long-term exposure to vinyl chloride concentrations has been linked with the following chronic health effects (Agency for Toxic Substances and Disease Registry 2004; U.S. Department of

Health and Human Services, Registry of Toxic Effects of Chemical Substances [RTECS, online database] 1993; U.S. Department of Health and Human Services 1993; U.S. Environmental Protection Agency 2000):

- Liver damage may result in humans from chronic exposure to vinyl chloride, through both inhalation and oral exposure.

A small percentage of individuals occupationally exposed to high levels of vinyl chloride in air have developed a set of symptoms termed “vinyl chloride disease,” which is characterized by Raynaud’s phenomenon (fingers blanched and numbness and discomfort are experienced upon exposure to the cold), changes in the bones at the end of the fingers, joint and muscle pain, and scleroderma-like skin changes (thickening of the skin, decreased elasticity, and slight edema).

Central nervous system effects (including dizziness, drowsiness, fatigue, headache, visual and/or hearing disturbances, memory loss, and sleep disturbances) as well as peripheral nervous system symptoms (peripheral neuropathy, tingling, numbness, weakness, and pain in fingers) have also been reported in workers exposed to vinyl chloride.

Reactive Organic Gases (VOC) - Reactive Organic Gases (VOC) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors. VOCs are emitted by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions.

Organic chemicals are widely used as ingredients in household products. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing, and hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored.

Health Effects

The ability of organic chemicals to cause health effects varies greatly from those that are highly toxic, to those with no known health effect. As with other pollutants, the extent and nature of the health effect will depend on many factors including level of exposure and length of time exposed. Eye and respiratory tract irritation, headaches, dizziness, visual disorders, and memory impairment are among the immediate symptoms that some people have experienced soon after exposure to some organics. At present, not much is known about what health effects occur from the levels of organics usually found in homes. Many organic compounds are known to cause cancer in animals; some are suspected of causing, or are known to cause, cancer in humans.

3.2 Toxic Air Contaminants

Toxic pollutants in California are identified as toxic air contaminates (TACs) and are listed in the Air Toxic “Hot Spots” and Assessment Act’s “Emissions Inventory Criteria and Guideline Regulation“(AB2588). A subset of these pollutants has been listed by the Office of Environmental Health Hazard Assessment (OEHHA) as having acute, chronic, and/or carcinogenic effects, as defined by California Health and Safety Code (CH&SC) §39655.

Governor Deukmejian signed AB2588 into law in 1987. The purpose of the Act is to inventory the emissions of air toxics, determine if these emissions are high enough to expose individuals or groups to significant health risk, and to inform the public where there is a significant health risk. The SJVUAPCD has established the following levels of risk determined to be significant for purposes of AB2588:

1. A cancer risk exceeding 10 in 1 million, or
2. A ratio of the chronic or acute exposure to the reference exposure level ("hazard index") exceeding 1.0.

The requirements of AB2588 apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of AB 2588 must prepare and submit toxic emission inventory plans and reports and periodically update those reports.

3.3 Greenhouse Gas Emissions

For the purposes of the following discussion, greenhouse gases are considered as the cause of global climate change. Climate change is a shift in the "average weather" that a given region experiences. Regional "average weather" is measured by changes in temperature, wind patterns, precipitation, and storms. Global climate is the change in the climate of the earth as a whole.

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent GHG contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone, water vapor, nitrous oxide (N_2O), and hydrofluorocarbons (HFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate.

Anthropogenic (caused or produced by humans) emissions of these GHG in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or global climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's GHG emissions, followed by electricity generation. Emissions of CO_2 and nitrogen oxide (NO_x) are byproducts of fossil fuel combustion. Emissions of CH_4 result from off-gassing associated with agricultural practices and landfills. Sinks of CO_2 include uptake by vegetation and dissolution into the ocean.

An individual project cannot generate enough GHG emissions to effect a discernible change in the global climate. However, a proposed project may participate in this potential impact by its incremental contribution combined with the cumulative contribution combined with the cumulative increase of all other sources of GHGs which, when taken together, may influence global climate change.

The following provides a description of each of the GHGs and their global warming potential:

Water Vapor (H_2O) - Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved in is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (i.e., rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to "hold" more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there are also dynamics that put the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more

of it will eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

Carbon Dioxide (CO_2) - The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid 1700s, each of these activities has increased in scale and distribution. CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). However, the Intergovernmental Panel on Climate Change (IPCC), established by the United Nations in 1988, indicates that concentrations were 379 ppm in 2005, an increase of more than 30 percent. The IPCC projects that, left unchecked, the concentration of CO_2 in the atmosphere would increase to a minimum of 540 ppm by the year 2100 as a direct result of anthropogenic sources. This could result in an average global temperature rise of at least two degrees Celsius.

Methane (CH_4) - CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Its lifetime in the atmosphere is brief (10 to 12 years) compared to some other GHGs such as CO_2, N_2O, and Chlorofluorocarbons (CFCs). CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric (man-made) sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N_2O) - Concentrations of N_2O began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant (i.e., in whipped cream bottles), in potato chip bags, in rocket engines, and in racecars.

Chlorofluorocarbons (CFCs) - CFCs are gases formed synthetically by replacing all Hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs have no natural source, but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken. This effort was extremely successful and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (HFCs) - HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, hydrofluorocarbons are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFCs) - Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds.

Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

Sulfur Hexafluoride (SF_6) - SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO_2. Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Aerosols - Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel with sulfur within it is burned. Black carbon (or soot) is emitted during biomass burning due to the incomplete combustion of fossil fuels. Although particulate matter regulation has been lowering aerosol concentrations in the United States, global concentrations are likely increasing.

Global Warming Potential

GHGs have varying global warming potentials (GWPs) and are one type of simplified index, based upon radiative properties that can be used to estimate the potential future impacts of emissions of different gases on the climate in a relative sense. GWP is based on a number of factors, including radiative efficiency (heat-absorbing ability) of each gas relative to that of CO_2, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO_2.

The EPA defies GWP as "the cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas," the reference gas in this case being CO_2. One ton of CO_2 equivalent (or CO_2e) is essentially the emissions of the gas multiplied by the GWP. The CO_2 equivalent is a good way to assess emissions because it gives weight to the GWP of the gas. A summary of the atmospheric lifetime and the GWP of selected gases are summarized in Table 3-2. As shown in Table 3-2, the GWP of GHGs ranges from 1 to 23,900.

Data compiled by the United Nations Framework Convention on Climate Change (UNFCCC) indicates that, in 2006, total worldwide GHG emissions were 22,170 million metric tons of carbon dioxide equivalent ($MMTCO_2e$), emissions in the U.S. were 7054.2 $MMTCO_2e$, and emissions in California were 483.9 $MMTCO_2e$ (source: United Nations Framework Convention on Climate Change 2009 and California Air Resources Board 2009).

Table 3-2: Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime	Global Warming Potential (100-Year Horizon)
Carbon Dioxide (CO_2)		1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1	124

PFC: Tetrafluoromethane	50,000	7,390
PFC: Hexafluoroethane	10,000	12,200
Sulfur Hexafluoride	3,200	22,800

Source: California Air Resources Board based on the Intergovernmental Panel on Climate Change fourth assessment report (AR4). June 22, 2018.

HFC = Hydrofluorocarbons

PFC = Perfluorocarbons

4.0 ENVIRONMENTAL SETTING AND CLIMATE

4.1 Project Location and Setting

The project site is located in the County of Kern in the northeast portion of the City of Bakersfield and is within the San Joaquin Valley Air Basin (SJVAB). The SJVAB is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD).

This AQIA identifies the potential impacts on air quality resulting from the proposed commercial development consisting of general industrial. The proposed project occupies 45.92 gross acres.

The elevation is approximately 771 ft above sea level. (Exhibit F)

4.2 Climate

According to US Climate Data, average temperatures in Bakersfield range from 69 degrees Fahrenheit (F) to 97 degrees F in July to 39 degrees F to 56 degrees F in January. The wet season is generally from December to March, with an annual average of 6.45 inches of rainfall.

4.3 San Joaquin Valley Air Basin

The California Air Resources Board (CARB) has divided California into 15 regional air basins according to topographic features. The project site is located within the south-western portion of the San Joaquin Valley Air Basin (SJVAB). The SJVAB is the southern half of California's Central Valley and is approximately 250 miles long and averages 35 miles wide. The SJV is bordered by the Sierra Nevada Mountains in the east (8,000 to 14,491 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi mountains in the south (6,000 to 7,981 feet in elevation). The SJVAB is under the jurisdictional authority of San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD).

Table 4-1 contains the ambient air quality classifications for the SJVUAPCD. The CCAA requires that all reasonable stationary and mobile source control measures be implemented in nonattainment areas to help achieve a mandated five-percent per year reduction in ozone precursors and to reduce population exposures.

Table 4-1: Ambient Air Quality Classifications

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone - One hour	Revoked in 2005	Nonattainment/Severe
Ozone - Eight hour	Nonattainment/Extreme	Nonattainment
PM 10	Attainment	Nonattainment
PM 2.5	Nonattainment	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

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: www.valleyair.org (04/30/2021)

Notes:

National Designation Categories

Nonattainment Area: Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

Unclassified/Attainment Area: Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant or meets the national primary or secondary ambient air quality standard for the pollutant.

State Designation Categories

Unclassified: A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.

Attainment: A pollutant is designated attainment if the State standard for that pollutant was not violated at any site in the area during a three-year period.

Nonattainment: A pollutant is designated nonattainment if there was at least one violation of a State standard for that pollutant in the area.

Nonattainment/Transitional: A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for the pollutant.

4.4 Existing Air Quality

CARB has established and maintains, in conjunction with the local air districts, a network of sampling stations (called the State and Local Air Monitoring Stations Network [SLAMS]), which monitor ambient pollutant levels. The SLAMS network has 38 stations within the SJVAB that monitor various pollutant concentrations. (Exhibit E)

The closest active monitoring station is located at 410 E. Planz Road (Site# 15258 – Bakersfield Municipal Airport) in Bakersfield, approximately 9.7 miles east of the site. Due to the close proximity to the site, this station provides the most applicable air quality monitoring data available for NOx and PM2.5. For the PM10 monitoring data, the monitoring station located at 5558 California Avenue (Site #15255) in Bakersfield, which is about 5.9 miles to the west of the site, provides the most applicable data.

Table 4-2 provides a summary of the maximum pollutant levels detected at this monitoring stations during 2017 through 2019. Exhibit G contains copies of reports for each monitoring station.

Table 4-2: Maximum Pollutant Levels

Pollutant	Averaging Time	Units	Maximums			Standards	
			2017	2018	2019	State	National
Nitrogen Dioxide (NO_2)	1 hour	ppb	66 (CA) 66 (Fed)	61.5 (CA) 61 (Fed)	67.1 (CA) 67 (Fed)	70	54
	Annual Average	ppb	12 (CA) 12 (Fed)	12 (CA) 12 (Fed)	11 (CA) 11 (Fed)	12	12
Particulates (PM10)	24 hour	µg/m^3	143.6 (CA) 138.0 (Fed)	142.0 (CA) 136.1 (Fed)	125.9 (CA) 116.3 (Fed)	50	150
	Annual Average	µg/m^3	42.6 (CA) 42.6 (Fed)	--- (CA) 42.1 (Fed)	39.0 (CA) 38.8 (Fed)	20	—
Particulates (PM2.5)	24 hour	µg/m^3	80.1 (CA) 80.1 (Fed)	100.9 (CA) 100.9 (Fed)	83.7 (CA) 83.7 (Fed)	—	35
	Annual Average	µg/m^3	— (CA) 18.2 (Fed)	— (CA) 19.4 (Fed)	13.0 (CA) 13.0 (Fed)	12	12

Source: CARB Website, (04/30/2021)
Notes: ppm = parts per million
µg/m^3 = micrograms per cubic meter
— = not reported

4.5 Sensitive Receptors

Some groups of people are more affected by air pollution than others. CARB has identified the following people who are likely to be affected by air pollution: children under 14; the elderly over 65; athletes; and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks.

The proposed project has identified sensitive receptors including residential areas in the development adjacent to the proposed project and an outdoor sports complex 0.31 miles northeast.

The majority of the potential ambient air quality emissions from this proposed project are related to increases in mobile source emissions. The proposed project is not expected to result in localized impacts, such as CO “Hot Spots”, and therefore, is not expected to impact nearby sensitive receptors. Therefore, the impact to sensitive receptors is considered less than significant with mitigation. The mitigation measures are detailed in the Traffic Report (Exhibit I).

5.0 REGULATORY SETTING

5.1 Air Quality Regulations

Air quality within southern Kern County is addressed through the efforts of various federal, State, and regional and local government agencies. These agencies work together, as well as individually, to improve air quality through legislation, regulations, planning, and policy-making aimed at regulating air pollutants of concern as defined under the Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA). The agencies and legislation responsible for improving air quality within the SJVAB are discussed below.

Federal

The FCAA governs air quality in the United States and is administered by the U.S. Environmental Protection Agency (EPA). In addition to administering the FCAA, the EPA is also responsible for setting and enforcing the NAAQS for atmospheric pollutants as discussed above. As a part of its enforcement responsibilities, the EPA requires each state with non-attainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution. These measures need to incorporate performance standards and market-based programs that can be met within the timeframe identified in the SIP.

State

CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs in California. In this capacity, the CARB conducts research, sets CAAQS, compiles emission inventories, develops suggested control measures, and prepares the SIP. For example, the CARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hair spray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. In addition, CARB oversees the functions of the local air pollution control districts and the air quality management districts, which in turn administer air quality at the regional and county level.

Regional

The SJVUAPCD is the primary agency responsible for comprehensive air pollution control in the SJVAB. The SJVUAPCD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines. In addition, the SJVUAPCD is tasked with addressing the State's requirements established under the CCAA (e.g., bringing the SJVAB into attainment).

Local

Local jurisdictions, including Kern County and the Kern Council of Governments (KernCOG), have the authority and responsibility to reduce air pollution through its policies and decision-making authority. Specifically, Kern County is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. As a result, the currently adopted Kern County General Plan and other planning documents identify goals, policies, and implementation measures that help Kern County contribute to efforts to improve regional air quality.

It should be noted that the City has developed a General Plan dated September 2009 containing a Conservation Element which includes applicable goals, objectives, or policies that directly address air quality in the City. The Conservation Element contains objectives that promote the conservation of natural and energy resources as well as energy efficiency and the use of renewable energy resources which would have beneficial effects on the City's air quality.

5.2 Greenhouse Gas Emissions

The regulatory setting related to GHG emissions and global climate change includes international, federal, state, regional, and local governmental agencies and organizations and their respective regulations as discussed below.

International

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change agreement with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHG in the United States. The plan consists of more than 50 voluntary programs.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere, consisting of CFCs, halons, carbon tetrachloride, and methyl chloroform, were to be phased out, with the first three by the year 2000 and methyl chloroform by the year 2005.

Federal

The EPA is responsible for implementing federal policy to address global climate change. The federal government administers a wide array of public-private partnerships to reduce GHG intensity generated by the United States. These programs focus on energy efficiency, renewable energy, CH_4, and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The EPA implements several voluntary programs that substantially contribute to the reduction of GHG emissions.

In February 2002, the federal government announced a strategy to reduce the GHG intensity of the American economy by 18 percent over the 10-year period from 2002 to 2012. GHG intensity measures the ratio of GHG emissions to economic output. Meeting this commitment will prevent the release of more than 100 million metric tons of carbon-equivalent emissions to the atmosphere (annually) by 2012 and more than 500 million metric tons (cumulatively) between 2002 and 2012. This strategy has three basic objectives: slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation.

As discussed above, the EPA is responsible for setting and enforcing the NAAQS for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives.

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the EPA have authority to regulate GHG emissions, but the EPA's reasons for not regulating this area did not fit the statutory requirements. As such, the U.S. Supreme Court ruled that the EPA should be required to regulate CO_2 and other GHGs as pollutants under the Section 202(a) of the federal Clean Air Act (CAA). The U.S. Supreme Court decision resulted from a petition for rulemaking under Section 202(a) filed by more environmental, renewable energy, and other organizations.

On April 17, 2009, the EPA Administrator signed a proposed endangerment finding that GHGs contribute to air pollution that may endanger public health or welfare. The EPA held a 60-day public comment period during the review of the proposed finding that ended June 23, 2009. During the public comment period, over 380,000 comments were received in the form of written comments and through testimony provided at two public hearings. The EPA reviewed, considered, and incorporated the public comments into the final findings that were issued January 14, 2010.

The EPA's proposed endangerment finding stated that, "In both magnitude and probability, climate change is an enormous problem. The greenhouse gases that are responsible for it

endanger both the health and public welfare within the meaning of the Clean Air Act." These findings were based on careful consideration of the full weight of scientific evidence and the public comments that were received.

The specific GHG regulations that have been adopted by the EPA are:

- 40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule. This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 metric tons of CO_2e emissions per year. In addition, the reporting of emissions is required of owners of SF6 and PFC-insulated equipment when the total nameplate capacity of these insulating gases is above 17,280 pounds.
- 40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule. This rule was mandated to apply Prevention of Significant Deterioration (PSD) requirements to facilities whose CO_2e emissions exceed 75,000 tons per year.

These rules are not applicable to the proposed project.

State

Assembly Bill 1493

Assembly Bill (AB) 1493 is the successor bill to AB 1058 and was enacted on July 22, 2002 by Governor Gray Davis. AB 1493 mandates that CARB develop and implement GHG limits for vehicles beginning in model Year 2009. Subsequently, as directed by AB 1493, on September 24, 2004, CARB approved regulations limiting the amount of GHG that may be released from new passenger cars, sport utility vehicles, and pickup trucks sold in California in model Year 2009. The automobile industry subsequently sued and claimed AB 1493 was a measure designed to impose gas mileage standards on automobiles. A federal district court ruled on December 12, 2007 that the State and federal laws could co-exist. However, on December 19, 2007, the EPA denied California's request for the necessary waiver to implement its law, claiming that local emissions had little effect on global climate change and that the conditions in California were not "compelling and extraordinary" as required by law. California intends to sue the EPA to force reconsideration, given the precedent of Massachusetts v. EPA[1], which as discussed above, ruled that CO_2 was an air pollutant that the EPA had authority to regulate. Arizona, Colorado, Connecticut, Florida, Maine, Maryland, Massachusetts, New Jersey, New Mexico, New York, Oregon, Pennsylvania, Rhode Island, Utah, Vermont, and Washington are also interested in adopting California's automobile emissions standards.

Executive Order S-20-04

In December 2004, Governor Schwarzenegger signed Executive Order S-20-04 (The California Green Building Initiative) establishing the State's priority for energy and resource-efficient high performance buildings. The Executive Order sets a goal of reducing energy use in State-owned and private commercial buildings by 20 percent in 2015 using non-residential Title 20 and 24 standards adopted in 2003 as the baseline. The California Green Building Initiative also encourages private commercial buildings to be retrofitted, constructed, and operated in compliance with the State's Green Building Action Plan.

Executive Order S-3-05

In June 2005, Governor Schwarzenegger issued Executive Order S-3-05 that established

[1] Massachusetts v. Environmental Protection Agency, 549 U.S.; 127 S. Ct. 1438 (2007).

California's GHG emissions reduction targets. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80 percent below 1990 levels by 2050. In addition, to meet these reduction targets, the Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate with the Secretary of the Business, Transportation and Housing Agency, the Secretary of the Department of Food and Agriculture, the Secretary of the Natural Resources Agency, the Chairperson of CARB, the Chairperson of the Energy Commission, and the President of the Public Utilities Commission. The Secretary of CalEPA leads this Climate Action Team (CAT) made up of representatives from these agencies as well as numerous other Boards and Departments. The CAT members work to coordinate statewide efforts to implement global warming emission reduction programs and the State's Climate Reduction Strategy. The CAT is also responsible for reporting on the progress made toward meeting the statewide GHG targets that were established in the Executive Order and further defined under the Global Warming Solutions Act of 2006 (Assembly Bill 32).

The first Climate Action Team (CAT) Assessment Report to the Governor and the Legislature was released in March 2006 and will be updated and issued every two years. The 2006 CAT Assessment Report has been followed by the release of the 2008 CAT Assessment Report. The 2008 CAT Assessment Report expands on the policy oriented 2006 CAT Assessment Report and provides new information and scientific findings. A discussion of the GHG emission reduction strategies provided in the 2006 CAT Assessment Report is provided further below.

Assembly Bill 32

The Legislature enacted AB 32, the California Global Warming Solutions Act of 2006 (Nunez, 2006), which Governor Schwarzenegger signed on September 27, 2006 to further the goals of Executive Order S-3-05. AB 32 represents the first enforceable statewide program to limit greenhouse gas emissions from all major industries with penalties for noncompliance. CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. The foremost objective of CARB is to adopt regulations that require the reporting and verification of statewide GHG emissions. This program will be used to monitor and enforce compliance with the established standards. The first GHG emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020 (a reduction of approximately 25 percent from forecast emission levels). CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost effective GHG emission reductions by updating with scoping plans. Since 2008, there have been two updates to the Scoping Plan in 2013 and 2017. AB 32 allows CARB to adopt market based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market based compliance mechanism adopted. In order to advise CARB, it must convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee. CARB has approved a 2020 emissions limit of 427 metric tons of CO_2 equivalent and has updated, through the 2017 scoping plan, which has a 2030 target of 40% emission reduction below 1990 levels.

Executive Order S-1-07

Under the AB 32 Scoping Plan, the Board identified the Low Carbon Fuel Standard (LCFS) as one of the nine discrete early action measures to reduce California's greenhouse gas (GHG) emissions that cause climate change. The LCFS is a key part of a comprehensive set of programs in California to cut GHG emissions and other smog-forming and toxic air pollutants by improving vehicle technology, reducing fuel consumption, and increasing transportation mobility options. The LCFS is designed to decrease the carbon intensity of California's transportation fuel pool and provide an increasing range of low-carbon and renewable alternatives, which reduce petroleum dependency and achieve air quality benefits.

The Board approved the LCFS regulation in 2009 and began implementation on January 1, 2011. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. The LCFS standards are expressed in terms of the "carbon intensity" (CI) of gasoline and diesel fuel and their respective substitutes. The program is based on the principle that each fuel has "life cycle" greenhouse gas emissions that include CO_2, CH_4, N_2O, and other GHG contributors. This life cycle assessment examines the GHG emissions associated with the production, transportation, and use of a given fuel. The life cycle assessment includes direct emissions associated with producing, transporting, and using the fuels, as well as significant indirect effects on GHG emissions, such as changes in land use for some biofuels. The carbon intensity scores assessed for each fuel are compared to a declining CI benchmark for each year. Low carbon fuels below the benchmark generate credits, while fuels above the CI benchmark generate deficits. Credits and deficits are denominated in metric tons of GHG emissions. Providers of transportation fuels must demonstrate that the mix of fuels they supply for use in California meets the LCFS carbon intensity standards, or benchmarks, for each annual compliance period.

California Air Pollution Control Officers Association “White Paper”

In January 2008, the California Air Pollution Control Officers Association (CAPCOA) issued a “white paper” (CEQA and Climate Change) on evaluating GHG emissions under CEQA. The CAPCOA “white paper” strategies serve as guidelines and have not been adopted by any regulatory agency. The “white paper” serves as a resource to assist lead agencies in evaluating GHG emissions in environmental information documents. The methodologies used in this GHG emissions analysis are consistent with the CAPOCA guidelines.

The CAPCOA “white paper” specifically includes a disclaimer on the first page that states:

> This paper is intended to serve as a resource, not a guidance document. It is not intended and should not be interpreted, to dictate the manner in which an air district or Lead agency chooses to address GHG emissions in the context of its review of projects under CEQA. This paper has been prepared at a time when California law has been recently amended by the Global Warming Solutions Act of 2006 (AB 32) and the full programmatic implications of this new law are not yet fully understood.

In addition, page 33 of the CAPCOA “white paper” provides the following statement:

> This threshold approach would require a project to meet a percent reduction target based on the average reductions needed from business-as-usual emissions for all GHG sources. Using the 2020 target, this approach would require all discretionary projects to achieve a 33 percent reduction from the projected business-as-usual emission from all GHG sources in order to be considered less than significant.

While significance was not determined based on a hypothetical "business as usual" standards, any mitigation measures identified in a project-specific CEQA analyses will utilize the 29 percent GHG standards identified in AB 32 which establishes a target reduction of GHG emissions to 1990 levels by the year 2020. State and federal regulations are constantly changing as more and more information is made available regarding GHG emissions and their impact on global climate change. Additionally, SB 375 which requires the development of a GHG emission reduction target for specific metropolitan areas have not been identified.

Senate Bill 97

Senate Bill (SB) 97 enacted in 2007 required the California Office of Planning and Research (OPR) to develop amendments to the California Environmental Quality Act (CEQA) Guidelines to address the effects of GHG emissions. OPR was required to prepare and transmit the recommended amendments to the Natural Resources Agency by July 1, 2009. On April 13, 2009, OPR submitted to the Secretary for Natural Resources its recommended amendments to the CEQA Guidelines for addressing GHG emissions as required by SB 97. The recommended amendments were developed to provide guidance to public agencies regarding the analysis of the effects of GHG emissions and mitigation provided in draft CEQA documents.

On July 3, 2009, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code Section 21083.05. Following a 55-day public review period, including two public hearings and responses to comments, the Natural Resources Agency proposed revisions to the text of the proposed amendments to the CEQA Guidelines.

On December 31, 2009, the Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law. The Office of Administrative Law approved the amendments on February 16, 2010 and filed them with the Secretary of State for inclusion into the California Code of Regulations. The amendments became effective on March 18, 2010.

Assembly Bill 1358

In October 2008, Governor Schwarzenegger signed Assembly Bill 1358 (AB 1358 or the California Complete Streets Act of 2008). AB 1358 requires a city or county's general plan to identify how they will accommodate the circulation of all users of the roadway, including motorists, pedestrians, bicyclists, children, seniors, individuals with disabilities, and users of public transportation. The new general plan provisions would be required when the local government revises their circulation element. The accommodations under AB 1358 may include, but not be limited to, sidewalks, bike lanes, crosswalks, wide shoulders, medians, bus pullouts, and audible pedestrian signals.

Senate Bill 375

Senate Bill 375 (SB 375) enacted in August 2008 requires metropolitan planning organizations (MPOs) to include strategies for sustainable communities in their regional transportation plans. The purpose of SB 375 is to: reduce GHG emission reduction targets from automobiles and light trucks; require CARB to provide GHG emission reduction targets from the automobile and light truck sector for 2020 and 2035 by January 1, 2010; and update the regional targets until 2050. SB 375 requires certain transportation planning and programming activities to be consistent with the sustainable communities strategies contained in the regional transportation plan (RTP). In addition, the SB 375 requires affected regional agencies to prepare an alternative planning strategy to the sustainable communities' strategies if the sustainable communities' strategies are unable to achieve the GHG emission reduction targets.

The timeline for the implementation of SB 375 is as follows:

- January 1, 2009 - CARB adopts AB 32 Scoping Plan that includes the total reduction of carbon in million metric tons from regional transportation planning.
- January 31, 2009 - CARB appoints a Regional Targets Advisory Committee (RTAC) to recommend factors to be considered and methodologies to be used for setting reduction targets.
- September 30, 2009 - The RTAC must report its recommendations to the CARB.
- June 30, 2010 - CARB must provide draft targets for each region to review.
- September 30, 2010 - CARB must provide each affected region with a GHG emissions reduction target.
- October 1, 2010 - Beginning this date, MPOs updating their RTP will begin an eight-year planning cycle that includes the Sustainable Community Strategy (SCS).

Local

Kern Council of Governments

The Kern Council of Governments (KernCOG) is the Metropolitan Planning Organization (MPO) for Kern County. In addition, KernCOG is the Regional Transportation Planning Agency (RTPA) and the agency responsible for the Regional Housing Needs Allocation Plan (RHNA). In these roles, KernCOG is responsible for providing Kern County with the guidance documents identified in SB 375. The guidance documents are being developed in conjunction with and input from all cities within Kern County and the Kern County government. Future land use approvals will be the responsibility of the local governments and, therefore, those agencies would be responsible for ensuring conformance with the Sustainable Community Strategy (SCS) as it relates to the requirements of SB 375 and AB 32.

As discussed above, SB 375 was introduced as a result of AB 32, the climate change legislation signed into California law in 2006. SB 375 builds on the existing regional transportation planning process to connect the reduction of GHG emissions from cars and light trucks to land use and transportation policy. SB 375 requires all MPOs to update their Regional Transportation Plans (RTPs) so that resulting development patterns and supporting transportation networks can reduce GHG emissions by the target amounts set by CARB. Related to this, an additional component of KernCOG's responsibility under SB 375 is the development of a Sustainable Community Strategy (SCS) for Kern County.

KernCOG is working within the timeline and milestones established by the State legislation in SB 375 as discussed above. KernCOG has already initiated the regional planning, housing and transportation planning process into a strategy to meet the requirements of SB 375.

6.0 IMPACTS OF THE PROPOSED PROJECT

This document was prepared using methodology described in the San Joaquin Valley Unified Air Pollution Control District's (SJVUAPCD's) *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI), March 19, 2015 Revision.

6.1 Thresholds of Significance

Criteria Pollutants

The SJVUAPCD has established the following significance thresholds for criteria pollutants. A proposed project does not have a significant air quality impact unless emissions of criteria pollutants exceed the following thresholds (Table 6-1).

Table 6-1: Significance Thresholds Criteria Pollutants

Pollutant / Precursor	Construction Emissions Emissions (tons/year)	Operational Emissions	
		Permitted Equipment and Activities Emissions (tons/year)	Non-Permitted Equipment and Activities Emissions (tons/year)
CO	100	100	100
NOx	10	10	10
VOC	10	10	10
SOx	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

Odors

The proposed project is not a source of odors. A sewer lift station will be installed to serve the development. The sewer lift station is enclosed and designed to prevent any atmospheric release of odors.

CEQA Thresholds of Significance for GHG Emissions and Global Climate Change

There are no thresholds of significance that have been established by the SJVUAPCD for GHG emissions and global climate change. Based on the March 2010 amendments to the *Guidelines for the Implementation of the California Environmental Quality Act* (State CEQA Guidelines), the proposed project could potentially have a significant impact related to GHG and global climate change if it would:

- Generate GHGs, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emission of GHGs.

In order to determine whether or not a proposed project would cause an incremental contribution resulting in a significant effect on global climate change, the incremental contribution of the proposed project must be determined quantitatively and qualitatively by examining the types

and levels of GHG emissions that would be generated directly and indirectly and address whether the proposed project would comply with the provisions of an adopted greenhouse reduction plan or strategy. If no such plan or strategy is applicable or has been adopted, the analysis must determine if the proposed project would significantly hinder or delay California's ability to meet the reduction targets contained in Assembly Bill 32 (AB 32). The 2017 AB 32 update sets target emissions and requires that GHG emitted in California be reduced to 40% below 1990 levels by the year 2030, which is 256 million metric tons of carbon dioxide equivalent ($MMTCO_2e$).

6.2 Model Assumptions

Short-term construction emissions and long-term operational emissions were determined utilizing the latest version of the CalEEMod version 2016.3.2 model based on the assumptions summarized below.

Short-term Construction Assumptions

- Construction of the project would take place in 2023 with the operational year of 2024.
- The mini storage facility will include one duplex (1,327 square feet) with onsite office (804 square feet), and approximately 1,500 storage units (907,875 square feet). The storage facility will also include 92,640 square feet of open RV storage and 440,860 square feet of enclosed/covered car ports (Exhibit C).
- The other paved surfaces consist of access roads and parking.
- The number and type of construction equipment was determined by the CalEEMod defaults based on the size of the proposed project and mitigation is provided by using Tier 4 diesel equipment.
- The VOC g/l content of the residential architectural coating was updated to 50 VOC g/L to match the SJVUAPCD Rule 4601 requirements.

Long-term Operational Assumptions

- Operation of the proposed project would begin in 2024.
- Operational emissions were determined for vehicle traffic in and out the site. Maximum operational emissions will occur in 2024, which is the first operational year, and are equivalent to the emissions calculated using CalEEMod for vehicle traffic in and out of the site for 2024.
- The vehicle mix was used the CalEEMOD default settings.
- The trip generation letter results were used to address the impacts of CO emissions. The preliminary 370 vehicle trips/day for the R-2/C-2 was based on engineering calculations using *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition.*

6.3 Short-Term Construction Air Emissions

The implementation of the proposed project would generate short-term increases in air emissions from construction activities that would occur as a result of the proposed project. These construction activities have the potential to result in air emissions that could exceed the SJVUAPCD's thresholds of significance.

The major construction activities that would occur are the following:

- Demolition – demolition activities will not be required for this project.
- Site Preparation/Grading – these activities will occur prior to construction and will be completed in 2023.
- Building Construction/Paving/Architectural Coatings – Each of these activities will occur over a one year period in 2023.

The construction activities would generate emissions that primarily consist of: fugitive dust (PM10 and PM2.5) from soil disturbance; exhaust emissions (including NOx, SOx, CO, VOC, PM10, and PM2.5) from construction equipment and motor vehicle operation; and the release of VOC emissions during the finishing phase including paving and the application of architectural coatings.

The construction activities that would occur off-site could include: delivery of building materials and supplies to the sites; and the transport of construction employees to and from the sites. The off-site activities would generate emissions that primary consist of VOC, NOx, PM10, PM2.5, and CO from motor vehicle exhaust. The construction emissions would vary substantially from day to day, depending on the level of activity, the specific type of operation, and the climatic conditions.

Table 6-2 provides the annual short-term construction emissions generated by the construction activities. The construction equipment used in the CalEEMod model and the CalEEMod model outputs are included in Exhibit H. As seen in Table 6-2, the annual emissions from the construction activities would not exceed the SJVUAPCD thresholds of significance in any construction year. Therefore, the short-term impacts to regional air quality as a result of the construction will be *less than significant*. Sections 8.1 and 8.2 below provide mitigation set forth in the GAMAQI guidance document and SJVUAPCD's Rules that would further reduce the construction equipment exhaust and PM10 and PM2.5 emission levels.

Table 6-2: Annual Short-term Construction Emissions (2024 – max year) After Mitigation

Source	Pollutant (tons/year)						
	VOC	NO_x	CO	PM10	PM2.5	SO_x	CO_{2e}
2023 (highest year)	2.83	2.32	4.71	0.83	0.26	0.02	1,420.66
SJVUAPCD Threshold	10	10	100	15	15	27	NA
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No	NA

Notes: VOC = Reactive Organic Gases
CO = Carbon Monoxide
NO_x = Nitrogen Oxides
PM_{10} = Particulate Matter < 10 microns
$PM_{2.5}$ = Particulate Matter < 2.5 microns
SO_x = Sulfur Oxides
Refer to Exhibits for a printout of the computer model used in this analysis.

6.4 Long-Term Operational Air Emissions

The implementation of the proposed project would generate long-term emissions caused by mobile sources (vehicle emissions), from energy consumption (related to heating and cooling), landscape maintenance, and consumer products. The following provides a discussion of the long-term operational emissions of the proposed project.

The predicted emissions associated with vehicular traffic (mobile sources) are not subject to the SJVUAPCD's permit requirements. However, the SJVUAPCD is responsible for overseeing efforts to improve air quality within the SJVAB. The SJVUAPCD reviews land use changes to evaluate the potential impact on air quality. The SJVUAPCD has established a CEQA significance level for criteria pollutants as shown in Table 6-1.

Operational emissions have been estimated using the CalEEMod.2016.3.2 computer model. CalEEMod predicts operational emissions of CO, VOC, NO_x, SO_x, PM10, PM2.5 and CO2e associated with new or modified land uses. CalEEMod modeling results are contained in Exhibit H and summarized in Table 6-3 below.

Table 6-3: Annual Long-term Operational Emissions

Source	Pollutant (tons/year)						
	VOC	NO_x	CO	PM10	PM2.5	SO_x	CO_{2e}
2024 (highest year)	5.78	2.86	2.78	0.72	0.27	0.02	6,713.13
SJVUAPCD Threshold	10	10	100	15	15	27	NA
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No	NA

As seen in Table 6-3, the annual total long-term emissions from the operation of the proposed project will not exceed the SJVUAPCD thresholds of significance for VOC and NOx. The highest operational emissions occur in 2023, the first year after the development's construction has been completed. Therefore, the long-term impacts to regional air quality from operation of the proposed project will be *less than significant.*

Mobile Source - Carbon Monoxide Local Emissions

CO emissions are a function of vehicle idling time and, thus, under normal meteorological conditions, depend on traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations close to a congested roadway or intersection may reach unhealthful levels affecting sensitive receptors (residents, school children, hospital patients, the elderly, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable Level of Service (LOS). CO "Hot Spot" modeling is required if a traffic study reveals that the proposed project will reduce the LOS on one or more streets to E or F; or, if the proposed project will worsen an existing LOS F.

A traffic study is required if the project either exceeds 50-trip threshold in either the AM or PM peak hours or if the VMT exceeds the significance threshold for the greater Bakersfield area. The *Trip Generation* (Exhibit I) was prepared and shows that both the 50-trip threshold and the VMT significance threshold were not exceeded. Therefore, the project is not anticipated to result in a significant impact under CEQA and the long-term impacts to local air quality due to CO concentrations will be ***less than significant***.

6.5 Potential Effect on Sensitive Receptors

The air quality impact of the proposed project is not likely to affect sensitive receptors. Sensitive receptors are areas where young children, chronically ill individuals, or other individuals more sensitive than the general population are located. Examples of sensitive receptors are schools, day care centers, and hospitals. Some residents in nearby residential areas may also be considered sensitive.

The majority of the potential ambient air quality emissions from this proposed project are related to increases in traffic. As discussed above, the proposed project is not expected to result in localized impacts such as CO "Hot Spots" and, therefore, is not expected to impact nearby sensitive receptors. Therefore, the potential impacts to sensitive receptors will **be *less than significant***.

6.6 Odors

The generation of odors may be associated with certain types of small industrial sources, which are regulated by the SJVUAPCD. The incidence of odors from this facility is expected to be less than significant.

6.7 Hazardous Air Pollutants

The proposed project is not a significant source of hazardous air pollutants (HAPS). This facility has the potential to emit HAPs from the operation of stationary source equipment. The SJVUAPCD has established rules that limit the emissions of HAPs from stationary sources such that the excess cancer risk to the nearest receptor is less than 10 in one million, and the non-carcinogenic Hazard Index is less than 1, therefore the risk to the nearest receptor is expected to be *less than significant*.

6.8 Greenhouse Gas Emissions

In order to determine whether or not a proposed project would cause an incremental contribution resulting in a significant effect on global climate change, the incremental contribution of the proposed project must be determined quantitatively and qualitatively by examining the types and levels of GHG emissions that would be generated directly and indirectly and addressing whether the proposed project would comply with the provisions of an adopted greenhouse reduction plan or strategy. If no such plan or strategy is applicable or has been adopted, the analysis must determine if the proposed project would significantly hinder or delay California's ability to meet the reduction targets contained in AB 32. As discussed above, AB 32 sets target emissions and requires that GHG emitted in California be reduced to 1990 levels by the year 2020, which is 427 million metric tons of carbon dioxide equivalent emissions ($MMTCO_2e$).[2] The year 2020 reduction target equates to a decrease of approximately 29 percent in GHG emissions below year 2020 "business as usual" (BAU) emissions (or approximately 15 percent below the current GHG emissions).

"Business as usual" (BAU) conditions are defined based on the year 2005 building energy efficiency, average vehicle emissions, and electricity energy conditions. The BAU conditions assume no improvements in energy efficiency, fuel efficiency, or renewable energy generation beyond that existing today. Specifically, BAU conditions do not include future General Plan goals, policies, or implementation measures that address GHG emissions, GHG reduction strategies included in the 2006 CAT assessment Report, CARB's expanded list of Early Action Measures to Reduce GHG Emissions in California, or mitigation provided by the California Attorney General's Office.

Short-Term Construction GHG Emissions

The implementation of the proposed project would generate short-term increases in air emissions from construction activities that would occur as a result of the proposed development. These construction activities have the potential to generate GHG Emissions of CO_2, CH_4, and N_2O primarily from vehicle and construction equipment. The other GHG emissions defined under AB 32, which include HFCs, PFCs, and SF_6, would only consist of trace emissions, if any, during construction associated with the proposed project.

The major construction activities that would occur are the following:

- Site preparation and grading

[2] GHG emissions other than CO_2 are commonly converted into CO_2 equivalents that take into account the differing GWP of different gases.

- Excavation, earthmoving, and grading for construction of utilities, on-site and off-site roads, parking areas, residence foundations, and landscaping.
- Storage Unit construction
- Asphalt paving of on-site roadways
- Application of architectural coatings

The construction activities would generate dust emissions primarily from soil disturbance; exhaust emissions from construction equipment and motor vehicle operation; and the release of emissions during the finishing phase including paving and the application of architectural coatings.

The construction activities that would occur off-site could include delivery of building materials and supplies to the sites and the transport of construction employees to and from the sites. The construction emissions would vary substantially from day to day, depending on the level of activity, the specific type of operation, and the climatic conditions.

It is anticipated that future construction activities associated with the proposed project would have the potential to result in short-term increases in air emissions during construction activities that would generate GHG emissions that could contribute to global climate change.

The CalEEMod model was used to estimate the GHG emissions due to construction activities as a result of the proposed project with "business as usual" conditions. The CalEEMod outputs are included in Exhibit H for reference and summarized in Table 6-2 above. The construction activities for the proposed project would generate a maximum of 1,421 metric tons per year of CO_2e of GHG emissions. This represents 0.00033 percent of the 2016 GHG emissions in the State of California (which is 429,400,000 metric tons of CO_2e). Therefore, the GHG emissions as a result of the proposed project will be *less than significant.*

Long-Term Operational GHG Emissions

It is anticipated that the operation of the proposed project would have the potential to result in long-term increases in air emissions that would generate GHGs that could contribute to global climate change. The majority of the long-term GHG emissions would be generated by motor vehicles traveling to and from the project site. Area source emissions would result from fuel combustion, landscape maintenance equipment, and consumer products. The daily operational activities as a result of the proposed project would have the potential to generate GHG emissions of CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since there is an international ban on CFCs, it is not anticipated that this GHG would occur. SF_6 is primarily used in electronics manufacturing and as an insulation medium in large electrical transformers. It is not anticipated that there will be SF_6 emissions from the proposed project.

The CalEEMod model was used to estimate the GHG emissions due to mobile source emissions and area source emissions as a result of the proposed project with "business as usual" conditions. The outputs are included in Exhibit H and summarized in Table 6-3 above. The operation of the proposed project based on "business as usual" conditions" would result in 6,713 metric tons per year of CO_2e of GHG emissions. This represents 0.00016 percent of the CO_2e of 2016 GHG emissions in the State of California (which is 429,400,000 metric tons of CO_2e).[3] Therefore, the GHG emissions as a result of the proposed project will be *less than significant*.

[3] California Air Resources Board, 2016 GHG Inventory, *California Greenhouse Gas Inventory (millions of metric tonnes of CO2 equivalent) — By IPCC Category,* Updated July 11, 2018

Mitigation from the California Attorney General's Office

The Office of the California Attorney General maintains a list of "CEQA Mitigations for Global Warming Impacts" on their website. This list, which is not intended to be exhaustive, includes examples of types of mitigation measures and policies that local agencies may consider offsetting or reducing impacts related to global climate change. The Attorney General's Office acknowledges that the measures cited may not be appropriate for every project and that the lead agency undertaking a CEQA analysis should use its own informed judgment in deciding which measures it would analyze and which measure it would require for a given project. These include measures that are "Generally Applicable" in the areas of energy efficiency, renewable energy, water conservation and efficiency, solid waste measures, land use measures, transportation and motor vehicles, and carbon offsets.

The proposed project would incorporate the applicable measures and policies provided by the Attorney General's Office. This includes energy efficiency, water conservation and efficiency, solid waste recycling, and access to transit. Therefore, the proposed project would comply with the applicable mitigation provided by the Attorney General's Office and impacts are considered to be *less than significant*.

7.0 CUMULATIVE IMPACTS

The GAMAQI, under CEQA, defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The document also states that *"if a project is significant based on the thresholds of significance for criteria pollutants, then it is also cumulatively significant. If the combined impacts of such projects cause or worsen an exceedance of the concentration standards, the project would have a cumulatively significant impact under CEQA."*

Regionally, the SJUAPCD has annual VOC emissions of 302,200 tons and annual NO_x emissions of 223,800 tons from all sources. The proposed project represents approximately 0.001% of the VOC and 0.001% of the NO_x emissions in the SJVUAPCD. These amounts are not individually considerable because emissions within the SJVUAPCD Air Basin will be essentially the same regardless of whether or not the proposed project is built.

As stated in page 22 of the SJVUAPCD CEQA Guidelines, "a project's potential contribution to cumulative impacts shall be assessed utilizing the same significance criteria as those for project specific impacts." Since the proposed project would not have a significant long-term air quality impact, the proposed project would not have a significant cumulative impact to regional air quality. Therefore, the cumulative impacts to the regional air quality with implementation of the proposed project would be *less than significant.*

Hazardous Air Pollutants (HAPs)

The GAMAQI also states that when evaluating potential impacts related to HAPs, *"impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards."* The proposed project does not have significant sources of HAPs. Therefore, the cumulative impact as a result of HAPs would be *less than significant*.

Carbon Monoxide (CO) from Mobile Sources

Based on the CO Protocol Analysis developed by the California Department of Transportation (CalTrans), and due to the fact that increased CO concentrations are usually associated with roadways that are congested and with heavy traffic volume, the District has established that

preliminary screening can be used to determine with fair certainty that the effect a project has on any given intersection would not result in a CO hotspot with proposed mitigation. Therefore, the District has established that if neither of the following criteria are met at all intersections affected by the developmental project, the project will result in no potential to create a violation of the CO standard:

A. A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or

B. A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at more or more intersections in the project vicinity.

If either of the above criteria can be associated with any intersection affected by the project, the applicant/consultant would need to conduct a CO analysis to determine a project's significance or provide mitigation to maintain LOS C or above.

As noted in section 6.4, the proposed project will not have a significant impact on the LOS at any intersection or road segment with mitigation. **Therefore, the cumulative impact as a result of CO emissions is *less than significant***.

8.0 EMISSION REDUCTION MEASURES

The proposed project generates air pollutant emissions associated with the construction and operation of the proposed project. Based on the analysis provided above, the potential impacts of the proposed project would be less than significant. However, to further reduce the emissions associated with the construction of the proposed project, the project will implement the following reduction measures.

8.1 Reduction Measures for Construction Equipment Exhaust

The construction activities for the proposed project shall incorporate the following measures stated in the GAMAQI guidance document as approved mitigation to reduce exhaust emissions from construction equipment:

- Properly and routinely maintain all construction equipment, as recommended by manufacturer manuals, to control exhaust emissions.
- Shut down equipment when not in use for extended periods of time to reduce emissions associated with idling engines.
- Encourage ride sharing and use of transit transportation for construction employee commuting to the project sites.
- Use electric equipment for construction whenever possible in lieu of fossil fuel-fired equipment.

8.2 Reduction Measures for Fugitive Dust Emissions

The construction activities for the proposed project shall incorporate the following measures set forth by the SJVUAPCD Fugitive Dust rules to reduce fugitive dust emissions during grading and construction:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover, or vegetative ground cover.

- All onsite unpaved roads and offsite-unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- When materials are transported offsite, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. No material is expected to be transported offsite.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.

9.0 REFERENCES

California Air Resources Board (CARB), website for background information, http://www.arb.ca.gov/

California Department of Transportation (Caltrans), *Transportation Project-Level Carbon Monoxide Protocol,* December 1997.

Caltrans, *Caltrans Interim Guidance: Project-Level PM_{10} Hot-Spot Analysis,* February 2000.

County of Kern, Planning Department, *County of Kern Housing Element 2002-2007*, Adopted September 10, 2002.

Kern Council of Governments (KernCOG), *Final Conformity Analysis for the 2006 Federal Transportation Improvement Program (TIP) and 2004 Regional Transportation Plan (RTP),* July 20, 2006

KernCOG, *2000 Regional Housing Allocation Plan*, Adopted May 17, 2001

San Joaquin Valley Unified APCD, *Guidelines for Implementation of the California Environmental Quality Act (CEQA) of 1970*, as amended, July 1, 1999

SJVUAPCD, *Guide for Assessing and Mitigating Air Quality Impacts,* March 19, 2015.

EXHIBIT A

LOCATION MAP

EXHIBIT B

PROJECT LOCATION MAP

Aerial Image Generated by Kern County Web Map Service

Legend

- Roads 5k-10k
  - Freeway
  - Highway
  - Major
  - Minor
  - Local
  - Ramp
  - Unpaved
- Parcels Land
- County Facilities

1: 9,028

0.3 0 0.14 0.3 Miles

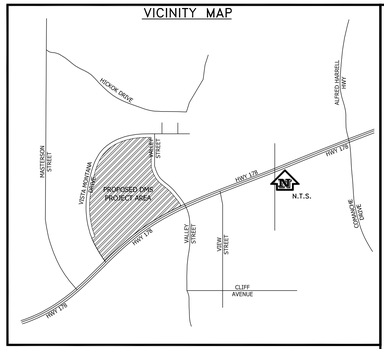
WGS_1984_Web_Mercator_Auxiliary_Sphere

Notes

EXHIBIT C

PROJECT SITE PLAN

VICINITY MAP



LEGEND

- PROPOSED 5" CONCRETE DRIVEWAYS
- PROPOSED 4" CONCRETE DRIVEWAYS
- LANDSCAPE AREA
- PROPOSED PHASE I BUILDING CONSTRUCTION
- PROPOSED PHASE II BUILDING CONSTRUCTION
- FUTURE BUILDING CONSTRUCTION
- PROPOSED 2-HOUR FIRE WALL
- ARROWS DEPICT DIRECTION OF TRAFFIC
- ACCESSIBLE PARKING SPACE w/SIGN (EXISTING)
- BUILDING NUMBER
- 150 WATT HIGH PRESSURE SODIUM LIGHT AT 7'-6"
- 2A 10BC FIRE EXTINGUISHER IN CABINET AS REQUIRED
- PROPOSED STANDARD DECORATIVE LIGHT FIXTURE
- PROPOSED APPROVED FIRE HYDRANT
- PROPOSED CAMERA POLE

ALLOWABLE SQUARE FOOTAGE

STORAGE BUILDINGS	9,000 SF x 1 x 1 x 1=9,000 MAX SF	
OFFICE	10,000 SF x 1 x 1 x 1.15=636/9200 SF=.07	
RESIDENCE	UNLIMITED 1,485 SF/UNLIMITED	
OCCUPANCY	STORAGE BUILDINGS OFFICE RESIDENCE	S-1 B R-3
TYPE OF CONSTRUCTION	RESIDENCE/OFFICE STORAGE BUILDINGS	V-B V-B

SITE DATA

PROPERTY OWNER
XXXXX
3265 W. ASHLAN AVE.
FRESNO, CA 93722
(559) 224-9900

PROPERTY ADDRESS
VISTA MONTANA/HWY 178
BAKERSFIELD, CA

A.P.N.
387-020-34, 29 & 30

ZONING
XXXXX

LAND ACREAGE
GROSS: ±45.90 AC.
NET: ±XX AC.

BUILDING SQUARE FOOTAGE
CONSTRUCTION PHASES

PROPOSED PH-I:	190,650 S.F.
PROPOSED PH-II:	65,375 S.F.
FUTURE PH-III:	99,700 S.F.
FUTURE PH-IV:	71,550 S.F.
FUTURE PH-V:	196,600 S.F.
FUTURE PH-VI:	284,000 S.F.
TOTAL STORAGE:	907,875 S.F.
OFFICE:	804 S.F.
RESIDENCE:	1,327 S.F.
GARAGE:	391 S.F.
TOTAL:	910,397 S.F.

RV SQUARE FOOTAGE
ENCLOSED/CARPORTS: 440,860 S.F.

STATISTICAL INFORMATION

APN:	387-020-34, 29 & 30
EXISTING USE	VACANT LAND
PROPOSED USE	MINI STORAGE
ACREAGE (GROSS)	45.90 ACRES
ACREAGE (NET)	XX.XX ACRES
PROPOSED BUILDING HEIGHT:	
OFFICE/RESIDENCE/GARAGE	15'-8" HIGH MAX.
STORAGE BUILDING	12'-6" HIGH MAX.
GROUND FLOOR AREA TOTALS (ALL PHASES):	
RESIDENCE	1,327 S.F.
OFFICE	804 S.F.
GARAGE	391 S.F.
STORAGE BUILDING	907,875 S.F.
ENCLOSED/CARPORT RV PARKING	440,860 S.F.
BUILDING COVERAGE	46%
LANDSCAPE AREA	58,760 S.F. (2%)
PARKING SPACES REQUIRED	3 – OFFICE 2 – RESIDENCE
PARKING SPACES PROVIDED	7 – OFFICE 2 – RESIDENCE
SEWAGE DISPOSAL	CITY SEWER
WATER SERVICE	CAL WATER SERVICE
DRAINAGE	PONDING BASIN
PHASE I CONSTRUCTION	193,172 S.F.
STORAGE UNITS PROPOSED	1,500 APPROX.

NOTE:
ALL PARKING SPACES WILL BE 9'x20' IN SIZE WITH A 25' BACK UP AREA OR DRIVE THROUGH

GENERAL NOTES

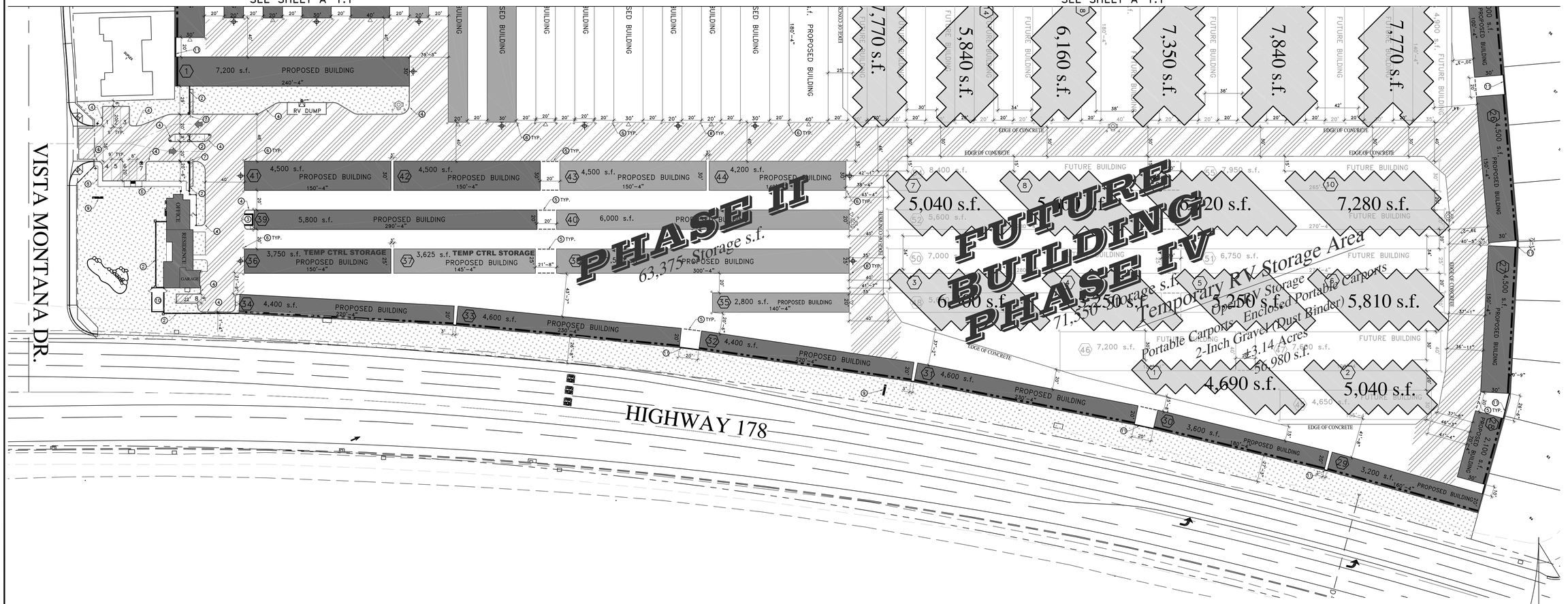
1. NO USES OF LAND, BUILDINGS OR STRUCTURES OTHER THAN THOSE SPECIFICALLY APPROVED PURSUANT TO THIS SITE PLAN SHALL BE PERMITTED.
2. ALL NECESSARY BUILDING PERMITS MUST BE OBTAINED FROM THE CITY OF BAKERSFIELD DEPARTMENT OF PUBLIC WORKS.
3. PARKING AREA ILLUMINATION (IF ANY) SHALL BE DIRECTED AWAY FROM ADJOINING PROPERTIES.
4. ALL CONSTRUCTION WORK ON THIS PROJECT IS SUBJECT TO INTERRUPTION IF THE ROAD SYSTEM BECOMES IMPASSABLE FOR FIRE APPARATUS DUE TO RAIN OR OTHER OBSTACLES.
5. ANY SURVEY MONUMENTS WITHIN THE AREA OF OBSTRUCTION SHALL BE PRESERVED OR RESET BY A REGISTERED CIVIL ENGINEER OR A LICENSED LAND SURVEYOR.
6. REPAIR ALL DAMAGED AND/OR OFF-GRADE CONCRETE STREET IMPROVEMENTS AS DETERMINED BY THE CONSTRUCTION MANAGEMENT ENGINEER PRIOR TO OCCUPANCY.
7. THE METHOD OF WATER SUPPLY AND SEWAGE DISPOSAL SHALL BE AS REQUIRED AND APPROVED BY THE APPLICABLE GOVERNING AGENCY.
8. NO DRAINAGE WATERS TO FLOW INTO CITY ROADS UNLESS AUTHORIZED BY THE CITY OF BAKERSFIELD DEPARTMENT OF PUBLIC WORKS. A PLAN FOR THE DISPOSAL OF DRAINAGE WATERS, ORIGINATING ON SITE AND FROM ADJACENT ROADS RIGHT-OF-WAY (IF REQUIRED), SHALL BE APPROVED BY THE PUBLIC WORKS DEPARTMENT.
9. TWO MEANS OF INGRESS/EGRESS MUST BE MAINTAINED DURING ALL PHASES OF DEVELOPMENT.
10. PROVIDE PORTABLE FIRE EXTINGUISHERS PER NFPA 10, 2-A: 10-BC RATED MINIMUM. MAXIMUM TRAVEL DISTANCE 75 FEET.
11. FIRE HYDRANTS SHALL BE TESTED, PAINTED, NUMBERED AND APPROVED, AND ALL SURFACE ACCESS ROADS SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION.
12. THE ENTRANCE TO ALL EMERGENCY ACCESSES SHALL BE POSTED WITH PERMANENT SIGNS THAT SHALL READ: "FIRE ACCESS (6" LETTERS) VEHICLES REMOVED AT OWNER'S EXPENSE (2" LETTERS) BAKERSFIELD POLICE DEPARTMENT 327-7111 (1" LETTERS)". POST ON BOTH SIDES.
13. ALL AUCTION PARKING SHALL BE PROVIDED ON THE INTERIOR OF THE PROJECT SITE.

SPECIFIC NOTES

1. NOT USED
2. PROPOSED 6'-0" HIGH CONCRETE BLOCK FENCE
3. CITY OF BAKERSFIELD STANDARD REFUSE CONTAINER ENCLOSURE. 8' DEEP BY 10' WIDE INSIDE DIMENSION CURB TO CURB.
4. PROPOSED 6" HIGH CONCRETE CURB
5. PROPOSED 36" WIDE CONCRETE WHEEL STOPS
6. 4" DIAMETER STEEL GUARD POSTS
7. PROPOSED NEW ENTRANCE/EXIT GATES
8. PROPOSED SIDEWALK TO PROVIDE PEDESTRIAN ACCESS PATHWAY FOR PERSONS WITH DISABILITIES TO THE PUBLIC RIGHT-OF-WAY.
9. PROPOSED MONUMENT SIGN – DETAIL SHOWN ON SHEET A-1.1
10. PROPOSED WATER FOUNTAIN EQUIPMENT ROOM.
11. PROPOSED BUILDING HEIGHT CONNECTING WALL TOP MATCH PERIMETER BUILDING WALL. ALL CONNECTING WALLS OVER 10' IN LENGTH TO BE BUILT PER DETAIL SHOWN ON SHEET A-1.1

SEE SHEET A-1.1

SEE SHEET A-1.1



SITE PLAN

REVISIONS:

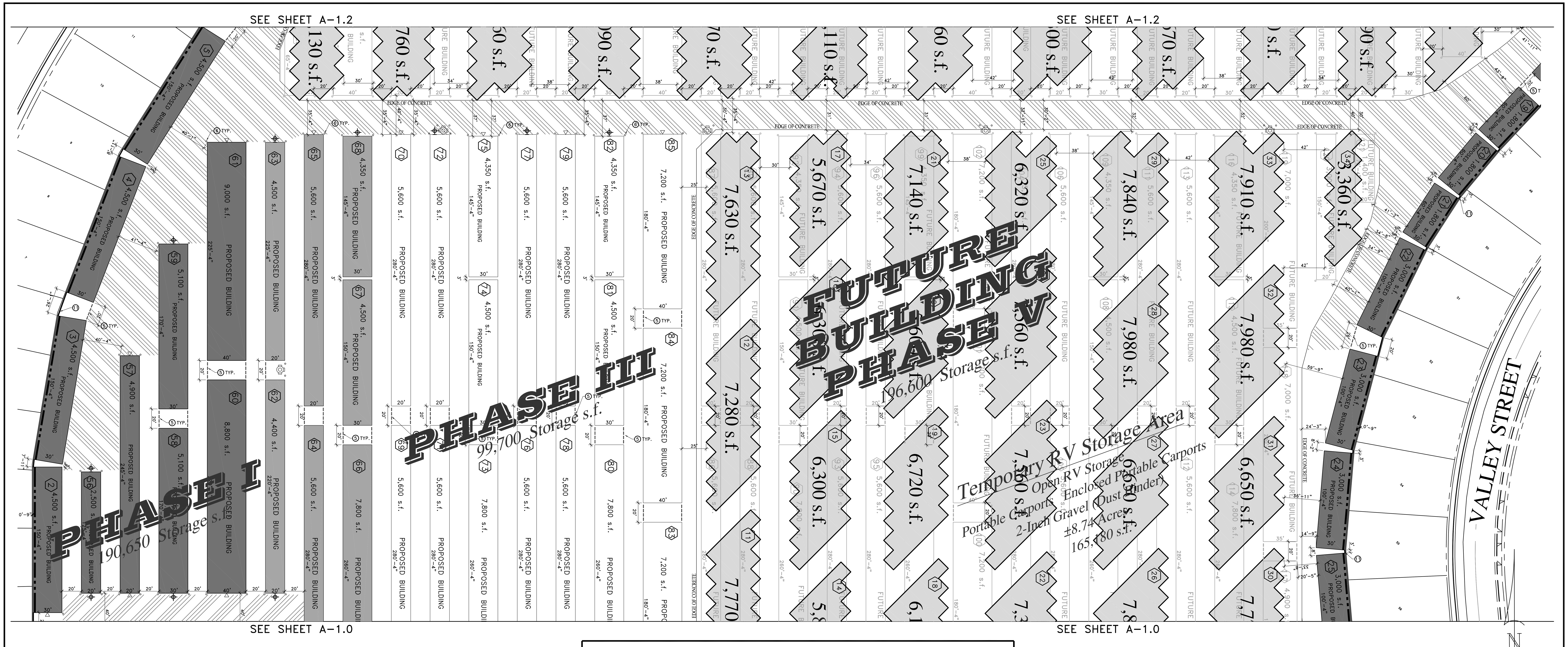
MINI STORAGE

DERREL'S

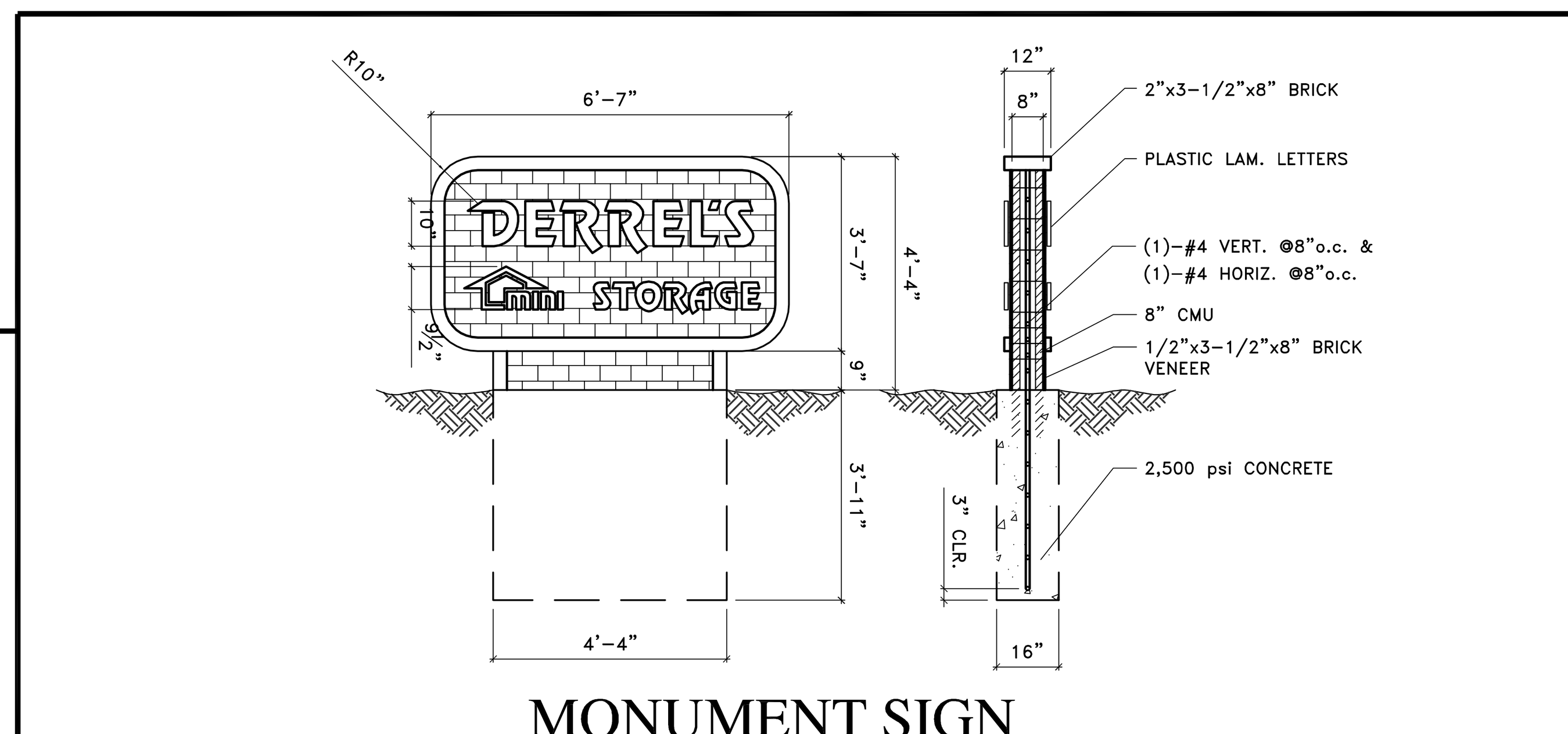
3265 W ASHLAN, AVE FRESNO CA 93722 (559) 224-9900

APPROVALS

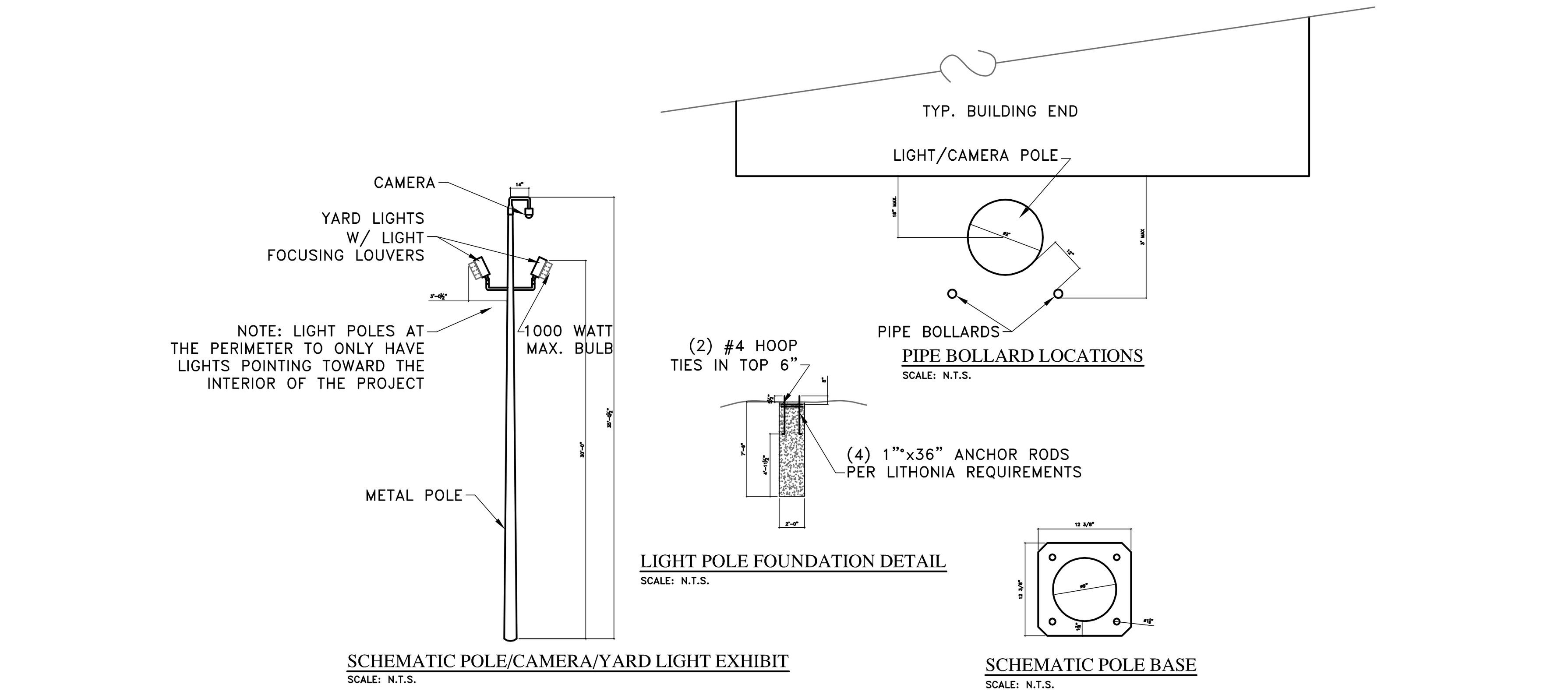
C:\My Docs\CADfiles\Projects\Vista Montana-178\PH1\A1.0.dwg
Date: May 11, 2022
Scale: 1" = 60'-0"
Drawn By: DB
Project: Site Plan
Sheet 1 of 3
Bakersfield
Vista Montana/178
Sheet: A-1.0



SITE PLAN

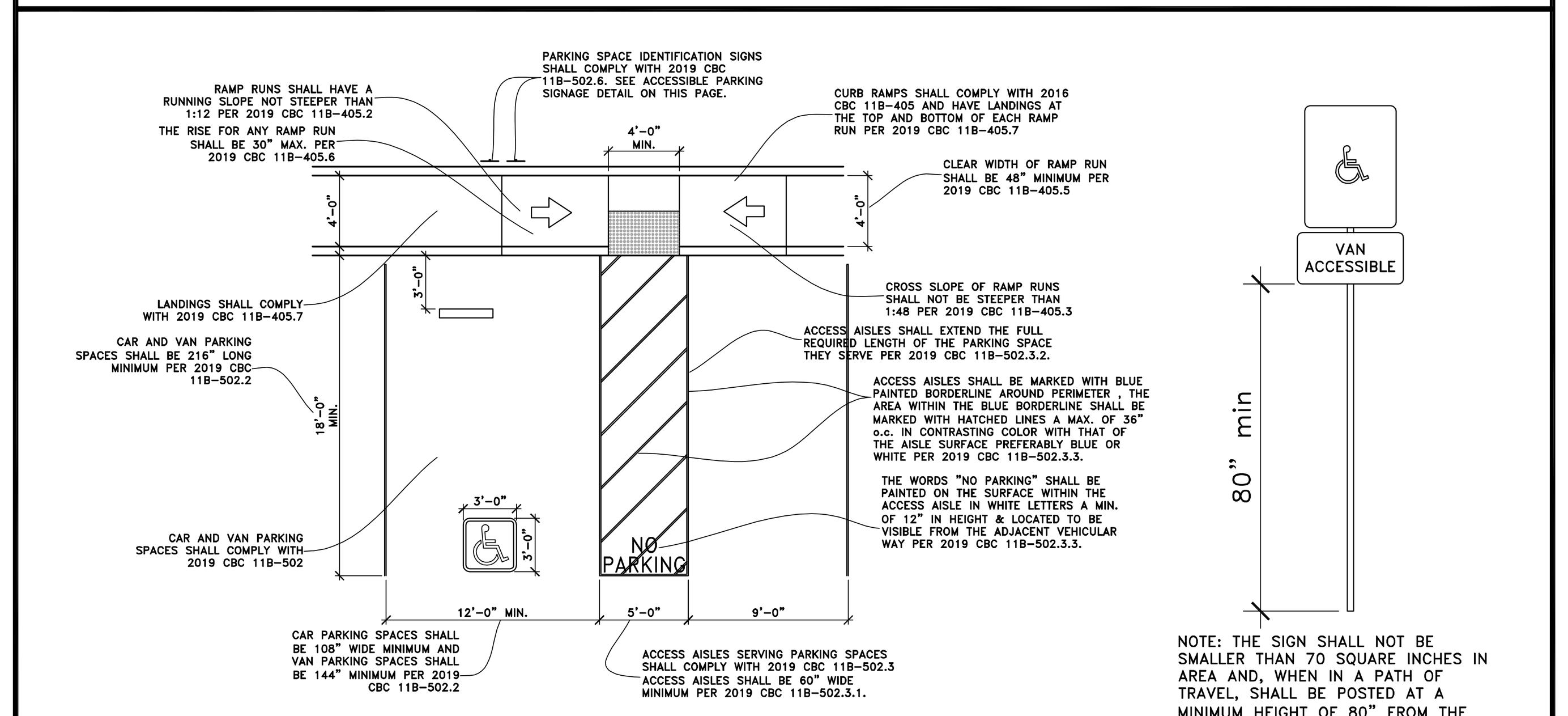


MONUMENT SIGN
SCALE: NONE

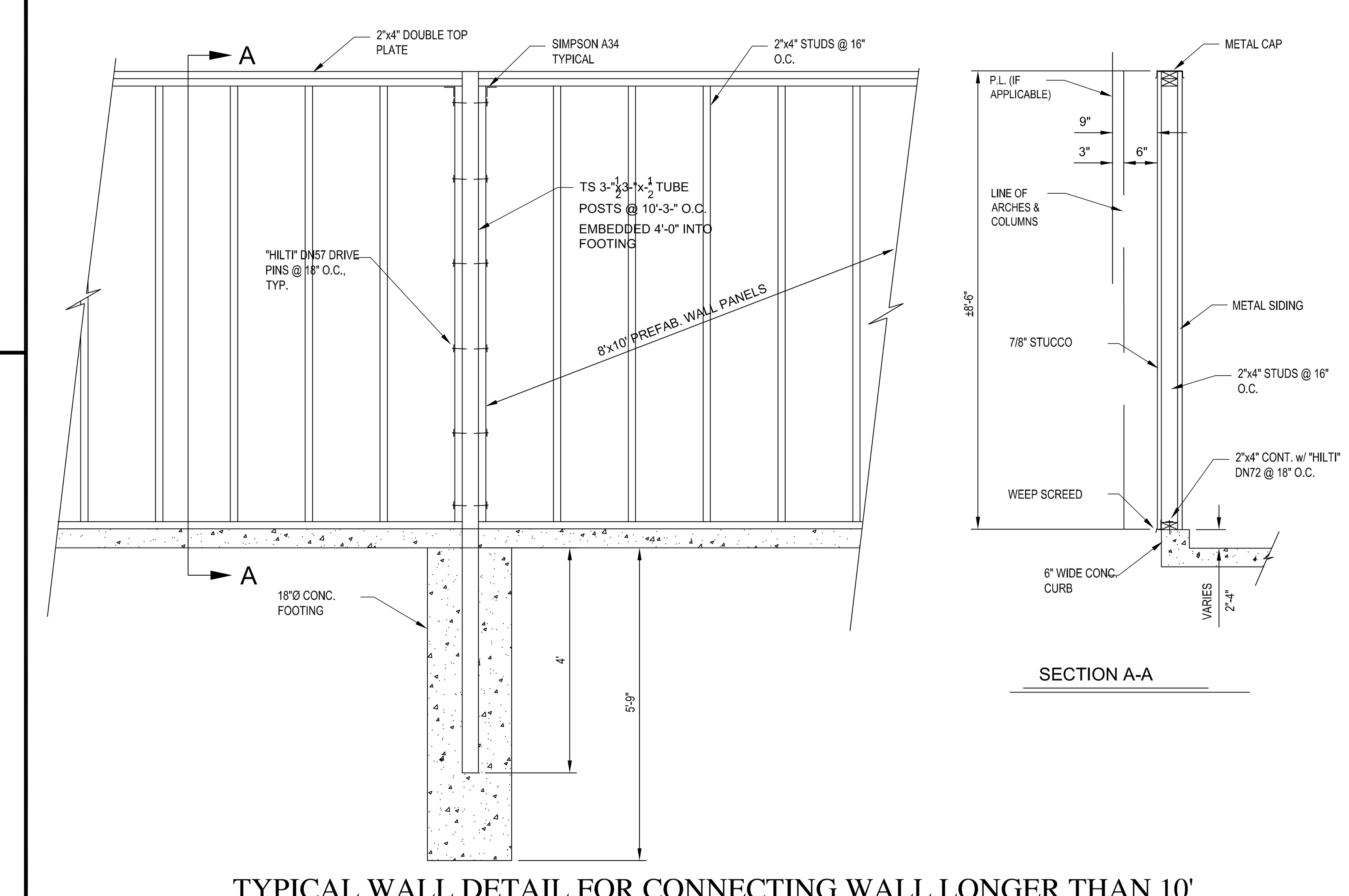


NOTES:
1. LIGHTS ARE TO BE INSTALLED WITH LIGHT FOCUSING LOUVERS. LIGHTS ARE NOT TO EXCEED 35' IN HEIGHT AND NOT TO EXCEED 1000 WATTS.
2. WHERE LIGHTING IS PROVIDED TO ILLUMINATE PARKING, BUILDING ENTRANCES, AISLES, STORAGE, CARETAKER RESIDENCE, OFFICE, AND/OR TRUCK/TRAILER RENTAL AREAS, IT SHALL BE DOWN-DIRECTED, HOODED/SHIELDED AND SO ARRANGED AND CONTROLLED SO AS NOT TO CAUSE A NUISANCE EITHER TO STREET TRAFFIC OR TO THE LIVING ENVIRONMENT.
3. THE AMOUNT OF LIGHT REQUIRED FOR PUBLIC PARKING AND TRUCK/TRAILER RENTAL AREAS SHALL BE PROVIDED ACCORDING TO THE STANDARDS OF THE DEPT. OF PUBLIC WORKS.
4. LIGHTING TO BE DIRECTED AWAY FROM RESIDENTIAL AREAS.

CAMERA/LIGHT POLE DETAILS



PROPOSED ACCESSIBLE PARKING



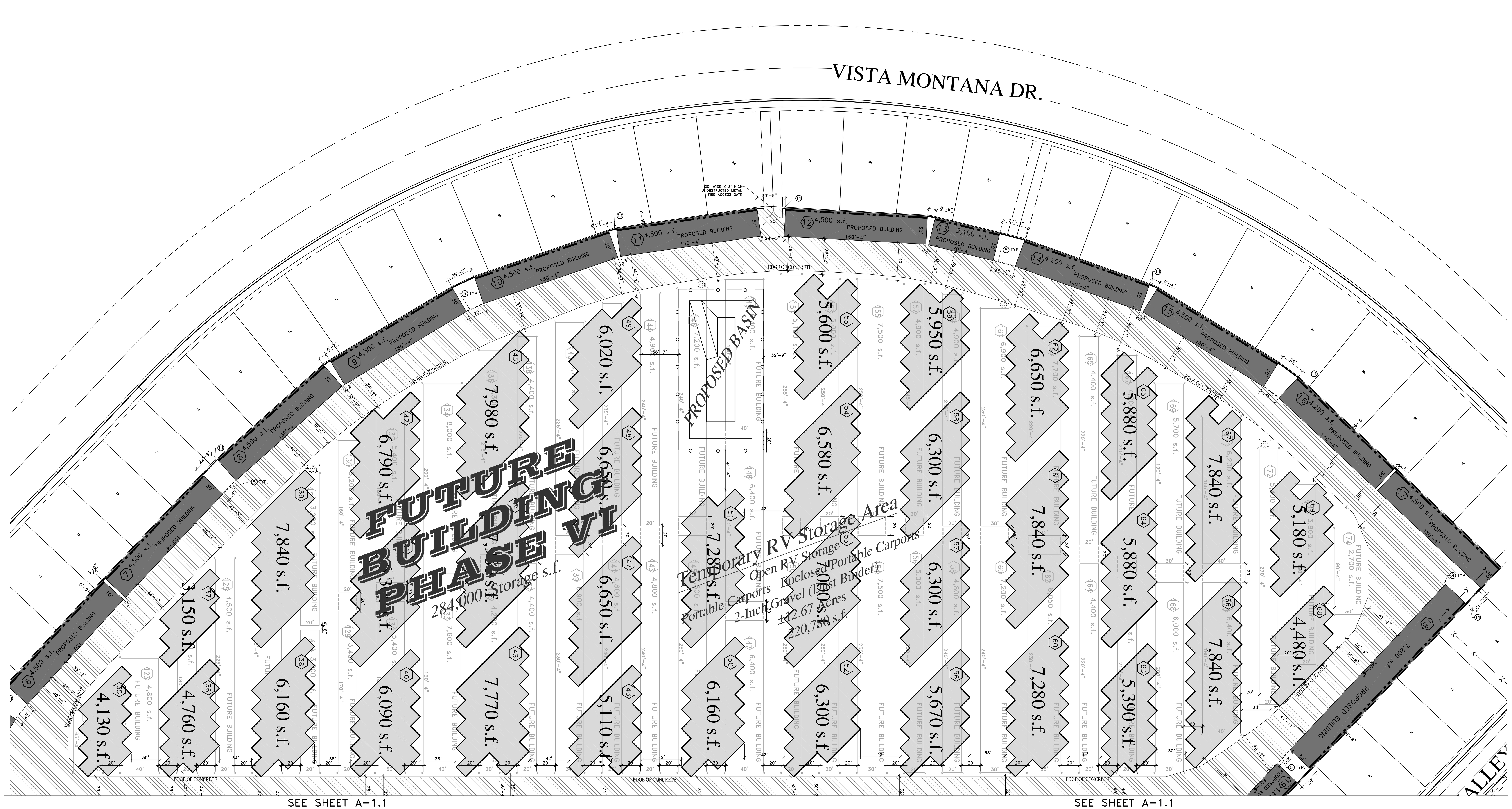
TYPICAL WALL DETAIL FOR CONNECTING WALL LONGER THAN 10'
SCALE: NONE

REVISIONS:

DERREL'S mini STORAGE
3265 W ASHLAN AVE FRESNO CA 93722 (559) 224-9900

APPROVALS

C:\My Docs\CADfiles\Projects\Vista Montana-178\PH\A1.1.dwg
Date: May 11, 2022
Scale: 1" = 60'-0"
Drawn By: DB
Project: Site Plan Sheet 2 of 3 Bakersfield Vista Montana/178
Sheet: A-1.1



REVISIONS:

DERREL'S mini STORAGE
3265 W ASHLAN, AVE FRESNO CA 93722 (559) 224-9900

APPROVALS

C:\My Docs\CADfiles\Projects\Vista Montana-178\PH\A1.2.dwg

Date: May 11, 2022

Scale: 1" = 60'-0"

Drawn By: DB

Project: Site Plan
Sheet 3 of 3
Bakersfield
Vista Montana/178

Sheet: A-1.2

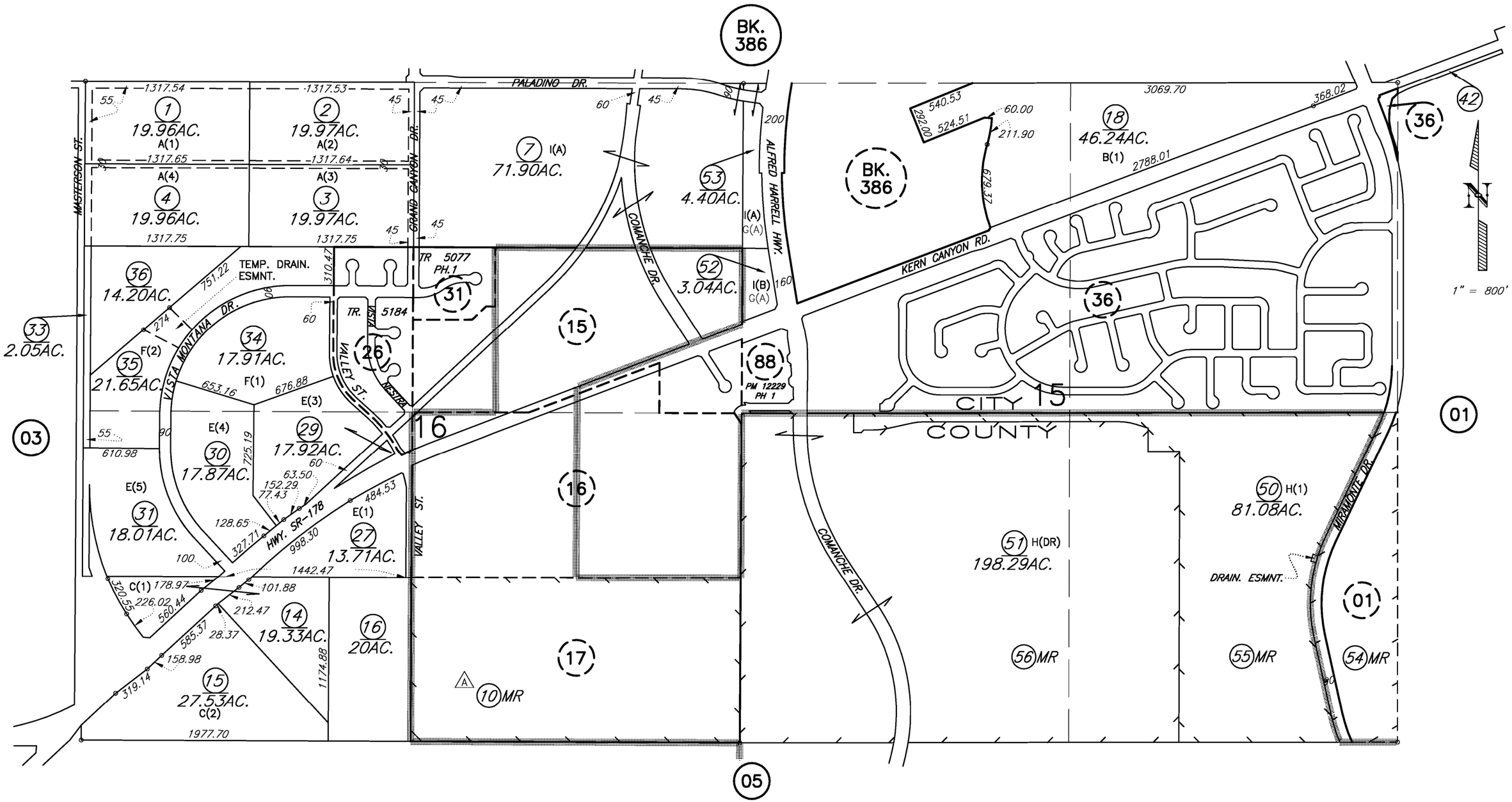
SITE PLAN

EXHIBIT D

ASSESSOR’S PARCEL MAP

SEC. 15 & 16 T.29S. R.29E.

387-02



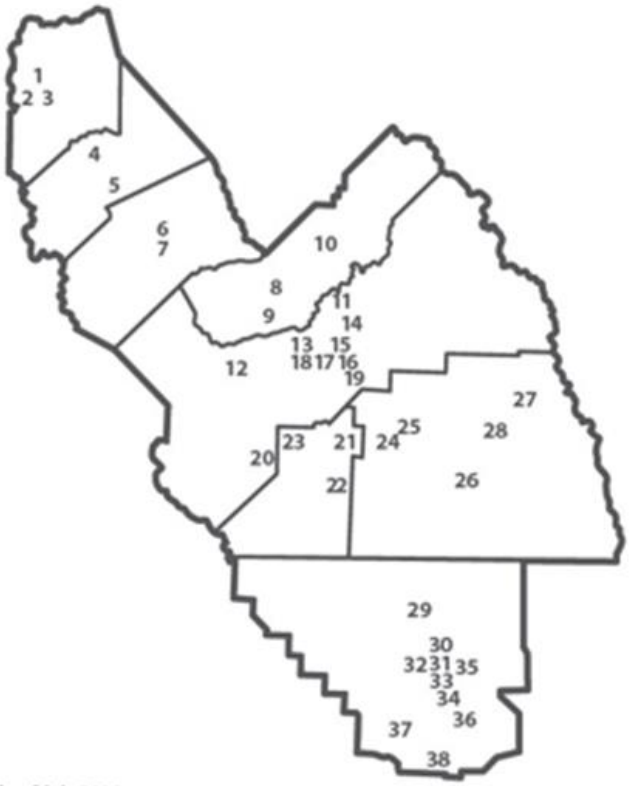
LEGEND	SUBD. KEY		NOTES	DISCLAIMER
REVISED September 11, 2018	REF. SUBD. A. PM 3399 B. PM 5727 C. PM 5771 ~~D. PM 6712~~	E. PM 8362 F. PM 9626 ~~G. PM 9633~~ H. PM 11266 I. LLA 05-1842	A =See page 27 for MR Unit APN	This map is for assessment purposes only. It is not to be construed as portraying legal ownership or divisions of land for purposes of zoning or subdivision law.
JURISDICTION CITY OF BAKERSFIELD AND VICINITY	(LOT DESIGNATIONS IN PARENTHESIS)			

ASSESSORS MAP NO. 387-02
COUNTY OF KERN

EXHIBIT E

AIR BASIN MONITORING STATIONS

Air Monitoring Sites in Operation



As of July 2018

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

SAN JOAQUIN COUNTY
- ■ 1 Stockton-Hazelton: G, M, P, F, T
- ★ 2 Tracy-Airport: G, M, P, F
- ★ 3 Manteca: P, F, M

STANISLAUS COUNTY
- ■ 4 Modesto-14th St: G, M, P, F
- ★ 5 Turlock: G, M, P, F

MERCED COUNTY
- ★ 6 Merced-M St: P, F
- ★ 7 Merced-Coffee: G, F, M

MADERA COUNTY
- ★ 8 Madera City: G, P, F, M
- ★ 9 Madera-Pump Yard: G, M

Other[1]:
Chukchansi Indians
- ▲ 10 Picayune Rancheria: G, F, P, M

FRESNO COUNTY

Other[1]:
Monache Tribe/Foothill Yokut Indians
- ▲ 11 Table Mountain AMS*: G, F, P, M
- ★ 12 Tranquillity: G, F, M
- ★ 13 Fresno-Sky Park: G, M
- ★ 14 Clovis: G, M, P, F
- ■ 15 Fresno-Garland: G, M, P, F, T, N, L
- ★ 16 Fresno-Pacific: F
- ★ 17 Fresno-Drummond: G, P, M
- ★ 18 Fresno-Foundry Park Ave: G, M
- ★ 19 Parlier: G, M
- ★ 20 Huron: F, M

KINGS COUNTY
- ★ 21 Hanford: G, F, M, P
- ★ 22 Corcoran: F, M, P

Other[1]:
Tachi Yokut Tribe
- ▲ 23 Santa Rosa Rancheria: G, M, P

TULARE COUNTY
- ★ 24 Visalia Airport: M
- ■ 25 Visalia-Church St: G, F, M, P
- ★ 26 Porterville: G, F, M

Other[2]:
- ▲ 27 Lower Kaweah: A, G, M
- ▲ 28 Ash Mountain: A, G, M, F

KERN COUNTY
- ● 29 Shafter: G, M
- ■ 30 Oildale: G, M, P
- ★ 31 Bakersfield-Golden/M St: F, P
- ■ 32 Bakersfield-Calif Ave: A, G, M, P, F, T
- ★ 33 Bakersfield-Muni: G, M
- ■ 34 Bakersfield-Airport (Planz): F
- ■ 35 Edison: G, M
- ■ 36 Arvin-Di-Giorgio: G, M
- ★ 38 Maricopa: G, M
- ★ 38 Lebec: F, M

MONITORING DESIGNATIONS

A	Acid Deposition	P	Particulate (PM10)
F	Fine Particulate (PM2.5)	N	National Core
G	Gaseous	T	Toxins
M	Meteorological	L	Lead

MONITORING OPERATION
- ★ Sites operated by the District
- ● Sites operated by the District & CARB
- ■ Sites operated by CARB
- ▲ Sites operated by other agencies
  - Other[1] Tribal
  - Other[2] National Park Service
- * Air Monitoring Station (AMS)

Source: http://www.valleyair.org/aqinfo/MonitoringSites.htm, 07/2018

EXHIBIT F

TOPOGRAPHIC MAP

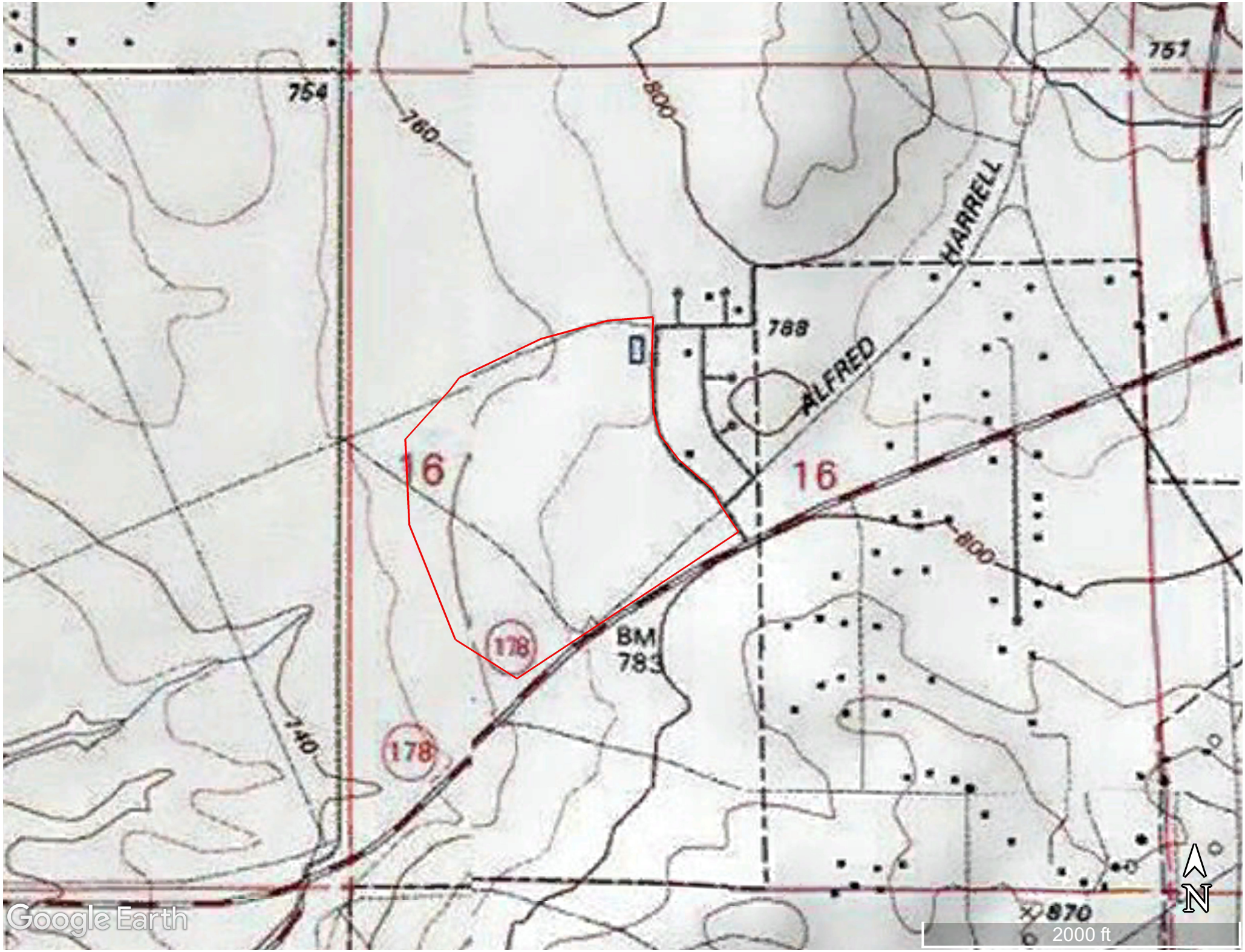

754
760
800
751
HARRELL
788
ALFRED
16
16
800
BM
783
178
178
740
870
N
2000 ft
Google Earth

EXHIBIT G

AIR MONITORING STATION DATA

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Bakersfield-5558 California Avenue

iADAM

	2017		2018		2019	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Dec 15	66.0	Nov 16	61.5	Nov 8	67.1
Second High:	Dec 14	63.1	Nov 15	58.0	Nov 12	63.8
Third High:	Nov 22	61.5	Sep 28	56.3	Nov 13	62.6
Fourth High:	Dec 29	61.1	Nov 14	56.1	Nov 4	60.4
California:						
First High:	Dec 15	66	Nov 16	61	Nov 8	67
Second High:	Dec 14	63	Nov 15	58	Nov 12	63
Third High:	Nov 22	61	Sep 28	56	Nov 13	62
Fourth High:	Dec 12	61	Nov 14	56	Nov 4	60
National:						
1-Hour Standard Design Value:		52		53		54
1-Hour Standard 98th Percentile:		58.1		51.0		53.9
# Days Above the Standard:		0		0		0
Annual Standard Design Value:		13		13		12
California:						
1-Hour Std Designation Value:		60		70		70
Expected Peak Day Concentration:		63		65		66
# Days Above the Standard:		0		0		0
Annual Std Designation Value:		12		12		12
Annual Average:		12		12		11
Year Coverage:		97		97		99

◄ Shift Backward 1 year Shift Forward ►

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2019. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

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.

Trends Summary: PM2.5 Statistics

at Bakersfield-410 E Planz Road

iADAM

Year	Est. Days > Natl '06 Std	Annual Average		Natl Ann Std D.V.[1]	State Ann Std D.V.[2]	Natl '06 Std 98th Pctile	Natl '06 24-Hr Std D.V.[1]	High 24-Hr Average		Year Coverage
		Natl	State					Natl	State	
2019	10.0	13.0	13.0	16.9	13	46.7	59	83.7	83.7	92
2018	*	19.4	*	17.8	*	60.8	60	100.9	100.9	79
2017	32.2	18.2	*	17.3	18	69.7	59	80.1	80.1	86
Graph	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Info:
Click on a column header for more information about the statistic in that column.

Area:
Kern County; San Joaquin Valley Air Basin;
San Joaquin Valley 8-Hour Ozone Planning Area

District:
San Joaquin Valley Unified APCD

Years:
Annual PM2.5 statistics are available for this site from 2000 through 2019.

Notes:
All concentrations expressed in micrograms per cubic meter.
yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.
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 criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
D.V.[1] = National Design Value
D.V.[2] = State Designation Value
* means there was insufficient data available to determine the value.

Trends Summary: PM10 Statistics

at Bakersfield-5558 California Avenue

iADAM

Year	Est Days > Std		Annual Average		3-Year Average		High 24-Hr Average		Year Coverage
	Natl	State	*Natl*	State	*Natl*	State	Natl	State	
2019	0.0	108.1	*38.8*	39.0	*41*	43	116.3	125.9	94
2018	0.0	*	*42.1*	*	*42*	43	136.1	142.0	95
2017	0.0	98.7	*42.6*	42.6	*43*	44	138.0	143.6	98
Graph	☐	☐	☐	☐	☐	☐	☐	☐	☐

Info:
Click on a column header for more information about the statistic in that column.

Area:
Kern County; San Joaquin Valley Air Basin;
San Joaquin Valley 8-Hour Ozone Planning Area

District:
San Joaquin Valley Unified APCD

Years:
Annual PM10 statistics are available for this site from 1994 through 2019.

Notes:
All concentrations expressed in micrograms per cubic meter.
All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.
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*.
yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.
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:
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.
* means there was insufficient data available to determine the value.

EXHIBIT H

CALEEMOD EMISSION MODELING

- CONSTRUCTION EMISSIONS (2023-2024)
- OPERATIONAL EMISSIONS (2023)

Nineda - Storage Facility 178 & Vista Montana

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,441.38	1000sqft	33.09	1,441,375.00	0
Condo/Townhouse	2.00	Dwelling Unit	0.31	1,327.00	6

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2024
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 - Based on site plan dimensions

Construction Phase - Estimated 200 days for storage unit construction and default for other phases.

Off-road Equipment - Demo not required

Off-road Equipment -

Grading - Grading to match actual site dimensions

Architectural Coating - Inside of storage not required

Vehicle Trips - Based on Trip Generation letter - duplex 7.5/8.75 storage 0.35/0.43

Woodstoves - No fireplaces or woodstoves

Water And Wastewater - No water to storage units

Construction Off-road Equipment Mitigation - Tier 4F equipment will be used if available

Mobile Land Use Mitigation -

Area Mitigation - SJVAPCD Rule 4601 limit of 50 g/l

Area Coating - Painting inside storage units not required, parking 533,500 sqft RV storage

Mobile Commute Mitigation -

Water Mitigation -

Waste Mitigation - Recycling Bins for Storage Disposal

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	2,162,063.00	0.00
tblAreaCoating	Area_Nonresidential_Interior	2162070	0
tblAreaCoating	Area_Parking	0	533500
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	150	50

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	PhaseEndDate	12/17/2024	10/19/2023
tblConstructionPhase	PhaseEndDate	9/10/2024	1/5/2024
tblConstructionPhase	PhaseEndDate	7/12/2022	12/30/2022
tblConstructionPhase	PhaseEndDate	10/11/2022	3/31/2023
tblConstructionPhase	PhaseEndDate	10/29/2024	5/19/2023
tblConstructionPhase	PhaseEndDate	8/9/2022	1/27/2023
tblConstructionPhase	PhaseStartDate	10/30/2024	9/1/2023
tblConstructionPhase	PhaseStartDate	10/12/2022	4/1/2023
tblConstructionPhase	PhaseStartDate	6/1/2022	1/1/2023
tblConstructionPhase	PhaseStartDate	8/10/2022	1/28/2023

tblConstructionPhase	PhaseStartDate	9/11/2024	4/1/2023
tblConstructionPhase	PhaseStartDate	7/13/2022	1/1/2023
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	1.10	0.00
tblLandUse	LandUseSquareFeet	1,441,380.00	1,441,375.00
tblLandUse	LandUseSquareFeet	2,000.00	1,327.00
tblLandUse	LotAcreage	0.13	0.31
tblVehicleTrips	ST_TR	5.67	8.75
tblVehicleTrips	ST_TR	1.68	0.43
tblVehicleTrips	SU_TR	4.84	8.75
tblVehicleTrips	SU_TR	1.68	0.43
tblVehicleTrips	WD_TR	5.81	7.50
tblVehicleTrips	WD_TR	1.68	0.35
tblWater	IndoorWaterUseRate	333,319,125.00	0.00
tblWoodstoves	NumberCatalytic	0.31	0.00
tblWoodstoves	NumberNoncatalytic	0.31	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	3.0501	4.6385	4.4025	0.0155	1.0256	0.1282	1.1537	0.3565	0.1195	0.4760	0.0000	1,416.7590	1,416.7590	0.1560	0.0000	1,420.6599
2024	9.6200e-003	0.0836	0.0797	3.3000e-004	0.0160	1.6600e-003	0.0177	4.3500e-003	1.5600e-003	5.9100e-003	0.0000	30.3281	30.3281	2.3800e-003	0.0000	30.3876
Maximum	**3.0501**	**4.6385**	**4.4025**	**0.0155**	**1.0256**	**0.1282**	**1.1537**	**0.3565**	**0.1195**	**0.4760**	**0.0000**	**1,416.7590**	**1,416.7590**	**0.1560**	**0.0000**	**1,420.6599**

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					
2023	2.8331	2.3188	4.7065	0.0155	0.8189	6.2000e-003	0.8251	0.2573	5.8700e-003	0.2632	0.0000	1,416.7584	1,416.7584	0.1560	0.0000	1,420.6594
2024	6.7600e-003	0.0556	0.0829	3.3000e-004	0.0160	1.4000e-004	0.0162	4.3500e-003	1.3000e-004	4.4900e-003	0.0000	30.3281	30.3281	2.3800e-003	0.0000	30.3876
Maximum	**2.8331**	**2.3188**	**4.7065**	**0.0155**	**0.8189**	**6.2000e-003**	**0.8251**	**0.2573**	**5.8700e-003**	**0.2632**	**0.0000**	**1,416.7584**	**1,416.7584**	**0.1560**	**0.0000**	**1,420.6594**

	ROG	NOx	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	**7.18**	**49.72**	**-6.85**	**0.00**	**19.84**	**95.12**	**28.19**	**27.47**	**95.04**	**44.45**	**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)
3	12-1-2022	2-28-2023	0.7258	0.0727
4	3-1-2023	5-31-2023	1.4626	0.6266
5	6-1-2023	8-31-2023	1.2737	0.8335
6	9-1-2023	11-30-2023	3.8201	3.3614
7	12-1-2023	2-29-2024	0.4983	0.3279
		Highest	3.8201	3.3614

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	6.0734	2.9000e-004	0.0281	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0500	0.0500	9.0000e-005	0.0000	0.0523
Energy	0.1407	1.2791	1.0738	7.6800e-003		0.0972	0.0972		0.0972	0.0972	0.0000	5,333.1307	5,333.1307	0.2049	0.0624	5,356.8464
Mobile	0.1571	1.5827	1.6831	9.4400e-003	0.6152	5.4900e-003	0.6207	0.1654	5.1400e-003	0.1705	0.0000	877.4315	877.4315	0.0448	0.0000	878.5515
Waste						0.0000	0.0000		0.0000	0.0000	275.2192	0.0000	275.2192	16.2650	0.0000	681.8439
Water						0.0000	0.0000		0.0000	0.0000	0.0413	0.2888	0.3301	4.2600e-003	1.0000e-004	0.4673
Total	**6.3712**	**2.8621**	**2.7849**	**0.0171**	**0.6152**	**0.1028**	**0.7181**	**0.1654**	**0.1025**	**0.2679**	**275.2606**	**6,210.9010**	**6,486.1616**	**16.5190**	**0.0625**	**6,917.7614**

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	5.4843	2.9000e-004	0.0281	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0500	0.0500	9.0000e-005	0.0000	0.0523
Energy	0.1407	1.2791	1.0738	7.6800e-003		0.0972	0.0972		0.0972	0.0972	0.0000	5,333.1307	5,333.1307	0.2049	0.0624	5,356.8464
Mobile	0.1571	1.5827	1.6831	9.4400e-003	0.6152	5.4900e-003	0.6207	0.1654	5.1400e-003	0.1705	0.0000	877.4315	877.4315	0.0448	0.0000	878.5515
Waste						0.0000	0.0000		0.0000	0.0000	192.6535	0.0000	192.6535	11.3855	0.0000	477.2908
Water						0.0000	0.0000		0.0000	0.0000	0.0331	0.2477	0.2808	3.4100e-003	8.0000e-005	0.3906
Total	**5.7821**	**2.8621**	**2.7849**	**0.0171**	**0.6152**	**0.1028**	**0.7181**	**0.1654**	**0.1025**	**0.2679**	**192.6865**	**6,210.8600**	**6,403.5465**	**11.6387**	**0.0625**	**6,713.1316**

	ROG	NOx	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	**9.25**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**30.00**	**0.00**	**1.27**	**29.54**	**0.03**	**2.96**

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	1/1/2023	12/30/2022	5	0	
2	Site Preparation	Site Preparation	1/1/2023	1/27/2023	5	20	
3	Grading	Grading	1/28/2023	3/31/2023	5	45	
4	Building Construction	Building Construction	4/1/2023	1/5/2024	5	200	
5	Paving	Paving	4/1/2023	5/19/2023	5	35	
6	Architectural Coating	Architectural Coating	9/1/2023	10/19/2023	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,687; Residential Outdoor: 896; Non-Residential Indoor: 0; Non-Residential Outdoor: 720,688; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
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
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	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
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
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	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	607.00	236.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	121.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2752	0.1824	3.8000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	33.4507	33.4507	0.0108	0.0000	33.7212
Total	**0.0266**	**0.2752**	**0.1824**	**3.8000e-004**	**0.1807**	**0.0127**	**0.1933**	**0.0993**	**0.0117**	**0.1110**	**0.0000**	**33.4507**	**33.4507**	**0.0108**	**0.0000**	**33.7212**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	3.7000e-004	3.9500e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1579	1.1579	3.0000e-005	0.0000	1.1586
Total	**6.0000e-004**	**3.7000e-004**	**3.9500e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1579**	**1.1579**	**3.0000e-005**	**0.0000**	**1.1586**

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					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6600e-003	0.0202	0.2087	3.8000e-004		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	33.4507	33.4507	0.0108	0.0000	33.7211
Total	**4.6600e-003**	**0.0202**	**0.2087**	**3.8000e-004**	**0.0813**	**9.0000e-005**	**0.0814**	**0.0447**	**9.0000e-005**	**0.0448**	**0.0000**	**33.4507**	**33.4507**	**0.0108**	**0.0000**	**33.7211**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	3.7000e-004	3.9500e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1579	1.1579	3.0000e-005	0.0000	1.1586
Total	**6.0000e-004**	**3.7000e-004**	**3.9500e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1579**	**1.1579**	**3.0000e-005**	**0.0000**	**1.1586**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0747	0.7766	0.6312	1.4000e-003		0.0321	0.0321		0.0295	0.0295	0.0000	122.7042	122.7042	0.0397	0.0000	123.6964
Total	**0.0747**	**0.7766**	**0.6312**	**1.4000e-003**	**0.1952**	**0.0321**	**0.2272**	**0.0809**	**0.0295**	**0.1104**	**0.0000**	**122.7042**	**122.7042**	**0.0397**	**0.0000**	**123.6964**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5100e-003	9.2000e-004	9.8800e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.8948	2.8948	7.0000e-005	0.0000	2.8964
Total	**1.5100e-003**	**9.2000e-004**	**9.8800e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.8948**	**2.8948**	**7.0000e-005**	**0.0000**	**2.8964**

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					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.0743	0.7425	1.4000e-003		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	122.7041	122.7041	0.0397	0.0000	123.6962
Total	**0.0171**	**0.0743**	**0.7425**	**1.4000e-003**	**0.0878**	**3.4000e-004**	**0.0882**	**0.0364**	**3.4000e-004**	**0.0368**	**0.0000**	**122.7041**	**122.7041**	**0.0397**	**0.0000**	**123.6962**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5100e-003	9.2000e-004	9.8800e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.8948	2.8948	7.0000e-005	0.0000	2.8964
Total	**1.5100e-003**	**9.2000e-004**	**9.8800e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.8948**	**2.8948**	**7.0000e-005**	**0.0000**	**2.8964**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1533	1.4025	1.5838	2.6300e-003		0.0682	0.0682		0.0642	0.0642	0.0000	226.0096	226.0096	0.0538	0.0000	227.3537
Total	**0.1533**	**1.4025**	**1.5838**	**2.6300e-003**		**0.0682**	**0.0682**		**0.0642**	**0.0642**	**0.0000**	**226.0096**	**226.0096**	**0.0538**	**0.0000**	**227.3537**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0479	1.8562	0.3525	6.2600e-003	0.1525	1.8400e-003	0.1544	0.0441	1.7600e-003	0.0458	0.0000	595.0011	595.0011	0.0311	0.0000	595.7789
Worker	0.1983	0.1206	1.2996	4.2100e-003	0.4732	3.0700e-003	0.4762	0.1258	2.8200e-003	0.1286	0.0000	380.7150	380.7150	8.6200e-003	0.0000	380.9305
Total	**0.2461**	**1.9768**	**1.6521**	**0.0105**	**0.6257**	**4.9100e-003**	**0.6306**	**0.1698**	**4.5800e-003**	**0.1744**	**0.0000**	**975.7162**	**975.7162**	**0.0397**	**0.0000**	**976.7094**

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	0.0320	0.2179	1.7024	2.6300e-003		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	226.0094	226.0094	0.0538	0.0000	227.3535
Total	**0.0320**	**0.2179**	**1.7024**	**2.6300e-003**		**6.0000e-004**	**6.0000e-004**		**6.0000e-004**	**6.0000e-004**	**0.0000**	**226.0094**	**226.0094**	**0.0538**	**0.0000**	**227.3535**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0479	1.8562	0.3525	6.2600e-003	0.1525	1.8400e-003	0.1544	0.0441	1.7600e-003	0.0458	0.0000	595.0011	595.0011	0.0311	0.0000	595.7789
Worker	0.1983	0.1206	1.2996	4.2100e-003	0.4732	3.0700e-003	0.4762	0.1258	2.8200e-003	0.1286	0.0000	380.7150	380.7150	8.6200e-003	0.0000	380.9305
Total	**0.2461**	**1.9768**	**1.6521**	**0.0105**	**0.6257**	**4.9100e-003**	**0.6306**	**0.1698**	**4.5800e-003**	**0.1744**	**0.0000**	**975.7162**	**975.7162**	**0.0397**	**0.0000**	**976.7094**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6800e-003	0.0336	0.0404	7.0000e-005		1.5300e-003	1.5300e-003		1.4400e-003	1.4400e-003	0.0000	5.7962	5.7962	1.3700e-003	0.0000	5.8305
Total	**3.6800e-003**	**0.0336**	**0.0404**	**7.0000e-005**		**1.5300e-003**	**1.5300e-003**		**1.4400e-003**	**1.4400e-003**	**0.0000**	**5.7962**	**5.7962**	**1.3700e-003**	**0.0000**	**5.8305**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1900e-003	0.0472	8.5200e-003	1.6000e-004	3.9100e-003	5.0000e-005	3.9600e-003	1.1300e-003	4.0000e-005	1.1700e-003	0.0000	15.1411	15.1411	8.1000e-004	0.0000	15.1613
Worker	4.7500e-003	2.7800e-003	0.0308	1.0000e-004	0.0121	8.0000e-005	0.0122	3.2200e-003	7.0000e-005	3.3000e-003	0.0000	9.3908	9.3908	2.0000e-004	0.0000	9.3958
Total	**5.9400e-003**	**0.0500**	**0.0393**	**2.6000e-004**	**0.0160**	**1.3000e-004**	**0.0162**	**4.3500e-003**	**1.1000e-004**	**4.4700e-003**	**0.0000**	**24.5319**	**24.5319**	**1.0100e-003**	**0.0000**	**24.5571**

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	8.2000e-004	5.5900e-003	0.0437	7.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	5.7962	5.7962	1.3700e-003	0.0000	5.8305
Total	**8.2000e-004**	**5.5900e-003**	**0.0437**	**7.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**5.7962**	**5.7962**	**1.3700e-003**	**0.0000**	**5.8305**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1900e-003	0.0472	8.5200e-003	1.6000e-004	3.9100e-003	5.0000e-005	3.9600e-003	1.1300e-003	4.0000e-005	1.1700e-003	0.0000	15.1411	15.1411	8.1000e-004	0.0000	15.1613
Worker	4.7500e-003	2.7800e-003	0.0308	1.0000e-004	0.0121	8.0000e-005	0.0122	3.2200e-003	7.0000e-005	3.3000e-003	0.0000	9.3908	9.3908	2.0000e-004	0.0000	9.3958
Total	**5.9400e-003**	**0.0500**	**0.0393**	**2.6000e-004**	**0.0160**	**1.3000e-004**	**0.0162**	**4.3500e-003**	**1.1000e-004**	**4.4700e-003**	**0.0000**	**24.5319**	**24.5319**	**1.0100e-003**	**0.0000**	**24.5571**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0181	0.1784	0.2552	4.0000e-004		8.9300e-003	8.9300e-003		8.2100e-003	8.2100e-003	0.0000	35.0470	35.0470	0.0113	0.0000	35.3304
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0181**	**0.1784**	**0.2552**	**4.0000e-004**		**8.9300e-003**	**8.9300e-003**		**8.2100e-003**	**8.2100e-003**	**0.0000**	**35.0470**	**35.0470**	**0.0113**	**0.0000**	**35.3304**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.8000e-004	5.3000e-004	5.7600e-003	2.0000e-005	2.1000e-003	1.0000e-005	2.1100e-003	5.6000e-004	1.0000e-005	5.7000e-004	0.0000	1.6886	1.6886	4.0000e-005	0.0000	1.6896
Total	**8.8000e-004**	**5.3000e-004**	**5.7600e-003**	**2.0000e-005**	**2.1000e-003**	**1.0000e-005**	**2.1100e-003**	**5.6000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.6886**	**1.6886**	**4.0000e-005**	**0.0000**	**1.6896**

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	4.9100e-003	0.0213	0.3027	4.0000e-004		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	35.0470	35.0470	0.0113	0.0000	35.3304
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9100e-003**	**0.0213**	**0.3027**	**4.0000e-004**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**35.0470**	**35.0470**	**0.0113**	**0.0000**	**35.3304**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.8000e-004	5.3000e-004	5.7600e-003	2.0000e-005	2.1000e-003	1.0000e-005	2.1100e-003	5.6000e-004	1.0000e-005	5.7000e-004	0.0000	1.6886	1.6886	4.0000e-005	0.0000	1.6896
Total	**8.8000e-004**	**5.3000e-004**	**5.7600e-003**	**2.0000e-005**	**2.1000e-003**	**1.0000e-005**	**2.1100e-003**	**5.6000e-004**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**1.6886**	**1.6886**	**4.0000e-005**	**0.0000**	**1.6896**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0228	0.0317	5.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	4.4682	4.4682	2.7000e-004	0.0000	4.4749
Total	**2.5211**	**0.0228**	**0.0317**	**5.0000e-005**		**1.2400e-003**	**1.2400e-003**		**1.2400e-003**	**1.2400e-003**	**0.0000**	**4.4682**	**4.4682**	**2.7000e-004**	**0.0000**	**4.4749**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0900e-003	4.3100e-003	0.0465	1.5000e-004	0.0169	1.1000e-004	0.0170	4.5000e-003	1.0000e-004	4.6000e-003	0.0000	13.6217	13.6217	3.1000e-004	0.0000	13.6294
Total	**7.0900e-003**	**4.3100e-003**	**0.0465**	**1.5000e-004**	**0.0169**	**1.1000e-004**	**0.0170**	**4.5000e-003**	**1.0000e-004**	**4.6000e-003**	**0.0000**	**13.6217**	**13.6217**	**3.1000e-004**	**0.0000**	**13.6294**

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	2.5178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2000e-004	2.2500e-003	0.0321	5.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4682	4.4682	2.7000e-004	0.0000	4.4749
Total	**2.5183**	**2.2500e-003**	**0.0321**	**5.0000e-005**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.4682**	**4.4682**	**2.7000e-004**	**0.0000**	**4.4749**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0900e-003	4.3100e-003	0.0465	1.5000e-004	0.0169	1.1000e-004	0.0170	4.5000e-003	1.0000e-004	4.6000e-003	0.0000	13.6217	13.6217	3.1000e-004	0.0000	13.6294
Total	**7.0900e-003**	**4.3100e-003**	**0.0465**	**1.5000e-004**	**0.0169**	**1.1000e-004**	**0.0170**	**4.5000e-003**	**1.0000e-004**	**4.6000e-003**	**0.0000**	**13.6217**	**13.6217**	**3.1000e-004**	**0.0000**	**13.6294**

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	0.1571	1.5827	1.6831	9.4400e-003	0.6152	5.4900e-003	0.6207	0.1654	5.1400e-003	0.1705	0.0000	877.4315	877.4315	0.0448	0.0000	878.5515
Unmitigated	0.1571	1.5827	1.6831	9.4400e-003	0.6152	5.4900e-003	0.6207	0.1654	5.1400e-003	0.1705	0.0000	877.4315	877.4315	0.0448	0.0000	878.5515

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	15.00	17.50	17.50	45,537	45,537
Unrefrigerated Warehouse-No Rail	504.48	619.79	619.79	1,569,024	1,569,024
Total	519.48	637.29	637.29	1,614,561	1,614,561

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
Condo/Townhouse	10.80	7.30	7.50	45.60	19.00	35.40	86	11	3
Unrefrigerated Warehouse-No	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
Condo/Townhouse	0.522559	0.030865	0.172639	0.110355	0.015767	0.004611	0.021261	0.112052	0.001779	0.001458	0.005075	0.000925	0.000654
Unrefrigerated Warehouse-No Rail	0.522559	0.030865	0.172639	0.110355	0.015767	0.004611	0.021261	0.112052	0.001779	0.001458	0.005075	0.000925	0.000654

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	3,940.5493	3,940.5493	0.1782	0.0369	3,955.9895
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,940.5493	3,940.5493	0.1782	0.0369	3,955.9895
NaturalGas Mitigated	0.1407	1.2791	1.0738	7.6800e-003		0.0972	0.0972		0.0972	0.0972	0.0000	1,392.5815	1,392.5815	0.0267	0.0255	1,400.8569
NaturalGas Unmitigated	0.1407	1.2791	1.0738	7.6800e-003		0.0972	0.0972		0.0972	0.0972	0.0000	1,392.5815	1,392.5815	0.0267	0.0255	1,400.8569

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					
Condo/Townhouse	35931.2	1.9000e-004	1.6600e-003	7.0000e-004	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.9174	1.9174	4.0000e-005	4.0000e-005	1.9288
Unrefrigerated Warehouse-No Rail	2.60601e+007	0.1405	1.2775	1.0731	7.6600e-003		0.0971	0.0971		0.0971	0.0971	0.0000	1,390.6640	1,390.6640	0.0267	0.0255	1,398.9281
Total		**0.1407**	**1.2791**	**1.0738**	**7.6700e-003**		**0.0972**	**0.0972**		**0.0972**	**0.0972**	**0.0000**	**1,392.5815**	**1,392.5815**	**0.0267**	**0.0255**	**1,400.8569**

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					
Condo/Townhouse	35931.2	1.9000e-004	1.6600e-003	7.0000e-004	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.9174	1.9174	4.0000e-005	4.0000e-005	1.9288
Unrefrigerated Warehouse-No Rail	2.60601e+007	0.1405	1.2775	1.0731	7.6600e-003		0.0971	0.0971		0.0971	0.0971	0.0000	1,390.6640	1,390.6640	0.0267	0.0255	1,398.9281
Total		**0.1407**	**1.2791**	**1.0738**	**7.6700e-003**		**0.0972**	**0.0972**		**0.0972**	**0.0972**	**0.0000**	**1,392.5815**	**1,392.5815**	**0.0267**	**0.0255**	**1,400.8569**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	11016.2	3.2047	1.4000e-004	3.0000e-005	3.2173
Unrefrigerated Warehouse-No Rail	1.35345e+007	3,937.3445	0.1780	0.0368	3,952.7722
Total		**3,940.5493**	**0.1782**	**0.0369**	**3,955.9895**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	11016.2	3.2047	1.4000e-004	3.0000e-005	3.2173
Unrefrigerated Warehouse-No Rail	1.35345e+007	3,937.3445	0.1780	0.0368	3,952.7722
Total		**3,940.5493**	**0.1782**	**0.0369**	**3,955.9895**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	5.4843	2.9000e-004	0.0281	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0500	0.0500	9.0000e-005	0.0000	0.0523
Unmitigated	6.0734	2.9000e-004	0.0281	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0500	0.0500	9.0000e-005	0.0000	0.0523

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	0.4372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.6345					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6700e-003	2.9000e-004	0.0281	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0500	0.0500	9.0000e-005	0.0000	0.0523
Total	**6.0734**	**2.9000e-004**	**0.0281**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.0500**	**0.0500**	**9.0000e-005**	**0.0000**	**0.0523**

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	0.2694					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.2132					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6700e-003	2.9000e-004	0.0281	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0500	0.0500	9.0000e-005	0.0000	0.0523
Total	**5.4843**	**2.9000e-004**	**0.0281**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.0500**	**0.0500**	**9.0000e-005**	**0.0000**	**0.0523**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.2808	3.4100e-003	8.0000e-005	0.3906
Unmitigated	0.3301	4.2600e-003	1.0000e-004	0.4673

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	0.130308 / 0.0821507	0.3301	4.2600e-003	1.0000e-004	0.4673
Unrefrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.3301**	**4.2600e-003**	**1.0000e-004**	**0.4673**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	0.104246 / 0.0821507	0.2808	3.4100e-003	8.0000e-005	0.3906
Unrefrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.2808**	**3.4100e-003**	**8.0000e-005**	**0.3906**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	192.6535	11.3855	0.0000	477.2908
Unmitigated	275.2192	16.2650	0.0000	681.8439

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	0.92	0.1868	0.0110	0.0000	0.4627
Unrefrigerated Warehouse-No Rail	1354.9	275.0325	16.2540	0.0000	681.3813
Total		**275.2192**	**16.2650**	**0.0000**	**681.8439**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	0.644	0.1307	7.7300e-003	0.0000	0.3239
Unrefrigerated Warehouse-No Rail	948.43	192.5227	11.3778	0.0000	476.9669
Total		**192.6535**	**11.3855**	**0.0000**	**477.2908**

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

EXHIBIT I

TRAFFIC REPORT (EXCERPTS)

CORNERSTONE
ENGINEERING
CONSULTANTS • ENGINEERS • LAND SURVEYORS

March 14, 2022 Project No. 509-10-00

City of Bakersfield, Planning Department
Attn: Kassandra Gale, Principal Planner
1715 Chester Ave.
Bakersfield, California 93301

Engineering:
Civil
Electrical
Mechanical
Process
Structural
Surveying
Project Management
Staff Augmentation
Drone Services

Re: Trip Generation Letter for General Plan Amendment and Zone Change on APN's 387-020-29, 387-020-30, and 387-020-34

Dear Kassandra,

Regarding the project referenced above, Cornerstone Engineering herein provides a Trip Generation Study estimating the traffic trips that will be generated by the proposed land use. This letter is written to aid the City of Bakersfield in better understanding the traffic generation of this GPA/ZC.

Project Description:
Cornerstone Engineering on behalf of the owner, Nineda LP, is currently preparing a general plan amendment and zone change for a 45.9 acre planned development that will allow for the development of a mini storage facility in combination with one duplex lot at Vista Montana Drive and Hwy 178 in the City of Bakersfield. The entire property is currently zoned R-1 (one family dwelling) with a Land Use of LR (low density residential). The project is situated on APN's: 387-020-29, 387-020-30, and 387-020-34. This property is further described as Parcel's 3 and 4 of PM 8362 filed May 1, 1989 in Book 38, Page 54 and Parcel 1 of PM 9626 filed December 4, 1991 in Book 43, Page 46, in the Office of the Kern County Recorder, also being a portion of Section 16, T29S., R29E., MDM. See APN map, GPA/ZC exhibits, and Aerial attached for your reference. The proposed zoning is R-2 (one lot) & C-2/PCD and proposed land use is proposed LMR (one lot) and GC. The C-2/PD land is proposed to be developed as a Derrel's Mini-Storage facility.

Assumptions:
A site plan has been developed for this site and is attached. For the sake of this study, we will assume that the LR land will be developed as a Single Family Detached Housing (ITE 210), the LMR land will be developed as Single Family Attached Housing (ITE 215), and the GC land developed as a Mini-Warehouse (ITE 151).

Trip Generation:
The tables below show the estimated trips that will be generated by the proposed General Plan Amendment and Zone Change. These numbers are based upon the ITE 11th edition formulas (the current edition).

5509 Young Street
Bakersfield, CA 93311
Tel: 661.325.9474 - Fax 661.322.0129
www.cornerstoneeng.com

ITE Standards (11th Edition)			Weekday AM Peak Hour OR Saturday Peak Hour			Weekday PM Peak Hour		
Land Use	**Size/Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates								
Single Family Detached Housing - Weekday (ITE 210)	per DU	9.43	0.195	0.555	0.75	0.634	0.356	0.99
Single Family Detached Housing - Saturday (ITE 210)	per DU	9.48	0.497	0.4232	0.92			
Single Family Attached Housing - Weekday (ITE 215)	per DU	7.2	0.138	0.4125	0.55	0.378	0.232	0.61
Single Family Attached Housing - Saturday (ITE 215)	per DU	8.76	0.274	0.2964	0.57			
Mini-Warehouse - Weekday (ITE 151)	per 1000 sq. ft GFA	1.45	0.092	0.0882	0.18	0.092	0.088	0.18
Mini-Warehouse - Saturday (ITE 151)	per 1000 sq. ft GFA	1.77	0.105	0.0646	0.17			

2022 Project Trip Generation Estimates (proposed GPA/ZC)								
			Weekday AM Peak Hour OR Saturday Peak Hour			Weekday PM Peak Hour		
Land Use	**Size/Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Weekday Trip Generation								
Single Family Attached Housing	2	14.4	0.0	1.0	1.0	1.0	1.0	2.0
Commercial Mini-Warehouse Section	350	507.5	32.0	31.0	63.0	32.0	31.0	63.0
pass-by trips	0.3	152.3	9.6	9.3	18.9	9.6	9.3	18.9
Subtotal		369.7	22.4	22.7	45.1	23.4	22.7	46.1
Project Net Effective Trip Generation		370	22	23	45	23	23	46
Saturday Trip Generation								
Single Family Attached Housing	2	17.5	1.0	2.0	3.0			
Commercial Mini-Warehouse Section	350	619.5	37.0	23.0	60.0			
pass-by trips	0.3	185.9	11.1	6.9	18.0			
Subtotal		451.2	26.9	18.1	45.0			
Project Net Effective Trip Generation		451	27	18	45			
Note: Used Fitted Curve Formulas								

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www.cornerstoneeng.com

Results:
The project described herein, using the ITE TripGen Web-based App for trip generation calculations, the GPA/ZC will generate a total 370 trips per day on a weekday and 451 trips per day on a Saturday. The trip generation from the GPA/ZC is a significant reduction from the currently entitled R-1 zoning and LR land use trip generation. During the AM Peak Hour on a weekday a total of 45 trips shall be generated by the GPA/ZC and during the PM Peak Hour on a weekday a total of 46 trips shall be generated by the GPA/ZC. Weekday Peak Hour trip generations are less than the 50 peak hour trip threshold required for a traffic study. During the Saturday Peak Hour, the GPA/ZC will generate 45 trips which falls below the 50 peak hour trip generations threshold. The GPA/ZC highest amount of peak hour trips will occur at the Weekday PM Peak Hour. These trips will be split 50/50 inbound/outbound so the impact to adjacent streets would also be split 50/50.

CEQA guidelines require an evaluation of a vehicle miles traveled for a project. The County of Kern and the City of Bakersfield have not yet adopted standards for Vehicle Miles Traveled (VMT) analysis. Other cities within the San Joaquin Valley, such as City of Clovis and City of Fresno, have adopted standards. Per these documents, 500 trips per day is a reasonable threshold to cause less than significant VMT. Since the GPA/ZC only generates 370 trips per Weekday and 451 trips per Saturday, it falls below this threshold. People usually do not rent storage space that is not nearby their homes, therefore VMT for a mini-storage facility should be expected to be less than other uses due to the close proximity of the facility to the potential mini-storage users. The VMTs and Trips generated by this expected project are not significant and do not meet a threshold to require further study.

Based on the trip generation and VMT analysis results, Cornerstone Engineering does not recommend any further study of traffic impacts.

Sincerely,

Derrill Whitten Jr.
Chief Civil Engineer and Land Surveyor

661.325.9474 ext. 107
dgw@cornerstoneeng.com

BIOLOGICAL RESOURCE EVALUATION

General Plan Amendment/Zone Change
Assessor's Parcel Map Numbers
387-020-29, -30, and -34
County of Kern
Bakersfield, California

Prepared for:

Nineda LP
Mr. Darrel Ridenour
6475 N. Sequoia Avenue
Fresno, California 93711

Prepared by:

Pruett Biological Resource Consulting
8613 Beaver Drive
Bakersfield, California 93312
661.421.0006

06 March 2022

EXECUTIVE SUMMARY

Pruett Biological Resource Consulting, Inc. (PruettBio) has prepared this biological resource evaluation for a proposed General Plan Amendment (GPA) and Zone Change (ZC) of Assessor's Parcel Numbers (APN) 387-020-29, -30, -and 34. The project consists of 53.70 gross acres (21.73 hectares)(project) located in Section 16, Township 29 South, Range 29 East, Mount Diablo Base and Meridian; an unincorporated part of Kern County at the eastern edge of the City of Bakersfield, California. The project is located within the geographic range of several federal-, and state-listed, threatened and/or endangered plant and animal taxa. Several non-listed, special-status species also have the potential to occur in the vicinity of the project.

The purpose of this report is to document biological resources identified during a reconnaissance-level field study of the project site and include potential biological resources identified during a literature review of the site and vicinity, identify potential impacts to biological resources resulting from the project, and to recommend avoidance and minimization measures for implementation prior to and during project activities. A literature review was conducted of the site and vicinity, prior to the field study, of the biological resources known to occur based on recorded, direct observation, or potentially occurring in the project impact area based on current or historical habitat conditions. During the field study, existing habitat conditions, direct observations and/or species sign was recorded to assess the potential for occurrence of special-status species. This report includes an evaluation of the potential for those special-status biological resources not observed during the field study, with the potential to occur on the property based on the habitat conditions observed.

The project area is vacant land that has had some cattle grazing conducted decades ago and has since been grazed by sheep annually. Urban development has increased along the margins of Metropolitan Bakersfield in the past 50 years and has resulted in the conversion of farmland to residential and commercial properties. No undisturbed habitat is present on the site or adjacent parcels.

The literature review and database queries yielded 21 special-status plant species and 32 special-status animal species as potentially occurring within the vicinity of the project site. Of these, 5 plant species, and 16 animal species have federal-, and/or state-listed and are afforded protection under federal or state law.

The project will not conflict with existing or adopted Habitat Conservation Plans, Natural Community Conservation Plans, local or regional conservation plans, or local ordinances protecting biological resources. The project is within the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP). The field study was conducted in accordance with the Federal Endangered Species Act section 10(a)(1)(B) permit and California Endangered Species Act incidental take permit (ITP) issued by the California Department of Fish and Wildlife, pursuant to Fish and Game Code section 2081(b)(ITP No. 2081-2013-058-04), for the MBHCP. Evaluation of potential impacts to plant and animal species are required under federal and state regulation during a General Plan Amendment and Zone Change. California Environmental Quality Act (CEQA) Appendix G thresholds have been used to evaluate potential impacts to the biological resources from the proposed project development.

Impacts to covered plant and animal species, other than blunt-nosed leopard lizard or bird species afforded protection under the MBTA, would be fully-mitigated by participation in the MBHCP. Recommendations included in this report when implemented in concert with the MBHCP, would be expected to mitigate any project impacts to biological resources to a less-than-significant level.

Table of Contents

INTRODUCTION

Pruett Biological Resource Consulting, Inc. (PruettBio) has prepared this biological resource evaluation for the proposed development of APNs 387-020-29, -30, -and 34 within the incorporated limits of the City of Bakersfield, County of Kern, California. The report documents biological resources identified during fieldwork conducted on the project site and those identified through a literature search as potentially occurring based on known observations or historic habitat conditions. The report uses the information collected during the field study and literature search to evaluate potential impacts to biological resources, resulting from the project. The report is intended to assist in the analysis of the proposed project for a GPA and ZC.

Listed plant and animal species are protected under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). Protection of other non-listed, special-status species is afforded under additional regulation including the Migratory Bird Treaty Act (MBTA). Pursuant to the California Environmental Quality Act (CEQA) impacts to non-listed, special-status species must be evaluated. Where necessary, the report recommends avoidance and minimization measures for implementation prior to and during project activities. The report is intended to provide technical information in support of a CEQA preliminary review. For the purposes of this report, potential impacts to the biological resources of the proposed project were evaluated in accordance with Appendix G of the *CEQA Guidelines* (2021).

PROJECT LEGAL DESCRIPTION

The project consists of 53.70 gross acres (21.73 hectares)(project) of APNs 387-020-29, -30, and -34. The project site is located north of State Route 178 at the east edge of the City of Bakersfield, Section 16, Township 29 South, Range 29 East, Mount Diablo Base and Meridian.

PROJECT SETTING AND PHYSICAL DESCRIPTION

The project site is in the southern San Joaquin Valley; a broad, treeless plain in the rain shadow of the Inner Coast Ranges. The region's climate can be characterized as Mediterranean; with hot, dry summers and cool, moist winters. Summer high temperatures typically exceed 100 °Fahrenheit (°F); with an average of 110 days per year over 90 °F. Winter temperatures in the San Joaquin Valley are mild, with an average of only 16 days per year with frost (Twisselmann 1967).

Rainfall varies, increasing from west to east, with the west side of the valley receiving an average of around 4 inches (10 centimeters) per year and the east side averaging about 6 inches (15 centimeters) per year. Winter fog, called Tule fog, sometimes forms during the months of November, December, and January, supplementing the annual precipitation. Approximately 90% of the rainfall in the region occurs between November 1 and April 1. Drought cycles occur periodically, becoming severe enough that plant and animal populations can experience large fluctuations. The vegetation communities in the San Joaquin Valley are distinguishable from the Mojave Desert to the east due to Tule fog, higher humidity, and isolation from continental climatic influences by mountain ranges (Twisselmann 1967).

The general topography of the area slopes gently northwest from about 800 feet along the south edge to about 760 feet (244 to 232 meters). The project is vacant land. Some grazing was conducted on the project decades ago. Residential, agricultural, and commercial development with scattered oil production exists in the surrounding vicinity.

METHODS

LITERATURE REVIEW

PruettBio conducted a literature review to identify known observations and potential for listed, or otherwise special-status, species to occur in the vicinity of the project site. A standard, 10-mile (16-kilometer) radius query was performed. Database records reviewed included:

- **United States Fish & Wildlife Service (USFWS) iPac:** The iPac report generates a list of federal-listed species and other resources under the jurisdiction of the USFWS, including designated critical habitat for listed species, National Wildlife Refuge lands, and Wetlands in the National Wetlands Inventory. The list includes resources that are outside of the project site, but that have the potential to be impacted by project activities.

- **USFWS National Wetlands Inventory:** The Wetlands Mapper is an online inventory integrating digital map data and other resources to provide current information regarding the status of national wetlands, riparian, and deepwater habitats.

- **United States Department of Agriculture (USDA) WebSoil Survey:** The report is an online database providing soil data produced by the National Cooperative Soil Survey, a joint effort of the USDA and other federal, state, and local agencies. The information drawn for the Soil Survey of Kern County, California, Northwestern Part was originally drawn from fieldwork completed in 1981 with soil names and descriptions approved in 1982.

- **California Natural Diversity Database (CNDDB-RareFind 5):** The CNDDB is a database of listed, or otherwise special-status, plant and animal species and sensitive communities maintained by the California Department of Fish and Wildlife (CDFW). The information queried for this report included a standard 10-mile radius of the project site.

- **California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants:** CNPS is a private, professional organization that maintains a database evaluating the current conservation status of California's rare, threatened, and endangered plant species. The information queried for this report included a standard 10-mile radius of the project site. The list includes resources that are outside of the project site, but that have the potential to be impacted by project activities based on known historic or current habitat features.

FIELD STUDY

A reconnaissance-level, biological field study was conducted by Steven P. Pruett on 07 February 2022. The project was surveyed by walking the perimeter and random transects to evaluate all representative habitat features of the site. The field study conducted, allowed for 100% visual coverage of the project site. Field notes included observations of all plant and wildlife species observed. Direct observations and/or species sign was recorded to assess the potential for occurrence. Land cover types and general habitat conditions were recorded and photographed. Special-status species and habitat features, such as vegetation communities or ephemeral channels, were also recorded and photographed if observed.

Coordinates for important biological resource elements and direct observations of special-status species were recorded using a handheld geographic positioning system unit. If observed, San Joaquin kit fox (SJKF) dens were classified as defined by the *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011). All plant taxa encountered were identified to the extent possible given the diagnostic features present. Identifications were made using keys contained in *The Jepson Manual: Vascular Plants of California* and online updates containing revisions to taxonomic treatments (Baldwin et al. 2012; Jepson Flora Project 2015).

RESULTS

This section summarizes the results of the field study conducted on the project site and evaluates those results for the known or potential for occurrence of special-status species based on the literature review and database queries and pursuant to statutory regulation. Discussions are provided describing the existing habitat conditions including vegetation communities, land cover and current use; soils; special-status biological resources potentially occurring in the vicinity of the project site; the potential for jurisdictional resources including designated critical habitat and riparian/wetland/water resource features; the potential for wildlife migration corridors and nursery sites; and regional and local policy.

VEGETATION COMMUNITIES AND LAND COVER

The project site is located at the eastern edge of urban development of Metropolitan Bakersfield. The original vegetive communities of the project site were Non-native Grassland (Holland 42200) and Valley Saltbush Scrub (Holland 36220). The project has been grazed for decades. Invasive herbaceous species dominate the vegetative cover.

SOILS

The USGS soil survey map describes the soil of the project site as Unit 131, Chanac clay loam 9 to 15 percent slopes, Unit 139, Delano sandy loam, 2 to 5 percent slopes, and Unit 143 Delano variant clay loam, 0 to 9 percent slopes. Unit 131 is alluvium derived from mixed found on fan remnants. It is comprised of clay loam and loam to a depth of about 60 inches. The depth to the restrictive feature is more than 80 inches and the available water storage in profile is listed as high (about 9.5 inches). Unit 139 is alluvium derived from granite also found on fan remnants. It is comprised of sandy loam, clay loam, and sandy loam to a depth of about 63 inches. The depth to the restrictive feature is more than 80 inches and the available water storage in profile is listed as moderate (about 8.5 inches). Unit 143 is alluvium derived from granite found on fan remnants. It is comprised of clay loam, clay, and coarse sandy loam to a depth of about 69 inches. The depth to the restrictive feature is more than 80 inches and the available water storage in profile is listed as moderate (about 8.6 inches).

BIOLOGICAL RESOURCES

The literature review and database queries yielded 21 special-status plant species as potentially occurring within the vicinity of the project site. Thirty-two animal species were identified as potentially occurring in the region of the project site. No evidence of any listed animal species was observed during the field study. No evidence of otherwise special-status plant or animal species, or animal species sign was observed during the field study. The evaluation of special-status species that were found during the literature review with a potential to occur in the region are included in Appendix B.

Special-Status Plant Species

Special-status plant species considered in this evaluation include all plant species that meet one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12).

- Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 et seq.). A species, subspecies, or variety of plant is endangered when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (Fish and Game Code §2062). A plant is threatened when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code §2067).

- Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901).

- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
    - Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Lists 1A, 1B and 2);
    - Species that may warrant consideration on the basis of local significance or recent biological information.
    - Some species included on the California Natural Diversity Database's (CNDDB) Special Plants, Bryophytes, and Lichens List (California Department of Fish and Game 2008).

- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Precipitation has been below average to date, resulting in a poor year for annual plant species observations. Of the 21 special-status plant species returned during database queries for the project vicinity, 5 species are either federally- or state-listed as threatened or endangered. Although CEQA requires consideration for impacts to locally significant plant species, no mitigation is legally required to compensate for impacts to non-listed plant species. No listed, or otherwise special-status plant species was observed during the fieldwork conducted for the preparation of this report. No listed, or otherwise special-status plant species, has been recorded as occurring within the project site.

Special-Status Animal Species

Special-status animal species considered in this evaluation include those that may occur in the project vicinity that have statutory protections. This includes federal- and state-listed (rare, threatened, or endangered; fully protected) species and candidates for listing under the respective endangered species acts. Species that are of special concern to the CDFW or the USFWS are included in this evaluation. Special-status bird species that are afforded protection under the MBTA which may nest on or within an approximate 10-mile (16-kilometer) radius of the project site are also evaluated. No evidence of any listed animal species was observed during the field study. No evidence of otherwise special-status animal species, or animal species sign was observed during the field study

Designated Critical Habitat

The USFWS iPac report and USFWS Designated Critical Habitat Mapper lists no Designated Critical Habitat (USFWS 2020). Designated Critical Habitats closest to the project site include California condor (*Gymnogyps californianus*) approximately 22-miles south/southwest and Buena Vista Lake shrew (*Sorex ornatus relictus*) west of the project site. No suitable habitat for either species exists on the project site.

Jurisdictional Water Resource Features

Section 404 of the Federal Clean Water Act (CWA) regulates discharge of dredged and fill material into Waters of the United States. Wetlands are included under this jurisdiction. Proposed activities that may result in discharge of material into Waters of the U.S. require a permit review process by the U.S. Army Corps of Engineers as set forth under CWA section 404(b)(1). Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW before beginning any activity that will substantially modify a river, stream, or lake.

A search of the USFWS National Wetlands Inventory resulted in no riparian, wetlands, or other jurisdictional water features mapped on the project site (USFWS 2021). These results are consistent with the observed conditions within the survey area.

Special-Status Natural Communities

No special-status vegetation communities on the project site were identified by the USFWS iPac query, the CNDDB, or the CNPS Inventory (USFWS 2021, CDFW 2021, CNPS 2021). These results are consistent with the observed conditions within the survey area.

Wildlife Migration Corridors and Nursery Sites

Wildlife corridors can be defined as connections between wildlife blocks that meet specific habitat needs for species movement generally during migratory periods but seasonally as well. Wildlife corridors generally contain habitat dissimilar to the surrounding vicinity and include examples such as riparian areas along rivers and streams, washes, canyons, or otherwise undisturbed areas within urbanization. Corridor width requirements can vary based on the needs of the species utilizing them. Development of the project would not impact wildlife migration corridors or nursery sites.

Regional and Local Policies

The proposed, modified project will not conflict with existing or adopted Habitat Conservation Plans, Natural Community Conservation Plans, local or regional conservation plans, or local ordinances protecting biological resources. The project site is located within the MBHCP, CDFW, ITP boundaries. Recommendations included in this report when implemented in concert with the MBHCP, would be expected to mitigate any project impacts to biological resources to a less-than-significant level.

IMPACT ANALYSIS AND RECOMMENDED MITIGATION MEASURES

This section provides an analysis of the impacts of the proposed, modified project following the standards of CEQA and provides recommendations that, when implemented, would reduce impacts to less-than-significant levels. It is important to note that potential take of any federal- or state-listed species from project activities would require contacting the appropriate wildlife agency (the USFWS and/or the CDFW). This contact may result in a requirement to obtain federal and/or state take authority for listed species as necessary.

The project site is located within the MBHCP ITP boundaries. Impacts to covered plant and animal species, other than blunt-nosed leopard lizard or bird species afforded protection under the MBTA, would be fully-mitigated by participation in the MBHCP. Recommendations included in this report when implemented in concert with the MBHCP, would be expected to mitigate any project impacts to biological resources to a less-than-significant level.

CEQA Appendix G thresholds have been used to evaluate potential impacts to the biological resources from the proposed project. The project would create a significant impact to biological resources, based on the specifications in Appendix G of the CEQA Guidelines, if the following were to occur:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

3. Have a substantial adverse effect on federally protected wetlands as defined by section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The following analysis discusses potential impacts associated with the development of the project and provides recommendations where appropriate to further reduce potential impacts.

1. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, by the CDFW, or the USFWS?

Direct and indirect impacts, in the form of "incidental take" of a threatened, endangered, or otherwise protected species, are not expected as a result of the development of the proposed project.

2. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the CDFW or the USFWS?

No riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service exists on the project site. No adverse effect will occur as a result of the development of the proposed project and no mitigation measures are recommended.

3. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No features, identified in wetland categories, appear on the USFWS National Wetlands Inventory mapping (USFWS 2021) on the proposed, modified project site. No federally protected wetlands as defined by Section 404 of the Clean Water Act were identified during the field study conducted for the preparation of this report. No substantial adverse effect will occur as a result of the development of the project. No mitigation measures are recommended.

4. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No migratory wildlife corridors were identified during the literature search or field study. Impacts to covered wildlife species, other than blunt-nosed leopard lizard or bird species afforded protection under the MBTA, would be fully-mitigated by participation in the MBHCP. The project will not interfere substantially with the movement of any native fish of wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. The following recommendations are provided for the general protection of bird species that may occur on the project site or vicinity in compliance with the MBTA:

If ground-disturbing activities are planned during the nesting season for migratory birds that may nest on or near the site (generally February 1 through August 31), nesting bird surveys are recommended prior to the commencement of ground disturbance for project activities. If nesting birds are present, no new construction or ground disturbance should occur within an appropriate avoidance area for that species until young have fledged, unless otherwise approved and monitored by a qualified onsite biologist. Appropriate avoidance should be determined by a qualified biologist. In general, minimum avoidance zones for active nests should be implemented as follows: 1) ground or low-shrub nesting non-raptors – 300 feet (91 meters); 2) burrowing owl – as appropriate based on nest location, existing surrounding activity, and evaluation of owl behavior. Coordination with CDFW may be warranted. 3) Sensitive raptors (e.g., prairie falcon, golden eagle) – 0.5 miles (0.8 kilometers); 3) other raptors – 500 feet (152 meters).

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

There are no biological resources on the site which are protected by local policies. Impacts from conflicts with local policies will not occur. No additional mitigation measures are recommended.

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The project does not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No additional mitigation measures are recommended.

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APPENDIX A

PROJECT VICINTY AND SITE

Figure A-1. Aerial photograph of the project and vicinity (Google Earth Pro 2022).

Figure A-2. Aerial photograph of the project site (Google Earth Pro 2022).

Figure A-3 Soil map of the project site (USDA, Natural Resources Conservation Service 2022).

Figure A-4. Photograph of the project site taken from the about the middle of the west radius facing east/southeast (07Feb22).

Figure A-5. Photograph of the project site taken from about the northeast corner facing southwest (07Feb22).

Figure A-6. Photograph of the project site taken from the southeast corner facing north (07Feb22).

Figure A-7. Photograph of the project site taken from about the southwest corner facing east along SR178 (07Feb22).

APPENDIX B

SPECIAL-STATUS PLANT AND ANIMAL EVALUATION

Table B-1: Special-status Plants That May Occur in the Vicinity of the Project.

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for Occurrence**
Astragalus hornii var. *hornii* Horn's milk vetch	S/-/1B.1	Annual herb in the Fabaceae found in meadows and seeps and on playas and lake margins on alkaline soils between 197 and 2,789 feet (60–850 meters) in elevation. Known from occurrences in the Southern San Joaquin Valley, the Tehachapi Mountains and the Western Transverse Ranges in Kern, Los Angeles, and San Bernardino Counties.	May to October	**Not Observed/Not Expected**. Soils not typical for this species
Atriplex cordulata var. *cordulata* Heartscale	S/-/1B.2	Herbaceous annual in the Chenopodiaceae found in chenopod scrub, meadows and weeps, and valley and foothill grasslands in sandy, saline or alkaline soils below 1,837 feet (560 meters) in elevation. Known to occur in the Great Central Valley from Kern County north to Southern Butte County.	April to October	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Atriplex coronata var. *vallicola* Lost Hills crownscale	S/-/1B.2	Herbaceous annual in the Chenopodiaceae found in valley and foothill grasslands, playas, and vernal pools on alkaline soils between 456 and 1,640 feet (139–500 meters) in elevation.	April to August	**Not Observed/Not Expected**. Soils not typical for this species
Atriplex tularensis Bakersfield smallscale	-/E/1A	Annual herb in the Chenopodiaceae found in valley and foothill grasslands, between 131 and 328 feet (40–100 meters) in elevation. Known to occur in the San Joaquin Valley from Northwestern Kern County north to Southern Merced County and in the Sacramento Valley in Southern Butte County.	June to August (occasionally October)	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Calochortus striatus Alkali mariposa lily	S/-/1B.2	Bulbiferous perennial herb in the Liliaceae found in chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grasslands on sandy often granitic, sometimes serpentine soils, between 1,296 and 3,281 feet (395–1,000 meters). Known to occur in the Outer South Coast Ranges in Santa Barbara and San Luis Obispo Counties.	April to May	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Caulanthus californicus California jewelflower	E/E/1B.1	Annual herb in the Brassicaceae family found on serpentinite soils in closed-cone coniferous forest, chaparral, and cismontane woodland between 1,542 and 4,003 feet (470–1,220 meters) in elevation.	May to July	**Not Observed/Not Expected**. Species believe extirpated from Kern County.
Chloropyron molle ssp. *hispidum* Hispid bird's-beak	S/-/1B.1	Hemiparasitic annual herb in the Orobanchaceae family found on coastal dunes and coastal saltwater marshes and swamps below 98 feet (30 meters) in elevation.	May to October	**Not Observed/Not Expected**. Soils not typical for this species

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for Occurrence**
Delphinium recurvatum Recurved larkspur	S/-/1B.2	Perennial herb in the Ranunculaceae family found in chaparral, cismontane woodland, and pinyon and juniper woodland on rocky, carbonate soils between 984 and 4,396 feet (300–1,340 meters) in elevation. Known to occur in Kern and Tulare Counties.	April to May	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Diplacus pictus *Calico monkeyflower*	-/-/1B.2	Annual herb in the Phrymaceae family found in upland and cismontane woodland on granitic soils between 328 and 4690 feet (100-1430 meters). Known to occur in Kern and Tulare Counties.	March to May	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Eremalche parryi ssp. *kernensis* Kern mallow	E/-/1B.1	Perennial, stoloniferous herb in the Onagraceae family found in meadows ad seeps, and subalpine coniferous forest in mesic soils between 6,562 and 10,236 feet (2,000–3,120 meters) in elevation. Known to occur in Alpine, El Dorado, Fresno, Madera, Mono, Nevada, Sierra, and Tuolumne Counties.	July to August	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Eriastrum hooveri Hoover's eriastrum	D/-/4.2	Annual herb in the Polemoniaceae family that occurs between 164 and 3,002 feet (50–915 meters) in elevation in pinyon-juniper woodland, and valley and foothill grasslands, occasionally on gravelly soils. Known to occur in the Southern San Joaquin Valley in Kern and Fresno Counties and on the Carrizo Plain in San Luis Obispo County.	March to July	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Eschscholzia lemmonii ssp. *kernensis* Tejon poppy	-/-/1B.1	Annual herb in the Papaveraceae family found in chaparral, cismontane woodland and valley and foothill grassland on serpentinite clay soil between 656 and 4,921 feet (200–1,500 meters) in elevation. Known to occur in Fresno, Imperial, Mendocino, Monterey, San Benito, and San Luis Obispo Counties.	March to June	A poppy was observed on the project. It was keyed to *E. lemmonii*. The distribution and "key" characteristic splits between result in debate between populations of lemmonii and ssp. *kernensis*.
Imperata brevifolia *California satintail*	-/-/2B.1	Perennial herb in the Poaceae family found in chaparral, coastal sage scrub, creosote bush scrub and wetland-riparian communities. Known to occur in Butte, Lake, Fresno, Tulare, Inyo, Kern, Santa Barbara, Ventura, San Bernadino, Orange, Riverside, San Diego and Imperial Counties.	September to May	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Lasthenia glabrata ssp. Coulteri *Coulter's goldfields*	-/-/1B.1	Annual herb in the Asteraceae family found in vernal pools and saline places at elevations below 1000m. Known to occur in Kern and San Joaquin Counties	February to June	**Not Observed/Not Expected**. Soils not typical for this species

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for Occurrence**
Layia leucopappa *Comanche Point layia*	S/-/1B.1	Annual herb in the Asteraceae family found in chenopod scrub, and valley and foothill grassland between 328 and 1,148 feet (100–350 meters) in elevation. Known to occur in Kern County.	March to April	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Monolopia congdonii San Joaquin woolly-threads	E/-/1B.2	Perennial, rhizomatous herb in the Ericaceae family found in broadleafed upland forest and North Coast coniferous forest between 328 and 3,609 feet (100–1,100 meters) in elevation. Known to occur in Del Norte, Fresno, Humboldt and Siskiyou Counties.	May to August	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Navarretia setiloba *Piute Mountains navarretia*	S/-/1B.1	Herbaceous annual in the Polemoniaceae family found on clay or gravelly loam soils in cismontane woodland, pinyon and juniper woodland, and valley and foothill grasslands from 1,001 and 6,890 feet (305–2,100 meters) in elevation. Known from occurrences in the Southern Sierra Nevada in Kern and Tulare Counties.	April to June	**Not Observed/Not Expected**. Soils not typical for this species. Beyond the published range of the species.
Opuntia basilaris var. *treleasei* Bakersfield cactus	E/E/1B.1	Perennial stem succulent in the Cactaceae family found in chenopod scrub, cismontane woodland, and valley and foothill grasslands between 394 and 1,804 feet (120–550 meters) in elevation. Known to occur in the Southeast San Joaquin Valley and Southern Sierra Nevada Foothills in Kern County.	April to May	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Puccinellia simplex *California alkali grass*	-/-/1B.1	Annual herb in the Poaceae family found in meadows and seeps between 2,297 and 3,281 feet (700–1,000 meters) in elevation. Known to occur in Kern and San Bernardino Counties.	April to May	**Not Observed/Not Expected**. Soils not typical for this species. Beyond the published range of the species.
Stylocline citroleum Oil neststraw	S/-/1B.1	Annual herb in the Asteraceae family found in chenopod scrub, coastal scrub, and valley and foothill grasslands on clay soils between 164 and 1,312 feet (50–400 meters) in elevation. Known from locations in Kern and San Diego Counties.	March to April	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.
Stylocline masonii Mason's neststraw	S/-/1B.1	Annual herb in the Asteraceae family found in chenopod scrub, coastal scrub, and valley and foothill grasslands on clay soils between 164 and 1,312 feet (50–400 meters) in elevation. Known from locations in Kern and San Diego Counties.	March to April	**Not Observed/Low Potential of Occurrence.** Suitable soils are present. No stratified, focused surveys for rare plant species were conducted.

STATUS: Federal and State Listing Code

D	Delisted
E	Federally or State-listed Endangered
T	Federally or State-listed Threatened

CNPS

1A	Plants presumed extirpated in California, and either rare or extinct elsewhere
1B.1	Plants considered rare, threatened, or endangered in California and elsewhere; seriously threatened in California
1B.2	Plants considered rare, threatened, or endangered in California and elsewhere; fairly threatened in California
2B.1	Plants considered rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
4.2	Plants of limited distribution in California; fairly threatened in California

Table B-2: Special-status Animals That May Occur in the Vicinity of the Project.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
Invertebrates			
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	T/-	Central Valley riparian forest; nearly always found on or close to its host plant, elderberry (*Sambucus* species).	**Not Present.** No suitable habitat for the species. No host plants present on the project or vicinity.
Branchinect lynchi Vernal pool fairy shrimp	T/-	Found in vernal pools throughout California. Exist as cysts during the dry season and reproduce when pools are filled with water again.	**Not Present**. No suitable habitat present.
Fishes			
Hypomesus transpacificus Delta smelt	T/-	Found only in the low-salinity and freshwater habitats of the Sacramento-San Joaquin Estuary. Historically, it was one of the most common pelagic fish in the estuary	**Not Present.** No suitable habitat present.
Amphibians			
Rana draytonii California red-legged frog	T/-	Found in habitat characterized by dense, shrubby, riparian vegetation and associated still, or slow-moving water that is at least 2.3 feet deep. The arroyo willow (*Salix lasiolepis*) cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.) provide good habitat.	**Not Present.** No suitable habitat present.
Spea hammondii Western spadefoot toad	-/ CSC	Central valley and adjacent foothills, Coast Ranges from Point Conception south to the Mexico border; valley-foothill grasslands and valley-foothill hardwood, shallow temporary pools used for breeding, below 4,472 feet (1,363 meters).	**Not Observed/Not Expected**. No known records in the vicinity of the project. No suitable habitat present on the project. Marginal habitat is present in the project vicinity.
Reptiles			
Anniella spp. California legless lizard	-/CSC	Found in coastal dunes, chaparral, pine-oak woodlands, desert scrub, and sandy washes in warm moist loose soils, below 5,085 feet (1550 meters).	**Not Observed/Not Expected**. Suitable habitat absent from the site. Potential habitat in the project vicinity.
Arizona elegans occidentalis California glossy snake	-/CSC	Found in low elevation scrub, grasslands and chaparral habitats.	**Not Present**. No suitable habitat present.
Emys marmorata *Western pond turtle*	-/CSC	Completely aquatic requiring calm waters such as pools or streams with vegetation banks or logs for basking. Will utilize upland habitat up to about 0.5 km from water.	**Not Present.** No suitable habitat present.
Gambelia sila Blunt-nosed leopard lizard (BNLL)	E/E,SFP	Found only in the San Joaquin Valley, adjacent Carrizo Plain, Elkhorn Plain, Cuyama Valley, and Panoche Valley; inhabits sparsely vegetated plains, lower canyon slopes, on valley floors, and washes; open grassland, saltbush scrub, and alkali sink are more common habitat types.	**Not Present.** No suitable habitat present.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
Masticophis flagellum ruddocki San Joaquin coachwhip	-/CSC	Found in the San Joaquin Valley in open, dry habitats. Associated with valley grassland and saltbush scrub habitats containing small mammal burrows which are used for refugia and oviposition sites.	**Not Present**. No suitable habitat present.
Phrynosoma blainvillii Coast horned lizard	-/CSC	Inhabits valley-foothill hardwood, coniferous and riparian, as well as pine-cypress, juniper, and annual grasslands, in Sierra Nevada below 3,937 feet (1,200 meters) and in mountains of Southern California and into the adjacent valleys.	**Not Present**. No suitable habitat present.
Thamnophis gigas Giant gartersnake	T/T	Found in areas of freshwater marshes or low-gradient streams. Can also be found in human-made habitats, such as drainage canals and irrigation ditches, especially those associated with rice farming.	**Not Present**. No suitable habitat present. Species believed to be extirpated from Kern County.
Birds			
Agelaius tricolor Tricolored blackbird	S/CSC	Forages in grasslands, wetlands, rice fields, croplands, and weedy uplands dominated by mustards and thistles, etc.; breeds in marshes containing heavy growth of bulrushes, cattails, and blackberries; found throughout the Central Valley.	**Not Present/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting or habitat on the site. Potential for marginal foraging habitat in farmlands in the vicinity of the project.
Athene cunicularia Burrowing owl	-/CSC	Inhabits dry, open grasslands, rolling hills, desert floors, prairies, savannas, agricultural land, and other areas of open, bare ground. These owls will also inhabit open areas near human habitation, such as airports, golf courses, shoulders of roads, railroad embankments, and the banks of irrigation ditches and reservoirs.	**Not Observed/Moderate Probability of Occurrence in the Project Vicinity**. Suitable habitat for nesting and foraging in the vicinity of the project. No burrowing owls or owl burrows observed.
Buteo swainsoni Swainson's hawk	-/T	Riparian and sometimes large isolated trees used for nesting; grasslands and agricultural lands used for foraging; in California, breeds primarily in the Sacramento Valley, with occasional nesting to the south through Kern County; migrate through the Central and San Joaquin Valleys to their wintering grounds in South America.	**Not Observed/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting sites on the project. Low suitable foraging habitat exists across the row-crop farmland south of metropolitan Bakersfield. Swainson's hawk are uncommon in Kern County.
Charadrius alexandrinus nivosus Western snowy plover	T/-	Nests, feeds, and takes cover on sandy or gravelly beaches along the coast, on estuarine salt ponds, alkali lakes, and at the Salton Sea. On the Pacific coast, it nests on barren to sparsely vegetated sand beaches, dry salt flats in lagoons, dredge spoils deposited on beach or dune habitat, levees and flats at salt-evaporation ponds, and river bars.	**Not Present**. No suitable wintering habitat or foraging habitat exists on the project.
Circus cyaneus Northern harrier	-/CSC	Widespread breeding resident, other than in the Central Valley, most lowland birds are winter migrants; ground nester that forages and nests in a wide variety of open	**Not Observed/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting sites on the project.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
		habitats with low perches such as marshes, fields, and other treeless areas.	Suitable foraging habitat exists across the row-crop farmland south of metropolitan Bakersfield.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	T/E	Nests in walnut and almond orchards in California, natural nesting habitat is in cottonwood-tree willow riparian forest. Known populations of breeding western yellow-billed cuckoo are several disjunct locations in California, Arizona, and western New Mexico.	**Not Present**. No suitable nesting habitat exists on the project for this species. The site represents poor foraging habitat.
Elanus leucurus White tailed kite	-/SFP	Associated habitats include open grasslands, savannahs, agriculture, wetlands, oak woodland and riparian areas with associated open space.	**Not Observed/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting sites on the project. Suitable foraging habitat exists across the row-crop farmland south of metropolitan Bakersfield. Swainson's hawk are frequently observed moving through Kern County during the migratory period. Swainson's hawk are uncommon nesters in Kern County.
Empidonax traillii Willow Flycatcher	-/E	Nests and forages in riparian habitats with dense vegetation characterized by willows, buttonbush and coyote brush, with a scattered overstory of cottonwood. Have also been known to nest in thickets dominated by tamarisk.	**Not Present**. No suitable nesting or foraging habitat present.
Lanius ludovicianus Loggerhead shrike	-/CSC	Common resident and winter visitor in lowlands and foothills throughout California; species prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches; nests on stable branches in densely-foliaged shrubs or trees, usually well-concealed.	**Not Observed/Moderate Probability of Occurrence in the Project Vicinity**. No suitable nesting habitat present. Loggerhead shrike occur throughout the southern San Joaquin Valley and undoubtedly forage in the project vicinity.
Mammals			
Ammospermophilus nelsoni San Joaquin antelope squirrel	-/T	Found in grasslands or open shrublands; formerly more extensive, current range includes southwestern portion of the San Joaquin Valley and in adjacent valleys to the west.	**Not Present**. Beyond the current published range of the species.
Dipodomys ingens Giant kangaroo rat	E/E	Western side of the San Joaquin Valley, including the Carrizo Plain and the Panoche Valley; grassland and shrub-land habitats with sparse vegetative cover and soils that are well-drained, fine sandy loams with gentle slopes.	**Not Present**. Beyond the current published range of the species.
Dipodomys nitratoides brevinasus Short-nosed kangaroo rat	E/E	Found in arid communities on the valley floor portions of Kern, Tulare, and Kings counties in scrub and grassland communities in level to near-level terrain with	**Not Present**. Beyond the published range of the species.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
		alluvial fan-floodplain soil (fine sands and sandy loams) with sparse grasses and woody vegetation such as iodine bush, saltbush, seep weed, and mesquite.	
Dipodomys nitratoides nitratoides Tipton kangaroo rat	E/E	Found in arid communities on the valley floor portions of Kern, Tulare, and Kings counties in scrub and grassland communities in level to near-level terrain with alluvial fan-floodplain soil (fine sands and sandy loams) with sparse grasses and woody vegetation such as iodine bush, saltbush, seep weed, and mesquite.	**Not Present**. No suitable habitat present. Not within the southwest focus area of the MBHCP.
Eumops perotis californicus Greater western mastiff bat	-/CSC	Open, semi-arid to arid habitats, including conifer and deciduous woodlands, annual and perennial grasslands, chaparral, desert scrub, and urban areas; roosts in cliff faces, as well as high buildings, trees, and tunnels; uncommon resident in southwestern San Joaquin Valley.	**No Roosting Sites Present.** No known occurrences in the vicinity of the project. Information on some bat species indicates foraging may occur over 10's of miles from roosting sites. Impacts not expected.
Lasiurus cinereus Hoary bat	-/CSC	Open, semi-arid to arid habitats, including conifer and deciduous woodlands, annual and perennial grasslands, chaparral, desert scrub, and urban areas; roosts in cliff faces, as well as high buildings, trees, and tunnels; uncommon resident in southwestern San Joaquin Valley.	**No Roosting Sites Present.** No known occurrences in the vicinity of the project. Information on some bat species indicates foraging may occur over 10's of miles from roosting sites. Impacts not expected.
Onychomys torridus tularensis Tulare grasshopper mouse	-/CSC	Found in valley grasslands habitats, blue oak savanna, desert associations dominated by annual grasses and California ephedra, alkali sink scrub, saltbush scrub, and upper Sonoran shrub associations, dominated by ephedra.	**Not Observed/Not Expected**. Beyond the current published range of the species.
Perognathus inornatus inornatus San Joaquin pocket mouse	S/-	Found in west-central California in the Upper Sacramento Valley, Tehama County, southward through the San Joaquin and Salinas valleys and contiguous areas to the Mojave Desert in Los Angeles, Kern and extreme western San Bernardino counties. Inhabits dry, open, grassy or weedy areas and annual grasslands, savannas, and desert-scrub associations with sandy washes or finely textured soils.	**Not Observed/Not Expected**. Beyond the current published range of the species.
Sorex ornatus relictus Buena Vista Lake shrew	E/CSC	Formerly occupied marshlands of the San Joaquin Valley and the Tulare Basin. Its range has become much restricted due to the loss of lakes and sloughs in the area. It has been recorded from the Kern Lake Preserve area and the Kern National Wildlife Refuge. Current distribution is unknown but likely to be very restricted due to the loss of habitat.	**Not Present**. No suitable habitat present.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
Taxidea taxus American badger	-/CSC	Uncommon resident found through California; in less disturbed grassland and shrubland habitats in San Joaquin Valley.	**Low Probability of Occurrence.** Suitable habitat. No observed badger burrows.
Vulpes macrotis mutica San Joaquin kit fox (SJKF)	E/T	Found in valley saltbush scrub, valley sink scrub, Interior Coast Range saltbush scrub, upper Sonoran sub-shrub scrub, non-native grassland, and valley sacaton grassland in the Central Valley and adjacent foothills and valleys, infrequently to the outer Coast Ranges; generally not found in densely wooded areas, wetland areas, or areas subject to frequent periodic flooding.	**Low Probability of Occurrence.** No potential, known, or natal dens were observed. SJKF occurrence high in the vicinity of the project.

STATUS:

Federal

S Listed as a BLM Sensitive Species
D Delisted
E Listed as Endangered
PT Proposed as Threatened
T Listed as Threatened
C Candidate for Endangered Status

State

CSC California Department of Fish and Wildlife Designated Species of Special Concern
D Delisted
E Listed as Endangered
SFP California Department of Fish and Wildlife Designated Fully Protected
T Listed as Threatened

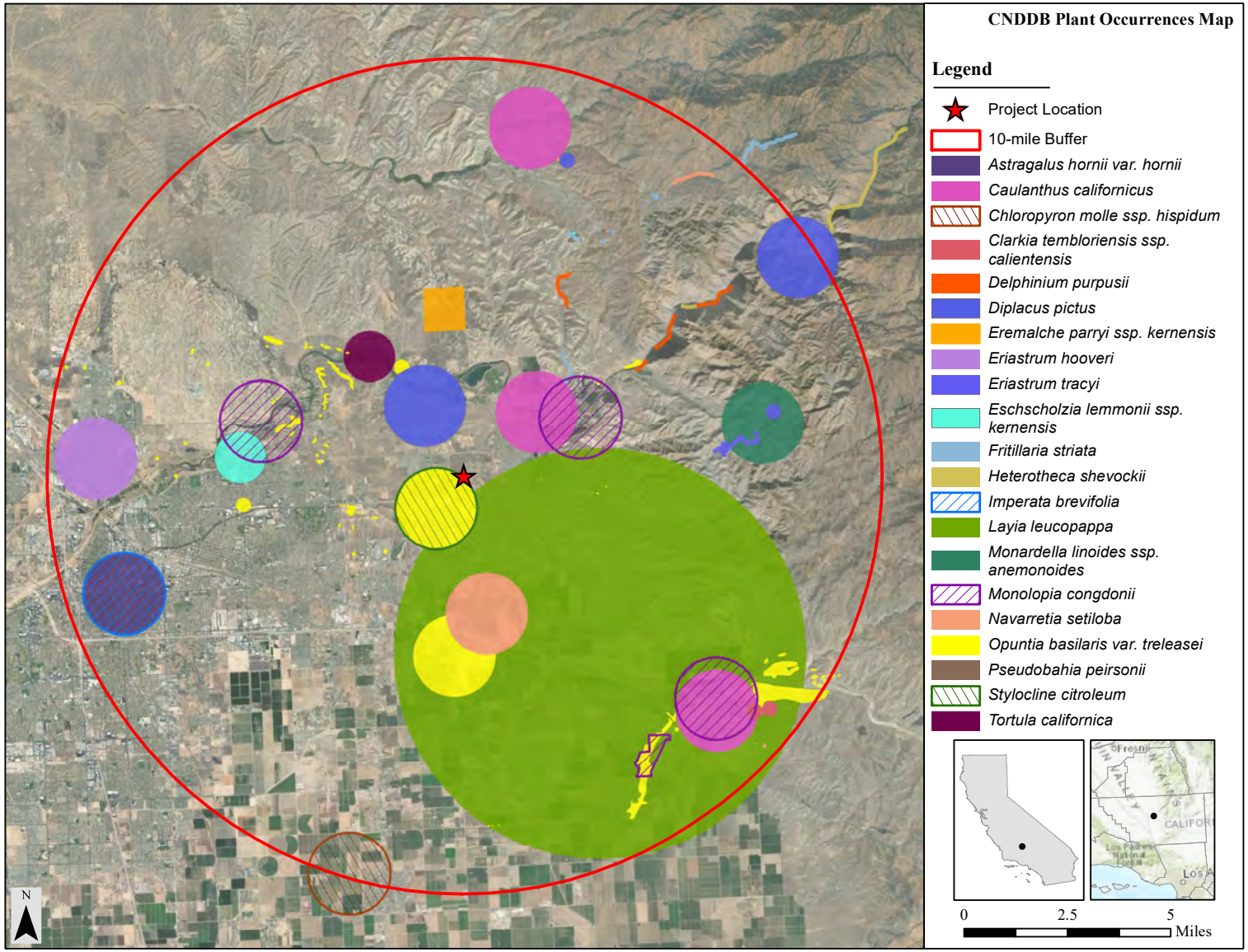

Figure B-1. CNDDB special-status plant species occurrences within a 10-mile radius of the project (CDFW 2022).

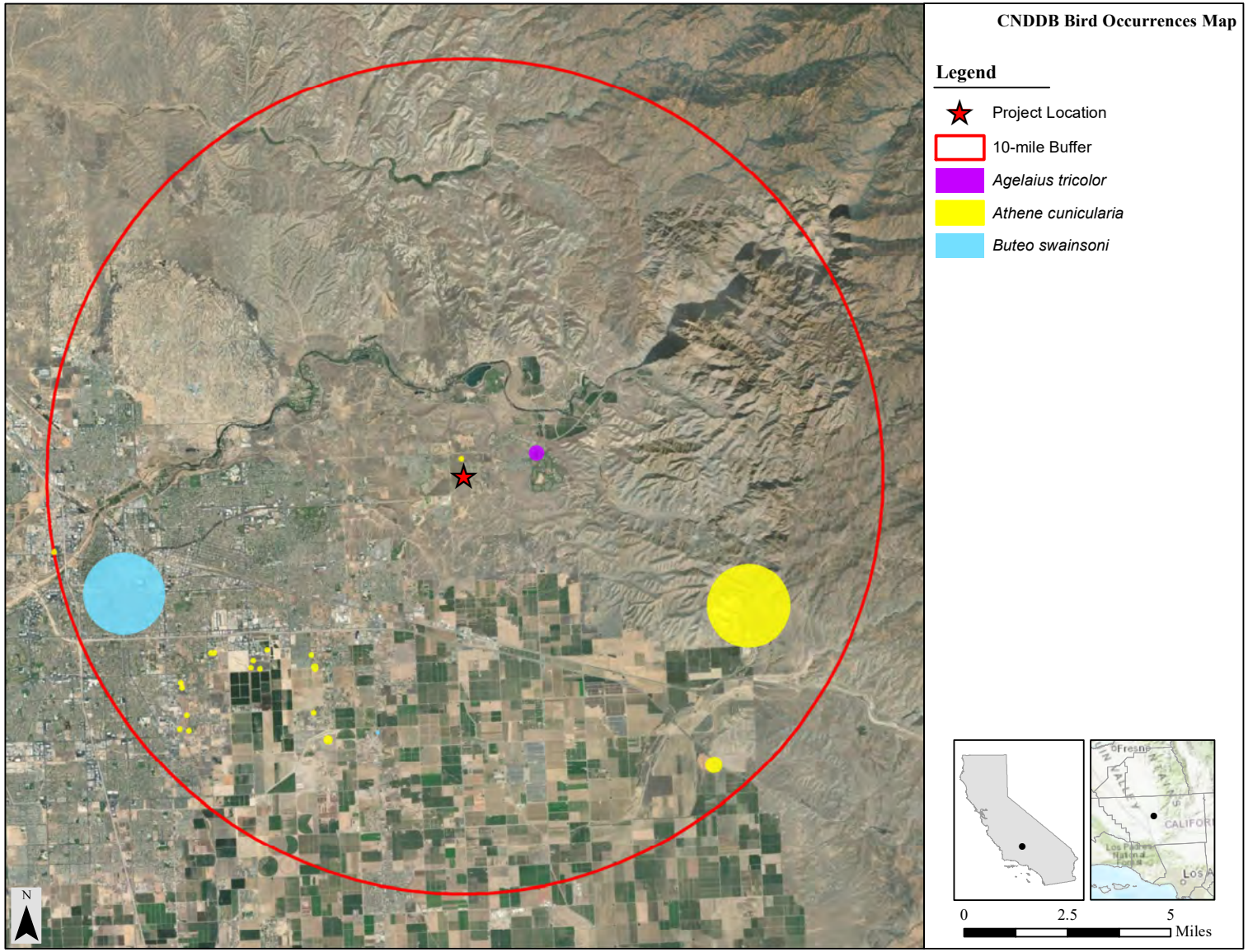

Figure B-2. CNDDB special-status bird species occurrences within a 10-mile radius of the project (CDFW 2022).

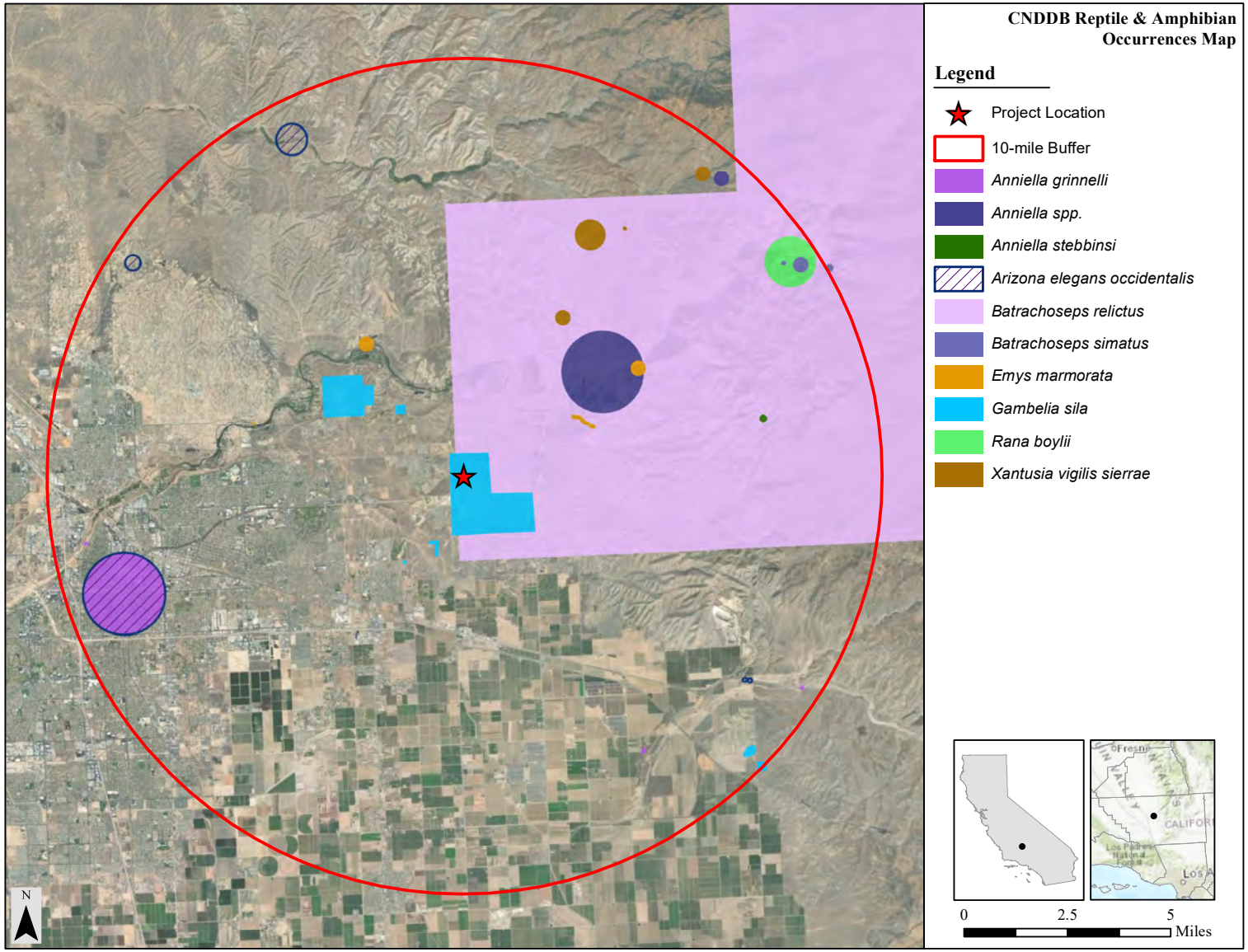

Figure B-3. CNDDB special-status amphibian and reptile species occurrences within a 10-mile radius of the project (CDFW 2022).

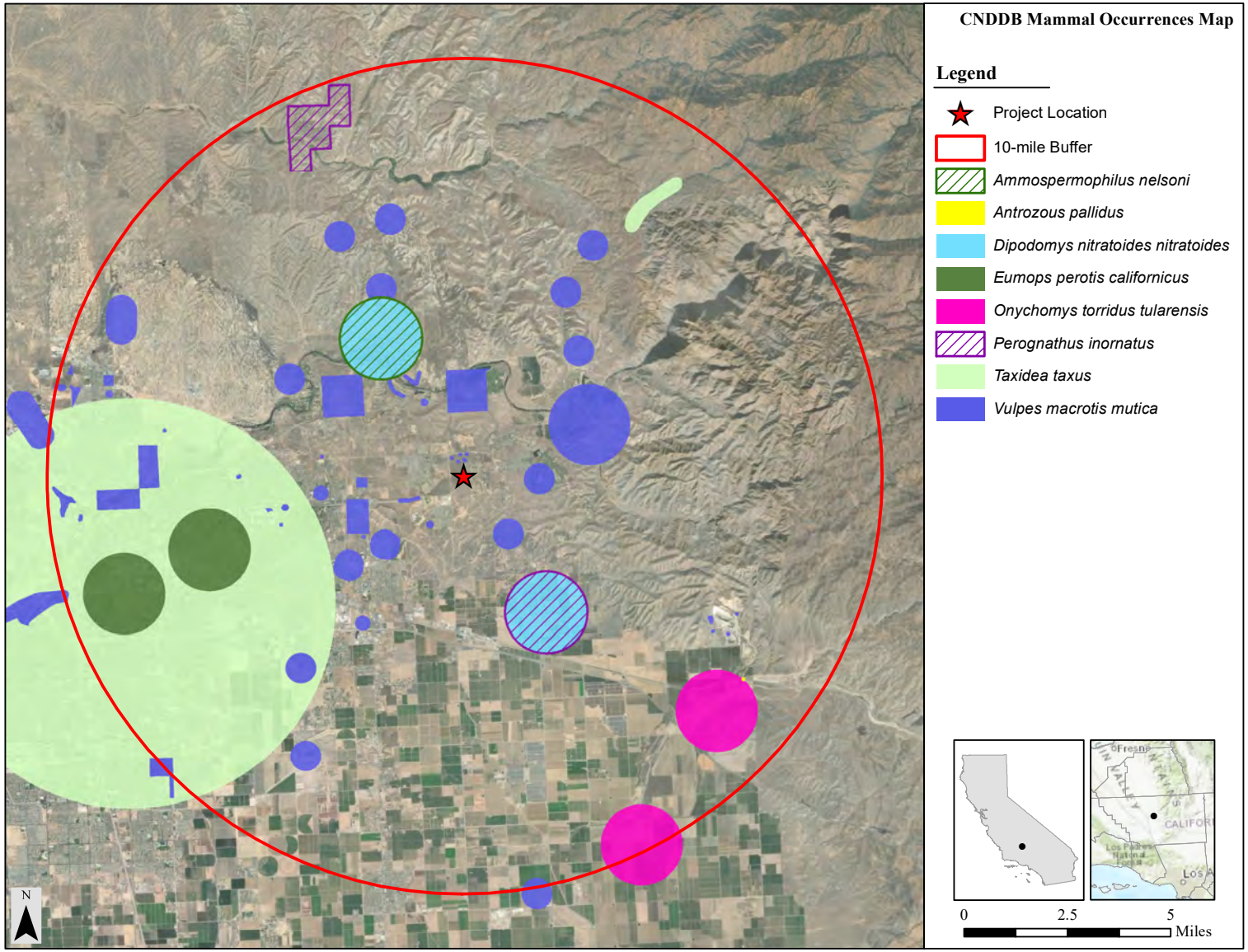

Figure B-4. CNDDB special-status mammal species occurrences within a 10-mile radius of the project (CDFW 2022).

APPENDIX C

PLANTS AND ANIMALS OBSERVED ON THE PROJECT

FIELD STUDY CONDUCTED
07 February 2022

Table C-1. Vascular plant species observed during the field study conducted on the project site.

Scientific Name	**Common Name**
Asparagaceae	
Dipterostemon capitatus	Blue dicks
Boraginaceae	
Amsinkia menziesii	Fiddleneck
Brassicaceae	
Brassica tournefortii	Asian mustard
Capsella bursa-pastoris	Sheperd's purse
Hirschfeldia incana	Shortpod mustard
Lepidium nitidum	Peppergrass
Sisymbrium irio	London rocket
Chenopodiaceae	
Salsola tragus	Russian thistle
Fabaceae	
Medicago polymorpha	Bur clover
Geraniaceae	
Erodium cicutarium	Redstem filaree
Malvaceae	
Malva parviflora	Cheeseweed
Poaceae	
Avena barbata	Slender wild oat
Bromus diandrus	Ripgut brome
Bromus madritensis ssp. rubens	Red brome
Cynodon dactylon	Bermudagrass
Hordeum vulgare	Farmer's foxtail
Schismis arabicus	Mediterranean grass
Salicaceae	
Salix sp.	Willow

Table C-2. Vertebrate animal species observed during the field study conducted on the project site.

Scientific Name	**Common Name**
Birds	
Corvus corax	Common raven
Sturnella neglegta	Western meadowlark
Zenaida macroura	Mourning dove
Zonotrichia leucophrys	White-crowned sparrow
Mammals	
Otospermophilus beecheyi	California ground squirrel
Thomomys bottae	Pocket gopher

A
PHASE I CULTURAL RESOURCE SURVEY,
HIGHWAY 178 AND VALLEY STREET,
CITY OF BAKERSFIELD, CALIFORNIA

Submitted to:
Cornerstone Engineering, Inc.
5509 Young Street
Bakersfield, California 93311

Keywords:
Oil Center and Rio Bravo Ranch 7.5' Quadrangles,
City of Bakersfield,
California Environmental Quality Act

Submitted by:
Hudlow Cultural Resource Associates
1405 Sutter Lane
Bakersfield, California 93309

Author:
Scott M. Hudlow

February 2022

Management Summary

At the request of Cornerstone Engineering, a Phase I Cultural Resource Survey was conducted on a 53.7-acre parcel. The project is a mixed commercial, single-family, and multi-family residential project. The project location is at the northwest corner of Highway 178 and Valley Street, City of Bakersfield, California, in accordance with the California Environmental Quality Act. The Phase I Cultural Resource Survey consisted of a pedestrian survey of the site and a cultural resource record search.

No cultural resources were identified. No further work is required. If cultural resources are encountered during the course of construction, a qualified archaeologist should be consulted for further evaluation.

If human remains or potential human remains are observed during construction, work in the vicinity of the remains will cease, and they will be treated in accordance with the provisions of State Health and Safety Code Section 7050.5. The protection of human remains follows California Public Resources Codes, Sections 5097.94, 5097.98, and 5097.99.

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List of Figures

1.0 Introduction

At the request Cornerstone Engineering, *Hudlow Cultural Resource Associates* conducted a Phase I Cultural Resource Survey for a residential project. The 53.70-acre property is located at the northwest corner of Highway 178 and Valley Street in the City of Bakersfield, California in accordance with the California Environmental Quality Act. The Phase I Cultural Resource Survey consisted of a pedestrian survey of the site and a cultural resource record search.

2.0 Survey Location

The project area is in the City of Bakersfield. It comprises a portion of the W ½ of Section 16, T.29S., R.29E., Mount Diablo Baseline and Meridian, as displayed on the United States Geological Survey (USGS) Oil Center and Rio Bravo Ranch 7.5-minute quadrangle maps (Figure 1). The project area is located at the northwest corner of Highway 178 and Valley Street in the City of Bakersfield, California.

3.0 Record Search

A record search of the project area and the environs within one half-mile was conducted at the Southern San Joaquin Archaeological Information Center. Archaeological Information Center staff conducted the record search on November 22, 2022, AIC# 21-488 (Appendix II). The record search revealed that nineteen surveys have been conducted within one half-mile of the project area. Four of these nineteen surveys have been conducted within the current project area. Five cultural resources, including four prehistoric sites and a historic road have been recorded within one-half mile. No cultural resources have been recorded within the project area (Appendix II).

A Sacred Lands File search was requested from the Native American Heritage Commission. The search, which was completed on January 12, 2022, revealed that no Naive American cultural resources are located in close proximity to the project area. Native American consultation letters were sent out on January 19, 2022, to each of the ten listed tribal entities, notifying each interested Kern County Native Contact, per the list provided by the Native American Heritage Commission. Ten parties were sent letters. These letters described the project, provided the letter from the Native American Heritage Commission, and provided maps for further reference. By Friday February 19, 2022, no parties had returned responses with comments (Appendix II).

4.0 Environmental Background

The project area is located at elevation of 760 and 800 feet above mean sea level in the Great Central Valley, which is composed of two valleys-- the Sacramento Valley and the San Joaquin Valley. The project area is located in the southwestern portion of the southern San Joaquin Valley, southeast of the

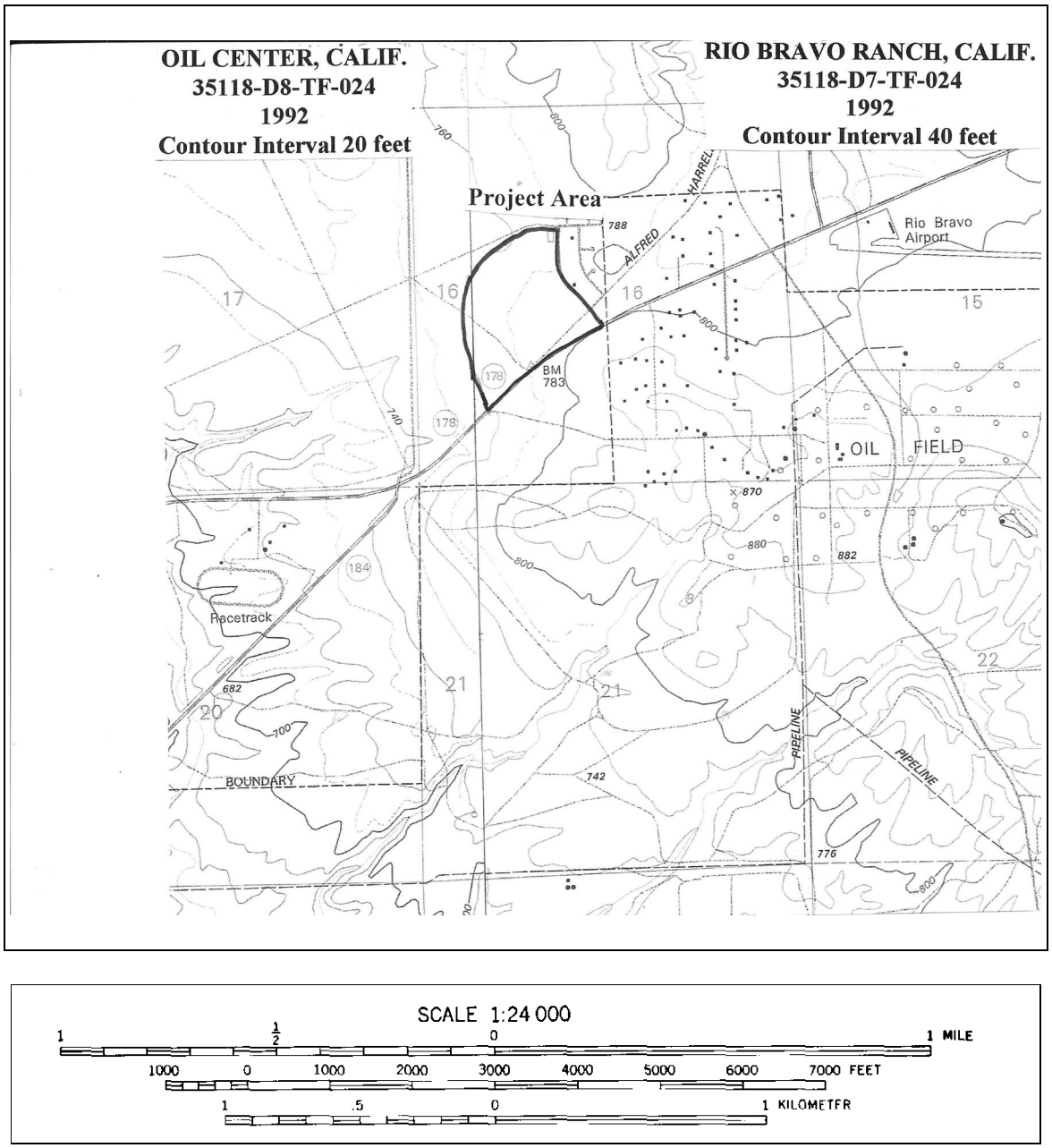

Figure 1
Project Area Location Map

Kern River. The project area is on the edge of the San Joaquin Valley as it rises into the foothills of the Sierra Nevada Mountains (Figures 2 and 3).

5.0 Prehistoric Archaeological Context

Limited archaeological research has been conducted in the southern San Joaquin Valley. Thus, consensus on a generally agreed upon regional cultural chronology has yet to be developed. Most cultural sequences can be summarized into several distinct time periods: Early, Middle, and Late sequences differ in their inclusion of various "horizons," "technologies," or "stages." A prehistoric archaeological summary of the southern San Joaquin Valley is available in Moratto (Moratto 1984).

Despite the preoccupation with chronological issues in most of the previous research, most suggested chronological sequences are borrowed from other regions with minor modifications based on sparse local data.

The following chronology is based on Parr and Osborne's Paleo-Indian, Proto-Archaic, Archaic, Post-Archaic periods (Parr and Osborne 1992:44-47). Most existing chronologies focus on stylistic changes of time-sensitive artifacts such as projectile points and beads rather than addressing the socioeconomic factors, which produced the myriad variations. In doing so, these attempts have encountered similar difficulties. These cultural changes are implied as environmentally determined, rather than economically driven.

Paleo-Indians, whom roamed the region approximately 12,000 years ago, were highly mobile individuals. Their subsistence is assumed to have been primarily big game, which was more plentiful 12,000 years ago than in the late twentieth century. However, in the Great Basin and California, Paleo people were also foragers who exploited a wide range of resources. Berries, seeds, and small game were also consumed. Their technology was portable, including manos (Parr and Osborne 1992:44). The paleo period is characterized by fluted Clovis and Folsom points, which have been identified throughout North America. The Tulare Lake region in Kings County has yielded several Paleo-Indian sites, which have included fluted points, scrapers, chipped crescents, and Lake Mojave-type points (Morratto 1984:81-2).

The Proto-Archaic period, which dates from approximately 11,000 to 8,000 years ago, was characterized by a reduction in mobility and conversely an increase in sedentism. This period is classified as the Western Pluvial Lake Tradition or the Proto-Archaic, of which the San Dieguito complex is a major aspect (Moratto 1984: 90-99; Warren 1967). An archaeological site along Buena Vista Lake in southwestern Kern County displays a similar assemblage to the San Dieguito type site. Claude Warren proposes that a majority of Proto-Archaic southern California could be culturally classified as the San Dieguito Complex (Warren 1967). The Buena Vista Lake site yielded manos, millingstones, large stemmed and foliate points, a mortar, and red ochre. During this period, subsistence patterns began to change. Hunting focused on smaller game and

Figure 2
Project Area, View to the Southwest

Figure 3
Project Area, View to the Northeast

plant collecting became more integral. Large stemmed, lancelote (foliate) projectile points represent lithic technology during this period. Millingstones become more prevalent. The increased sedentism possibly began to create regional stylistic and cultural differences not evident in the paleo period.

The Archaic period persisted in California for the next 4000 years. In 1959, Warren and McKusiak proposed a three-phase chronological sequence based on a small sample of burial data for the Archaic period (Moratto 1984:189; Parr and Osborne 1992:47). It is distinguished by increased sedentism and extensive seed and plant exploitation. Millingstones, shaped through use, were abundant.

Bedrock manos and metates were the most prevalent types of millingstones (Parr and Osborne 1992:45). The central valley began to develop distinct cultural variations, which can be distinguished by different regions throughout the valley, including Kern County.

In the Post-Archaic period enormous cultural variations began manifesting themselves throughout the entire San Joaquin Valley. This period extends into the contact period in the seventeenth, eighteenth and nineteenth centuries. Sedentary village life was emblematic of the Post-Archaic period, although hunting and gathering continued as the primary subsistence strategy. Agriculture was absent in California, partially due to the dense, predictable, and easily exploitable natural resources. The ancestral Yokuts have possibly been in the valley for the last three thousand years, and by the eighteenth century were the largest pre-contact population, approximately 40,000 individuals, in California (Moratto 1984).

6.0 Ethnographic Background

The Yokuts are a Penutian-speaking, non-political cultural group. Penutian speakers inhabit the San Joaquin Valley, the Bay Area, and the Central Sierra Nevada Mountains. The Yokuts are split into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts.

The southern San Joaquin Valley in the Bakersfield and associated Kern County area was home to the Yokuts tribelet, Yawelmani. The tribelets averaged 350 people in size, had a special name for themselves, and spoke a unique dialect of Yokuts. Land was owned collectively and every group member enjoyed the right to utilize food resources. The Yawelmani inhabited a strip of the southeastern San Joaquin Valley, north of the Kern River to the Tehachapi Mountains on the south, and from the mountains on the east, to approximately the old south fork of the Kern River on the west (Wallace 1978:449; Parr and Osborne 1992:19). The Yawelmani were the widest ranging of the Yokuts tribelets. A half dozen villages were located along the Kern River, including *Woilo* ("planting place" or "sowing place"), which was located in downtown Bakersfield, where the Amtrak station is located. A second village was located across the Kern River from *Woilo*, on the west bank.

The Southern Valley Yokuts established a mixed domestic economy emphasizing fishing, hunting, fowling, and collecting shellfish, roots, and seeds. Fish were the most prevalent natural resource; fishing was a productive activity throughout the entire year. Fish were caught in many different manners, including nets, conical basket traps, catching with bare hands, shooting with bows and arrows, and stunning fish with mild floral toxins. Geese, ducks, mud hens and other waterfowl were caught in snares, long-handled nets, stuffed decoys, and brushing brush to trick the birds to fly low into waiting hunters. Mussels were gathered and steamed on beds of tule. Turtles were also consumed as were dogs, which might have been raised for consumption (Wallace 1978:449-450).

Wild seeds and roots provided a large portion of the Yokuts' diet. Tule seeds, grass seeds, fiddleneck, alfilaria were also consumed. Acorns, the staple crop for many California native cultures, were not common in the San Joaquin Valley. Acorns were traded into the area, particularly from the foothills. Land mammals, such as rabbits, ground squirrels, antelope and tule elk, were not hunted often (Wallace 1978:450).

The Yokuts occupied permanent structures in permanent villages for most of the year. During the late and early summer, families left for several months to gather seeds and plant foods, shifting camp locations when changing crops. Several different types of fiber-covered structures were common in Yokuts settlements. The largest was a communal tule mat-covered, wedge-shaped structure, which could house upward of ten individuals. These structures were established in a row, with the village chief's house in the middle and his messenger's houses were located at the ends of the house row. Dance houses and assembly buildings were located outside the village living area (Nabokov and Easton 1989:301).

The Yokuts also built smaller, oval, single-family tule dwellings. These houses were covered with tall mohya stalks or with sewn tule mats. Bent-pole ribs that met a ridgepole held by two crotched poles framed these small houses. The Yokuts also built a cone-shaped dwelling, which was framed with poles tied together with a hoop and then covered with tule or grass. These cone-shaped dwellings were large enough to contain multiple fireplaces (Nabokov and Easton 1989:301). Other structures included mat-covered granaries for storing food supplies, and a dirt-covered communally owned sweathouse.

Clothing was minimal, men wore a breechclout or were naked. Women wore a narrow-fringed apron. Rabbitskin or mud hen blankets were worn during the cold season. Moccasins were worn in certain places; however, most people went barefoot. Men wore no head coverings, but women wore basketry caps when they carried burden baskets on their heads. Hair was worn long. Women wore tattoos from the corners of the mouth to the chin; both men and women had ear and nose piercings. Bone, wood or shell ornaments were inserted into the ears and noses (Wallace 1978:450-451).

Tule dominated the Yokut's material culture. It was used for many purposes, including sleeping mats, wall coverings, cradles, and basketry. Ceramics are uncommon to Yokuts culture as is true throughout most California native cultures. Basketry was common to Yokuts culture. Yokuts made cooking containers, conical burden baskets, flat winnowing trays, seed beaters, and necked water bottles. Yokuts also manufactured wooden digging sticks, fire drills, mush stirrers, and sinew-backed bows. Knives, projectile points, and scraping tools were chipped from imported lithic materials including obsidian, chert, and chalcedony. Stone mortars and pestles were secured in trade. Cordage was manufactured from milkweed fibers, animal skins were tanned, and awls were made from bone. Marine shells, particularly olivella shells, were used in the manufacture of money and articles of personal adornment. Shells were acquired from the Chumash along the coast (Wallace 1978:451-453).

The basic social and economic unit was the nuclear family. Lineages were organized along patrilineal lines. Fathers transmitted totems, particular to each paternal lineage, to each of his children. The totem was a bird or animal that no lineage member would kill or eat; the totems were dreamed of and prayers were given to the totems. The mother's totem was not passed to her offspring, but was treated with respect. Families sharing the same totem formed an exogamous lineage. The lineage had no formal leader nor did it own land. The lineage was a mechanism for transmitting offices and performing ceremonial functions. The lineages formed two moieties, East and West, which consisted of several different lineages. Moieties were customarily exogamous. Children followed the paternal moiety. Certain official positions within the villages were associated with certain totems. The most important was the Eagle lineage from which the village chief was appointed. A member of the Dove lineage acted as the chief's assistant. He supervised food distribution and gave commands during ceremonies. Another hereditary position was common to the Magpie lineage, was that of spokesman or crier.

7.0 Historical Overview

The city of Bakersfield was settled in the 1860s, soon after California joined the United States after the passage of the Compromise of 1850. The Compromise of 1850 allowed for California to join the Union as a free state even though a major portion of the state lied beneath the Missouri Compromise line, and was potentially subject to southern settlement and slavery. Americans had long been visiting and working in California prior to the admission of California into the Union.

European exploration of the region begins in the 1770s with the Spanish. In 1772, Pedro Fages arrived in the San Joaquin Valley searching for army deserters. Father Francisco Garces, a Jesuit priest, soon visited the vicinity in 1776. The Spanish empire collapsed in 1820, and California became Mexican territory. American exploration of the San Joaquin Valley begins in the 1820s with Jedediah Smith, Kit Carson, and Joseph Walker looking for commercial

opportunities. The United States government began exploring California in the 1830s. Soon, the Americans will be searching for intercontinental railroad routes to link the eastern and western halves of the continent.

The defeat of the Mexicans during the Mexican-American War and the subsequent discovery of gold will drastically alter the complicated political realities of the west. The Mexican-American War was ostensible fought to settle a boundary dispute wit h the Mexicans over the western boundary of the newly-annexed state of Texas, which had fought a successful rebellion against the Mexican Army in the mid 1830s. The Republic of Texas was an independent country for nine years until Texas was annexed by the United States in 1845. The outcome of the Mexican-American War was that Mexico rescinded its claims to much of the American southwest, in 1848, bringing these territories into the United States, including California.

In January 1849, the discovery of gold in Coloma, California changed the settlement of California, forever. In the summer of 1849, when the gold strike was publicly announced, the overnight settlement of California began. The Mexican population of California was small and limited to the coasts and a few of southern California's interior valleys. A sizable native population settled the remainder of California; Bakersfield and Kern County was Yokuts territory. The Gold Rush tipped the balance of native communities throughout California, as many of California's natives were decimated.

Many areas experienced smaller gold rushes, including the Kern River Valley, when gold was discovered in Keyesville in 1853. The gold was soon played and the true future of the region was soon identified, farming, as the gold prospectors came down from the mountains. Kern Island, a median point along the Kern Delta, between the mouth of the Kern River and the Kern Lake, was settled in 1860. Soon, Col. Thomas Baker bought the property from the original owner, Christian Bohna and the settlement of Bakersfield began in earnest.

Col. Baker was lured to California by the prospects of gold, but was tamed by the farming. He was a practicing lawyer and surveyor and was slowing moved west from Ohio. He was involved in Iowa's territorial government and served in both the California senate and assembly before arriving in the area in the 1840s and 1850s. Col. Baker realized he had to drain the Kern Delta to manufacture usable farmland, and he also improved his land, creating one of the only transit locations between Los Angeles and Visalia in the 1860s.

Baker laid out the town and began the process of draining, diverting, and controlling the Kern River. In 1873, Bakersfield was incorporated and was the first city in the newly-created Kern County, which was previously a portion of Tulare County. In 1874, Bakersfield got a rail link with the establishment of the Southern Pacific line over the Tehachapi Pass. The train station was located in Sumner, a spite town that was established by the Southern Pacific about a mile east of downtown Bakersfield, now located in east Bakersfield. Bakersfield could now flourish as an agricultural community, producing fruits and grains.

The city of Bakersfield was expanding to the north in the early twentieth-century toward the Kern River, after its 1898 reincorporation. The city centered along Chester Avenue, which was the main north/south thoroughfare. The community of Sumner lied to the east, and the surrounding area in all directions was farmland. The city of Bakersfield was a small community at the turn of the century, slightly less than 5,000 people lived in Bakersfield; an additional 17,000 people lived in Kern County (Maynard 1997:43). Bakersfield was a quiet city in the center of a farming region.

However, the discovery of the Kern River oil field in May 1899 quickly changed the face of the region. Bakersfield quickly became the center of a California oil boom, which made over the community. The population more than doubled in less than ten years, bringing prosperity to the area (Maynard 1997:43). Many people recognized that prosperity could not only be achieved through working in oil, but also through providing necessary services, such as milk products and lodging. The city of Bakersfield grew tremendously.

Between 1900 and 1950, Bakersfield and the greater Kern County region grew tremendously under the influence of two economic forces, agriculture and oil. By 1950, Bakersfield was a mid-sized city of approximately 50,000. It sported minor league baseball, had a regional airport, and was a major link along Route 99, which connected northern and southern California. In the late 1960s, Bakersfield was beginning to change again, as the Kern County Land Company was sold to Tenneco West, and Bakersfield began to suburbanize.

8.0 Field Procedures and Methods

On November 29 and 30, 2021, Scott M. Hudlow (for qualifications see Appendix I) conducted a pedestrian survey of the entire proposed project area. Hudlow surveyed in east/west transects at 15-meter (49 feet) intervals across the entire parcel. All archaeological material more than fifty years of age or earlier encountered during the inventory would have been recorded.

9.0 Report of Findings

No cultural resources were identified.

10.0 Management Recommendations

At the request of Cornerstone Engineering, a Phase I Cultural Resource Survey was conducted on a 53.7-acre parcel. The project is a mixed commercial, single-family, and multi-family residential project. The project location is at the northwest corner of Highway 178 and Valley Street, City of Bakersfield, California, in accordance with the California Environmental Quality Act. The Phase I Cultural Resource Survey consisted of a pedestrian survey of the site and a cultural resource record search.

No cultural resources were identified. No further work is required. If cultural resources are encountered during the course of construction, a qualified archaeologist should be consulted for further evaluation.

If human remains or potential human remains are observed during construction, work in the vicinity of the remains will cease, and they will be treated in accordance with the provisions of State Health and Safety Code Section 7050.5. The protection of human remains follows California Public Resources Codes, Sections 5097.94, 5097.98, and 5097.99.

11.0 References

Maynard, John A.
1997 *Bakersfield: A Centennial Portrait.* Cherbo Publishing, Encino, California.

Moratto, Michael J.
1984 *California Archaeology*. Orlando, Florida, Academic Press.

Nabokov, Peter and Robert Easton
1989 *Native American Architecture.* Oxford University Press, New York, New York.

Parr, Robert E. and Richard Osborne
1992 *Route Adoption Study for Highway 58, Kern County, California.* Report on file, Southern San Joaquin Archaeological Information Center, California State University, Bakersfield, Bakersfield, California.

Wallace, William J.
1978 "Southern Valley Yokuts" in *Handbook of North American Indians*. Vol. 8, California, Robert F. Heizer, ed. Washington, D.C.: Smithsonian Institution, pp. 437-445.

Warren, Claude N. and M. B. McKusiak
1959 A Burial Complex from the southern San Joaquin Valley. Los Angeles: *University of California, Los Angeles, Archaeological Survey Annual Report, 1959*: 17-26.

Warren, Claude N.
1967 "The San Dieguito Complex: A Review and Hypothesis" *American Antiquity* 32(2): 168-185.

Appendix I

Scott M. Hudlow
1405 Sutter Lane
Bakersfield, California 93309
(661) 834-9183 (w)

Education

The George Washington University
M.A. American Studies, 1993
Specialization in Architectural History,
American Material Culture, and Folklife

University of California, Berkeley
B.A. History, 1987
B.A. Anthropology, 1987
Specialization in Colonial History
and Historical Archaeology

Public Service

3/94- *Historic Preservation Commission*. City of Bakersfield, Bakersfield, California 93305.

7/97- *Newsletter Editor. California History Action,* newsletter for the California Council for the Promotion of History.

Relevant Work Experience

8/96- *Adjutant Faculty*. Bakersfield College, 1801 Panorama Drive, Bakersfield, California, 93305. Teach History 17A, Introduction to American History and Anthropology 5, Introduction to North American Indians.

11/95- *Owner, Sole Proprietorship*. Hudlow Cultural Resource Associates. 1405 Sutter Lane, Bakersfield California 93309. Operate small cultural resource management business. Manage contracts, respond to RFP's, bill clients, manage temporary employees. Conduct Phase I architectural and archaeological surveys for private and public clients; including the survey, documentary photography, measured drawings, mapping of structures, filing of survey forms, historic research, assessing impact and writing reports. Evaluated properties in lieu of their eligibility for the National Register of Historic Places in association with Section 106 and 110 requirements of the National Historic Preservation Act of 1966 and CEQA (California Environmental Quality Act).

Full resume available upon request.

Appendix II

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

To: Patricia Newquist
Cornerstone Engineering, Inc.
5509 Young Street
Bakersfield, CA 93311

Record Search 21-448

Date: November 22, 2021

Re: APN's: 387-020-29 ' -30, & -34 CEI# 509-10 Between Vista Montana Drive and Valley Street

County: Kern

Map(s): Rio Bravo Ranch, Oil Center 7.5'

CULTURAL RESOURCES RECORDS SEARCH

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the OHP 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.

PRIOR CULTURAL RESOURCE STUDIES CONDUCTED WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there has been four cultural resource studies in small portions of the Project Area, KE-01744, 02314, 03350, 05182; and 15 cultural resource studies fall in the one-half mile radius, see attached list. All these reports are greater than five years in age and should be considered "out of date" for current studies.

KNOWN/RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

There are no recorded resources within the project area, and five recorded resources fall within the one-half mile radius, P-15-003553, 012186, 015976, 015977, 015978. These resources consist of lithic scatters, a lithic quarry, and historic roads.

There are no recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

COMMENTS AND RECOMMENDATIONS

We understand this request is per the city of Bakersfield Planning Department to determine if an archaeological evaluation and study is needed. Further, we understand this project area is currently vacant and undeveloped. Because almost all of this project area has not been previously studied for cultural resources, it is unknown if any are present. As such, prior to ground disturbance activities, we recommend a qualified, professional consultant conduct a field survey to determine if cultural resources are present. A list of qualified consultants can be found at www.chrisinfo.org.

We also recommend that you contact the Native American Heritage Commission in Sacramento. They will provide you with a current list of Native American individuals/organizations that can assist you with information regarding cultural resources that may not be included in the CHRIS Inventory and that may be of concern to the Native groups in the area. The Commission can consult their "Sacred Lands Inventory" file to determine what sacred resources, if any, exist within this project area and the way in which these resources might be managed. Finally, please consult with the lead agency on this project to determine if any other cultural resource investigation is required. If you need any additional information or have any questions or concerns, please contact our office at (661) 654-2289.

By:

Jeremy E David, Assistant Coordinator **Date**: November 22, 2021

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

SSJVIC Record Search 21-448

Reports in PA:	Reports in .5 mile:	Resources in PA:	Resources in .5 mile:
KE-01744	KE-00440	None	P-15-003553
KE-02314	KE-00472		P-15-012186
KE-03350	KE-00642		P-15-015976
KE-05182	KE-01382		P-15-015977
	KE-02158		P-15-015978
	KE-02316		
	KE-02689		
	KE-02690		
	KE-03152		
	KE-03328		
	KE-03339		
	KE-03525		
	KE-03689		
	KE-03706		
	KE-04324		

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Phase I Cultural Resource Survey for Vista Montana Project, City of Bakersfield, CA

County: Kern

USGS Quadrangle Name: Rio Bravo Ranch & Oil Center

Township: 29S **Range:** 29E **Section(s):** 16

Company/Firm/Agency: Hudlow Cultural Resource Associates

Street Address: 1405 Sutter Lane

City: Bakersfield, CA **Zip:** 93309

Phone: (661) 834-9183

Fax:

Email: Shudlow@sbcglobal.net

Project Description:

STATE OF CALIFORNIA — Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

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

January 12, 2022

Scott Hudlow
Hudlow Cultural Resource Associates

Via Email to: shudlow@sbcglobal.net

Re: Phase I Cultural Resource Survey for Vista Montana Project, Kern County

Dear Mr. Hudlow:

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 me. 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: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Kern County
1/12/2022

Big Pine Paiute Tribe of Owens Valley
Sally Manning, Environmental Director
P. O. Box 700
Big Pine, CA, 93513
Phone: (760) 938 - 2003
s.manning@bigpinepaiute.org
Paiute-Shoshone

Big Pine Paiute Tribe of the Owens Valley
Danelle Gutierrez, Tribal Historic Preservation Officer
P.O. Box 700
Big Pine, CA, 93513
Phone: (760) 938 - 2003
Fax: (760) 938-2942
d.gutierrez@bigpinepaiute.org
Paiute-Shoshone

Big Pine Paiute Tribe of the Owens Valley
James Rambeau, Chairperson
P. O. Box 700
Big Pine, CA, 93513
Phone: (760) 938 - 2003
Fax: (760) 938-2942
j.rambeau@bigpinepaiute.org
Paiute-Shoshone

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street
Bakersfield, CA, 93307
Phone: (661) 322 - 0121
chumashtribe@sbcglobal.net
Chumash

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street
Bakersfield, CA, 93305
Phone: (626) 339 - 6785
2deedominguez@gmail.com
Kitanemuk
Southern Valley
Yokut

Tejon Indian Tribe
Octavio Escobedo, Chairperson
P.O. Box 640
Arvin, CA, 93203
Phone: (661) 834 - 8566
oescobedo@tejonindiantribe-nsn.gov
Kitanemuk

Tejon Indian Tribe
Colin Rambo,
P.O. Box 640
Arvin, CA, 93203
Phone: (661) 834 - 8566
colin.rambo@tejonindiantribe-nsn.gov
Kitanemuk

Tule River Indian Tribe
Joey Garfield, Tribal Archaeologist
P. O. Box 589
Porterville, CA, 93258
Phone: (559) 783 - 8892
Fax: (559) 783-8932
joey.garfield@tulerivertribe-nsn.gov
Yokut

Tule River Indian Tribe
Kerri Vera, Environmental Department
P. O. Box 589
Porterville, CA, 93258
Phone: (559) 783 - 8892
Fax: (559) 783-8932
kerri.vera@tulerivertribe-nsn.gov
Yokut

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589
Porterville, CA, 93258
Phone: (559) 781 - 4271
Fax: (559) 781-4610
neil.peyron@tulerivertribe-nsn.gov
Yokut

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

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Phase I Cultural Resource Survey for Vista Montana Project, Kern County.

James Rambeau, Sr., Chairperson
Big Pine Paiute Tribe of the Owens Valley
P.O. Box 700
Big Pine, California 93513

January 19, 2022

Dear Mr. Rambeau,

Nineda, LP announces its intention to build a mixed commercial, single-family, and multi-family residential project at Highway 178 and Valley Street, City of Bakersfield, California. After consultation with the Native American Heritage Commission, the project area is not known to have Native American cultural resources in close proximity. The record search and reporting were performed in a manner consistent with SHPO guidelines. These guidelines are prescribed in "Instructions for Recording Historical Resources", "Archaeological Resources Management Reports (ARMR) Recommended Contents and Format," and "Guidelines for Archaeological Research Designs".

Cornerstone Engineering retained Hudlow Cultural Resource Associates of Bakersfield, California on behalf of Nineda, LP to conduct a cultural resource survey and a Sacred Land Search. Cornerstone Engineering conducted the Information Center record search,

This project falls within SB 18 guidelines and is subject to Native comment and consultation. As such, this letter informs your group that this project is preceding and requests comments with respect to the proposed project as outlined above.

If you have any questions, comments, or need additional information, please inform Scott M. Hudlow in writing on or before Friday, February 18, 2022. My business address is below.

Hudlow Cultural Resource Associates
1405 Sutter Lane
Bakersfield, California 93309
(661) 834-9183
shudlow@sbcglobal.net

Sincerely,

Scott M. Hudlow
Hudlow Cultural Resource Associates

enclosures

STATE OF CALIFORNIA — Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

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

January 12, 2022

Scott Hudlow
Hudlow Cultural Resource Associates

Via Email to: shudlow@sbcglobal.net

Re: Phase I Cultural Resource Survey for Vista Montana Project, Kern County

Dear Mr. Hudlow:

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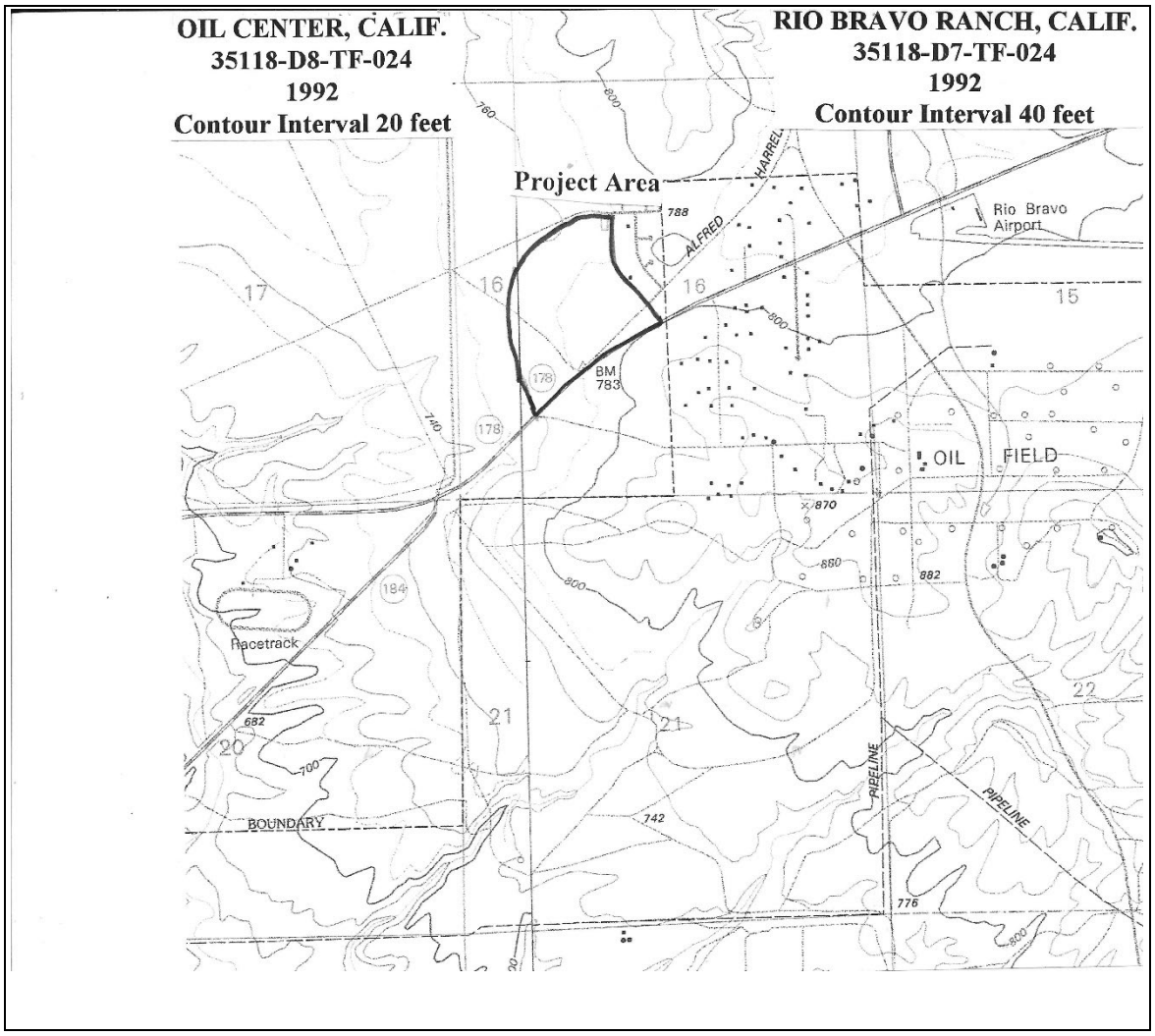
Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment



Project Area Location Map

Sally Manning, Environmental Director
Big Pine Paiute Tribe of the Owens Valley
P.O. Box 700
Big Pine, California 93513

January 19, 2022

Dear Ms. Manning,

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1405 Sutter Lane
Bakersfield, California 93309
(661) 834-9183
shudlow@sbcglobal.net

Sincerely,

Scott M. Hudlow
Hudlow Cultural Resource Associates

enclosures

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West Sacramento,
California 95691
(916) 373-3710
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NAHC.ca.gov

January 12, 2022

Scott Hudlow
Hudlow Cultural Resource Associates

Via Email to: shudlow@sbcglobal.net

Re: Phase I Cultural Resource Survey for Vista Montana Project, Kern County

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Cultural Resources Analyst

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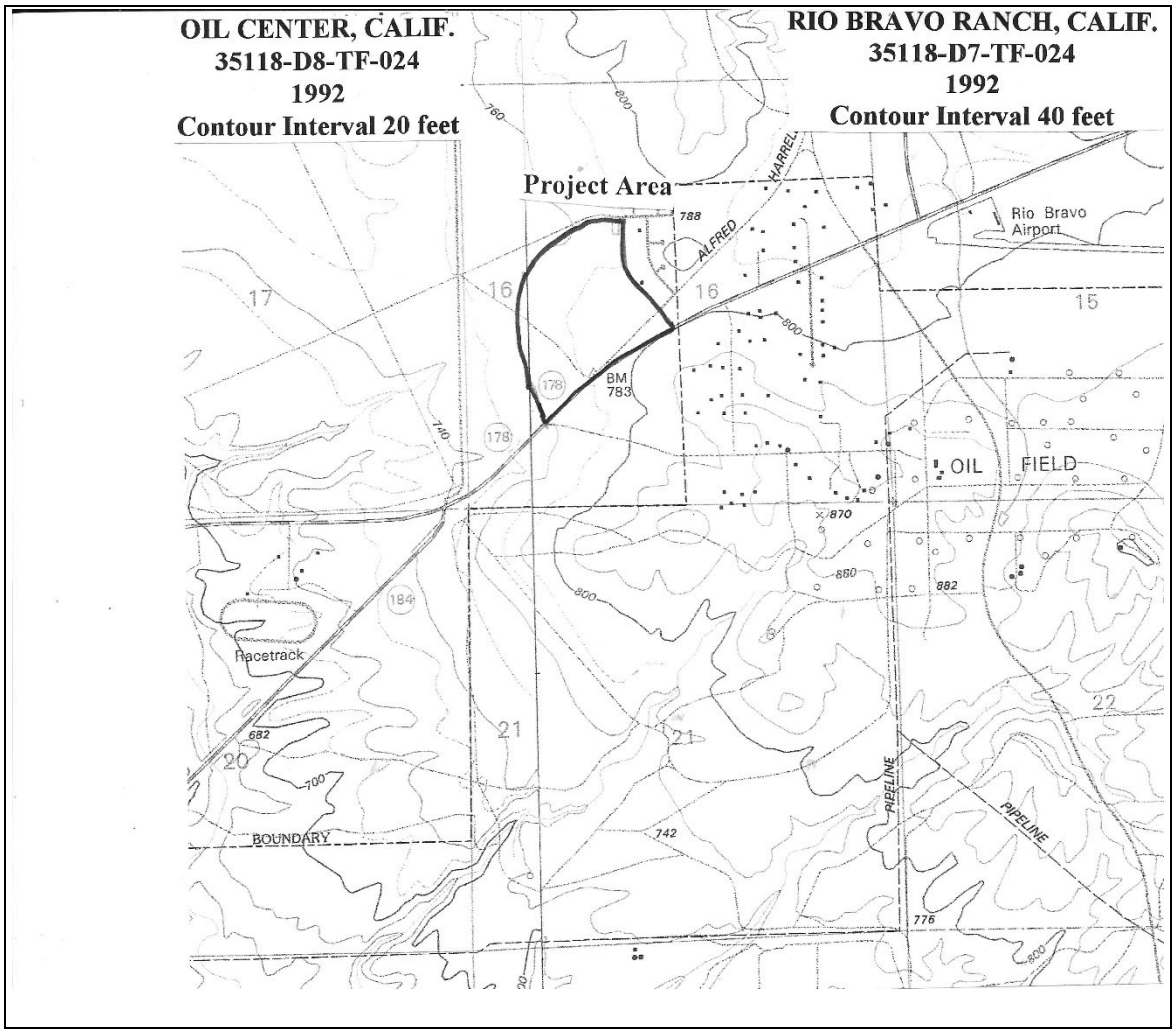

Project Area Location Map

Danelle Gutierrez, Tribal Historic Preservation Officer
Big Pine Paiute Tribe of the Owens Valley
P.O. Box 700
Big Pine, California 93513

January 19, 2022

Dear Mr. Gutierrez,

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shudlow@sbcglobal.net

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Scott M. Hudlow
Hudlow Cultural Resource Associates

enclosures

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January 12, 2022

Scott Hudlow
Hudlow Cultural Resource Associates

Via Email to: shudlow@sbcglobal.net

Re: Phase I Cultural Resource Survey for Vista Montana Project, Kern County

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Cultural Resources Analyst

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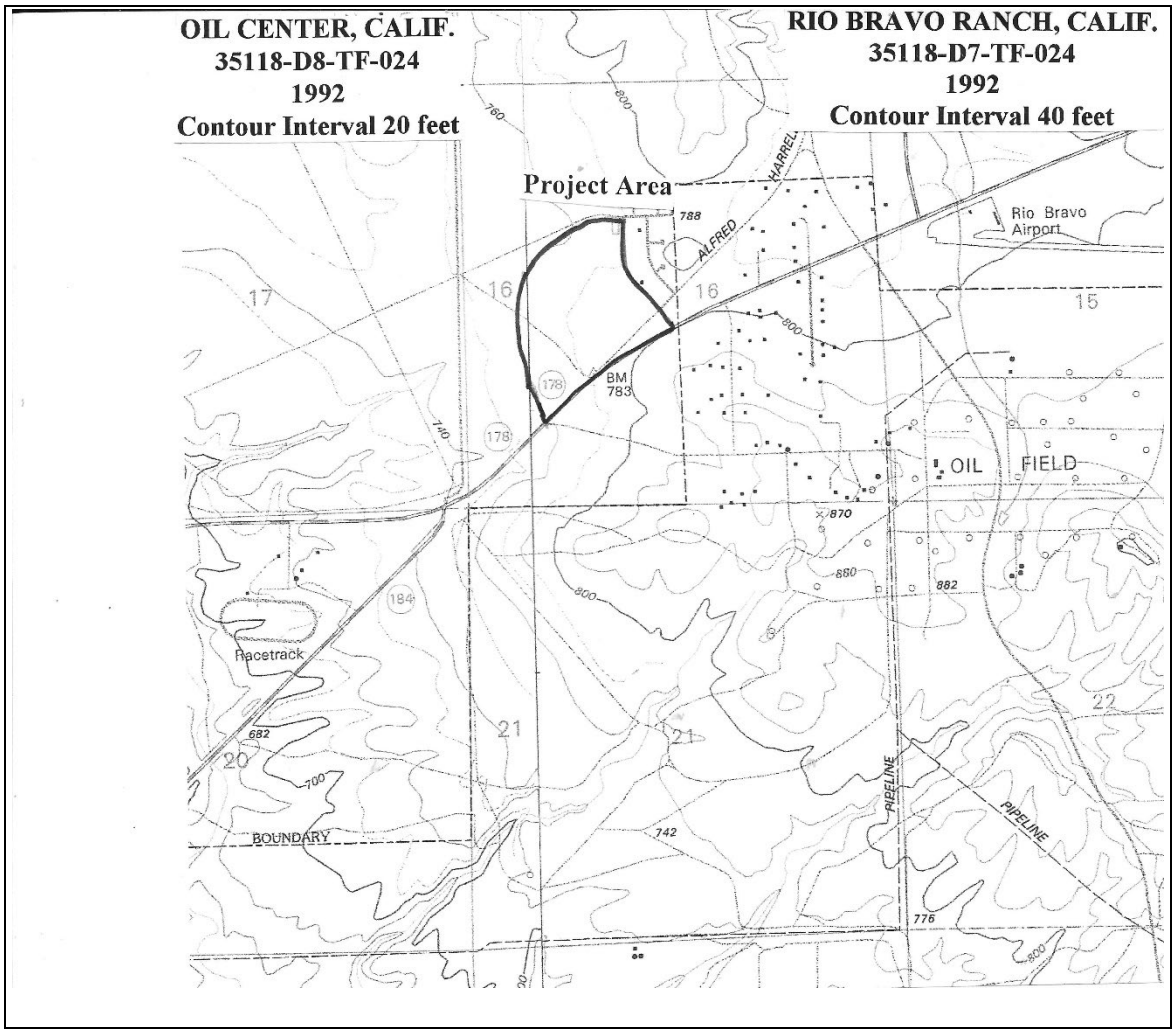

Project Area Location Map

Julio Quair, Chairperson
Chumash Council of Bakersfield
729 Texas Street
Bakersfield, California 93258

January 19, 2022

Dear Mr. Quair,

Nineda, LP announces its intention to build a mixed commercial, single-family, and multi-family residential project at Highway 178 and Valley Street, City of Bakersfield, California. After consultation with the Native American Heritage Commission, the project area is not known to have Native American cultural resources in close proximity. The record search and reporting were performed in a manner consistent with SHPO guidelines. These guidelines are prescribed in "Instructions for Recording Historical Resources", "Archaeological Resources Management Reports (ARMR) Recommended Contents and Format," and "Guidelines for Archaeological Research Designs".

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Hudlow Cultural Resource Associates
1405 Sutter Lane
Bakersfield, California 93309
(661) 834-9183
shudlow@sbcglobal.net

Sincerely,

Scott M. Hudlow
Hudlow Cultural Resource Associates

enclosures

STATE OF CALIFORNIA — Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
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January 12, 2022

Scott Hudlow
Hudlow Cultural Resource Associates

Via Email to: shudlow@sbcglobal.net

Re: Phase I Cultural Resource Survey for Vista Montana Project, Kern County

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Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

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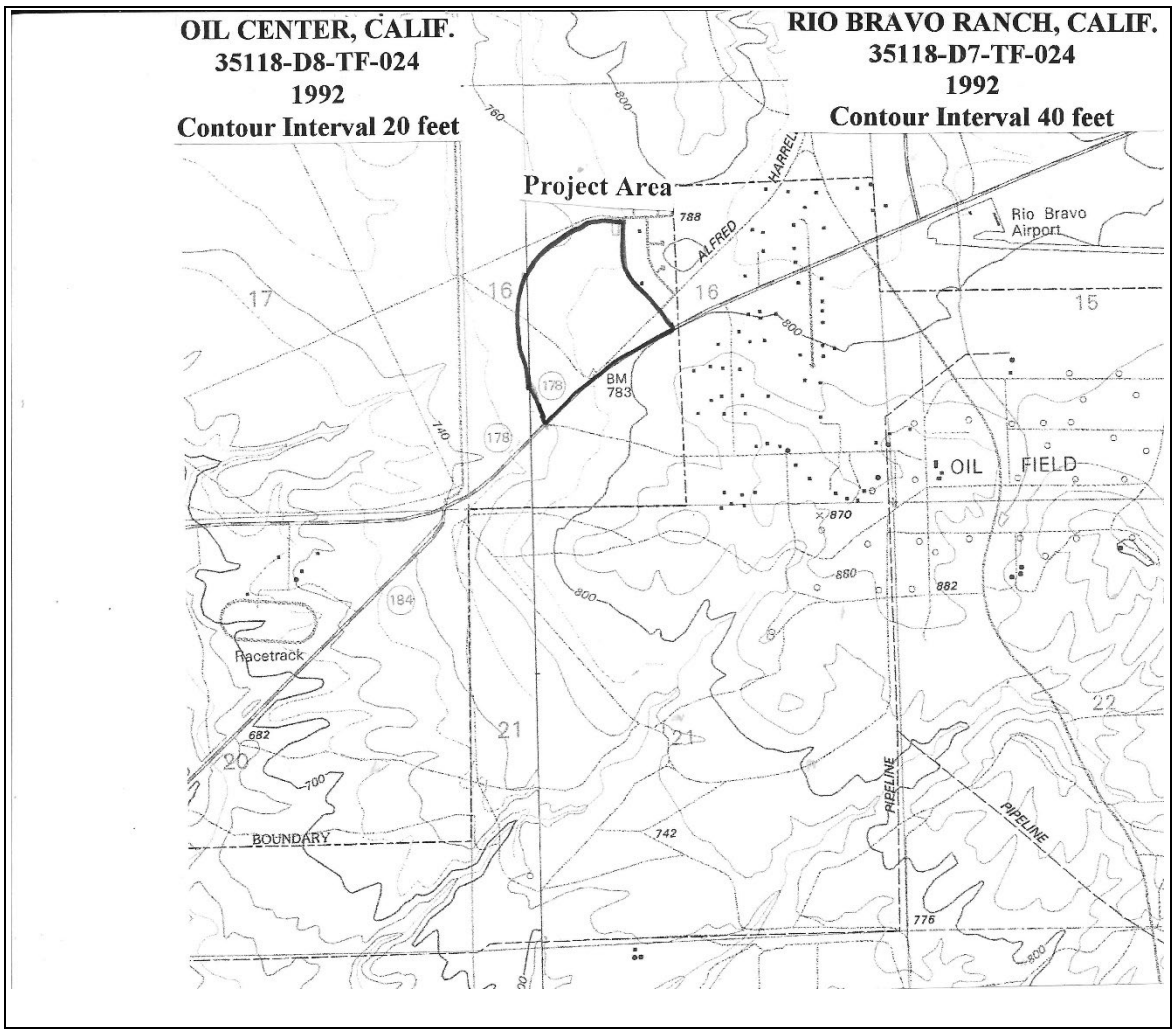

Project Area Location Map

Delia Dominquez, Chairperson
Kitanemuk and Yowlumne Tejon Indians
115 Radio Street
Bakersfield, California 93305

January 19, 2022

Dear Ms. Dominquez,

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Hudlow Cultural Resource Associates
1405 Sutter Lane
Bakersfield, California 93309
(661) 834-9183
shudlow@sbcglobal.net

Sincerely,

Scott M. Hudlow
Hudlow Cultural Resource Associates

enclosures

STATE OF CALIFORNIA — Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

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

January 12, 2022

Scott Hudlow
Hudlow Cultural Resource Associates

Via Email to: shudlow@sbcglobal.net

Re: Phase I Cultural Resource Survey for Vista Montana Project, Kern County

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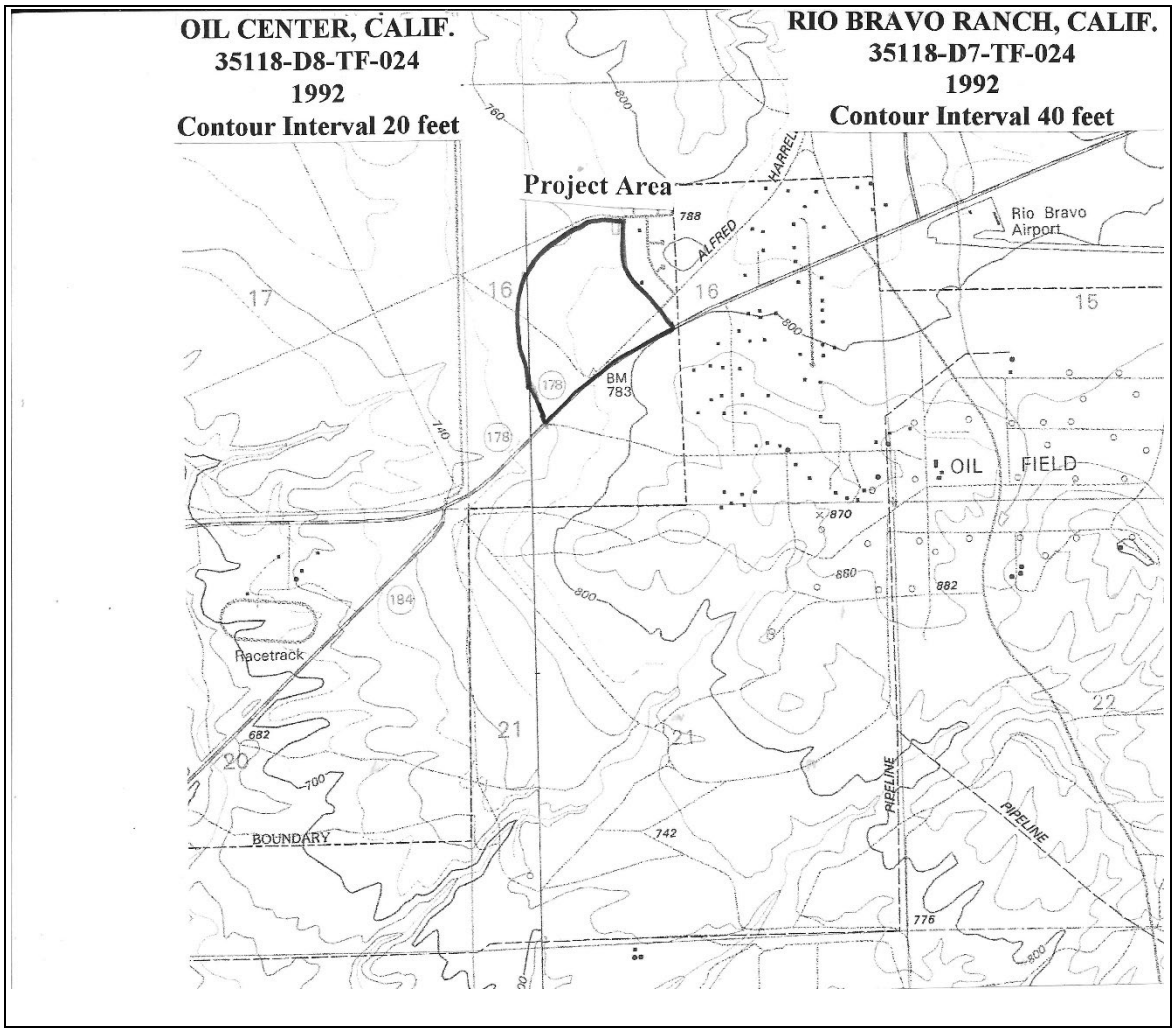

Project Area Location Map

Tejon Indian Tribe
Octavio Escobedo, Chairperson
P.O. Box 640
Arvin, California 93203

January 19, 2022

Dear Mr. Escobedo,

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Sincerely,

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January 12, 2022

Scott Hudlow
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Via Email to: shudlow@sbcglobal.net

Re: Phase I Cultural Resource Survey for Vista Montana Project, Kern County

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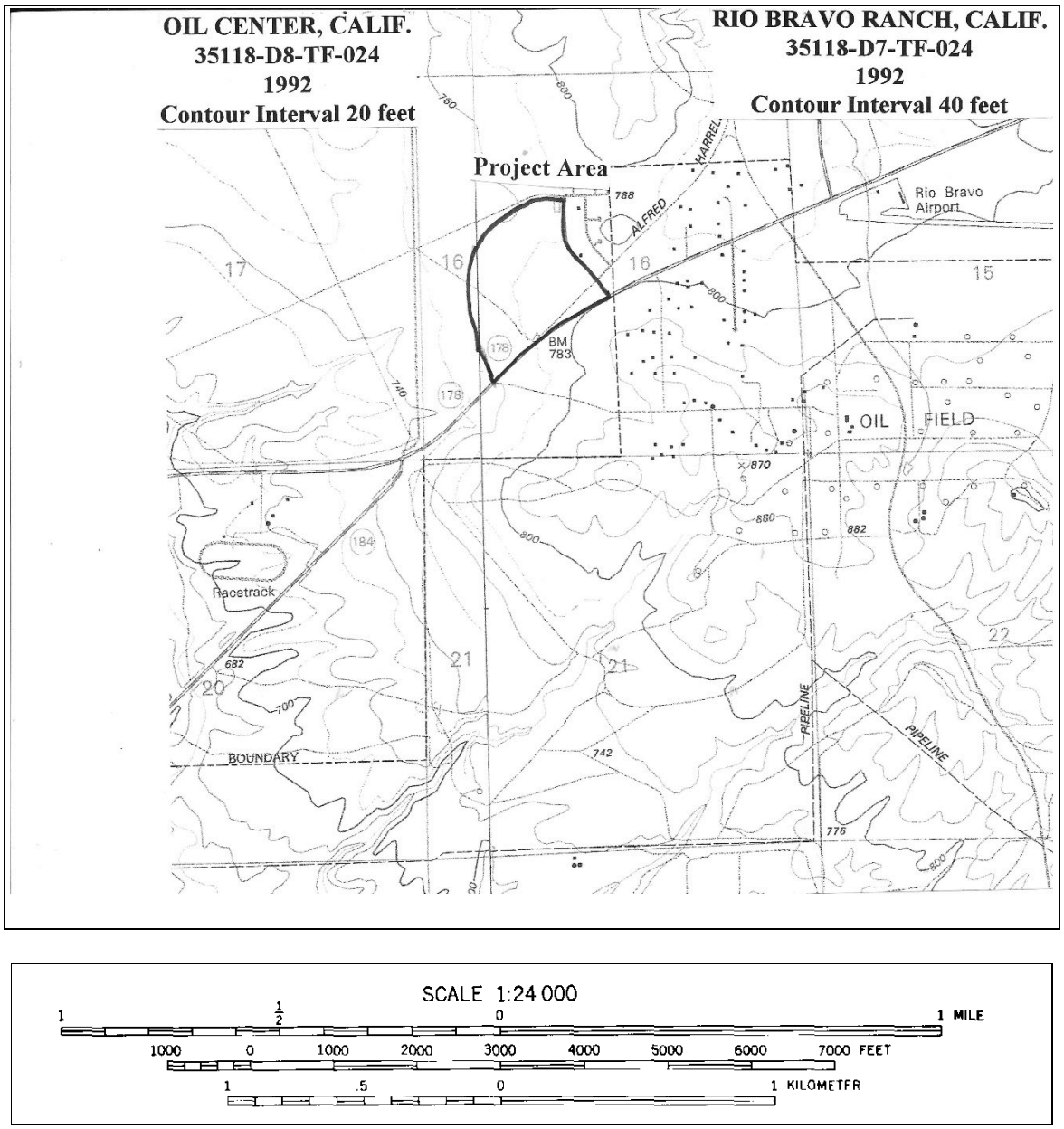

Project Area Location Map

Tejon Indian Tribe
Colin Rambo
P.O. Box 640
Arvin, California 93203

January 19, 2022

Dear Mr. Rambo,

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Via Email to: shudlow@sbcglobal.net

Re: Phase I Cultural Resource Survey for Vista Montana Project, Kern County

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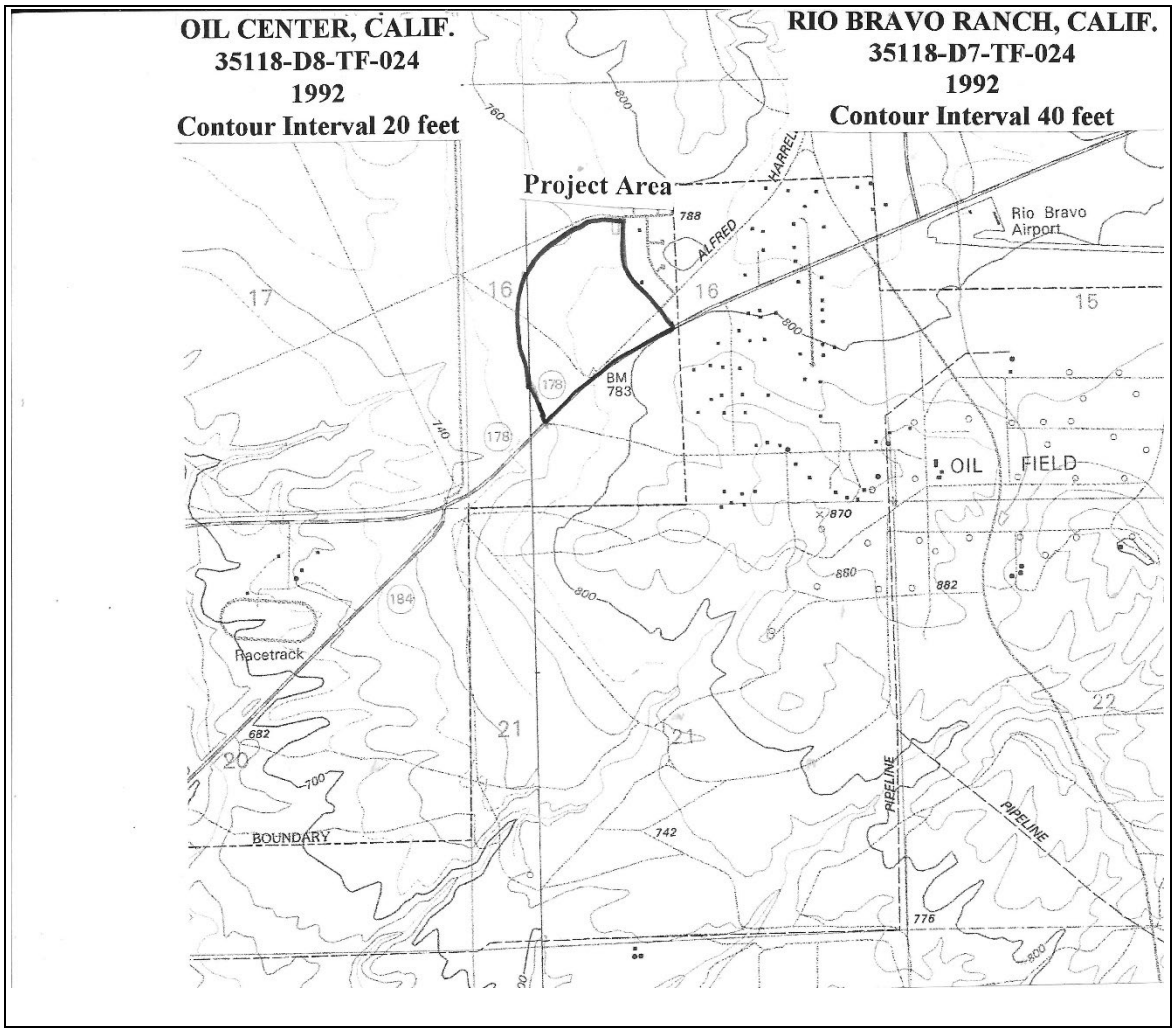

Project Area Location Map

Tule River Indian Reservation
Joey Garfield, Tribal Archaeologist
P. O. Box 589
Porterville, California 93258

January 19, 2022

Dear Mr. Garfield,

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Via Email to: shudlow@sbcglobal.net

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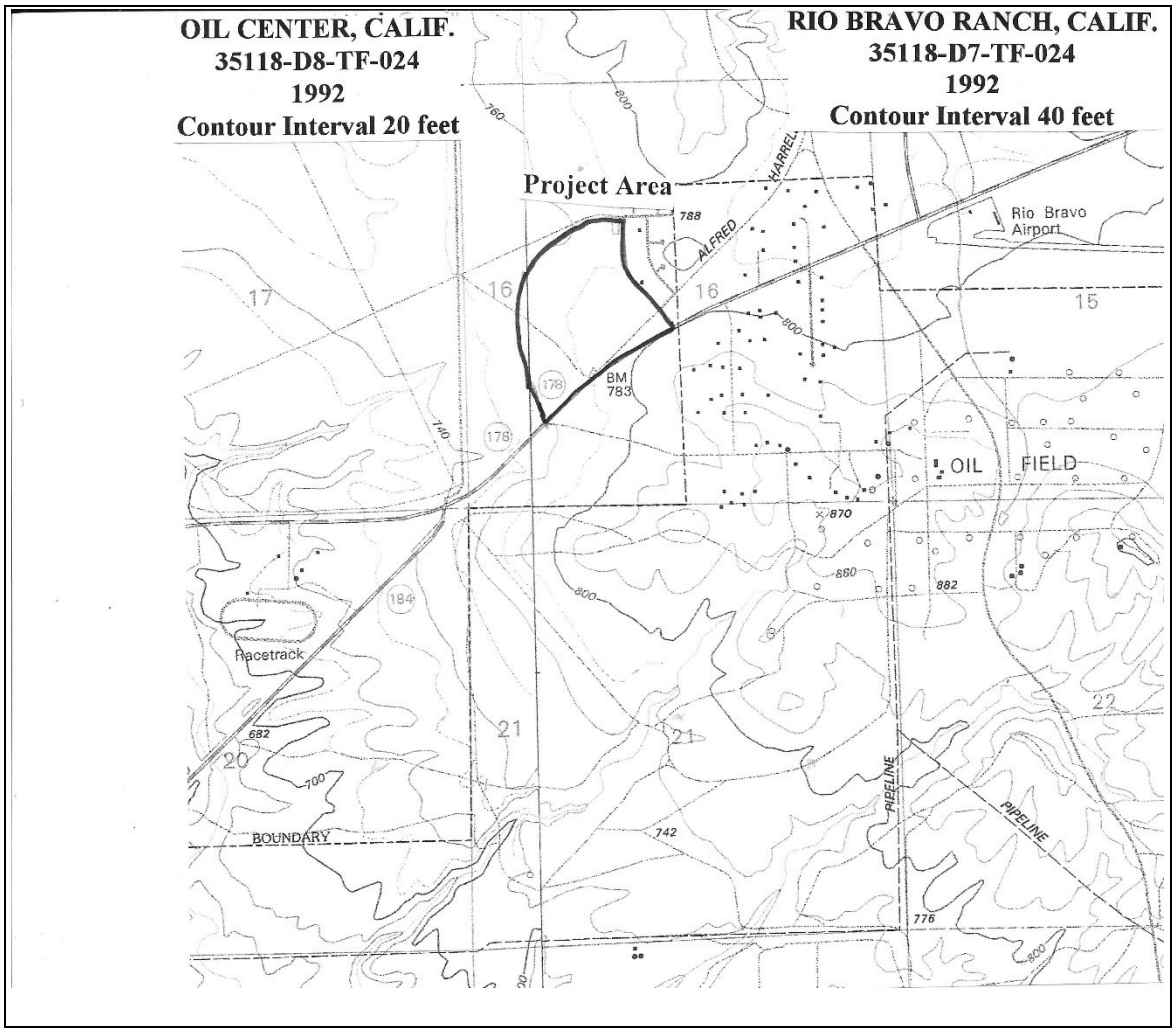

Project Area Location Map

Tule River Indian Reservation
Kerri Vera, Environmental Department
P. O. Box 589
Porterville, California 93258

January 19, 2022

Dear Ms. Vera,

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Enclosures

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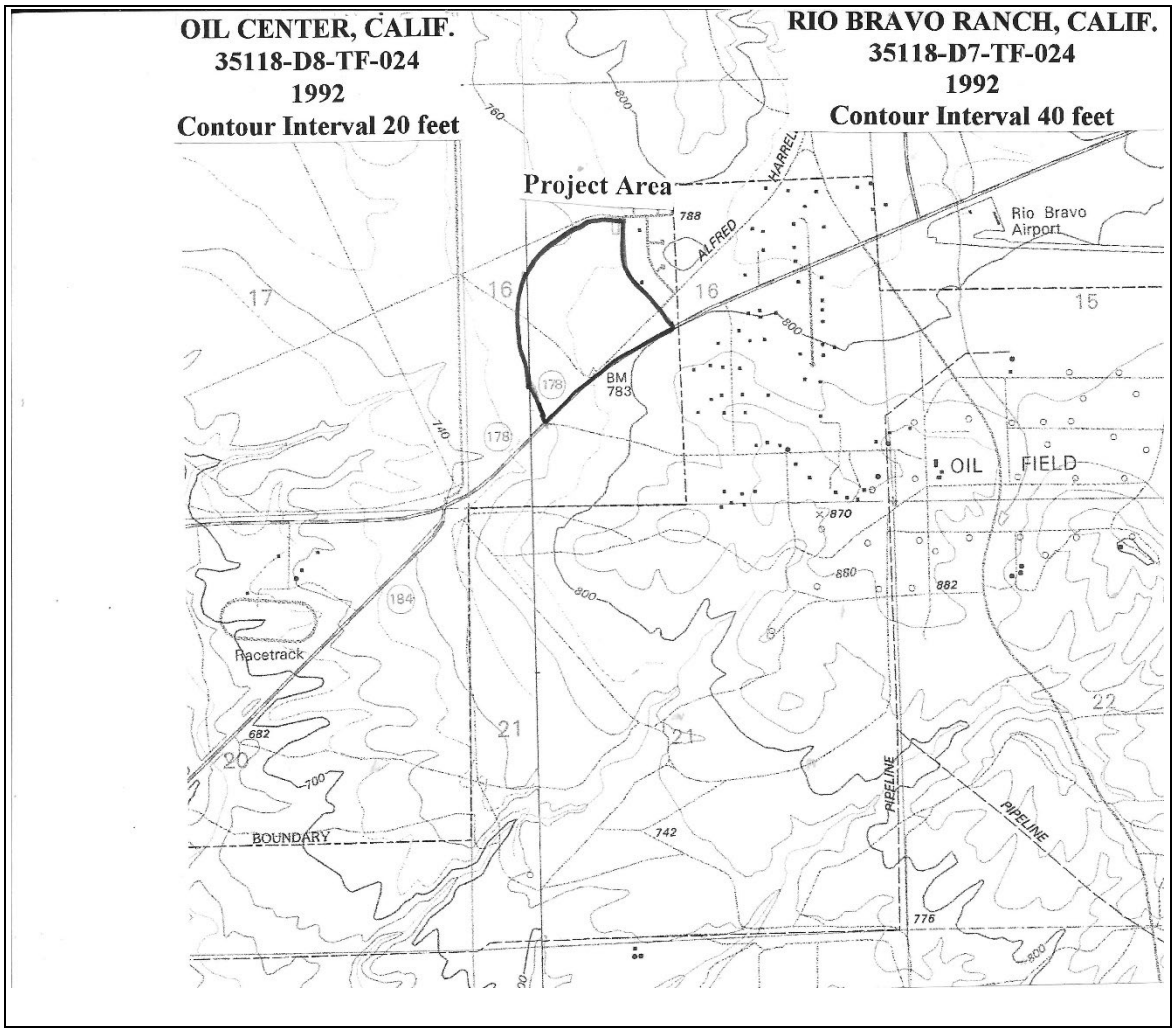

Project Area Location Map

Tule River Indian Reservation
Neil Peyron, Chairperson
P. O. Box 589
Porterville, California 93258

January 19, 2022

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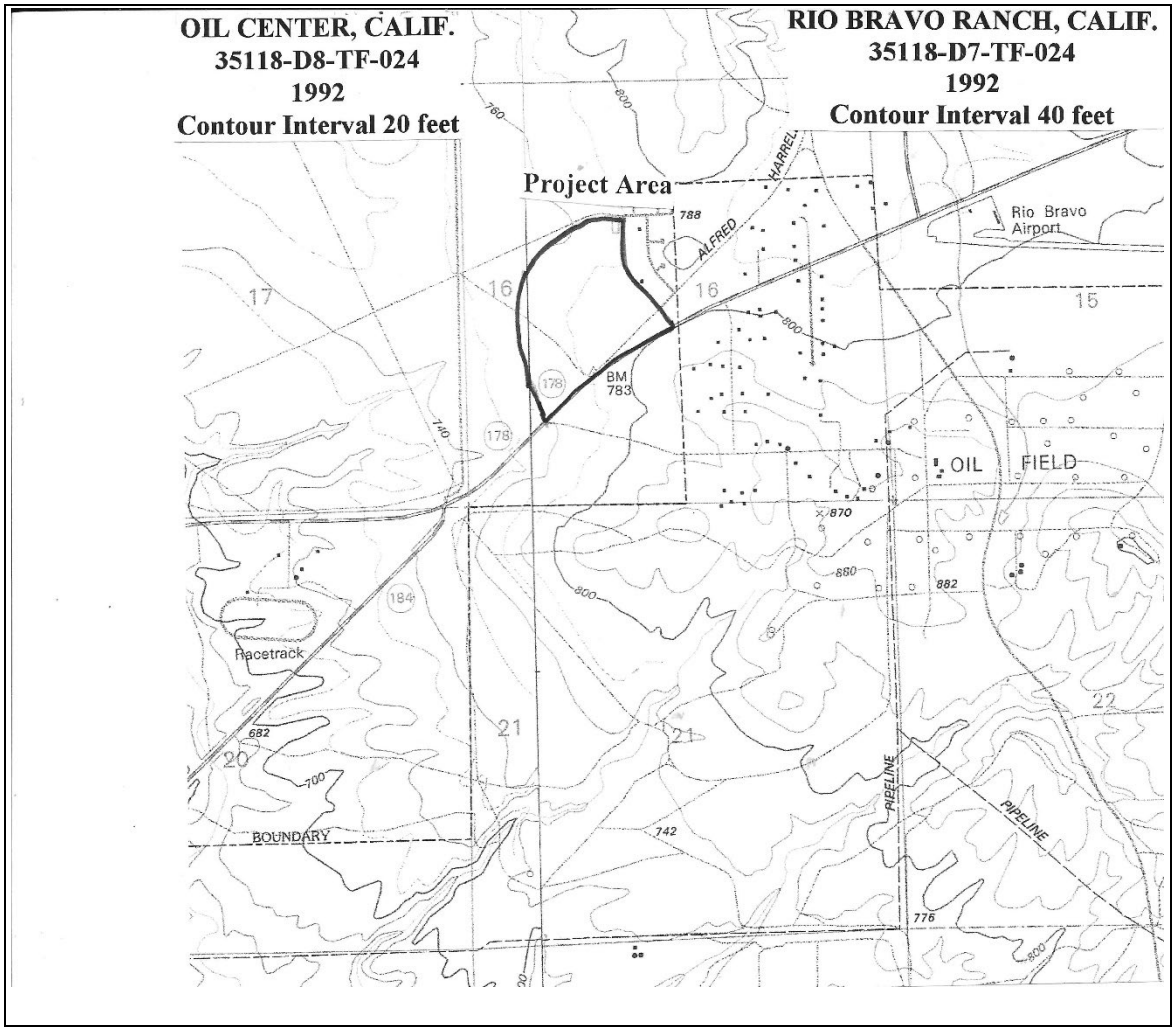

Project Area Location Map

CORNERSTONE
ENGINEERING
CONSULTANTS • ENGINEERS • LAND SURVEYORS

March 14, 2022 Project No. 509-10-00

City of Bakersfield, Planning Department
Attn: Kassandra Gale, Principal Planner
1715 Chester Ave.
Bakersfield, California 93301

Engineering:
Civil
Electrical
Mechanical
Process
Structural
Surveying
Project Management
Staff Augmentation
Drone Services

Re: Trip Generation Letter for General Plan Amendment and Zone Change on APN's 387-020-29, 387-020-30, and 387-020-34

Dear Kassandra,

Regarding the project referenced above, Cornerstone Engineering herein provides a Trip Generation Study estimating the traffic trips that will be generated by the proposed land use. This letter is written to aid the City of Bakersfield in better understanding the traffic generation of this GPA/ZC.

Project Description:
Cornerstone Engineering on behalf of the owner, Nineda LP, is currently preparing a general plan amendment and zone change for a 45.9 acre planned development that will allow for the development of a mini storage facility in combination with one duplex lot at Vista Montana Drive and Hwy 178 in the City of Bakersfield. The entire property is currently zoned R-1 (one family dwelling) with a Land Use of LR (low density residential). The project is situated on APN's: 387-020-29, 387-020-30, and 387-020-34. This property is further described as Parcel's 3 and 4 of PM 8362 filed May 1, 1989 in Book 38, Page 54 and Parcel 1 of PM 9626 filed December 4, 1991 in Book 43, Page 46, in the Office of the Kern County Recorder, also being a portion of Section 16, T29S., R29E., MDM. See APN map, GPA/ZC exhibits, and Aerial attached for your reference. The proposed zoning is R-2 (one lot) & C-2/PCD and proposed land use is proposed LMR (one lot) and GC. The C-2/PD land is proposed to be developed as a Derrel's Mini-Storage facility.

Assumptions:
A site plan has been developed for this site and is attached. For the sake of this study, we will assume that the LR land will be developed as a Single Family Detached Housing (ITE 210), the LMR land will be developed as Single Family Attached Housing (ITE 215), and the GC land developed as a Mini-Warehouse (ITE 151).

Trip Generation:
The tables below show the estimated trips that will be generated by the proposed General Plan Amendment and Zone Change. These numbers are based upon the ITE 11th edition formulas (the current edition).

5509 Young Street
Bakersfield, CA 93311
Tel: 661.325.9474 - Fax 661.322.0129
www.cornerstoneeng.com

ITE Standards (11th Edition)			Weekday AM Peak Hour OR Saturday Peak Hour			Weekday PM Peak Hour		
Land Use	**Size/Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Trip Rates								
Single Family Detached Housing - Weekday (ITE 210)	per DU	9.43	0.195	0.555	0.75	0.634	0.356	0.99
Single Family Detached Housing - Saturday (ITE 210)	per DU	9.48	0.497	0.4232	0.92			
Single Family Attached Housing - Weekday (ITE 215)	per DU	7.2	0.138	0.4125	0.55	0.378	0.232	0.61
Single Family Attached Housing - Saturday (ITE 215)	per DU	8.76	0.274	0.2964	0.57			
Mini-Warehouse - Weekday (ITE 151)	per 1000 sq. ft GFA	1.45	0.092	0.0882	0.18	0.092	0.088	0.18
Mini-Warehouse - Saturday (ITE 151)	per 1000 sq. ft GFA	1.77	0.105	0.0646	0.17			

2022 Project Trip Generation Estimates (proposed GPA/ZC)								
			Weekday AM Peak Hour OR Saturday Peak Hour			Weekday PM Peak Hour		
Land Use	**Size/Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Weekday Trip Generation								
Single Family Attached Housing	2	14.4	0.0	1.0	1.0	1.0	1.0	2.0
Commercial Mini-Warehouse Section	350	507.5	32.0	31.0	63.0	32.0	31.0	63.0
pass-by trips	0.3	152.3	9.6	9.3	18.9	9.6	9.3	18.9
Subtotal		369.7	22.4	22.7	45.1	23.4	22.7	46.1
Project Net Effective Trip Generation		370	22	23	45	23	23	46
Saturday Trip Generation								
Single Family Attached Housing	2	17.5	1.0	2.0	3.0			
Commercial Mini-Warehouse Section	350	619.5	37.0	23.0	60.0			
pass-by trips	0.3	185.9	11.1	6.9	18.0			
Subtotal		451.2	26.9	18.1	45.0			
Project Net Effective Trip Generation		451	27	18	45			
Note: Used Fitted Curve Formulas								

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Results:
The project described herein, using the ITE TripGen Web-based App for trip generation calculations, the GPA/ZC will generate a total 370 trips per day on a weekday and 451 trips per day on a Saturday. The trip generation from the GPA/ZC is a significant reduction from the currently entitled R-1 zoning and LR land use trip generation. During the AM Peak Hour on a weekday a total of 45 trips shall be generated by the GPA/ZC and during the PM Peak Hour on a weekday a total of 46 trips shall be generated by the GPA/ZC. Weekday Peak Hour trip generations are less than the 50 peak hour trip threshold required for a traffic study. During the Saturday Peak Hour, the GPA/ZC will generate 45 trips which falls below the 50 peak hour trip generations threshold. The GPA/ZC highest amount of peak hour trips will occur at the Weekday PM Peak Hour. These trips will be split 50/50 inbound/outbound so the impact to adjacent streets would also be split 50/50.

CEQA guidelines require an evaluation of a vehicle miles traveled for a project. The County of Kern and the City of Bakersfield have not yet adopted standards for Vehicle Miles Traveled (VMT) analysis. Other cities within the San Joaquin Valley, such as City of Clovis and City of Fresno, have adopted standards. Per these documents, 500 trips per day is a reasonable threshold to cause less than significant VMT. Since the GPA/ZC only generates 370 trips per Weekday and 451 trips per Saturday, it falls below this threshold. People usually do not rent storage space that is not nearby their homes, therefore VMT for a mini-storage facility should be expected to be less than other uses due to the close proximity of the facility to the potential mini-storage users. The VMTs and Trips generated by this expected project are not significant and do not meet a threshold to require further study.

Based on the trip generation and VMT analysis results, Cornerstone Engineering does not recommend any further study of traffic impacts.

Sincerely,

Derrill Whitten Jr.
Chief Civil Engineer and Land Surveyor

661.325.9474 ext. 107
dgw@cornerstoneeng.com