California Environmental Quality Act

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Tentative Tract Map 81337 Development Project

CITY OF PALMDALE, LOS ANGELES COUNTY, CALIFORNIA

Lead Agency: **City of Palmdale**
Planning Division
38250 Sierra Highway
Palmdale, CA 93550
Contact: Justin Sauder
661.267.5372

Applicant: **Royal Investment Group**
15821 Ventura Blvd, Suite 4
Encino, CA 91436
Contact: Kris Pinero
818.981.3000 x110

CEQA Consultant: **Michael Baker International**
40810 County Center Dr, Ste 200
Temecula, CA 92591-6049
Contact: Darren Edgington, CEP-IT, LEED AP
Environmental Services Project Manager
951.506.2083

JN 167736

MAY 2020

Table of Contents

Section A. Introduction 1

I. Statutory Authority and Requirements 1
II. Purpose 1
III. Consultation 1
IV. Incorporation by Reference 2

Section B. Project Description 2

I. Project Location & Setting 2
II. Project Objectives 11
III. Project Characteristics 11
IV. Agreements, Permits, and Approvals 13

Section C. Environmental Checklist Form 14

Section D. Environmental Factors Potentially Affected 16

Section E. Determination 17

Section F. Evaluation of Environmental Impacts 18

I. Aesthetics 18
II. Agriculture and Forestry Resources 21
III. Air Quality 23
IV. Biological Resources 30
V. Cultural Resources 36
VI. Energy 39
VII. Geology and Soils 43
VIII. Greenhouse Gas Emissions 49
IX. Hazards and Hazardous Materials 53
X. Hydrology and Water Quality 57
XI. Land Use and Planning 61
XII. Mineral Resources 63
XIII. Noise 64
XIV. Population and Housing 73
XV. Public Services 74
XVI. Recreation 77
XVII. Transportation 78

XVIII. Tribal Cultural Resources 81
XIX. Utilities and Service Systems 84
XX. Wildfire 88
XXI. Mandatory Findings of Significance 90

Section G. References 92

Section H. Preparers 94
I. Initial Study/Mitigated Negative Declaration 94
II. Technical Studies 94

Appendices

Appendix A Air Quality Study and Energy Data

Appendix B-1 Biological Resource Assessment

Appendix B-2 Jurisdictional Delineation

Appendix C Phase I Environmental Site Assessment

Appendix D Noise Technical Memorandum

NOTE: Technical Appendices provided on CD at end of document

List of Tables

City of Palmdale Energy Action Plan - Consistency Analysis 11

Table III-1 Annual and Operational Emissions Summary 25

Table III-2 Daily Construction and Operational Emissions Summary 26

Table VI-1 Energy Consumption 41

Table VIII-1 AVAQMD Greenhouse Gases Thresholds of Significance 50

Table VIII-2 Total Unmitigated Construction CO_2 Emissions 51

Table VIII-3 Total Unmitigated Operational CO_2 Emissions 51

Table XIII-1 State Recommended Noise Level Guidelines 65

Table XIII-2 City of Palmdale Sound Limits for Receiver Types 66

Table XIII-3 Traffic Noise Model Results for Current Traffic Conditions 69

List of Exhibits

Exhibit 1 Regional/Local Vicinity Map 3

Exhibit 2 Aerial Photograph 5

Exhibit 3 Tentative Tract Map 7

Exhibit 4 Site Photographs 9

This page is intentionally blank.

SECTION A. INTRODUCTION

Following preliminary review of the Project, the City of Palmdale (City) has determined that the Tentative Tract Map (TTM) 81337 Development Project is a "project" subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared to address potential impacts associated with the development project, as described below.

I. Statutory Authority and Requirements

In accordance with CEQA (Public Resources Code, Section 21000 - 21178.1), this IS/MND has been prepared to analyze the TTM 81337 Development Project (Project) in order to identify any potential significant environmental impacts that would result from implementation of the Project. The purpose of this IS/MND is to inform City of Palmdale decision-makers, affected agencies, and the public of potential environmental impacts associated with implementation of the Project.

II. Purpose

The purposes of an Initial Study are to:

(1) Identify environmental impacts;

(2) Provide the Lead Agency with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration;

(3) Enable an applicant or Lead Agency to modify the project, mitigating adverse impacts before an EIR is prepared;

(4) Facilitate environmental assessment early in the design of the project;

(5) Provide documentation of the factual basis for the finding in a Negative Declaration or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is evidence to support the entries;

(6) Provide a discussion of ways to mitigate significant effects identified, if any;

(7) Examine whether the project is compatible with existing zoning, plans, and other applicable land use controls; and

(8) Name the person or persons who prepared or participated in preparation of the Initial Study.

III. Consultation

The Lead Agency (City of Palmdale) has determined that preparation of an IS/MND is required for the Project and, acting as the Lead Agency, has begun informal consultations with Responsible Agencies and Trustee Agencies that administer resources affected by the Project. Consultations are conducted to obtain recommendations from those Responsible Agencies prior to initiation of the permit acquisition process. The City would consider any recommendations from these agencies in the formulation of its preliminary findings.

IV. Incorporation by Reference

Pertinent documents relating to this IS/MND have been cited and incorporated, in accordance with Sections 15148 and 15150 of the State CEQA Guidelines, to eliminate the need for inclusion of voluminous engineering or technical reports within the CEQA document. This IS/MND has incorporated by reference the following documents, which are available for review at the following locations:

City of Palmdale General Plan 1993 (*General Plan*) (adopted January 25, 1993)

The City *General Plan* is a long-range policy-planning document that defines the framework by which the City's physical and economic resources are to be managed over time. The goals and policies contained in the *General Plan* are provided to guide the City's decision-makers. The seven State-mandated elements included in the *General Plan* include Land Use, Circulation, Housing, Conservation (Environmental Resources Element), Open Space (Parks, Recreation and Trails Element), Safety, and Noise. In addition, the City of Palmdale has chosen to address Public Services and Community Design, which are optional elements. Information contained within the *General Plan* is incorporated herein, as it is the primary source for City policies, objectives, and citywide planning analysis.

Location of Document: City of Palmdale, Planning Division, 38300 Sierra Highway, Palmdale, CA 93550 or online at www.cityofpalmdale.org.

City of Palmdale General Plan Final EIR (SCH # 87120908) (February 1, 1993)

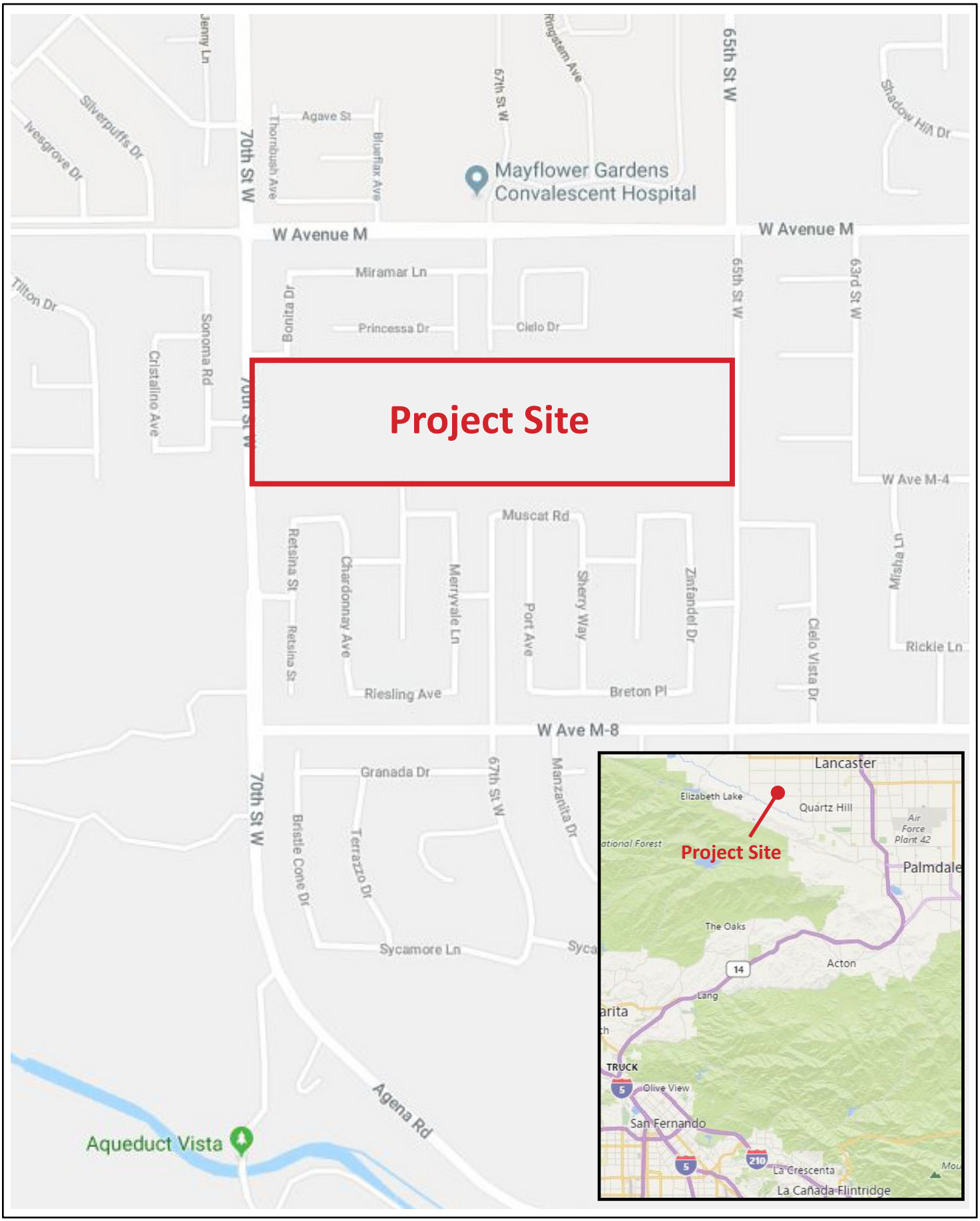
The *General Plan Environmental Impact Report* (*General Plan EIR*) was prepared to assess the potential environmental impacts associated with the *General Plan*. The *General Plan EIR* summarizes potential environmental impacts associated with implementation of the City's *General Plan*, including growth inducing and cumulative impacts. Information from the *General Plan EIR* is incorporated herein, as it contains information pertaining to impacts associated with the implementation of City policies and objectives.

Location of Document: City of Palmdale, Planning Division, 38250 Sierra Highway, Palmdale, CA 93550 or online at www.cityofpalmdale.org.

SECTION B. PROJECT DESCRIPTION

I. Project Location & Setting

The Project is located south of Avenue M, between 70th Street West. and 65th Street West. in the City of Palmdale, Los Angeles County, California (refer to *Exhibit 1, Regional/Local Vicinity Map*). The Project site is relatively flat in elevation and is comprised of approximately 40.6 acres on vacant land. The Assessor Parcel Number (APN) is 3204-025-048. The Project is bounded to the north by existing residential development and drainage facilities, to the east by 65th Street West., to the south by existing residential development, and to the west by 70th Street West. The California Aqueduct is located within proximity to the site approximately 0.67 mile to the south (refer to *Exhibit 1, Regional/Local Vicinity Map*, and *Exhibit 2, Aerial Photograph*).



Michael Baker INTERNATIONAL

Source: Google Maps, 2018
167736Exhibits.indd

N

Not to Scale

Tentative Tract Map 81337

REGIONAL/LOCAL VICINITY MAP

Exhibit 1

This page is intentionally blank.

Michael Baker INTERNATIONAL

Source: Bing Maps, 2018

167736Exhibits.indd

N

Not to Scale

Project Site

Tentative Tract Map 81337

AERIAL PHOTOGRAPH

Exhibit 2

This page is intentionally blank.

TENTATIVE TRACT NO. 81337

PROJECT SPECIFIC INFORMATION:

OWNER. . . . . SHAYAN CAPITAL, LLC
OAKMONT PROPERTIES, LLC
CANDLES CAPITAL GROUP, LLC
DAVID RABIZADEH DRAKHSHANI, LLC

DEVELOPER. . . . . ROYAL INVESTORS GROUP
15821 VENTURA BLVD, STE 460
ENCINO, CA 91436
818-981-3000

ENGINEER/SURVEYOR. . . . . CORNERSTONE ENGINEERING, INC.
208 OAK ST
BAKERSFIELD, CA 93304
661-325-9474

NUMBER OF LOTS. 86

LAND USE. . . . . EXISTING. . . VACANT (SFR-2)
PROPOSED. . RESIDENTIAL

ACREAGE. . . . . 40.56 GROSS ACRES

DENSITY. . . . . 0.45 DWELLING UNITS PER GROSS ACRE

ZONING. R-1-13,000

GRADING. . . . . ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE GRADING CODE OF THE CITY OF PALMDALE

TOPOGRAPHY. . . . . EXISTING TOPOGRAPHY SHOWN IN THIS MAP TAKEN FROM AN AERIAL SURVEY PERFORMED BY KENNEY AERIAL MAPPING INC. IN 2016

ASSESSOR'S MAP BOOK NO. . 3204-025-048

LEGAL DESCRIPTION. . . . . THE SOUTH HALF OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 3, TOWNSHIP 6 NORTH, RANGE 13 WEST, SAN BERNARDINO MERIDIAN, ACCORDING TO THE OFFICIAL PLAT.

FLOOD ZONE. . . . . ZONE X, FIRM PANEL NO. 06037C0400F & 06037C0415F

UTILITIES:

ELECTRICITY. . . . . SOUTHERN CALIFORNIA EDISON COMPANY
PO BOX 6400
RANCHO CUCAMONGA, CA 91729
800-684-8123

TELEPHONE. . . . . AT&T RESIDENTIAL
800-288-2020

SEWER. . . . . L.A. COUNTY SANITATION DISTRICT
1655 WORKMAN MILL RD
WHITTIER, CA 90601
562-699-7411

WATER. . . . . L.A. COUNTY WATERWORKS
260 EAST AVENUE K-8
LANCASTER, CA 93535
877-637-3661

TELEVISION. . . . . TIME WARNER CABLE
118 NORTH 8TH ST
SANTA PAULA, CA 93060
888-892-2253

GAS. . . . . SOUTHERN CALIFORNIA GAS COMPANY
PO BOX 3150
SAN DIMAS, CA 91773
800-427-2200

TRASH. . . . . WASTE MANAGEMENT
600 E AVENUE F
LANCASTER, CA 93535
661-947-7197

SOILS ENGINEER . . . . . GEOTEK, INC.
710 E. PARKRIDGE AVE, STE 105
CORONA, CA 92879
951-710-1160

FIRE PREVENTION. . . . . L.A. COUNTY FIRE DEPARTMENT
335 E. AVENUE K-6
LANCASTER, CA 93535
661-723-4455

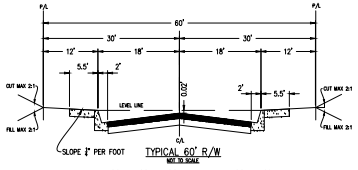
TITLE COMPANY. . . . . FIDELITY NATIONAL TITLE COMPANY
5000 VAN NUYS BLVD, STE 500
SHERMAN OAKS, CA 91403
818-881-7800

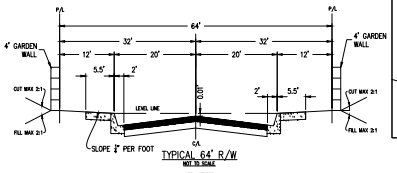
LICENSED LAND SURVEYOR'S STATEMENT

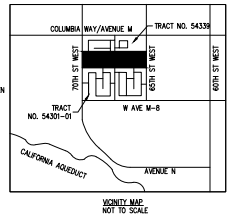
I, DERRILL G. WHITTEN JR., HEREBY STATE THAT I AM A LICENSED LAND SURVEYOR OF THE STATE OF CALIFORNIA AND THAT THIS MAP CONSISTING OF ONE (1) SHEET CORRECTLY REPRESENTS A SURVEY MADE UNDER MY SUPERVISION IN JULY 2016 IN CONFORMANCE WITH THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AND LOCAL ORDINANCE AND THAT THE SURVEY IS TRUE AND COMPLETE AND THAT ALL MONUMENTS SHOWN THEREON ACTUALLY EXIST AND ARE OF A CHARACTER AND DO OCCUPY THE POSITIONS INDICATED AND ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED.

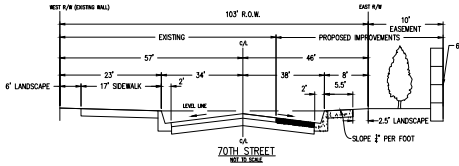
9/26/2018
DERRILL G. WHITTEN JR. P.L.S. 7816, EXP. 12/31/19 — DATE

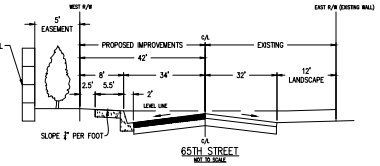
LICENSED LAND SURVEYOR DERRILL G. WHITTEN JR. P.L.S. No. 7816 STATE OF CALIFORNIA

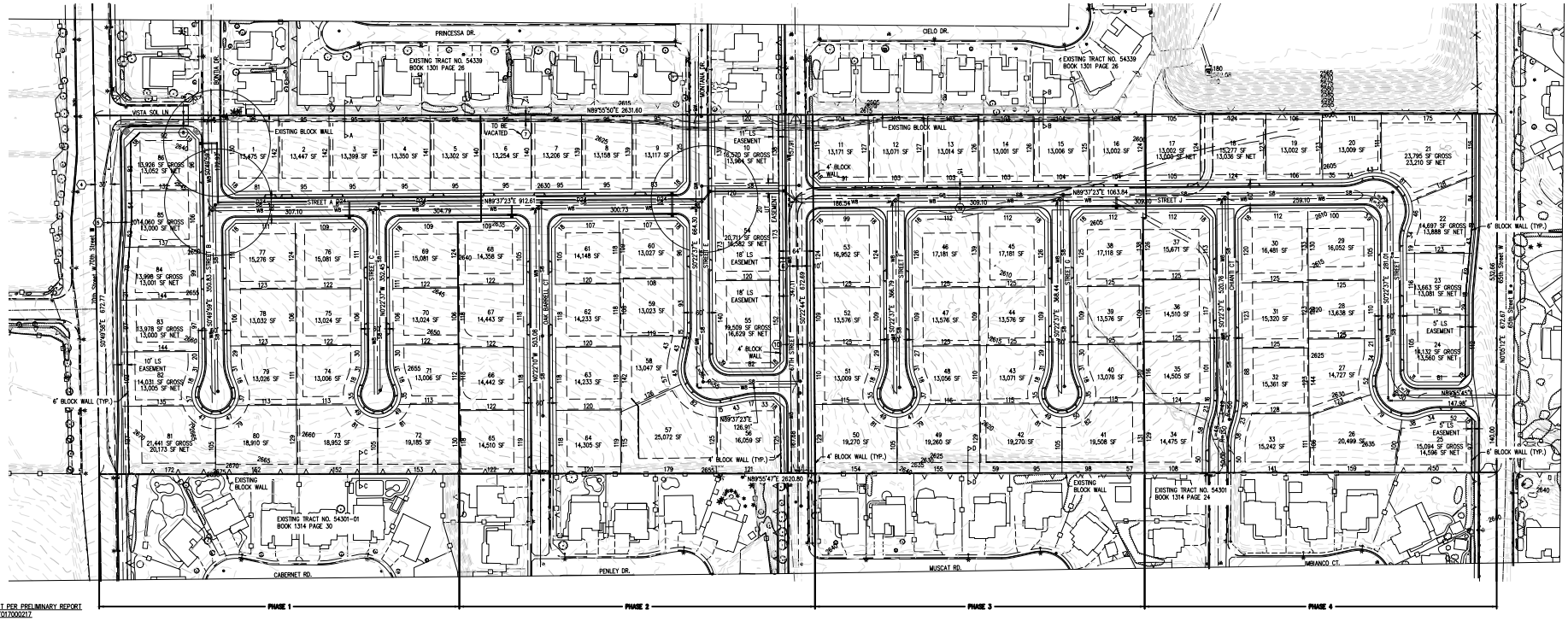












EASEMENT PER PRELIMINARY REPORT
#FWKN-1917000217

(4) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS GRANTED IN A DOCUMENT:
GRANTED TO: COUNTY OF LOS ANGELES
PURPOSE: PUBLIC STREET, ROAD OR HIGHWAY
RECORDING DATE: OCTOBER 9, 1956
RECORDING NO.: BOOK 7936, PAGE 203, OFFICIAL RECORDS
AFFECTS: SAID LAND

(5) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS GRANTED IN A DOCUMENT:
GRANTED TO: COUNTY OF LOS ANGELES
PURPOSE: PUBLIC STREET, ROAD OR HIGHWAY
RECORDING DATE: JANUARY 4, 1957
RECORDING NO.: 1572, OFFICIAL RECORDS
AFFECTS: THE EASTERLY 20 FEET OF THE WESTERLY 50 FEET

(6) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS GRANTED IN A DOCUMENT:
GRANTED TO: COUNTY OF LOS ANGELES
PURPOSE: PUBLIC STREET, ROAD OR HIGHWAY
RECORDING DATE: DECEMBER 7, 1967
RECORDING NO.: 67-1933055, OFFICIAL RECORDS
AFFECTS: SAID LAND

(7) MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: AGREEMENT TO GRANT OF EASEMENT
DATED: FEBRUARY 26, 2004
EXECUTED BY: EDWARD S. SALKIN AND HB HOME GREATER LOS ANGELES, INC., A CALIFORNIA CORPORATION
RECORDING DATE: FEBRUARY 26, 2004
RECORDING NO.: 2004-0446263, OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS

SHALL BE VACATED WITH THE RECORDING OF THIS MAP

(8) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: CITY OF PALMDALE
PURPOSE: PUBLIC STREET, ROAD OR HIGHWAY
RECORDING DATE: MARCH 10, 2005
RECORDING NO.: 2005-0502057, OFFICIAL RECORDS
AFFECTS: SAID LAND

(9) MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: ACCEPTANCE OF CUT/FILL SLOPES RECORDING
DATED:
EXECUTED BY: EDWARD S. SALKIN
RECORDING DATE: APRIL 21, 2005
RECORDING NO.: 2005-0844006, OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS
NOT PLOTTABLE

(10) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: CITY OF PALMDALE
PURPOSE: PUBLIC STREET, ROAD OR HIGHWAY
RECORDING DATE: MARCH 9, 2006
RECORDING NO.: 2006-0141045, OFFICIAL RECORDS
AFFECTS: SAID LAND

Michael Baker INTERNATIONAL

GRAPHIC SCALE
80' 40' 0' 40' 80'
(IN FEET)

Source: Cornerstone Engineering, Inc., 9/26/18
167736Exhibits.indd

Tentative Tract Map 81337

TENTATIVE TRACT MAP

Exhibit 3

This page is intentionally blank.

Photo 1
Invasive grass field, west side

Photo 2
Invasive grass field, east side

Photo 3
Rabbit brush patch, east side

Photo 4
Great Basin sage patch, west side

Michael Baker INTERNATIONAL

Source: Mark Hagan, 2018

167736Exhibits.indd

Tentative Tract Map 81337

SITE PHOTOGRAPHS

Exhibit 4

This page is intentionally blank.

II. Project Objectives

The identified objectives of the Project are:

- To create a residential development that respects applicable local, State and federal regulations.
- To construct 86 new single-family residential units, with relevant infrastructure, landscaping, interior circulation system (right-of-way), and to connect to other offsite existing roadway improvements, neighborhoods and drainage facilities.

III. Project Characteristics

The Project proposes construction of approximately 86 single-family residential homes on approximately 40.6 acres (refer to *Exhibit 3, Tentative Tract Map*). The proposed density is 0.45 dwelling units per gross acre (du/ac). The Project would also include grading, roadway improvements/right-of-way for interior and existing streets, sidewalks, landscaping, walls/fences, street lighting, and relevant infrastructure (water, sewer, storm drain facilities, electrical, cable, etc.). The infrastructure proposed to serve the Project would connect to existing facilities in neighboring residential developments to the north and south of the Project site, as well as 65th Street West and 70th Street West.

Lot and Home Size

Lots sizes range from approximately 13,006 gross square feet (s.f.) to 26,011 gross s.f. The Project proposes a mix of three single-family home product types ranging from 3,000 s.f. to 5,000 s.f. Refer to *Exhibit 3, Tentative Tract Map*.

Circulation

- All Project construction activities must comply with Section 8.28.030 of the City of Palmdale's Municipal Code (PMC) relative to construction hours (no construction can occur on Sundays, or any other day after 8:00 p.m. or before 6:30 a.m. in any residential zone or within 500 feet of any residence, hotel/motel, or recreational vehicle park).
- The Project must be compliant with the measures of the City of Palmdale *Energy Action Plan* (adopted August 2011), including:

City of Palmdale Energy Action Plan - Consistency Analysis

Reduction Measure	Strategy and Measure	Determination of Consistency
Goal 1	Reduce energy demand through energy conservation and efficiency.	All proposed development would be designed and constructed in conformance with adopted goals and policies of the Energy Action Plan aimed at reducing energy demands and increasing energy conservation.
Policy 1.3	Encourage new development to exceed Title 24 energy use requirements by 15 percent.	All proposed development would conform to Title 24 requirements to ensure energy efficiency goals are met.

City of Palmdale Energy Action Plan – Consistency Analysis [continued]

Reduction Measure	Strategy and Measure	Determination of Consistency
Policy 1.4	Reduce the urban heat island effect to reduce energy consumption and cool the local climate through increased shading on private property, cool surfaces, and high albedo surfaces for sidewalks and parking lots.	All Project landscaping would be designed and installed in conformance with City requirements. Landscaping would provide increased shade within the development.
Policy 1.10	Continue to participate in regional initiatives to meet energy efficiency targets.	The Project would be designed and would operate with consideration for the goals and policies identified in the Energy Action Plan to increase energy efficiency and to contribute to achievement of local and State goals for reducing overall energy demands.
Goal 2	Reduce water consumption for energy conservation.	All proposed development would conform to Title 24 requirements to ensure energy efficiency goals are met.
Policy 2.1	Reduce municipal water consumption to reduce energy consumption and conserve water resources.	Refer to Goal 2, above.
Policy 2.3	Facilitate a 20 percent reduction in water use by 2020 to exceed the 20X2020 initiative to reduce energy consumed for water conveyance and treatment.	Refer to Goal 2, above.
Goal 4	Reduce transportation emissions through alternative vehicles, trip reduction and consolidation, and efficient flow.	The Project site is located within proximity to access to the City's public transit system operated by the Antelope Valley Transit Authority. Routes 5, 7, and 9 run within proximity to the Project site. An existing bus stop is located on the east side of 67th Street West, just north of the site across W. Avenue M. This stop allows access to the bus system and provides connection to other bus routes within the City. It is anticipated that a percentage of Project residents would utilize such public transit to travel to/from the site. Development of the site with the proposed uses is consistent with the existing General Plan land use designation and zoning classification, and therefore, is consistent with planned future land use of the property.
Policy 4.1	Continue to promote ride sharing and TDM programs to reduce use of traditional motor vehicles for work commutes.	Refer to Goal 4, above.
Policy 4.3	Reduce emissions from mobile sources through efficient vehicle flow.	The Project proposes improvements to the local circulation system to ensure that level of service of area roads and intersections affected by the Project remain at acceptable levels. Impacts would be reduced to less than significant with Project implementation.
Policy 4.5	Reduce emissions from on-road vehicle sources.	Refer to Goal 4, above.

City of Palmdale Energy Action Plan – Consistency Analysis [continued]

Reduction Measure	Strategy and Measure	Determination of Consistency
Goal 5	Implement smart land use to reduce vehicular trips.	Refer to Goal 4, above.
Goal 6	Reduce waste.	The Project would be required to comply with programs implemented by the City to achieve local and State solid waste reduction goals.
Policy 6.2	Achieve an 80 percent diversion of landfilled waste by 2020.	Refer to Goal 6, above.
Policy 6.3	Collaborate with regional partners to achieve local waste diversion targets.	Refer to Goal 6, above.

Project Schedule

Construction of the Project is anticipated to begin in June 2019. Construction activities are anticipated to last approximately 36 months depending on market conditions and sales.

IV. Agreements, Permits, and Approvals

The City of Palmdale is the Lead Agency for the Project and has discretionary authority over the Project. To implement the Project, the following agreements, permits, and approvals are anticipated:

Agreements, Permits, and Approvals	Granting Agency
Tentative Tract Map (TTM 81337)	City of Palmdale
IS/MND Approval	City of Palmdale
Grading Permit	City of Palmdale
Building Permit	City of Palmdale
Subdivision Development Plan	City of Palmdale
Annexation into District No. 14 (for sewer service)	County Sanitation Districts of Los Angeles County
Storm Water Pollution Prevention Plan (SWPPP) Construction General Permit	State Water Resources Control Board (SWRCB)
Air Quality Permit	Antelope Valley Air Quality Management District (AVAQMD)
Lakebed and Streambed Alteration Agreement (LSAA)	California Department of Fish and Wildlife (CDFW)

SECTION C. ENVIRONMENTAL CHECKLIST FORM

1. Project Title: TTM 81337 Development Project

2. Lead Agency Name and Address: City of Palmdale
38250 Sierra Highway
Palmdale, CA 93550

3. Contact Person and Phone Number: Justin Sauder, (661) 267-5372
jsauder@cityofpalmdale.org

4. Project Location: Refer to Section B.I, Project Location & Setting.

5. Project Sponsor's Name and Address: Kris Pinero, (818) 981-3000 x110
Royal Investment Group
15821 Ventura Blvd, Suite 4
Encino, CA 91436

6. General Plan Designation: Single-Family Residential (SFR-2)

7. Zoning: Single-Family Residential (R-1-13,000)

8. Description of Project:

   Refer to Section B.III, Project Characteristics. The Project would involve construction of 86 new single-family residential units on approximately 40.6 acres. The Project would also include landscaping, interior circulation, infrastructure improvements (water, sewer, storm drain facilities, electrical, cable, etc.). Offsite roadway improvements are proposed for purposes of access and to enhance connectivity and improve area traffic flows.

9. Surrounding Land Uses and Setting:

   Refer to Section B.I, Project Location & Setting.

10. Other Public Agencies Whose Approval is Required:

    - State Water Resources Control Board
    - Antelope Valley Air Quality Management District
    - California Department of Fish and Wildlife

11. Have California Native American tribes traditionally and culturally affiliated with the project requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?[1]

    On December 6, 2018, the City of Palmdale initiated the formal consultation process notifying local tribal governments in writing of the Project pursuant to California Assembly Bill (AB) 52 and Public Resources Code (PRC) Section 21080.3.1 pertaining to tribal cultural resources consultation. The four tribes notified included the San Gabriel Band of Mission Indians, the Gabrieleno Band of Mission Indians - Kizh Nation, the Fernandeno Tataviam Band of Mission Indians, and the San Manuel Band of Mission Indians.

    On December 20th, 2018, the Fernandeno Tataviam Band of Mission Indians responded to the City's consultation letter and offered their comments on the proposed mitigation measures. On January 9th, 2019, the San Manuel Band of Mission Indians responded to the City's consultation letter and offered their comments on the proposed mitigation measured. The mitigation measures have been enhanced to reflect both of the Tribe's comments.

    In order to ensure that no unknown tribal resources associated with the traditional cultural landscape are adversely affected, including those associated with local tribes, mitigation measures are proposed to require monitoring by a qualified archaeologist and coordination with the Tribes for the discovery of unknown resources, as necessary. The proposed mitigation measures would ensure that any tribal resources discovered are properly evaluated for significance and avoided and/or otherwise preserved, as appropriate, in perpetuity. With the proposed mitigation, impacts would be reduced to less than significant. Refer to Section XVIII, Tribal Cultural Resources, for additional discussion.

[1] NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

SECTION D. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the Project. To each question, there are four possible responses:

- **No Impact**. The Project would not have any measurable environmental impact on the environment.
- **Less Than Significant Impact**. The Project would have the potential for impacting the environment, although this impact would be below established thresholds that are considered to be significant.
- **Less Than Significant Impact With Measures Incorporated**. The Project would have the potential to generate impacts which may be considered a significant effect on the environment, although measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.
- **Potentially Significant Impact**. The Project would have impacts which are considered significant, and additional analysis is required to identify measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures are required so that impacts may be avoided or reduced to the extent feasible. The analysis found that with implementation of mitigation measures, all identified potentially significant impacts would be reduced to a less than significant level.

SECTION E. DETERMINATION

(To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

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

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

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

5/4/2020

Signature
Carlene Saxton, Acting Planning Manager
City of Palmdale

Date

CITY OF PALMDALE
Planning Division
38250 Sierra Highway
Palmdale, California 93550

SECTION F. EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts that may result from the Project. For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and answers are provided according to the analysis undertaken as part of the Initial Study. The analysis considers the Project's short-term impacts (construction-related) and long-term impacts (operational-related).

I. Aesthetics

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

Discussion

a) Except as provided in Public Resources Code Section 21099, would the project have a substantial adverse effect on a scenic vista?

Determination: Less Than Significant Impact

A scenic vista is generally defined as a view of undisturbed natural lands exhibiting a unique or unusual feature that comprises an important or dominant portion of the viewshed. Scenic vistas may also be represented by a particular distant view that provides visual relief from less attractive views of nearby features. Other designated federal and State lands, as well as local open space or recreational areas, may also offer scenic vistas if they represent a valued aesthetic view within the surrounding landscape.

Several roadways in northern Los Angeles County offer scenic views. However, the Angeles Crest Highway (State Route 2) from the La Canada/Angeles National Forest boundary to the San Bernardino County boundary is the only roadway the has been officially designated as a State Scenic Highway by the California Department of Transportation (Caltrans 2018). The Lamont Odett Vista Point, off the Antelope Valley Freeway just south of the City, provides views of the City and beyond. Views along this roadway include Lake Palmdale, the Sierra Pelona to the west, the Tehachapi Mountains to the northwest, and the extensive flatlands of the Mojave Desert to the north and

northeast. The Angeles Crest Highway is located approximately 25.2 miles to the southeast of the Project site at its closest point. Views to the site from this roadway would therefore not be substantially altered with Project implementation due to distance from the site, intervening topography, and the height and scale of the proposed structures within the visual landscape.

As indicated in Section 3.15, Aesthetics, of the City's *General Plan EIR*, other highways in the Palmdale area provide views of desert, hillside, and mountain landscapes, although no other designated scenic highways have yet been named. Godde Hills Road offers views of the valley below as it winds up the Godde Pass, and Elizabeth Lake Road, Bouquet Canyon Road, Sierra Highway (south of Avenue S), and Juniper Hills Drive, among others, offer varying views of established habitats supporting tree groves, winding streams, and the foothills, among other features. Views of the mountains to the south and west as seen from the floor of the Antelope Valley, within which lies the City of Palmdale, provide the City with a natural backdrop.

The Project would include the construction of 86 new single-family residential units on the subject site. The Project would also include landscaping, interior circulation, and infrastructure improvements (water, sewer, storm drain facilities, electrical, cable, etc.), as well as offsite roadway improvements for purposes of access and improved circulation. Such uses would be similar in nature to the existing residential uses located adjacent to the north and south of the Project site, as well as on lands further to the west and east, and elsewhere within the City of Palmdale, and would not visibly contrast with or substantially alter existing views along the valley floor. Per the existing Single-Family Residential (R-1-13,000) zoning classification, maximum allowable building height would not exceed two stories (or 35 feet) for primary structures, and one story (or 17 feet) for accessory structures, thereby limiting the visibility of the proposed structures within the visual landscape. The proposed single-family development would be consistent with the existing surrounding development.

While the proposed structures would be visible from local streets and neighboring properties, the Project would incorporate landscaping, building materials, and accents that would be compatible with the existing setting and adjacent land uses. Further, as part of the discretionary process, the development would be subject to City review and approval for the proposed building design, construction materials, landscaping, and exterior lighting plans, prior to issuance of a building permit, to ensure compatibility with the visual character of surrounding development. Therefore, the Project is not anticipated to have a substantial adverse effect on a scenic vista. Impacts would be less than significant.

b) Except as provided in Public Resources Code Section 21099, would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Determination: No Impact

The site is currently undeveloped and previously disturbed. As indicated in the Biological Resource Assessment prepared for the Project (Hagan 2018), the site is generally disturbed and does not support any mature trees or tree stands; refer to Appendix B-1, Biological Resource Assessment, and *Exhibit 4, Site Photographs*. Vegetation onsite is characteristic of highly disturbed invasive grass fields with small patches of Great Basin sagebrush, California buckwheat, and rabbit brush. No historic buildings or rock outcroppings are located on the subject property.

As indicated above in Response I-a), there are no officially designated State Scenic Highways located in or within proximity to the City of Palmdale. The Project site would not be readily visible from any Eligible State or County Scenic Highway. Therefore, no impact to scenic resources within a State Scenic Highway would occur with Project implementation.

c) Except as provided in Public Resources Code Section 21099, would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Determination: Less Than Significant Impact

Refer also to Responses I-a) and I-b), above. Currently, the Project site is vacant with evidence of prior disturbance, such as brush clearance and former agricultural use. Due to the disturbed nature, the site does not offer a high degree of visual quality or support elements of unique visual character. Other resources of scenic value, such as rock outcroppings, mountains or ridgelines, rivers or streams, or stands of mature trees are not present.

Visual effects associated with Project construction activities would include exposed building pads and staging areas for grading and excavation equipment, as well as building materials. Views of such elements onsite, however, would be temporary and would cease when construction is completed. Further, Project construction is anticipated to take approximately three years and would, therefore, be limited and temporary. Construction activities would affect only a portion of the site at a given time, further limiting potential visual effects.

Lands surrounding the Project site are generally developed, with exception of the vacant parcels immediately to the west and northeast, and largely support single-family residential uses similar to the Project (refer to *Exhibit 2, Aerial Photograph*). The Project as proposed would be consistent with the existing General Plan land use designation and zoning classification, and therefore, would be reflective of the type of planned development anticipated for the property. Additionally, the Project would be subject to City review to ensure conformance with existing design regulations (building setbacks, height, scale, landscaping, etc.) and compatibility with surrounding land uses.

Due to existing onsite conditions, and with consideration for the development as proposed, the Project would not substantially degrade the existing visual character or quality of the site. Impacts would be less than significant.

d) Except as provided in Public Resources Code Section 21099, would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Determination: Less Than Significant Impact

Lighting fixtures would be installed with the Project to illuminate the proposed development (entryways, streetlights, etc.) and to ensure adequate onsite pedestrian and vehicular circulation, as well as public safety. All Project lighting would be required to be consistent with PMC Section 17.86.030, Lighting Requirements.

Glare occurs when light hits reflective surfaces. Glare can be caused by direct or indirect lighting from generated illumination or the sun.

The use of reflective building materials that would have the potential to cause glare (e.g., reflective glass, large expansive surface areas of glass) is not anticipated, but if proposed, would require City approval as part of the discretionary review process.

Therefore, it is not anticipated the Project would create a new source of substantial light or glare. Impacts would be less than significant.

II. Agriculture and Forestry Resources

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

Discussion

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Determination: No Impact

According to the Phase I Environmental Site Assessment (ESA) prepared for the Project by Partner Engineering and Science in July 2018, the subject site was formerly utilized for agricultural purposes (orchards) from at least 1953 until 1974 (refer also to Appendix C). The site has remained vacant since approximately 1974 to the present time.

According to the Los Angeles County Important Farmland Map prepared by the California Department of Conservation (DOC 2016), the Project site is not located within an area identified as Prime Farmland, Unique Farmland, Farmland of Statewide Importance or Farmland of Local Importance. Rather, the site is identified as Other Land, which is defined as land not included in any other mapping category (common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres). Adjacent land to the north, east and south are designated as Urban and Built-up Land (lands occupied by structures with a building density of at least one unit to 1.5 acres), and adjacent land to the west is designated as Other Land. Therefore, the Project would not result in the conversion of designated farmland as the result of Project implementation. No impact would occur.

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

Determination: No Impact

The Project site is zoned Single-Family Residential (R-1-13,000) and has a General Plan land use designation of Single-Family Residential (SFR-2). Therefore, implementation of the Project would not conflict with existing zoning for agricultural uses or Williamson Act contracts. No impact would occur.

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

Determination: No Impact

The Project is not located in an area zoned or designated as forest land. Therefore, implementation of the Project would not conflict with existing zoning of forest land, timberland, or timberland production, and no impact would occur.

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

Determination: No Impact

Refer to Response II-c), above. No impact would occur.

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

Determination: No Impact

Refer to Response II-a), above. No impact would occur.

III. Air Quality

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

Discussion

The following analysis is based upon the Air Quality Study prepared for the Project by M.S. Hatch Consulting, LLC (August 2018); refer to Appendix A.

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

Determination: Less Than Significant Impact

The City of Palmdale is located within the Mojave Desert Air Basin (MDAB). The MDAB includes the desert portions of Los Angeles and San Bernardino Counties; the eastern desert portion of Kern County; and the northeastern desert portion of Riverside County. The Antelope Valley Air Quality Management District (AVAQMD) is responsible for managing air quality within the MDAB.

The California Clean Air Act (CCAA) requires all air pollution control districts in the State to prepare plans to reduce pollutant concentrations exceeding the California Ambient Air Quality Standards (CAAQS) and to ultimately achieve the CAAQS. The districts are required to review and revise these plans every three years. The AVAQMD satisfies this requirement through the publication of Air Quality Management Plans (AQMP) targeting pollutant concentrations exceeding the CAAQS. The plans are developed by AVAQMD, with significant portions prepared by or are based upon work done by the California Air Resource Board (CARB) and South Coast Air Quality Management District (SCAQMD).

In the AVAQMD's August 2016 *Antelope Valley AQMD CEQA and Federal Conformity Guidelines*, the AVAQMD has established significance thresholds to assess the short-term and long-term impacts of project-related air pollutant emissions. A project with daily emission rates below these thresholds is considered to have a less than significant effect on regional air quality.

According to AVAQMD and CEQA and *Federal Conformity Guidelines*, a project is nonconforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable AVAQMD rules and regulations, complies with all proposed control measures that are not yet adopted from applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s).

Both the State of California and the federal government have established Ambient Air Quality Standards for seven air pollutants, including ozone (0_3), carbon monoxide (CO), nitrogen dioxide ($N0_2$), sulfur dioxide ($S0_2$), inhalable particulate matter with a diameter of 10 microns or less (PM_{10}), fine particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$), and lead. Based on the AVAQMD CEQA and Federal Conformity Guidelines, the AVAQMD is currently in non-attainment for Eight-Hour Ozone (federal 84 parts per billion, or ppb), eight-hour ozone (federal new standard, 75 ppb), ozone (State), and PM_{1o} (State).

Short-Term Emissions

Temporary impacts would result from Project construction activities, including grading, construction, paving and architectural coatings (e.g., paints). Air pollutants would be emitted by construction equipment and vehicles, with fugitive dust generated during grading of the site.

The Air Quality Study prepared for the Project by M.S. Hatch Consulting, LLC (August 2018; see Appendix A) calculated emissions during the primary phases of construction using the CalEEMod program (version 2016.3.2). The CalEEMod model calculates total emissions resulting from each construction activity (site preparation, grading, building construction, etc.), onsite and offsite, which are then compared to the AVAQMD Regional Thresholds.

Air pollutant emissions for Project construction are provided in *Tables III-1* and *III-2*. Daily emissions calculated represent the highest level of emissions during each construction activity.

Table III-1 Annual and Operational Emissions Summary

Emissions Source	Total Emissions (tons per year)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	CO_2e
Construction Emissions							
Year 1 Construction Emissions (2019)	0.34	3.53	2.31	<0.01	0.46	0.27	430
Year 2 Construction Emissions (2020)	0.44	3.94	3.61	0.01	0.47	0.23	852
Year 3 Construction Emissions (2021)	1.61	0.40	0.51	<0.01	0.03	0.02	75
Operational Emissions							
Area Sources	1.89	0.07	0.66	<0.01	0.01	0.01	69
Energy	0.01	0.11	0.05	<0.01	0.01	0.01	353
Mobile Sources	0.27	1.46	3.37	0.01	0.89	0.24	1,019
Waste	N/A	N/A	N/A	N/A	0.00	0.00	51
Water	N/A	N/A	N/A	N/A	0.00	0.00	44
Total Operational Emissions	**2.18**	**1.63**	**4.08**	**0.01**	**0.90**	**0.26**	**1,535**
Significant Emissions Threshold	**25**	**25**	**100**	**25**	**15**	**12**	**100,000**
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality Study, prepared by M.S. Hatch Consulting, LLC. August 2018. Refer to Appendix A.

Table III-2 Daily Construction and Operational Emissions Summary

Emissions Source	Total Emissions (pounds per day)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	CO_2e
Construction Emissions							
Year 1 Construction Emissions (2019)	4.86	55.01	34.41	0.07	9.59	6.11	7,515
Year 2 Construction Emissions (2020)	3.52	29.89	28.76	0.07	3.63	1.77	7,400
Year 3 Construction Emissions (2021)	56.61	12.96	15.25	0.02	0.80	0.66	2,358
Operational Emissions							
Area Sources	10.60	1.51	7.71	0.01	0.15	0.15	1,845
Energy	0.07	0.60	0.25	<0.01	0.05	0.05	766
Mobile Sources	1.95	8.15	21.61	0.07	5.20	1.43	6,954
Waste	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Operational Emissions	**12.62**	**10.26**	**29.57**	**0.08**	**5.40**	**1.63**	**9,565**
Significant Emissions Threshold	**137**	**137**	**548**	**137**	**82**	**65**	**548,000**
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality Study, prepared by M.S. Hatch Consulting, LLC. August 2018. Refer to Appendix A.
ROG: Reactive Organic Compounds, used interchangeably with Volatile Organic Compounds (VOC); NO_X: oxides of nitrogen; CO: Carbon monoxide; SO_X: Oxides of sulfur; $PM_{2.5}$: particulate matter less than 2.5 micrometers in diameter; PM_{10}: particulate matter less than 10 micrometers in diameter; CO_2e: Carbon dioxide equivalent

As shown above, Project construction activities would not generate emissions that would exceed AVAQMD Regional Emissions Significance Thresholds.

Additionally, with implementation of standard measures, construction-related emissions would be further decreased. All Project construction activities would be required to comply with applicable regulations implemented by the AVAQMD to reduce emissions, as follows:

- AVAQMD Rule 401 - Visible Emissions
- AVAQMD Rule 402 - Nuisance
- AVAQMD Rule 403 - Minimize fugitive dust emissions
- Airborne Toxic Control Measure (ATCM) - Limit Diesel-Fueled Commercial Motor Vehicle Idling

Diesel Particulate Matter Emissions During Construction

In 1998, CARB identified particulate matter from diesel-fueled engines (Diesel Particulate Matter or DPM) as a Toxic Air Contaminant (TAC). It is assumed that the majority of the heavy construction equipment utilized during Project construction would be diesel-fueled and emit DPM. Impacts from toxic substances are related to cumulative exposure and are generally evaluated over a 70-year period. Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of one million people due to exposure to the cancer-causing substance over a 70-year lifetime (California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Guide to Health Risk Assessment).

Because of the relatively short duration of Project construction activities compared to a 70-year lifespan, diesel emissions resulting from Project construction are not anticipated to result in substantial exposure to toxic substances that would adversely affect public health or safety.

Long-Term Emissions

As vehicle emissions standards have become increasingly more stringent over past decades, combined with the turnover of older vehicles, in addition to other control technologies, CO concentrations in the AVAQMD have continued to decline over past decades. Motor vehicles represent the primary source of long-term operational air pollutant emissions associated with the Project. Carbon monoxide (CO) and particulates (PM_{10} and $PM_{2.5}$) are the pollutants of major concern along area roadways. Long-term operational emissions from the Project are considered to include combustion of natural gas for water and space heating, landscape maintenance equipment, and maintenance painting. Long-term operational air pollutant emissions associated with the Project are presented in *Tables III-1* and *III-2* and would be below AVAQMD thresholds inclusive of area sources, energy sources, mobile sources, waste, and water.

Additionally, it should be noted that as vehicle emissions standards have become increasingly more stringent over past decades, combined with the turnover of older vehicles, in addition to other control technologies, CO concentrations in the AVAQMD have continued to decline over past decades. With steadily decreasing CO emissions from motor vehicles, it is anticipated that levels will continue to decline in the future.

Therefore, estimated emissions of criteria pollutants for each year of construction and total operational emissions for the Project would be well below the applicable AVAQMD Significant Emissions Thresholds, and therefore, would not have a significant air quality impact on the environment or conflict with the goals of the AQMP; refer to Appendix A. Furthermore, the Project is not expected to expose sensitive receptors to substantial pollutant concentrations; refer to Response IIIb), below. Since construction and operational emissions would be below the significance thresholds, emissions mitigation measures are not required.

As the Project would be compliant with the applicable AQMP, the Project would not result in a long-term impact on the region's ability to meet State or federal air quality standards. Therefore, the Project would not conflict with or obstruct implementation of the applicable air quality plan. Impacts would be less than significant.

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

Determination: Less Than Significant Impact

The cumulative area for air quality impacts is the Mohave Desert Air Basin, in which the Project site lies. The Basin is currently in non-attainment for respirable particulate matter (PM_{10}) and severe non-attainment for ozone (O_3) at the State level.

With respect to the Project's construction-related air quality emissions and cumulative Basin-wide conditions, the AVAQMD has developed strategies to reduce criteria pollutant emissions pursuant to Federal Clean Air Act (CAA) mandates. Per AVAQMD rules and mandates, as well as CEQA requirements that any significant impacts be mitigated to the extent feasible, these same requirements (e.g., implementation of all feasible mitigation measures and compliance with adopted AQMP emissions control measures) would also be imposed on construction projects throughout the Basin, which would include related projects.

In addressing potential cumulative effects for air quality, the AVAQMD utilizes approved general plans, which use a future development scenario based on population projections and set forth a comprehensive program that would lead the region. The Project proposes to develop the site with single-family residential uses, as allowed by right under the current General Plan land use designation of Single-Family Residential (SFR-2) and zoning classification of Single-Family Residential (R-1-13,000) that apply to the property and is therefore consistent with the City's planned vision for future development of the subject site.

As stated previously, the Project would not result in short- or long-term air quality impacts, as emissions would not exceed the AVAQMD adopted operational thresholds. Additionally, adherence to AVAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Emission reduction technology, strategies, and plans are constantly being developed. As a result, the Project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, cumulative operational impacts associated with implementation of the Project would be less than significant.

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

Determination: Less Than Significant Impact

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, places of worship, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and/or bronchitis.

The nearest existing sensitive receptors are single-family residences located directly adjacent to the north and south of the Project site (refer to *Exhibit 2, Aerial Photograph*); additional residential development is located to the east directly across 65th Street West. The Mayflower Gardens Convalescent Hospital is located further to the north, across Avenue M; the Mayflower Gardens

Residential Living Facility is located approximately 0.4 mile to the north of the site. The nearest school is Joe Walker Jr. Middle School, located approximately one mile to the northeast.

The AVAQMD identifies in its *AVAQMD CEQA and Federal Conformity Guidelines* specific project types that are within a certain distance from existing or planned sensitive receptors to be "evaluated for exposure to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1."

The project types are as follows:

- Any industrial project within 1,000 feet;
- A distribution center (40 or more trucks per day) within 1,000 feet;
- A major transportation project (50,0000 or more vehicles per day) within 1,000 feet;
- A dry cleaner using perchloroethylene within 500 feet;
- A gasoline dispensing facility within 300 feet.

Although there are sensitive receptors located in the Project vicinity, the proposed single-family residential development does not meet the criteria of project types identified in the *AVAQMD CEQA & Federal Conformity Guidelines* that would require additional evaluation for exposure to substantial pollutants. The Project would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant in this regard.

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

Determination: Less Than Significant Impact

Land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project would result in development of a single-family residential units and does not include any uses typically identified as being associated with objectionable odors.

Project grading activities associated may generate detectable odors from heavy-duty equipment exhaust during the construction phase. Any grading-related odors would be localized and short-term in nature and would cease upon Project completion. Any resulting effects on existing adjacent land uses would therefore be limited and temporary. The Project would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant.

IV. Biological Resources

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

Discussion

The following analysis is based upon the Biological Resource Assessment prepared for the Project by Mark Hagan (April 2018); refer to Appendix B-1. Additionally, a Jurisdictional Delineation was prepared by Michael Baker International (January 2020) to address potential Project impacts to onsite jurisdictional features; refer to Appendix B-2.

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

Determination: Less Than Significant Impact with Mitigation Incorporated

A Biological Resource Assessment was prepared for the Project by Mark Hagan in 2018 (see Appendix B-1). The Project site supports highly disturbed invasive grass fields with small patches of Great Basin sagebrush, California buckwheat, and rabbit brush. During a site survey conducted in April 2018, a total of fifty plant species and twenty-nine wildlife species or their sign were observed. No sensitive plants, specifically, Clokey's cryptantha, alkali mariposa lily, desert cymopterus, and Barstow woolly sunflower were observed during the field survey. Further, no sensitive plants are expected to occur within the study area due to the high level of disturbance and/or development and the lack of suitable habitat.

No desert tortoises or their signs were observed during the field survey, and no suitable habitat for the species is present onsite. Coast horned lizards are not likely to occur due to the highly disturbed nature of the site as well as impacts from adjacent residential areas. Silvery legless lizards were also not observed. However, marginal habitat for the species appears to be present within the onsite ephemeral wash system (which appears to be result of runoff and storm water flow from the surrounding streets and onsite rainfall). Refer also to Response IV-c), below.

No Mohave ground squirrels were observed or audibly detected during the field survey. No suitable habitat for Mohave ground squirrels is present onsite.

Additionally, no burrowing owls were observed during the site survey. However, California ground squirrel burrows were present onsite which can provide potential cover for burrowing owl. Available data from other surveys conducted in the Antelope Valley suggest that sites that may appear suitable for burrowing owl, but have substantial human and/or pet traffic, tend not to become occupied by this species. No desert kit foxes or their sign were observed during the survey. However, their presence has been documented in the Project vicinity and they are expected to have the potential to use the Project site. No other State or federally listed species are expected to occur within the Project area.

To ensure Project grading and/or construction activities do not result in impacts to sensitive wildlife, **Mitigation Measures BIO-1** and **BIO-2** would be implemented to ensure that burrowing owls and desert kit fox, respectively, are not present on the property prior to commencement of any grading or construction activities for the Project.

The Migratory Bird Treaty Act (MBTA) makes it unlawful to pursue, capture, kill, or possess or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union. Vegetation onsite and in the surrounding area does have the potential to support nesting sites for smaller migratory birds. Swainson's hawk and other raptors may fly over and use the site for forage but would not be expected to nest within the study area due to a lack of suitable nesting habitat. **Mitigation Measure BIO-3** would be implemented to ensure that Project construction activities do not interfere with avian breeding or nesting activities or cause direct or indirect

disturbance to sensitive species that may potentially be present onsite at the time when Project grading/construction activities commence.

Therefore, the Project would have a substantial adverse effect, either directly or through habitat modifications, on candidate, sensitive, or special status species identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. Implementation of **Mitigation Measures BIO-1** through **BIO-3** would reduce such impacts to less than significant.

Mitigation Measures:

BIO-1 A burrowing owl survey shall be performed within 30 days prior to any ground disturbing activities to ensure the absence of burrowing owl within the boundaries of disturbance. If the presence of burrowing owls is discovered, the California Department of Fish and Wildlife shall be consulted, and standard protocols shall be adhered to, prior to the occurrence of any ground disturbance.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: 30 days prior to ground disturbing activities

BIO-2 A desert kit fox survey shall be performed within 30 days prior to any ground disturbing activities to ensure the absence of the species within the boundaries of disturbance. If the presence of desert kit fox is discovered, the U.S. Fish and Wildlife Service shall be consulted, and standard protocols shall be adhered to, prior to the occurrence of any ground disturbance.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: 30 days prior to ground disturbing activities

BIO-3 If Project grading/construction activities are scheduled to occur during the nesting season for breeding birds (typically January 15th through September 30th), the following measures shall be implemented:

- Within seven days prior to commencement of grading/construction activities, a qualified biologist shall perform a pre-construction survey of all proposed work limits and within 500 feet of the proposed work limits.
- If active avian nest(s) of non-special-status species are discovered within 500 feet of the work limits, a buffer shall be delineated around the active nest(s) measuring 300 feet for passerines and 500 feet for raptors. A qualified biologist shall monitor the nest(s) weekly after commencement of grading/construction to ensure that nesting behavior is not adversely affected by such activities.
- If the qualified biologist determines that nesting behavior of non-special-status species is adversely affected by grading/construction activities, then a noise mitigation program [i.e., within 10 calendar days prior to the start of construction activities (including removal of vegetation)], a qualified biologist conducts a pre-construction survey to determine the presence or absence of nesting birds on

the proposed area of disturbance; if nesting birds are detected, the biologist prepares a letter report and mitigation plan in conformance with applicable federal and State laws (e.g., appropriate follow-up surveys, monitoring schedules, construction and noise barriers/buffers) to ensure that take of birds or eggs or disturbance of breeding activities is avoided; the report/mitigation plan is submitted to the City for review/approval and implemented to the satisfaction of the City; and the Biologist verifies in a report to the City that all measures identified in the mitigation plan are in place prior to and/or during construction] shall be implemented in consultation with CDFW, to allow such activities to proceed. Once the young have fledged and left the nest(s), then grading/construction activities may proceed within 300 feet (500 feet for raptor species) of the fledged nest(s).

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: Prior to grading or construction activities

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

Determination: No Impact

The site supports highly disturbed invasive grass fields with small patches of Great Basin sagebrush, California buckwheat, and rabbit brush; the site does not contain areas identified as riparian or riverine habitat (Hagan 2018). Additionally, Michael Baker International performed a formal jurisdictional delineation on August 5, 2019 which identified four unnamed onsite drainage features: Drainage 1 (D1), Drainage 2 (D2), Drainage 3 (D3), and Drainage 4 (D4). All onsite drainage features are fed by rainwater and urban runoff from the surrounding landscape (e.g., driveways, curbs/gutters, yards) and were determined to lack riparian overstory (Michael Baker 2020; refer to Appendix B-2).

Therefore, the Project would not impact riparian habitat or other sensitive natural communities. No impact would occur.

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Determination: Less than Significant Impact with Mitigation Incorporated

As stated above, a formal jurisdictional delineation was conducted onsite by Michael Baker International on August 5, 2019 to identify and map existing onsite jurisdictional features; refer to Appendix B-2. No wetland features were noted within the Project site during the survey. Review of the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Mapper indicated that no portions of the Project site or areas adjacent to the project site have been mapped as wetlands.

A concrete-lined v-ditch was constructed along the northern boundary of the Project site in 2006 as part of the residential development located immediately to the north. This concrete-lined v-ditch collects runoff from 70th Street, Vista Sol Lane, and residential properties located to the north before

discharging into an existing detention basin located north of the Project site and west of 65th Street. As the concrete-lined v-ditch is a stormwater control feature that was constructed in the uplands on an area that was not previously an existing natural drainage, this feature is not considered to qualify as Waters of the US/Waters of the State or be regulated by the Army Corps of Engineers (Corps), Regional Board, or CDFW. Attachment E of Appendix B-2 provides representative photographs taken during the field delineation.

The ephemeral drainage features within the Project site flow to the northeast and discharge into an existing detention basin that was constructed immediately north of the Project site; refer also to Response IV-b), above. As such, all ephemeral drainage features within the Project site are considered non-navigable, non-relatively permanent waters that lack a direct connection to a Traditional Navigable Water (TNW) and would not qualify as Waters of the US or be regulated by the Corps under Section 404 of the Clean Water Act (CWA).

The Regional Water Quality Control Board (RWQCB) regulates discharges of fill and dredged material to surface waters under Section 401 of the CWA and Section 13263 of the Porter-Cologne Act for those that do not. Based on the results of the field delineation, it was determined that approximately 0.87 acre of RWQCB jurisdiction (non-wetland waters of the State) is located on the Project site. Refer to Figure 4, *Regional Board Jurisdiction*, and Table 1, *Jurisdictional Features within the Project Site*, of Appendix B-2.

Since the onsite drainage features do not qualify as Waters of the US and would not be regulated under Section 404 of the CWA, a Section 401 Water Quality Certification would not be required. However, the onsite drainage features still qualify as waters of the State and would be regulated by the RWQCB under Section 13263 of the Porter-Cologne Act. Therefore, it is recommended that the Project applicant submit the Jurisdictional Delineation to the RWQCB to obtain written confirmation that an application for Waste Discharge Requirements would not be required for the Project.

Additionally, the onsite drainage features are considered California Department of Fish and Wildlife (CDFW) jurisdictional streambed. Based on the results of the field delineation, it was determined that approximately 0.87 acre of CDFW jurisdiction is located onsite. Pursuant to Section 1602 of the California Fish and Game Code (CFGC), the CDFW regulates any activity that would divert or obstruct the natural flow or alter the bed, channel, or bank of a lake or streambed; this would include impacts to associated riparian vegetation. Based on the field delineation, approximately 0.87 acre of CDFW streambed would be permanently impacted by Project activities.

Based on initial discussions with CDFW, it is anticipated that the Project applicant would be required to submit written notification to CDFW and obtain a Lake or Streambed Alteration Agreement (LSAA) prior to alteration of any onsite jurisdictional features. Additionally, compensatory mitigation is required to offset the loss of CDFW jurisdictional features that would occur with Project implementation. Due to the level of impact and lack of onsite mitigation options, it is recommended that mitigation for the loss of CDFW streambed occur at a minimum 1:1 ratio through the one-time purchase of ephemeral streambed credits from the Peterson Ranch Mitigation Bank, pending review and approval of such mitigation by the City of Palmdale and/or CDFW prior to issuance of the Final LSAA.

Therefore, the Project would have a substantial adverse effect on State or federally protected wetlands. Implementation of **Mitigation Measure BIO-4** would reduce such impacts to less than significant.

BIO-4 To mitigate for impacts to 0.87 acre of California Department of Fish and Wildlife (CDFW) streambed, prior to alteration of any onsite jurisdictional features, the Project Applicant shall:

- Submit written notification to CDFW and obtain a Lake or Streambed Alteration Agreement (LSAA).
- Prior to issuance of the final LSAA, the Project applicant shall provide mitigation at a minimum 1:1 ratio through a one-time purchase of ephemeral streambed credits from the Peterson Ranch Mitigation Bank with approval from the City of Palmdale and/or CDFW.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: Prior to alteration of any onsite jurisdictional features

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

Determination: Less Than Significant Impact

The Project site does not contain any rivers, creeks, or waterways. Therefore, the site does not provide migratory corridors for any fish species. Given the location of the Project site, wildlife species are unlikely to use the site as a migratory corridor due to the urban, developed nature of surrounding lands. In addition, the Project area does not involve a corridor that links large areas of undeveloped open space (refer to *Exhibit 2, Aerial Photograph*). For these reasons, a less than significant impact would occur.

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

Determination: Less Than Significant Impact

Refer to Responses IV-a) and IV-b), above. The Project site supports highly disturbed invasive grass fields with small patches of Great Basin sagebrush, California buckwheat, and rabbit brush. No mature trees or tree stands are present onsite (refer to *Exhibit 4, Site Photographs*). No sensitive plants are expected to occur within the study area due to the high level of disturbance and the lack of suitable habitat. Therefore, due to onsite conditions, development of the subject site is not anticipated to conflict with any local policies or ordinances protecting biological resources. Impacts would be less than significant.

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

Determination: No Impact

The Project site is not subject to any adopted Habitat Conservation Plan and is therefore subject to regulation by local, State, or federal laws on a case-by-case basis. As there is no adopted Habitat

Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan applicable to the Project site, no impact would occur in this regard.

V. Cultural Resources

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

Discussion

The following analysis is based upon the Phase I Cultural Resource Survey prepared for the Project by Hudlow Cultural Resource Associates (May 2018). As the report contains confidential information, it is not included in the EIR technical appendices.

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

Determination: No Impact

Historic resources generally consist of buildings, structures, improvements, and remnants associated with a significant historic event or person(s) and/or having a historically significant style, design, or achievement. Damage to or demolition of such resources is typically considered to be a significant impact. Impacts to historic resources can occur through direct impacts, such as destruction or removal, and through indirect impacts, such as a change in the setting of a historic resource.

A Phase I Cultural Resource Survey was prepared for the Project by Hudlow Cultural Resource Associates in May 2018. The subject property is currently vacant land and no structures or active land uses are present onsite. A concrete-lined storm water runoff channel is located along the northern edge of the property and appears to drain into an adjacent storm water basin located to the north of the subject property. Additionally, a subsurface storm water pipeline, operated by the Los Angeles County Department of Public Works (LACDPW), bisects the central portion of the subject property. No other improvements are present onsite.

A record search of the Project area and the environs within one-half mile was conducted at the South-Central Coast Archaeological Information Center in May 2018 (Hudlow 2018). The record search revealed that fifteen cultural resource surveys have been conducted within one-half mile radius of the Project site. One cultural resource, a historic poultry ranch, has been recorded within one half-mile of the site. No cultural resources have been previously identified on the subject property.

Additionally, a site survey was conducted for the area of potential effect (APE) for the Project in May 2018 (Hudlow 2018). No cultural resources were identified. The study concluded that no further work to evaluate the potential presence of cultural resources is required.

As a result of the investigations undertaken, no prehistoric or historic period cultural resources or sacred sites were identified on the property. As such, development of the Project site would have no impact on a historical resource.

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

Determination: Less Than Significant Impact with Mitigation Incorporated

Archaeological sites are locations that contain resources associated with former human activities and may contain such resources as human skeletal remains, waste from tool manufacture, tool concentrations, and/or discoloration or accumulation of soil or food remains.

Refer to Response V-a), above. The record search and site survey conducted for the Project did not identify any cultural resources onsite, and no further work to evaluate the potential presence of cultural resources is required (Hudlow 2018).

Although no known cultural resources are present onsite, Project-related ground disturbing and construction activities would have the potential to adversely affect unknown archaeological resources. Therefore, **Mitigation Measures CR-1** and **CR-2** would be implemented to require the presence of an archaeological monitor during periodic and site-specific Project-related ground disturbance activities and conformance with adopted standards in the event of resource discovery or discovery of human remains. Impacts would be less than significant with mitigation incorporated.

Mitigation Measures:

CR-1 The Project Applicant shall retain, at least 30 days prior to the issuance of grading permits, a Los Angeles County certified archaeological monitor to observe all ground-disturbing activities in an effort to identify any unknown archaeological resources. The archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to the Fernandeno Tataviam Band of Mission Indians (FTBMI) and the San Manuel Band of Mission Indians (SMBMI) Cultural Resources Department for review and comment, prior to project implementation. In the event that Native American cultural resources are discovered during project grading activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting the Secretary of Interior standards shall assess the find. FTBMI and SMBMI shall be contacted to consult if any such find occurs.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: 30 Days prior to issuance of grading permits

CR-2 If human remains or funerary objects are encountered during project grading activities, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted. California Health and Safety Code Section

7050.5 states that no further disturbance shall occur until the Los Angeles County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Los Angeles County Coroner determines the remains to be Native American, the Native American Heritage Commission must be contacted within 24 hours. The Native American Heritage Commission must then immediately identify the "most likely descendants(s)" for purposes of receiving notification of discovery. A representative from the Fernandeno Tataviam Band of Mission Indians and the San Manuel Band of Mission Indians shall be contacted and consulted regarding the find. The most likely descendant(s) shall then make recommendations within 48 hours and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: Prior to and during Project grading and construction

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

Determination: Less Than Significant Impact with Mitigation Incorporated

It is not anticipated that human remains, or informal cemetery areas are present on the Project site. However, ground-disturbing activities such as grading, or excavation have the potential to disturb human remains. If human remains are found, those remains would require proper treatment, in accordance with applicable laws. California Public Resources Code Section 5097.98 and Health and Safety Code Sections 7050.5-7055 describe the general provisions regarding human remains, including the requirements if any human remains are accidentally discovered during Project construction.

As required by State law, procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County Coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the "most likely descendant."

Pursuant to **Mitigation Measure CR-2**, if human remains are found during excavation, construction activities would be halted in the vicinity of the find and any area that is reasonably suspected to overlie adjacent remains until the County Coroner has been notified, and the remains have been investigated and appropriate recommendations have been made for the treatment and removal of the remains. Compliance with existing State regulations, which detail the appropriate actions necessary in the event human remains are encountered, and implementation of **Mitigation Measure CR-2** would ensure that potential impacts on undiscovered human remains are less than significant with mitigation incorporated.

Mitigation Measures:

Implement **Mitigation Measure CR-2**.

VI. Energy

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

Discussion

Regulatory

California Building Energy Efficiency Standards (Title 24)

The *2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings* (California Code of Regulations, Title 24, Part 6), commonly referred to as "Title 24," became effective on January 1, 2017. In general, Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2016 Title 24 standards are 28 percent more efficient than previous standards for residential development (California Energy Commission 2016). The standards offer developers better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses. Further, the *2019 Building Energy Efficiency Standards*, which take effect on January 1, 2020, will promote photovoltaic systems in newly constructed residential buildings. With rooftop solar electricity generation, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards (California Energy Commission 2019).

California Green Building Standards (CALGreen)

The *2016 California Green Building Standards Code* (California Code of Regulations, Title 24, Part 11), commonly referred to as CALGreen, went into effect on January 1, 2017.

CALGreen requires that new buildings employ water efficiency and conservation measures, increase building system efficiencies, divert construction waste from landfills, and incorporate electric vehicles charging infrastructure.

City of Palmdale Energy Action Plan

The City of Palmdale adopted an *Energy Action Plan* (EAP) in August 2011 which identifies goals and measures aimed at reducing energy demand and related emissions. The EAP identifies the following goals:

- Reduce energy demand through energy conservation and efficiently;
- Reduce water consumption for energy conservation;
- Promote renewable energy generation and use;

- Reduce transportation emissions though alternative vehicles, trip reduction and consolidation, and efficient flow;
- Implement smart land use to reduce vehicular trips; and
- Reduce waste.

Implementation of EAP goals will allow the City to achieve its reduction target of 15 percent below baseline greenhouse gas levels by 2020.

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

Determination: Less Than Significant Impact

This analysis focuses on three sources of energy that are relevant to the Project: electricity, natural gas, and transportation fuel for vehicle trips associated with new development and for Project construction. The analysis of operational electricity/natural gas usage is based on the CalEEMod modeling results for the Project, which quantifies energy use for occupancy. The Project's estimated electricity/natural gas consumption is based primarily on CalEEMod's default settings for Los Angeles County, and consumption factors provided by Southern California Edison (SCE) and the Southern California Gas Company (SoCalGas) (the electricity and natural gas providers for the City of Palmdale). The results of the CalEEMod modeling are included in Appendix A, Air Quality Study. The amount of operational fuel consumption was estimated using the California Air Resources Board's Emissions Factor 2014 (EMFAC2014) computer program which provides projections for typical daily fuel usage in Los Angeles County, and the Project's annual vehicle miles traveled (VMT) outputs from CalEEMod. The estimated construction fuel consumption is based on the Project's construction equipment list timing/phasing, and hours of duration for construction equipment.

The Project's estimated energy consumption is summarized in *Table VI-1, Energy Consumption*. As shown in *Table VI-1*, the Project's electricity and natural usage would constitute an approximate 0.001 percent increase over Los Angeles County's typical annual electricity and natural gas consumption. The Project-related vehicle fuel consumption would increase Los Angeles County's consumption by 0.003 percent.

Table VI-1 Energy Consumption

Energy Type	Project Annual Energy Consumption[1]	Los Angeles County Annual Energy Consumption[2]	Percentage Increase Countywide[2]
Electricity Consumption	706 MWh	67,569,000 MWh	0.001%
Natural Gas Consumption	23,628 therms	2,956,000,000 therms	0.001%
Fuel Consumption			
Construction (Heavy-Duty Diesel Vehicle) Fuel Consumption[3]	54,378 gallons	575,557,071 gallons	0.0001%
Operational Automotive Fuel Consumption[3]	131,580 gallons	3,866,914,629 gallons	0.003%

Notes:

1. As modeled in CalEEMod version 2016.3.2.
2. The Project increases in electricity and natural gas consumption are compared to the total consumption in Los Angeles County in 2018. The Project increases in automotive fuel consumption are compared with the projected Countywide fuel consumption in 2018.
   Los Angeles County electricity consumption data source: California Energy Commission, *Electricity Consumption by County*, http://www.ecdms. energy.ca.gov/elecbycounty.aspx, accessed February 20, 2019.
   Los Angeles County natural gas consumption data source: California Energy Commission, *Gas Consumption by County*, http://www.ecdms.energy. ca.gov/gasbycounty.aspx, accessed February 20, 2019.
3. Project fuel consumption calculated based on CalEEMod results. Countywide fuel consumption is from the California Air Resources Board EMFAC2014 model.

Construction-related Energy Consumption

Project construction would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during Site clearing, grading, and construction. Fuel energy consumed during construction would be temporary and would not represent a significant demand on energy resources. In addition, some incidental energy conservation would occur during construction through compliance with State requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest EPA and CARB engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials.

Substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The Project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional

demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest in minimizing the cost of doing business.

As indicated in *Table VI-1*, the Project's fuel consumption from construction would be approximately 54,378 gallons, which would increase fuel use in the County by 0.0001 percent. As such, construction would have a nominal effect on the local and regional energy supplies. It is noted that construction fuel use is temporary and would cease upon completion of construction activities. There are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Therefore, construction fuel consumption would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. As such, a less than significant impact would occur in this regard.

Operational Energy Consumption

Transportation Energy Demand

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration (NTSA) is responsible for establishing additional vehicle standards and for revising existing standards. Compliance with Federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. *Table VI-1* provides an estimate of the daily fuel consumed by vehicles traveling to and from the Site. As indicated in *Table VI-1*, Project operations is estimated to consume approximately 131,580 gallons of fuel per year, which would increase the Los Angeles County's automotive fuel consumption by 0.003 percent. The Project would not result in any unusual characteristics that would result in excessive operational fuel consumption. Fuel consumption associated with Project-related vehicle trips would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. As such, a less than significant impact would occur in this regard.

Electricity Demand

The Project would consume energy for interior and exterior lighting, heating/ventilation and air conditioning (HVAC), refrigeration, electronics systems, appliances, and security systems, among other things. The Project would be required to comply with Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Implementation of the Title 24 standards significantly reduces energy usage. Furthermore, the electricity provider, Southern California Edison (SCE), is subject to California's Renewables Portfolio Standard (RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 50 percent of total procurement by 2030. Renewable energy is generally defined as energy that comes from resources, which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The increase in reliance of such energy resources further ensures projects would not result in the waste of the finite energy resources. In accordance with the 2019 Title 24 standards, the project would be required to provide solar panels which would reduce the Project's electricity consumption even further. As indicated in *Table VI-1*, operational energy consumption would represent an approximate 0.001 percent increase in electricity consumption over the current Countywide usage. Therefore, the Project would not result

in the inefficient, wasteful, or unnecessary consumption of building energy, and impacts in this regard would be less than significant.

As indicated in *Table VI-1*, operational energy consumption would represent an approximate 0.001 percent increase in electricity consumption and a 0.001 percent increase in natural gas consumption over the current Countywide usage. The Project would adhere to all Federal, State, and local requirements for energy efficiency, including the Title 24 standards. Additionally, the Project would not result in a substantial increase in demand or transmission service, resulting in the need for new or expanded sources of energy supply or new or expanded energy delivery systems or infrastructure. The Project would not result in the inefficient, wasteful, or unnecessary consumption of building energy. As such, a less than significant impact would occur in this regard.

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

Determination: Less Than Significant Impact

As previously discussed in the *City of Palmdale Energy Action Plan - Consistency Analysis* in Section B.III, Project Characteristics, the Project would comply with the goals and measures identified in the City of Palmdale's adopted EAP. The EAP contains energy efficient goals and measures in the realms of water, transportation, land use, and solid waste. Further, the Project would be required to comply with all Title 24 and CALGreen standards. Compliance with Title 24 and CALGreen standards would ensure the Project incorporates energy efficient windows, insulation, lighting, ventilation systems, as well as water efficient fixtures and electric vehicles charging infrastructure. Additionally, the project would be required to construct solar panels at all residences that are built post-2020 to comply with the 2019 Title 24 standards, which mandate photovoltaic systems in newly constructed residential buildings (resulting in approximately 53 percent less energy usage than residential buildings constructed under the 2016 standards). Adherence to the Title 24 energy requirements will ensure conformance with the State's goal of promoting energy and lighting efficiency, and the City of Palmdale's EAP. Therefore, the Project would result in less than significant impacts associated with renewable energy or energy efficiency plans.

VII. Geology and Soils

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
GEOLOGY AND SOILS: *Would the project:*				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Discussion

The following analysis is based upon the Phase I Environmental Assessment (ESA) prepared for the Project by Partner Engineering and Science, Inc. (2018); refer to Appendix C, and upon the Phase I Cultural Resource Survey prepared for the Project by Hudlow Cultural Resource Associates (May 2018).

The Project site is located in the Antelope Valley which is situated within the western portion of the Mojave Desert Geomorphic Province of California. The Antelope Valley is bounded on the southwest by the Portal Ridge, on the east by the Mojave Desert and on the north by the Rosamond Hills.

The San Andreas Fault trends northwest-southeast along Portal Ridge and through Palmdale Lake, forming the southern boundary of the valley. The Antelope Valley is a relatively flat alluvial plain surrounded by low residual bedrock peaks, ridges, and rounded domes reduced by erosion. The valley is underlain by unconsolidated alluvial fill, up to 2,000 feet thick.

According to the Phase I ESA, based on information obtained from the USDA Natural Resources Conservation Service Web Soil Survey online database, the subject property is mapped as Greenfield sandy loam; refer to Appendix C. The Greenfield series consists of deep, well-drained, permeable soils that formed from alluvium derived from granitic rock. These soils are located on alluvial fans and terraces. Slopes range from 2 to 9 percent.

a)i) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Determination: Less Than Significant Impact

As stated above, the San Andreas Fault forms the southern boundary of Antelope Valley. Exhibit S-3, Earthquake Fault Zones, of the *General Plan* Safety Element, identifies the relative location of earthquake faults and Alquist-Priolo Fault Zones that affect the City. According to the map, the Project site is not located within an Alquist-Priolo Fault Zone. As such, the Project would not expose people or structures to rupture of a known earthquake fault as delineated on the current Alquist-Priolo Earthquake Fault Zoning Map. Impacts would be less than significant.

a)ii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Determination: Less Than Significant Impact

As stated above in Response VII-a) i), the Project site is not within an earthquake fault zone. The Project site lies approximately 1.4 miles to the north of the San Andreas Fault zone. According to the City's *General Plan EIR* (1993), major fault zones affecting the City of Palmdale include the San Andreas, Sierra Madre-San Fernando, Garlock, Owens Valley, and White Wolf Faults.

In accordance with the California Building Code (CBC) (California Code of Regulations, Title 24), seismic structure design requirements will be based on the Seismic Design Category (SDC) for the proposed structures which is based on the construction type and occupancy category for the structure and on the level of expected soil modified seismic ground motion. The majority of structures in Palmdale would have an SDC of D (high seismic vulnerability) or E (very high seismic vulnerability and near a major fault) based on the proximity of the City to the San Andreas Fault and soil types throughout the City.

Although the Project site may experience ground shaking during a seismic event, the site is not located within an earthquake fault zone according to the current Alquist-Priolo Fault Zone Map. The proposed development would be required to comply with applicable *General Plan* policies related to geologic safety and CBC design requirements in order to prevent potential structural damage anticipated during seismic events. Conformance with seismic design requirements specified by the CBC would reduce potential impacts due to seismic ground shaking to a less than significant level.

a)iii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Determination: Less Than Significant Impact

Liquefaction potential is generally determined based upon soil type and distance to groundwater. The highest potential for liquefaction occurs in saturated, loosely consolidated sands and silts below the water table when the water table is within approximately 50 feet of the surface.

According to the Phase I ESA (Partner 2018), information specific to the subject property regarding the depth to groundwater and direction of groundwater flow was not available for the subject area. However, according to groundwater measurement data obtained from the USGS Groundwater Watch website for a nearby well (Well No. 343932118144001), groundwater in the vicinity of the subject property is inferred to be approximately 225 feet below ground surface (bgs). Therefore, the site is considered to have a low potential for liquefaction to occur.

As stated above, the Project would be required to comply with applicable *General Plan* policies related to geologic safety and CBC design requirements in order to minimize potential adverse effects relative to liquefaction. With conformance to such requirements, Project impacts would be reduced to less than significant.

a)iv) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Determination: No Impact

Exhibit S-9, Slope Categories, of the City's *General Plan EIR* (1993) indicates that the site is not located within an area having steep slopes that may be subject to potential slope failure. Due to the low topographic relief to be created by Project grading, the potential for earthquake-induced landslides is considered to be low. Further, adjacent properties are relatively flat and are not susceptible to landslides because there are no slopes that have sufficient height or slope ratio that would cause a landslide to occur. Therefore, no impact would occur.

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

Determination: Less Than Significant Impact

Soil erosion is most prevalent in unconsolidated alluvium and surficial soils and in areas that have slopes. Erosive soils are generally found in areas of steep slope where runoff velocity is greater and vegetative cover is lower. Exhibit S-11, Soil Erosion Potential, of the City's *General Plan EIR* (1993) indicates the Project site is located in an area having a Moderate potential for erosive soils to be present.

Grading and trenching during the construction phase of the Project would displace soils and temporarily increase the potential for soils to be subject to wind and water erosion. The Project applicant would be required to meet City grading standards and to prepare a Temporary Erosion Control Plan, signed by a registered civil engineer. Further, the applicant would prepare a Storm Water Pollution Prevention Plan (SWPPP) in accordance with General Permit Order No. 99-08-DWQ for approval by the City prior to grading. These plans identify the specific Best Management Practices (BMPs) that would be implemented by the Project applicant to prevent erosion, minimize siltation from impacting downstream water bodies, and protect water quality. With implementation of the above standards, impacts related to soil erosion would be less than significant.

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

Determination: Less Than Significant Impact

Lateral spreading is a phenomenon in which large blocks of intact, non-liquefied soil move down slope on a liquefied soil layer. Lateral spreading is often a regional event. For lateral spreading to occur, the liquefiable soil zone must be unconstrained laterally and free to move along sloping ground.

As shown on Exhibit 3-7, Subsidence, of the City's *General Plan EIR* (1993), the Project site has a low to moderate potential for subsidence to occur. Further, as the Project site has a low potential for liquefaction, the potential for lateral spreading at the site is also considered to be low. The potential for landslides, ground lurching, and shallow ground rupture are also considered to be unlikely. Refer also to Responses VII-a)ii) through VII-a)iv). As stated above, the Project would be required to comply with applicable General Plan policies related to geologic safety and CBC design requirements in order to minimize potential adverse effects relative to unstable soils. With conformance to such requirements, Project impacts would be reduced to less than significant.

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

Determination: Less Than Significant Impact

Expansive soils are those that undergo volume changes as moisture content fluctuates, swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements.

Exhibit S-10, Soil Expansion Potential, of the City's *General Plan EIR* (1993) indicates the Project site and surrounding lands are located in an area with low potential for expansive soils to occur. As noted under Response VII-a) ii) above, the Project would be subject to conformance to design requirements of the CBC, which outlines design elements to address expansive soils. With implementation of relevant CBC and site design measures, impacts would be less than significant.

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

Determination: No Impact

The Project does not include the use of septic tanks or alternative wastewater disposal systems. Public wastewater service for the Project would be provided by the Palmdale Sewer Maintenance District (PSMD) which owns, maintains and operates the City's Wastewater Collection System. Therefore, no impact would occur in this regard.

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

Determination: Less Than Significant Impact with Mitigation Incorporated

Paleontological resources are the preserved fossilized remains of plants and animals. Fossils and traces of fossils are preserved in sedimentary rock units, particularly fine- to medium-grained marine, lake, and stream deposits, such as limestone, siltstone, sandstone, or shale, and in ancient soils (paleosols). Such resources are also found in coarse-grained sediments, such as conglomerates or coarse alluvium sediments. Fossils are rarely preserved in igneous or metamorphic rock units. Fossils may occur throughout a sedimentary unit and are more likely to be preserved subsurface, where they have not been damaged or destroyed by previous ground disturbance, amateur collecting, or natural causes such as erosion. In contrast, archaeological and historic resources are often recognized by surface evidence of their presence.

According to Exhibit ER-8, Paleontological Sensitivity Map, (page ER-65) of the *General Plan*, the potential for the presence of paleontological resources on the Project site is identified as being Undetermined. All lands bordering the site are also identified as having an Undetermined potential. Lands further to the south are identified as having a Low potential for paleontological resources. No lands having a High potential for paleontological resources are located within proximity to the site.

In the event that ground-disturbing activities unearth a paleontological resource, work would be halted in the area until a qualified paleontologist can assess the significance of the find. To ensure the preservation of any significant or unique paleontological resources, **Mitigation Measure GEO-1** would be implemented to require that a paleontological monitor be consulted. Impacts would be less than significant with mitigation incorporated.

Mitigation Measure:

GEO-1 In the event that paleontological resources are encountered, all work shall stop at the discovery site. At that time, a qualified paleontological monitor shall be consulted to evaluate the find. Construction activities shall be temporarily redirected to another location on site so that the monitor can quickly recover any specimens encountered during excavation. All fossils/specimens collected during this work shall be deposited in a City-approved museum repository for curation and storage.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: During Project grading and construction

VIII. Greenhouse Gas Emissions

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

Discussion

The following analysis is based upon the Air Quality Study prepared for the Project by M.S. Hatch Consulting, LLC (August 2018); refer to Appendix A.

Regulatory

California Air Resource Board Significance Thresholds

The California Legislature enacted Assembly Bill (AB 32), the California Global Warming Solutions Act of 2006, which was signed on September 27, 2006, to further the goals of Executive Order S-3-05 (Health and Safety Code, S38500 et seq.). AB 32 required the California Air Resources Board (CARB) to adopt statewide greenhouse gas (GHG) emissions limits to achieve statewide GHG emissions levels. AB 32 set the goal of reducing GHG emissions to 1990 levels by 2020. The *2017 Climate Change Scoping Plan*, approved unanimously by CARB, sets the State on a course to reduce climate-changing gases an additional 40 percent below 1990 levels by 2030 under AB 32. This requires California to double the rate at which it has been cutting climate-changing gases.

To meet the 1990 target established by AB 32, CARB recommends a de minimis (minimal importance) emission threshold of 0.1 million metric tons (MMT) annual [100,000 metric tons (MT) per year] CO_2eq (CO_2 equivalent) per transportation source category. Source categories whose total aggregated emissions are below this level are not proposed for emission reduction requirements in the *2017 Climate Change Scoping Plan* but may contribute toward the target via other means. As each regulation to implement the *2017 Climate Change Scoping Plan* is developed, CARB and other agencies will consider more specific de minimis levels below which the regulatory requirements would not apply. These levels will consider the cost to comply, especially for small businesses, and other factors. Until approved thresholds and guidelines are adopted at the local and regional level, the proposed de minimis threshold of 100,000 MT CO_2EQ per year for transportation sources will be utilized for transportation sources.

Antelope Valley Air Quality Management District Greenhouse Gases Thresholds of Significance

The Project site lies within the boundaries of the Antelope Valley Air Quality Management District (AVAQMD). The AVAQMD has developed significance thresholds, as identified in the *AVAQMD CEQA & Conformity Guidelines*, for greenhouse gases (CO_2e) for both daily and annual levels; refer to *Table VIII-1, AVAQMD Greenhouse Gases Thresholds of Significance*.

Table VIII-1 AVAQMD Greenhouse Gases Thresholds of Significance

Criteria Pollutant	Annual Threshold (tons/year)	Daily Threshold (lbs/day)
Greenhouse Gases (CO_2e)	100,000	548,000

The AVAQMD's annual threshold of 100,000 tons per year is based upon the imperial measurement system, where the CARB recommended *de minimis* threshold of 100,000 MT is based upon the metric measurement system. The AVAQMD's annual threshold is approximately 9 percent more stringent than CARB's recommended *de minimis* threshold. For the Project, the 100,000 tons per year AVAQMD screening threshold was used as the significance threshold, in addition to the qualitative thresholds of significance identified in Appendix G of the CEQA Guidelines.

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

Determination: Less Than Significant Impact

California is a substantial contributor of global GHGs, emitting an estimated 429.4 $MMTCO_2eq$ in the year 2016 (CalEPA 2018). Climate studies indicate California is likely to see an increase of three to four degrees Fahrenheit (ºF) over the next century. Methane (CH_4) is also an important GHG that potentially contributes to global climate change. GHGs are global in their effect, which is to increase the earth's ability to absorb heat in the atmosphere. As primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission.

Project-related GHG emissions would include emissions from both direct and indirect sources. The Project would result in direct and indirect emissions of CO_2, nitrous oxide (N_2O), and CH_4. The Project would not result in other GHGs that would facilitate a meaningful analysis. Therefore, analysis is focused on these three forms of GHG emissions.

Direct Project-related GHG emissions would include emissions from construction activities, area sources, and mobile sources, while indirect sources would include emissions from electricity consumption, water demand, and solid waste generation. Emissions from construction activities would be generated during site preparation, grading, paving, building construction and the application of architectural coatings. Operational emissions consist of area sources (e.g., re-applying architectural coatings, consumer products, fireplaces, and landscaping equipment), energy use (e.g., electricity and natural gas), mobile sources (e.g., commuting), solid waste disposal, and water and wastewater use (e.g., supplying and treating water and wastewater). Project GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2.

Construction Impacts

Total CO_2 emissions for Project construction activities are presented in *Table VIII-2, Total Unmitigated Construction CO_2 Emissions*.

Table VIII-2 Total Unmitigated Construction CO_2 Emissions

Activity	Annual Emissions (metric tons/year)			
	CO_2	CH_4	N_2O	CO_2eq
Year 1 Construction Emissions (2019)	427.2	0.1	N/A	430
Year 2 Construction Emissions (2020)	850	0.1	N/A	852
Year 3 Construction Emissions (2021)	74.3	0.02	N/A	75
Maximum	**850**	**0.1**	**N/A**	**852**
Significance Threshold	***100,000***			
Threshold Exceeded?	*No*			

Source: Air Quality Study, prepared by M.S. Hatch Consulting, LLC. August 2018. Refer to Appendix A.

The unmitigated construction CO_2 emissions for the Project would be well below the AVAQMD's significance threshold of 100,000 imperial tons per year for CO_2eq.[2] Therefore, the Project would not considerably contribute to significant cumulative impacts associated with global climate change due to GHG emissions or interfere with California's ability to achieve its GHG reduction goals. Impacts would be less than significant.

Operational Impacts

Total annual unmitigated operational CO_2 emissions generated by the Project are provided in *Table VIII-3, Total Unmitigated Operational CO_2 Emissions*. Estimated CO_2 emissions from Project operations were based on development of the site as proposed and with mitigation incorporated.

Table VIII-3 Total Unmitigated Operational CO_2 Emissions

Activity	Annual Emissions (metric tons/year)			
	CO_2	CH_4	N_2O	CO_2eq
Area Sources	68.8	2.31	1.24	69.2
Energy	351	0.01	4.23	352.6
Mobile	1,018	0.04	N/A	1,018.8
Waste	20.5	1.21	N/A	50.7
Water	37.6	0.18	4.62	43.5
Total Emissions	**1,495.6**	**1.45**	**0.01**	**1,534.8**
Significance Threshold	***100,000***			
Threshold Exceeded?	*No*			

Source: Air Quality Study, prepared by M.S. Hatch Consulting, LLC. August 2018. Refer to Appendix A.

As shown, unmitigated operational CO_2 emissions for the Project would be below the AVAQMD's significance threshold of 100,000 imperial tons per year for CO_2eq. Therefore, the Project would not considerably contribute to significant cumulative impacts associated with global climate change due

[2] Equivalent

to GHG emissions or interfere with California's ability to achieve its GHG reduction goals. Impacts would be less than significant.

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

Determination: Less Than Significant Impact

The City of Palmdale *General Plan* Land Use Element contains goals and policies to encourage and promote responsible land use for development. Further, the Circulation Element identifies the goal to "encourage use of non-vehicular transportation throughout the Planning Area," thereby reducing vehicle dependence and contributing to the overall goal of reducing greenhouse gas emissions (City of Palmdale 1993). Additionally, the City adopted its *Energy Action Plan* in August 2011 which identifies goals and policies aimed at maintaining local air quality and reducing the local contribution of airborne pollutants to the community, while providing a framework for reducing greenhouse gas emissions and managing resources to best prepare for a changing climate. The primary goal of the *Energy Action Plan* "is to identify how the city will use energy efficiency and impendence strategies to achieve its GHG emission reduction target of 15 percent by the year 2020 consistent with the State's overall target to reduce GHG emissions statewide to 1990 levels by 2020" (City of Palmdale 2011). The *Energy Action Plan* identifies the following goals, with measures identified for each goal, to achieve a 15 percent reduction to 806,019 $MTCO_2e$/year from the 2005 baseline level of 948,258 $MTCO_2e$/year by 2020. The project is consistent with the following Goals as stated in Section B.III, Project Characteristics, in the *City of Palmdale Energy Action Plan Consistency Analysis*:

- Goal 1: Reduce energy demand through energy conservation and efficiency.
- Goal 2: Reduce water consumption for energy conservation.
- Goal 3: Promote renewable energy generation and use.
- Goal 4: Reduce transportation emissions through alternative vehicles, trip reduction and consolidation, and efficient flow.
- Goal 5: Implement smart land use to reduce vehicular trips.
- Goal 6: Reduce waste.
- Goal 7: Support the "buy-local" movement.

The *Energy Action Plan* identifies key energy efficiency targets and associated goals, policies, and actions for community and municipal activities. The analysis above in Response VIII-a) demonstrates that the Project's potential GHG emissions would be substantially below the significance threshold of 100,000 imperial tons per year for CO_2eq recommended by AVAQMD, which was established in conjunction with the mandates of AB 32, the Global Warming Solution Act. Therefore, the Project would not conflict with an adopted plan, policy, or regulation pertaining to GHGs, and impacts would be less than significant in this regard.

IX. Hazards and Hazardous Materials

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

Discussion

The following analysis is based upon the Phase I Environmental Site Assessment (ESA) prepared for the Project by Partner Engineering and Science, Inc. (July 2018); refer to Appendix C.

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

Determination: Less Than Significant Impact

The routine transport, use, and disposal of hazardous materials can result in hazards to the public through the potential for accidental release. Such hazards are typically associated with certain types of land uses, such as chemical manufacturing facilities, industrial processes, waste disposal, and storage and distribution facilities. Construction of the Project may result in temporary hazards related to transport and use of hazardous materials, including those used for construction vehicle use and maintenance (i.e., diesel fuel, motor oil, etc.). Once operational, the Project would not result in the routine transport or use of hazardous materials, due to the residential nature of the uses proposed. Project operations would be expected to involve the use of minimal quantities, if any, of hazardous materials (e.g., pesticides/fertilizers for landscaping, fuels for maintenance vehicles and equipment, household cleaning products) and would not generate hazardous waste.

Therefore, the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Impacts would be less than significant.

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

Determination: Less Than Significant Impact with Mitigation Incorporated

Refer to Response IX-a), above. A recognized environmental condition (REC) refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment.

A Phase I ESA was prepared for the Project (Partner 2018) to assess the potential for hazards or hazardous conditions to occur as the result of Project development (refer to Appendix C). The Phase I ESA did not identify any past or present uses onsite or on adjacent properties that are considered to be RECs.

The subject property was utilized for agricultural purposes from at least 1953 until at least 1974. It is unknown if environmentally persistent pesticides and/or herbicides were historically applied to the crops grown on the subject property. Based on available data on similar agricultural properties, the Phase I ESA concluded that there is a low potential for soil contamination at concentrations in excess of regulatory thresholds as a result of the past use of persistent pesticides/herbicides from normal crop application. Further, the accumulation of persistent pesticides/herbicides in soils at concentrations in excess of regulatory thresholds is more commonly associated with the cultivation of orchards over prolonged periods of time, or in areas where repeated mixing and rinsing of chemical application equipment may have occurred. The former orchards appear to have only been present on the site for approximately 21 years, and no evidence of former onsite structures that would indicate bulk storage or mixing activities was identified in historical aerial photographs. Furthermore, no specific areas of concern related to onsite agricultural chemical storage and usage (spills, releases, etc.) were identified as part of the Phase I ESA. Based on these factors, the potential for elevated concentrations of environmentally persistent pesticides/herbicides to exist in the near-surface soils on

the subject property, which would require regulatory action, was determined to be low. However, to ensure that onsite soils have not been contaminated by the former agricultural activities onsite, it is recommended that subsurface soils testing be conducted. Mitigation Measure HAZ-1 would be implemented to reduce potential impacts from the exposure to potentially hazardous materials or substances to less than significant.

During the short-term grading period, there is the possibility of accidental release of hazardous substances such as spilling of petroleum-based fuels used for construction equipment. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized during construction. During construction of the Project, contractors would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of hazardous substances into the environment. Standard construction practices must be observed such that any hazardous materials released are appropriately contained and remediated as required by local, State, and federal law. Conformance with these standards would reduce impacts to less than significant levels. Furthermore, once operational the Project does not propose the use or generation of hazardous materials.

Project implementation would have the potential to create a significant hazard to the public or the environment through upset or accident conditions involving the release of hazardous materials. Impacts would be reduced to less than significant with mitigation incorporated.

Mitigation Measures:

HAZ-1 Prior to Project excavation or grading activities, a limited subsurface investigation shall be conducted to assess the presence or absence of environmentally persistent agricultural chemicals within near surface soils at the subject property as a result of historical agricultural uses. All soils testing and treatment/remediation activities (if determined to be required) shall be conducted in accordance with applicable local, State, and federal standards and protocols, as appropriate.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: Prior to Project excavation or grading

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

Determination: Less Than Significant Impact

The nearest school is Joe Walker Jr. Middle School, located approximately one mile to the northeast. As stated, the Project would involve limited use of hazardous materials including gasoline for vehicle operation, and other limited chemicals for standard operations such as herbicides/pesticides, cleaning products and other materials. The production of hazardous materials would not occur in Project operations, due to the nature of the residential uses proposed. Further, the Project would not emit hazardous emissions, handle hazardous materials, substances or waste in sufficient quantities that could result in a significant impact to the environment. Due to the distance and the minimal amount of hazardous materials and emissions related to Project operations, it is not anticipated that the nearby

school would be within range of any potential hazardous exposure. Further, as stated in Response IX-a), implementation of the Project would not involve the routine use of hazardous materials. Impacts would be less than significant.

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

Determination: No Impact

Refer to Response IX-b), above. Additionally, the Project site is not included on a list of hazardous material sites identified by Government Code Section 65962.5. According to the Department of Toxic Substances Control (DTSC) EnviroStor database (accessed on August 24, 2018), no hazardous materials sites are located on or near the Project site. Impacts in this regard would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Determination: No Impact

The closest airport to the project site is the Palmdale Regional Airport, located approximately 8.7 miles to the southeast. The Project site is not located within the boundaries of the airport's adopted Air Installation Compatible Use Zone (AICUZ). Therefore, the site does not lie within the airport's planning boundary/airport influence area or any Compatibility Zones identified in the ACLUP. The Project would not result in a safety hazard for people residing or working in the Project area. No impact would occur.

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

Determination: Less Than Significant Impact

Implementation of the Project is not expected to cause significant impacts on emergency response plans or emergency evacuation plans. The Project would be designed, constructed, and maintained in accordance with applicable City design standards for vehicular access and provision of means of evacuation. Construction activities that may temporarily restrict vehicular circulation in the area would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Adherence to these measures would reduce potential impacts related to this issue to a less than significant level.

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

Determination: Less Than Significant Impact

The Project site is not located within a wildfire hazard zone as specified by the City of Palmdale *General Plan* Safety Element (Exhibit S-16, Wildfire Hazard Zones). The Project would be developed in a relatively urban and developed setting within the City, although some vacant lands are present in the

site vicinity. Adjacent properties to the north and south of the site are developed and support existing residential uses, with other residential development within close proximity to the west and east of the site. The Project would result in construction of 86 new residential units and would be required to meet all applicable building and fire code requirements. City review and approval of project design plans, as well as building inspection conducted by City building officials, would be required prior to occupancy of the development to ensure that any required design measures have been implemented with regard to reducing the potential for fire events to occur. Project conformance to the objectives, goals and policies identified in the *General Plan* (Safety Element) aimed at reducing the potential risk of wildfire and the resulting damage that may occur would also further reduce the potential for the project to expose people or structures to significant risk of wildland fires. Impacts with regard to loss, injury, or death involving wildland fires would be less than significant.

X. Hydrology and Water Quality

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

Discussion

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

Determination: Less Than Significant Impact

Water quality impacts from short-term construction operations would consist of the discharge of pollutants, including primarily sediment from grading operations, as well as oil and grease from equipment, trash from worker and construction activities, heavy metals, pathogens, and other substances. Discharge of these pollutants into waters of the United States and are regulated by the State Water Resources Control Board (SWRCB).

The SWRCB has adopted General Permit No. CAS000002 - Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity (General Permit) for California that applies to most construction-related storm water discharges within California. The General Permit requires that projects disturbing greater than one acre develop and implement a Storm Water Pollution Prevention Plan (SWPPP) that specifies Best Management Practices (BMPs) to prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving offsite into receiving waters. As the Project site is approximately 40.6 acres in size, the Project would be subject to the provisions of the National Pollution Discharge Elimination System (NPDES) General Permit and would be required to submit a SWPPP to the State Water Quality Control Board, Lahontan Region (Regional Board). Compliance with such measures would reduce construction-related impacts on water quality to less than significant.

Post-construction, development is not anticipated to result in significant impacts to water quality or waste discharge requirements. Project design would ensure that storm water discharges from the site are no greater in volume or velocity than under current undeveloped conditions and that runoff leaving the site complies with all applicable water quality standards.

The Project would be required to obtain approval of a Water Quality Management Plan (WQMP) from the City's Public Works department. The WQMP would identify BMPs (including design criteria for treatment control) for the management of urban storm water runoff relative to the rate, amount, and quality of water leaving a property. By addressing site design, source control, and treatment control BMPs on a project-specific and/or sub-regional or regional basis, the WQMP is intended to ensure that the cumulative, regional impact of urban storm water runoff is properly managed. The WQMP would be incorporated by reference or attached to the Project's SWPPP as the Post-Construction Management Plan. Further, the Project would be required to comply with the mandatory requirements of the National Pollution Discharge Elimination System (NPDES) to control and reduce the potential for water quality impacts to occur. Project conformance with the requirements of the NPDES permit, SWPPP, and WQMP would be required prior to, during, and/or after construction. As such, potential impacts relative to water quality would be reduced to a less than significant level.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Determination: Less Than Significant Impact

Water service for the Project site would be provided by the Palmdale Water District (PWD). The PWD receives water from a variety of sources, including a number of groundwater basins, the surface water from the Littlerock Reservoir, and imported water from the State Water Project (PWD 2016). According to Table 3-1, Summary of Current and Projected Water Supplies (AF), of the *PWD Urban Water Management Plan*, the PWD has an approximate annual water supply of 17,600 acre-feet. According to Table 2-2, Historical Water Deliveries (AF), of the *PWD Urban Water Management Plan*, PWD delivers approximately 14,723 acre-feet of water to its customers (PWD 2015).

The Project applicant would be required to obtain a "will serve" letter from PWD prior to construction of the Project. The provision of a "will serve" letter from PWD, as well as payment of water connection fees and ongoing user fees, would ensure that the Project does not substantially interfere with the PWD's ability to provide water service within its service boundaries and that impacts on water supplies are less than significant. Furthermore, the site is generally located within a developed area, with the exception of parcels immediately to the west and northeast and is not utilized for groundwater recharge. Therefore, impacts are considered less than significant.

c)i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

Determination: Less Than Significant Impact

The Project site does not support any natural drainage features, streams, or rivers. An old ephemeral wash system is present onsite that preceded construction of the surrounding residential areas. However, it has been severed from the headwaters and appears to only receive run off and storm water flow from the surrounding streets and onsite rainfall. A large detention basin also exists adjacent to the northeastern corner of the Project site (refer to *Exhibit 2, Aerial Photograph*).

The Project would provide standard erosion sediment control measures that would protect against erosion, including installation of groundcover (e.g., landscaping as required) and other BMPs such as use of gravel bags to allow for sediment retention. Further, the Project would be required to comply with the mandatory requirements of the NPDES to control and reduce the potential for siltation to occur. Therefore, impacts in this regard would be less than significant.

c)ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Determination: Less Than Significant Impact

The Project site does not support any natural drainage features, streams, or rivers. The Project would be required to adhere to the City's grading regulations that would ensure positive drainage toward existing drainages (offsite) and avoid ponding of water or damage to adjacent properties from runoff. The Project as designed would not generate storm water runoff that would exceed the capacity of the storm water drainage system and would not provide a substantial additional source of polluted runoff. The Project would also be required to comply with the mandatory requirements of the NPDES to control siltation. As designed, the Project would not induce flooding on- or offsite. Therefore, impacts would be less than significant in this regard.

c)iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Determination: Less Than Significant Impact

Refer also to Responses X-a) and X-c)i and c)ii above. The Project is not anticipated to substantially alter the existing drainage pattern of the site or area in a manner that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems The Project would adhere to the City's grading regulations which would ensure positive drainage toward existing drainages, maintain water infiltration through pervious surfaces, and control and treat storm water flows via proposed storm water infrastructure improvements. Runoff water from the site is expected to be minimal and controlled by compliance with the City's grading regulations, which would ensure maximum protection against substantial polluted runoff. Impacts are considered to be less than significant.

c)iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Determination: Less Than Significant Impact

Refer to Response X-c)iii, above. The Project would be required to adhere to the City's grading regulations that would ensure positive drainage toward existing drainages (offsite) and avoid ponding of water or damage to adjacent properties from runoff. The Project as designed would not generate storm water runoff that would provide a substantial additional source of runoff or substantially alter the existing drainage pattern of the site in a manner that would impede or redirect flood flows. Impacts would be less than significant in this regard.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Determination: Less Than Significant Impact

Refer to Responses X-c)ii and X-c)iv, above. The Project site is not located in a flood hazard zone and would not create conditions that would increase the potential for onsite or offsite flooding to occur. The Project site is located approximately 45 miles inland from the Pacific Ocean and is not at risk of hazard from tsunami events. The closest large body of water to the site is Lake Palmdale, located approximately 9.3 miles to the southeast. Therefore, the possibility of a seiche impacting the Project area is considered to be remote. As such, impacts resulting from the risk of release of pollutants due to Project inundation due to location within a flood hazard, tsunami, or seiche zone are considered less than significant.

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

Determination: Less Than Significant Impact

Refer to Responses X-a) and X-b), above. The Project would be subject to the provisions of the NPDES General Permit and would be required to submit a SWPPP to the Regional Board to reduce Project-related impacts on water quality. Further, the Project would be required to obtain approval of a WQMP from the City for the management of urban storm water runoff relative to the rate, amount, and quality of water leaving the property. By addressing BMPs on a project-specific and/or sub-regional or regional basis, the WQMP would ensure that impacts of urban storm water runoff are properly managed. Additionally, provision of a "will serve" letter from PWD, as well as payment of water connection fees and ongoing user fees, would ensure that the Project does not substantially interfere with the PWD's ability to provide water service within its service boundaries and that impacts on water supplies are not significant. Further, the Project site is in an urban area and is not utilized for groundwater management or recharge.

Therefore, the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

XI. Land Use and Planning

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
LAND USE AND PLANNING: *Would the project:*				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Discussion

a) Would the project physically divide an established community?

Determination: No Impact

The Project site is located within a relatively urbanized area in the City of Palmdale. The site is generally surrounded by developed and/or disturbed lands, with the exception of vacant land adjacent to the west and northeast. Adjacent to the north and south of the site are existing single-family residential uses. The California Aqueduct is located within proximity of the site to the south. Refer to *Exhibit 2, Aerial Photograph*.

The Project proposes construction of 86 new single-family residential units, supporting infrastructure, landscaping, and interior circulation roads, as well as offsite roadway improvements. The Project includes a planned interior roadway circulation system that would extend through the site and is designed to provide efficient internal circulation, driveway access, and linkages to the existing neighborhoods north and south of the site to enhance connectivity and access between the developments. The Project also proposes improvements to 65th Street West and 70th Street West along the Project frontage that would include access. At the existing neighborhood north of the Project, interior Project roadway linkages would connect proposed Street B to existing Bonita Drive; proposed Street E to existing Montana Drive; and proposed 67th Street West to existing 67th Street West. At the existing neighborhood south of the Project, interior project roadway linkages would connect proposed Oak Barrell Court to existing Oak Barrell Court; proposed 67th Street West to existing 67th Street West; and proposed Chianti Court to existing Chianti Court.

The Project site is zoned Single-Family Residential (R-1-13,000) and has a General Plan land use designation of Single-Family Residential (SFR-2). Development as proposed would be consistent with the existing zone classification and General Plan designation. The change from vacant land to residential use would not cause a physical division within the community, and instead, would be consistent with development on surrounding lands. Additionally, the Project does not propose the construction of any new roadways that could create a physical barrier or restrict existing circulation patterns. Rather, proposed improvements to 70th Street West and 65th Street West would improve area circulation and access to/from the Project site and along the roadways within the vicinity of the site (e.g., provision of additional travel lanes) thereby enhancing circulation. Therefore, the Project would not physically divide an established community. No impact would occur.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Determination: No Impact

Development as proposed would be consistent with that allowed under the existing General Plan land use designation (Single-Family Residential, SFR-2) and zoning (Single-Family Residential; R-1-13,000) and is consistent with future use of the property as envisioned by the City of Palmdale. No sensitive plants or wildlife resources have been identified on the site, and the property is not located within the boundaries of any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan. Additionally, the site does not lie within the boundaries of a local coastal program due to its inland location.

The Project is subject to applicable provisions of the City's *General Plan*, Land Use Element, and Municipal Code and has been designed consistent with zoning regulations for adequate building setbacks, landscaping requirements, and building placement as illustrated on TTM 81337 (refer to *Exhibit 3, Tentative Tract Map,* to ensure overall compatibility with existing residential uses and other development within the surrounding area. The Project would not conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

XII. Mineral Resources

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
MINERAL RESOURCES: *Would the project:*				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

Discussion

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Determination: Less Than Significant Impact

The California State Mining and Geology Board (SMGB) has establishes Mineral Resources Zones (MRZs) to designate lands that contain mineral deposits. Accordingly, the MRZ classification system is used to evaluate an area's mineral resources pursuant to the California Surface Mining and Reclamation Act (SMARA). The classifications used by the SMGB to define MRZs are as follows:

- MRZ-1: Areas where the available geologic information indicates no significant likelihood of significant mineral deposits.
- MRZ-2a: Areas where the available geologic information indicates that there are significant mineral deposits.
- MRZ-2b: Areas where the available geologic information indicates that there is a likelihood of significant mineral deposits.
- MRZ-3a: Areas where the available geologic information indicates that mineral deposits exist, however, the significance of the deposit is undetermined.
- MRZ-3b: Areas where the available geologic information indicates that mineral deposits are likely to exist, however, the significance of the deposit is undetermined.
- MRZ-4: Areas where there is not enough information available to determine the presence or absence of mineral deposits.

Mineral resources present in the City of Palmdale include deposits of sand and gravel construction aggregate. Based on Exhibit ER-58, State-Classified Mineral Resource Deposits, of the *General Plan* Environmental Resources Element, the Project site is designated as MRZ-3, which indicates that mineral resources may exist, but that the significance of any such deposits remains unknown. Therefore, the Project site is not located within an area containing significant known mineral resources. Significant mineral deposits are not known to occur nor are any mineral resource extraction, recovery or processing activities underway on or adjacent to the Project site. Further, the site is not designated in the City's *General Plan* or Municipal Code for an extractive use. Therefore, implementation of the Project would have a less than significant impact on known mineral resources.

b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Determination: Less Than Significant Impact

Refer to Response XII-a). The Project site is not classified as an area of locally important mineral resource recovery. As such, a less than significant impact would occur.

XIII. Noise

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
NOISE: *Would the project result in:*				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

The following analysis is based upon the Noise Technical Memorandum prepared by ATS Consulting (August 2018); refer to Appendix D.

Noise Limits

City of Palmdale General Plan

The California Government Code requires that a noise element be included in the general plan of each county and city in the State. The City of Palmdale *General Plan* Noise Element evaluates the existing

noise environment, future noise environment projections as well as identifies noise-sensitive land uses and major noise sources in the City. The Noise Element provides goals and policies designed to minimize noise problems and to protect public health. The Noise Element also provides the City's compatibility standards for normally acceptable conditions, based on State recommendations and City land use designations.

Land Use Compatibility standards used by the City are presented in *Table XIII-1, State Recommended Noise Level Guidelines*. These standards, which use the Community Noise Exposure Level (CNEL) noise descriptor, are intended to be applicable for land use designations exposed to noise levels generated by transportation-related sources.

Table XIII-1 State Recommended Noise Level Guidelines

Land Use Category	Community Noise Exposure (CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential-Low Density, Single-Family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	75 – 85
Residential – Multiple Family	50 – 65	60 – 70	70 – 75	70 – 85
Transient Lodging – Motel, Hotels	50 – 65	60 – 70	70 – 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 65	60 – 70	70 – 80	80 - 85
Auditoriums, Concert Halls, Amphitheaters	N/A	50 – 70	N/A	65 - 85
Sports Arenas, Outdoor Spectator Sports	N/A	50 – 75	N/A	70 - 85
Playgrounds, Neighborhood Parks	50 – 70	N/A	67.5 – 77.5	72.5 - 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	N/A	70 – 80	80 - 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 – 77.5	75 – 85	N/A
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	75 – 85	N/A

Notes:
CNEL = community noise level equivalent; N/A = not applicable.
NORMALLY ACCEPTABLE: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
CONDITIONALLY ACCEPTABLE: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
NORMALLY UNACCEPTABLE: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.
CLEARLY UNACCEPTABLE: New construction or development should generally not be undertaken.

Source: City of Palmdale *General Plan* Noise Element. Adopted January 25, 1993.

Table XIII-2, City of Palmdale Sound Limits for Receiver Types, presents the exterior and interior noise standards identified in the City's *General Plan* Noise Element.

Table XIII-2 City of Palmdale Sound Limits for Receiver Types

Maximum Acceptable Levels			
Land Use	**Exterior**	**Interior**	**Scale**
SFR	65	45	dBA CNEL
MFR	65	45	dBA CNEL
MHP	65	45	dBA CNEL
Commercial including, but not limited to: • Retail • Services • Office	A noise level that does not jeopardize health, safety, and welfare of visitors	55	Leq(h)
		55	Leq(h)
		55	Leq(h)
Institutional including, but not limited to, • Schools • Hospitals • Nursing Homes	A noise level that does not jeopardize health, safety, and welfare of visitors	45	Leq(h)
		45	Leq(h)
		45	Leq(h)
dBA - A-weighted decibels are an expression of the relative loudness of sounds in air as perceived by the human ear. Leq(h) - The equivalent sound level (Leq) is the most common means of characterizing community noise. Leq represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. CNEL - A 24-hour Leq with adjustments to reflect the greater sensitivity of most people to noise during the evening (7 PM to 10 PM) and nighttime (10 PM to 7 AM). The adjustments are a 5-dBA penalty for evening noise and a 10-dBA penalty for nighttime noise.			

Source: City of Palmdale *General Plan* Noise Element. Adopted January 1993.

City of Palmdale Municipal Code

PMC Section 16.30.130 of states that no person shall perform any construction or repair work on any Sunday, or any other day after 8:00 p.m. or before 6:30 a.m., in any residential zone or within 500 feet of any residence, hotel, motel or recreational vehicle park. Construction and repair work includes work of any kind upon any building or structure, earth excavating, filling, or moving, and delivery, preparation or operation of construction equipment, materials or supplies where any of the foregoing entails the use of an air compressor, jack hammer, power-driven drill, riveting machine, excavator, semi-truck, diesel power truck, tractor, cement truck, or earth moving equipment, hand hammer, or other machine, tool, device or equipment that makes loud noise which disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness sleeping or residing in the area.

Existing Noise Setting

Existing Ambient Noise Levels

To quantify existing ambient noise levels in the Project area, ATS Consulting conducted noise measurements (short-term and long-term) on July 9th and July 11th. The noise measurements were taken at a site on the property with the highest noise levels, next to 70th Street West just before the intersection with Vista Sol Lane. The adjusted community equivalent noise level (CNEL) was calculated to be 70.6 dBA at the microphone location (ATS 2018).

Sensitive Receptors

Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities, and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours. The nearest existing sensitive receptors are single-family residences located immediately adjacent to the northern and southern property boundaries (refer to *Exhibit 2, Aerial Photograph*).

Existing Noise Sources

Under existing conditions, sound levels on the Project site are considered to be moderate, with the majority of noise generated from traffic along 70th Street West. Additionally, Avenue M and 56th Street West also contribute to existing area noise levels, but to a lesser degree. Other minor noise sources include distant traffic on State Route 14 (SR 14) and local arterials, occasional aircraft overflights, and noise from adjacent developments.

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Determination: Less Than Significant Impact with Mitigation Incorporated

Short-term Construction

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. The loudest portion of the construction process typically occurs during the initial clearing and preparation of a site. Project construction activities would have the potential to result in adverse noise effects on offsite sensitive receptors immediately adjacent to the northern and southern property boundaries.

Large earth-moving equipment would be used during the clearing and grading of the site. This would include equipment such as bulldozers, front end loaders, graders, and/or dump trucks. Construction activities would be limited to daytime hours, and all construction would occur in accordance with the requirements of the City of Palmdale. All construction would be required to comply with PMC Section 8.28.030, which limits construction or repair work, earth excavation, filling or moving, the use of air compressors, jack hammers, power-driven drills, riveting machines, diesel power trucks, tractors or other earthmoving equipment, hand hammers on steel or iron, or other machines, tools, devices or equipment which makes loud noises to the disturbance of persons sleeping or residing within 500 feet of the construction area between the hours of 6:30 a.m. and 8:00 p.m. Monday through Saturday.

Two receivers (single-family residences) located to the north of the Project site may experience partial line-of-sight to Project construction activities: 41870 Montana Drive and 41900 Bonita Drive. Both of these properties have existing privacy and sound walls, similar to other properties located directly to the south and north of the Project area. However, there are gaps in the walls that would allow for these properties to experience increased sound levels. The L_{eq} was modeled at these two residences over an 8-hour shift during the anticipated site clearing and preparation phases. Modeling concluded that L_{eq} at the receivers would be approximately 66 dBA; L_{eq} at other sites directly bordering the property is expected to be several decibels below 66 dBA due to the presence of existing sound walls.

The existing noise level at 41900 Bonita Drive is dominated by traffic noise. The estimated existing noise level at 41900 Bonita Drive is 53 dBA between the hours of 7:00 a.m. to 6:00 p.m. Therefore, as modeled, Project construction would cause a 13 dB increase in daytime noise levels for 41900 Bonita Drive. A similar result is anticipated to occur at 41870 Montana Drive. Although no specific criteria have been established for determining impacts from construction noise, increases of this magnitude are typically considered to be an impact. It is anticipated that other adjacent homes would experience daily Less over ambient conditions during peak construction activities, but to a lesser degree due to the presence of sound walls surrounding these properties.

It is estimated that potential Project effects experienced during the site clearing and preparation phase would be limited to a period of eight to twelve weeks. The contractor would be required to limit construction to daytime hours as specified in the PMC to minimize potential adverse noise effects. However, to further reduce noise from Project construction, **Mitigation Measure NOI-1** is proposed to incorporate best management practices during construction activities.

Additionally, **Mitigation Measure NOI-2** would require that, prior to any grading or excavation activity, a 6-foot high temporary sound wall be constructed along any existing gaps in walls at the end of Montana Drive and Bonita Drive. The wall would be adequate to reduce potential noise resulting with Project construction activities to an acceptable level.

With implementation of **Mitigation Measures NOI-1** and **NOI-2**, combined with Project conformance with City Municipal Code restrictions on construction activities, impacts from construction noise would be reduced to less than significant.

Long-term Operation

The Project proposes to construct 86 single-family residential uses, landscaping, interior circulation system and offsite roadway improvements. The Noise Memorandum prepared for the Project (refer to Appendix D) considered the potential operational effects of such uses to determine whether future sound levels would exceed City of Palmdale noise standards for residential development and whether noise generated by the Project would adversely affect sensitive noise receptors in the area.

Off-site Mobile Noise

The City of Palmdale defines the "Maximum Acceptable Level" of interior noise for residential development to be 65 dBA 1-hour L_{eq}. The exterior maximum allowable noise level is defined such that it "does not jeopardize health safety and welfare of visitors." Where this standard is exceeded, measures to mitigate the noise, such as sound walls or improved building sound insulation, should be specified.

The main noise source that would affect the Project is traffic flows along 70th Street West. Noise projections modeled in the Noise Memorandum were focused on noise from 70th Street West traffic at the first row of building sites east of 70th Street West. These lots range from approximately 40 to 50 feet from the edge of 70th Street West.

The adjusted community equivalent noise level under existing conditions was found to be 70.6 dBA at the location of the noise measurements taken to evaluate the Project (taken along 70th Street West near its intersection with Vista Sol Lane). Current traffic on 70th Street West produces a CNEL of 64.8 dBA, which is just below the City's 65 dBA threshold (refer also to Appendix D).

Traffic conditions were modeled using the Federal Highway Administration's "Traffic Noise Model" computer program (TNM version 2.5) to determine the noise environments at various locations within the Project site. Noise projections were based on forecasted future average daily traffic (ADT) on 70th Street West of 2,808 vehicles and 2,371 vehicles on Avenue M (ATS Consulting 2018). Peak hour was estimated to be 7 percent of total traffic based on measurements performed at a similar area in Palmdale. The peak hour L_{eq} was measured at 65.4 dBA; the model produced a result of 65.0 dBA.

Modeling of the Project assumed construction of a sound wall 6 feet in height, based on the existing Project design which proposes a 6-foot privacy wall along 70th Street West. The two closest existing receivers to the Project (see *Table XIII-3, Traffic Noise Model Results for Current Traffic Conditions*) were also analyzed to determine if noise levels were close to the 65 dBA CNEL limit. The results of the current "no-build" scenario and the "current no-build scenario with a noise barrier for the proposed development" are given in *Table XIII-3*.

Table XIII-3 Traffic Noise Model Results for Current Traffic Conditions

Location	Current Traffic	Current Traffic with Project Noise Barrier
41913 Bonita Drive	59.5 dBA	59.4 dBA
Proposed Project	65.0 dBA	58.1 dBA
41735 Retsina Street	60.5 dBA	60.3 dBA

As shown in *Table XIII-3*, construction of a sound wall would lower noise levels by approximately 7dBA, which is more than needed to reduce sound levels below the 65 dBA CNEL threshold. As shown, sound levels at the existing nearby receivers are currently below the 65 dBA threshold.

Additionally, for future conditions, the model was run to determine the daily traffic needed to produce a CNEL of over 65 dBA for these three receivers, to determine if increased noise as a result of the Project would create a significant impact at receivers on or near the property. It was determined that existing traffic would need to increase by approximately 5 times above current levels in order to raise the CNEL to 65 dBA (ATS Consulting 2018; refer to Appendix D), with the assumption that the proposed sound wall would be in place. Construction of the 86 new single-family houses would not generate traffic that would increase current levels along 70th Street West or Avenue M by a factor of 5 and therefore would not raise noise levels above the 65-dBA threshold.

However, as the current CNEL of 64.8 dBA is close to the 65-dBA threshold along Avenue 70th Street West, a significant impact may occur, in particular with the addition of future traffic in the area. Therefore, mitigation is recommended. Noise mitigation is typically aimed at reducing noise levels by a minimum of 5 dBA, with a maximum interior CNEL noise level of 45 dBA. Given that the outdoor to indoor sound reduction for new residential construction is typically between 20 to 25 dBA, if exterior noise levels are below 65 dBA CNEL, then interior levels of less than 45 dBA CNEL would likely be achieved.

To reduce potential adverse effects of traffic noise on the Project, it is anticipated that construction of a sound wall along 70th Street West would be the most effective noise mitigation approach (e.g., versus increasing the sound insulation properties of the individual residential units). Implementation of **Mitigation Measure NOI-3** is therefore proposed to reduce potential traffic noise from 70th Street West to acceptable levels. Impacts would be reduced to less than significant.

Mitigation Measures:

Construction

NOI-1 During all Project construction-related activities, noise attenuation techniques shall be employed, as appropriate, to reduce noise levels to the extent feasible during the construction phase. The following noise attenuation techniques shall be incorporated to reduce potential impacts of construction noise:

- Ensure that construction equipment is equipped with properly operating and maintained mufflers consistent with manufacturer's standards.
- Place noise-generating construction equipment and locate construction staging areas away from sensitive receptors, where feasible.
- Schedule high noise-producing activities between the hours of 7:00 a.m. and 5:00 p.m. to minimize disruption to sensitive receptors.
- Implement noise attenuation measures to the extent feasible, which may include, but are not limited to, temporary noise barriers or noise blankets around stationary construction noise sources.
- Use electric air compressors and similar power tools rather than diesel equipment, where feasible.
- Minimize the use of backup alarms where possible without compromising worker safety.
- All stationary construction equipment (e.g., air compressor, generators, impact wrenches, etc.) shall be operated as far away from residential uses as possible and shall be shielded with temporary sound barriers, sound aprons or sound skins.
- Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 30 minutes.
- During all construction activities, the job superintendent shall limit all construction-related activities to between the hours 6:30 a.m. and 8:00 p.m. Monday through Saturday.
- Clearly post construction hours, allowable workdays, and the phone number of the job superintendent at all construction entrances to allow the surrounding property owners/occupants to contact the job superintendent. If the City or the job superintendent receives a complaint, the superintendent shall investigate, take appropriate corrective actions and report the actions to the complainant.
- If bulldozing activities are planned to occur in the vicinity of adjacent residences, the contractor shall schedule such grading activities, or the use of any other mechanical equipment capable of producing high levels of temporary noise, to be completed over the course of more than one work day. By spreading such activities over one workday, adjacent residences would not be subjected to a persistent increase in potential noise levels, thereby reducing exposure of these sensitive receptors to adverse construction noise effects.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: During Project construction

NOI-2 Prior to any grading or excavation activity, a 6-foot high temporary sound wall (or series of sound walls, if needed) shall be constructed along any existing gaps in walls at the end of Montana Drive and Bonita Drive. The width of the wall or walls will be determined by the contractor and approved by the City. The sound wall shall reduce the noise levels at 41870 Montana Drive and 41900 Bonita Drive by 5 to 10 dBA. Upon completion of Project construction, the contractor shall remove all elements of the temporary sound wall.

- The frame of the temporary sound wall shall be 3-inches by 3-inches by 0.065-inches thick and can be constructed from lumber or other appropriate material, but must be of sufficient strength to be structurally stable.
- The temporary sound wall shall consist of four layers of material attached to the frame with screws:
- 18-ounce tarp;
- 2-inch thick fiberglass blanket R-7.5;
- ½-inch thick weatherwood asphalt sheathing (or similar product); and
- 7/16-inch sturdy board siding.
- The temporary sound wall shall have a surface density of approximately 4.84 pounds per square foot to reduce noise levels by 5 to 10 dBA.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: Prior to Project excavation or grading

Operation

NOI-3 During Project construction, a permanent sound wall 6 feet in height shall be constructed along 70th Street West to reduce exterior noise levels generated by traffic utilizing this roadway to below 65 dBA CNEL.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: During Project construction activities

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

Determination: Less Than Significant Impact

Short-term Construction

Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the

source. The effect on buildings located in proximity to a construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. For example, for a building that is constructed with reinforced concrete with no plaster, the Federal Transit Administration's (FTA) guidelines show that a vibration level of up to 0.50 inch per second (in/sec) (102 velocity decibels [VdB]) is considered safe and would not result in any construction vibration damage.

Groundborne vibration decreases rapidly with distance. The Project does not include components with the potential to generate excessive vibration during construction, such as pile driving or blasting. All Project construction would occur in conformance with Section 8.28.030 of the PMC which prohibits construction noise anytime on Sundays, prior to 6:30 a.m. and after 8:00 p.m. on weekdays and Saturdays, thereby limiting potential adverse effects of Project construction noise. Impacts relative to construction-related groundborne vibration would be less than significant.

Long-term Operation

The Project proposes development of single-family residential uses, and therefore, is not anticipated that daily Project operations would generate groundborne vibration that would be felt at surrounding land uses. The Project would not involve railroads or substantial heavy truck operations on a regular basis, and therefore, would not result in vibration impacts at surrounding uses. No impact would occur in this regard.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Determination: No Impact

The closest airport to the project site is the Palmdale Regional Airport, located approximately 8.7 miles to the southeast. The Project site is not located within the boundaries of the airport's adopted Air Installation Compatible Use Zone (AICUZ). Therefore, the site does not lie within the airport's planning boundary/airport influence area or any AICUZ noise contours. The Project would not expose people residing or working in the Project area to excessive noise levels. No impact would occur.

The closest private airport to the Project site is the General William J. Fox Airfield located approximately 6.6 miles to the north. Agua Dulce Airpark is located approximately 10.1 miles to the southwest. Therefore, the Project site does not lie within the vicinity if a private airstrip. The Project would not expose people residing or working in the area to excessive noise levels. No impact would occur.

XIV. Population and Housing

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

Discussion

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Determination: Less Than Significant Impact

The Project proposed construction of 86 new residential dwelling units on the subject site. Single-family residential development is present on adjoining lands to the north and south, and further to the east and west (not immediately adjacent to the Project site). Therefore, similar residential development is already present in the Project area.

Utilities (water, sewer, electricity) are presently available in the area and would be extended into the interior of the site to serve the proposed uses. However, the Project would not require extension of utilities into an undeveloped area where such amenities are not already present and available (e.g., therefore introducing the potential for induced growth to occur). Access would be extended into the site from existing 70th Street West and 65th Street West, (and from existing neighborhoods to the north and south), and the construction of new offsite roadways to provide access to the Project area is not required.

It is anticipated that, due to the nature of the proposed residential uses, construction workers would generally be from the local area and that the Project would not spur an influx of new residents into the City for purposes of work. Although Project construction would generate new temporary opportunities for employment, it is not anticipated that the proposed development would substantially induce area population growth.

According to the California Department of Finance (DOF), the average persons per household in Palmdale in 2018 was 3.62 persons (DOF 2018). The Project would result in construction of 86 new single-family dwelling units, which would add approximately 311 people to the City's population (3.62 persons per household x 86 dwelling units). Estimated total population of Palmdale as of January 2018 was 158,905 (DOF 2018). The Project would therefore result in a 0.2 percent increase in population according to such estimates.

Any future growth resulting with development of the Project site has been planned for in the *General Plan*, and the residential land use density proposed with the Project is consistent with the current General Plan designation (Single-Family Residential, SFR-2). Furthermore, the *General Plan* includes goals and policies to reduce potential population growth-related impacts. The Project would therefore not induce substantial population growth, either directly or indirectly.

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

Determination: No Impact

The site is currently undeveloped/vacant. Therefore, the Project would not displace any housing as a result of Project implementation, nor would it displace substantial numbers of people requiring the construction of replacement housing elsewhere. No impact would occur in this regard.

XV. Public Services

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☒	☐

Discussion

a)i) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

Determination: Less Than Significant Impact

The City of Palmdale lies within the jurisdiction of and is part of the Consolidated Fire Protection District of Los Angeles County which provides fire protection and emergency medical services to the City. The closest fire station to the Project site is Station 84 located at Avenue L-14, approximately 1.5 miles to the northeast.

The Project would be subject to review by the LA County Fire Department and would be required to comply with any conditions of approval identified Further, the Project applicant would be required to pay development impact fees in order to offset any potential additional demand occurring from the development of the Project as proposed. Due to the limited size of the Project (86 new residential units), additional or altered fire protection services would not be warranted, and services would remain at acceptable levels. Therefore, a less than significant impact to fire protection services would occur with Project implementation.

a)ii) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

Determination: Less Than Significant Impact

The City of Palmdale contracts police protection services to the Los Angeles County Sheriff's Department. Services for the Project would be based out of the Palmdale Sheriff Station, located at 750 East Avenue Q, approximately 8.3 miles southeast of the Project site.

As part of the City's discretionary application process, the Sheriff's Department would review the Project and provide comments/conditions of approval the applicant must comply with. Further, the Project applicant would be required to pay development impact fees to the City for police protection services, which are intended to offset any potential increase in services required by a project. Due to the scale of the Project and the uses proposed, the Project would not result in the need for additional police protection services beyond those associated with a typical residential development. The Sheriff's Department would periodically monitor the Project site, which would not result in the need for additional new or altered police protection services and would not alter acceptable service ratios or response times. Implementation of the Project would also not create the need for the development of additional police facilities. Therefore, a less than significant impact to police protection services would occur with Project implementation.

a)iii) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

Determination: Less Than Significant Impact

The Project site is located in the Westside School District (grades K-8) and the Antelope Valley Union High School District. Children from the proposed development would attend Quartz Hill Elementary School (grades K-6), located at 41820 50th Street West, approximately 1.5 miles to the east; Joe Walker Jr. Middle School (grades 7-8), located at 5632 W. Ave L8, approximately 1.0 mile to the northeast; and Quartz Hill High School (grades 9-12), located at 6040 West Ave L, approximately 1.0 mile to the north.

Current State law requires that impacts to school facilities from development projects be mitigated through mandatory development impact fees. As the Project is a new residential use (86 new single-family dwelling units), the Project applicant would be required to pay developer impact fees in the amount required at the time of building permit issuance. The district has established the school impact mitigation fees to address potential facility impacts created by new residential development. The districts use these fees to pay for facility expansion and upgrades needed to serve new students. These fees would be collected prior to Project approval and the issuance of a building permit during processing of the Tentative Tract Map.

Accordingly, implementation of the Project would not result in the need to construct new school facility or alter an existing school facility. Impacts would be less than significant.

a)iv) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?

Determination: Less Than Significant Impact

Refer to Responses XVI-a) and b) under Recreation, below, for additional discussion. The Project would result in construction of 86 new single-family residential units. According to the City *General Plan EIR*, the intended park land to population ratio is 2 acres of park per 400 persons (City of Palmdale 1993). At the time of preparation of the *General Plan EIR* (1993), developed local public park facilities provided only 1.5 acres per 400 persons. Therefore, the City was deficient in the provision of park and recreation facilities, indicating a need for development of additional parks within the City's Planning Area.

To offset potential effects on the provision of park services, the Project applicant would be subject to the payment of parkland development fees. As of August 1, 2017, parkland development fees for a single-family residential dwelling unit were $3,010.00 (per bedroom) (City of Palmdale 2017). However, rates are adjusted annually. Payment of such fees in intended to support future acquisition of land and improvement of parks and recreational facilities within the City. The development fees would prevent overuse and deterioration of existing parks and recreational facilities because the Project would fund improvements to existing park and recreational facilities. Project conformance to such requirements would minimize potential effects of the development on recreational resources within the area.

The Project would not result in the need for new or expanded parks or park facilities. Payment of park impact fees would reduce Project impacts to less than significant.

a)v) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities?

Determination: Less Than Significant Impact

It is not anticipated that the development of 86 new residential units within the City of Palmdale would generate new demands for other public services, such as libraries. Therefore, the Project would not generate substantial new local population, either directly or indirectly, and would not create a significant impact to other public facilities (e.g., libraries). Impacts would be less than significant.

XVI. Recreation

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Determination: Less Than Significant Impact

Regional recreational areas within the vicinity of Palmdale include the mountain areas of the Angeles National Forest to the south and west of the City's Planning Area. Other major recreational facilities in the area also include Castaic Reservoir, Pyramid Lake, and Big Pines. Landforms of the desert slope and the rift zone of the San Andreas Fault are also open space resources for the region. Resources in the area are tied together by the California Aqueduct and the trail that parallels it. Major recreation areas in this zone are the Lake Hughes-Elizabeth Lake area, Palmdale Reservoir, and the Big Rock and Little Rock Creek areas. Locally, George Lane Park is located at 5520 W. Ave L8, approximately 1.1 miles to the northeast of the Project site; Arnie Quinones Park is located at 41003 50th Street West, approximately 1.7 miles to the southeast of the site.

The Project would result in construction of 86 new single-family residential units. According to the City's *General Plan EIR*, the intended park land to population ratio is 2 acres of park per 400 persons (City of Palmdale 1993). Using the park land to population ratio, the population estimate of 84,348

persons, according to 1992 census data, would require at least 422 acres of public parks. At the time of preparation of the *General Plan EIR*, developed local public park facilities provided only 1.5 acres per 400 persons. Therefore, the *General Plan EIR* identified the need for development of additional parks within the Planning Area.

The City of Palmdale requires the payment of park dedication fees from all new residential development. Payment of such fees in intended to support future acquisition of land and improvement of parks and recreational facilities within the City. At times, the City also may allow a developer the option for the dedication of park land in lieu of park fees. Therefore, Project conformance to such requirements would minimize potential effects of the development on recreational resources within the area.

With the payment of appropriate park dedication fees, the Project would not substantially increase the use of existing neighborhood or regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated. Impacts would be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Determination: Less Than Significant Impact

The Project does not involve the construction of recreational facilities. Refer to Response XVI-a), above. Therefore, the Project would not require the construction or expansion of recreational facilities that may have a substantial effect on the environment. Impacts would be less than significant.

XVII. Transportation

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

Discussion

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

Determination: Less Than Significant Impact.

The Project would result in the construction of 86 new single-family residential units. Based on the Institute of Transportation Engineers (ITE) 10th Edition trip generation rates, 86 single family units would generate 812 average daily trips (ADT) with 64 AM (16 inbound/48 outbound) and 85 PM (54 inbound/31 outbound) peak hour trips. As the Project would generate less than 100 peak hour trips, which is below the City of Palmdale's threshold for preparing a traffic impact assessment.

Project residents would take access into the Project site mainly via 70th Street West and 65th Street West, which have the capacity to accommodate the relatively minimal Project vehicle trip generation increase. Project access would be provided via 67th Street West, Vista Sol Lane, and Montana Drive within the existing residential development to the north; Project access would be provided via 67th Street West, Chanti Court, and Oak Barrel Court within the existing residential development to the south. With the proposed connections to the residential communities to the north and south, Project residents would have numerous options to enter and exit the residential area. The Project interior roadway improvements would expand the community circulation system by making street connections that have been planned for by the City and other developments. All roadway and access improvements would be designed and constructed to satisfy applicable City requirements. The Project would also provide pedestrian sidewalks and street connections that would improve pedestrian and bicycle circulation in the community. Proposed improvements would not substantially interfere with or delay the circulation of vehicles, pedestrians, bicycles, or transit/buses at nearby intersections within the area.

The Project is therefore not anticipated to conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Thus, impacts are considered less than significant.

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

Determination: Less than Significant Impact.

The 2010 Congestion Management Program (CMP) was created in the State of California as a result of Proposition 111 and has been implemented by the Los Angeles County Metropolitan Transportation Authority (MTA). The CMP identifies a list of goals and objectives intended to minimize potential traffic impacts resulting from new development. The Project would add additional traffic to roadways within the Project vicinity. However, the Project would be required to comply with the goals, directives and programs contained in the CMP as they relate to City responsibilities. The street segments and intersections within the vicinity of the Project site are not indicated in the Los Angeles County CMP.

The Project would result in xxxxx vehicle miles traveled (VMT) annually. This is below the City of Palmdale's VMT impact threshold of xxxxxxx. Therefore, the Project would not conflict or be

inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Impacts would be less than significant.

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

Determination: No Impact

The City of Palmdale implements development standards designed to ensure standard roadway engineering practices are used for all improvements. The Project would be reviewed for compliance with these standards as part of the discretionary review process conducted by the City.

The Project includes a planned interior roadway circulation system that would extend through the Project site and is designed to provide efficient internal circulation, driveway access and appropriate linkages to existing neighborhoods to the north and south. The Project also proposes improvements to 65th Street West. and 70th Street West. along the frontage that would include Project access (refer to *Exhibit 3, Tentative Tract Map*).

All proposed roadway improvements would be designed and constructed in conformance with applicable City design standards. As such, they would not introduce any hazardous design features. No impact would occur.

d) Would the project result in inadequate emergency access?

Determination: Less Than Significant Impact

During the plan check phase, the Project would be subject to review by the City, including the LA County Sheriff Department and the LA County Fire Department, to ensure that adequate emergency access is provided pursuant to adopted City design standards. As proposed, emergency access to the Project site would be provided via the proposed main entryways off of 70th Street West. and 65th Street West, as well as from other proposed connections to existing roads within the neighborhoods to the north and south (refer to *Exhibit 3, Tentative Tract Map*). Impacts in this regard would be less than significant.

XVIII. Tribal Cultural Resources

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

Discussion

a)i) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

Determination: Less Than Significant Impact with Mitigation Incorporated

In 2015, the California Public Resources Code (PRC) was amended to enact Assembly Bill 52 (AB 52), to ensure that local and Tribal governments, public agencies, and project proponents would have information early in the project planning process to identify potential impacts to Tribal Cultural Resources (TCR). California Public Resources Code Section 21084.2 states that a "project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." TCR are either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either (a) included or determined to be eligible for

inclusion in the California Register of Historical Resources, or (b) included in a local register of historical resources.

2. A resource determined by the lead agency (in its discretion and supported by substantial evidence) to be significant. This includes resources considered significant to a California Native American tribe (e.g., cultural landscapes, unique and non-unique archaeological resources, and historic resources).

3. Embodies the distinctive characteristics of a type, period, or region or method of construction, or represents the work of an important creative individual or possesses high artistic values.

4. Has yielded, or may be likely to yield, information important in prehistory or history.

In accordance with Public Resources Code Section 21080.1(d), a lead agency is required to provide formal notification of intended development projects to Native American tribes that have requested to be on the lead agency's list for receiving such notification. The formal notification is required to include a brief description of the Project and its location, lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation for tribal cultural resources.

On December 6, 2018, the City of Palmdale initiated the AB 52 process, notifying local tribal governments in writing of the Project pursuant to AB 52 and PRC Section 21080.3.1 pertaining to tribal cultural resources consultation. The four tribes notified included the San Gabriel Band of Mission Indians, the Gabrieleno Band of Mission Indians - Kizh Nation, the Fernandeno Tataviam Band of Mission Indians, and the San Manuel Band of Mission Indians.

On December 20th, 2018, the Fernandeno Tataviam Band of Mission Indians responded to the City's consultation letter and offered their comments on the proposed mitigation measures. On January 9th, 2019, the San Manuel Band of Mission Indians responded to the City's consultation letter and offered their comments on the proposed mitigation measured. The mitigation measures have been enhanced to reflect both of the Tribe's comments.

In order to ensure that no unknown tribal resources associated with the traditional cultural landscape are adversely affected, including those associated with local tribes, **Mitigation Measure TCR-1** is proposed to require monitoring by a qualified archaeologist and coordination with the Tribes, as necessary. If inadvertent human remains are uncovered during earthwork activities, **Mitigation Measure TCR-2** requires that construction activities be halted in the vicinity of the find and any area that is reasonably suspected to overlie adjacent remains until the County Coroner has been notified, and the remains have been investigated. If the remains are determined to be Native American in origin, the applicable State law process will be followed. The proposed mitigation measures would ensure that any tribal resources discovered are properly evaluated for significance and avoided and/or otherwise preserved, as appropriate, in perpetuity. With the proposed mitigation, impacts would be reduced to less than significant.

Mitigation Measures:

TCR-1 In the event that Native American cultural resources are discovered during Project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall assess

the find. The Fernandeño Tataviam Band of Mission Indians (FTBMI) and the San Manuel Band of Mission Indians (SMBMI) shall be contacted to consult if any such find occurs. The archaeologist shall implement the requirements outlined within the Monitoring and Treatment Plan, as noted in CUL-1. The archaeologist shall complete all relevant California State Department of Parks and Recreation (DPR) 523 Series forms to document the find and submit this documentation to the applicant, Lead Agency, FTBMI, and SMBMI. If the Native American cultural resource is determined to be significant, as defined by consulting Tribes, a Native American archaeological monitor procured by the FTBMI and/or SMBMI shall be present for all ground disturbing activities that occur within the Project area. The archaeologist and Tribal monitor(s) will have the authority to request ground disturbing activities cease within the immediate area of a discovery to assess potential finds in real time.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: Prior to any ground-disturbing activities

TCR-2 The Lead Agency and/or applicant shall, in good faith, consult with the Fernandeño Tataviam Band of Mission Indians and/or the San Manuel Band of Mission Indians on the disposition and treatment of any artifacts or other cultural materials if encountered during the project grading.

Monitoring/Enforcement: City of Palmdale Planning Division

Timing/Implementation: Prior to and during any initial ground-disturbing activities

a)ii) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Determination: Less Than Significant Impact with Mitigation Incorporated

Construction activities for the Project have low potential to result in a significant impact to tribal cultural resources. Potential impacts within the boundaries of Traditional Cultural Property could cause a substantial adverse change of a tribal cultural resource as defined in Public Resources Code Section 21074. With implementation of **Mitigation Measures TCR-1, TCR-2, CR-1, CR-2**, and **GEO-1**, potential impacts to tribal Ancestral Origin Landscape and tribal cultural resources would be reduced to less than significant.

Mitigation Measures:

Implement **Mitigation Measures CR-1, CR-2, GEO-1, TCR-1,** and **TCR-2**.

XIX. Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
UTILITIES AND SERVICE SYSTEMS: *Would the project:*				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

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

Determination: Less Than Significant Impact

Water

Water service for the Project site is provided by the Palmdale Water District (PWD). The PWD receives water from a variety of sources, including a number of groundwater basins, the surface water from the Littlerock Reservoir, and imported water from the State Water Project (PWD 2016). According to Table 3-1 of the *PWD Urban Water Management Plan*, Summary of Current and Projected Water Supplies (AF), the PWD has an approximate annual water supply of 17,600 acre-feet (AF). According to Table 2-2, Historical Water Deliveries (AF), of the *PWD Urban Water Management Plan*, PWD delivered approximately 14,723 AF of water to its customers (PWD 2016).

As described previously, water services for the Project would be provided by PWD. The applicant is required to obtain a "will serve" letter from PWD prior to construction of the Project. Further, prior to Project operation, the Project applicant would be required to pay PWD water utility connection fees and ongoing user fees to in order to defray the cost of any necessary facility upgrades, including those related to water facilities. The provision of a "will serve" letter from PWD, as well as payment of water connection fees and ongoing user fees, would ensure the Project's potential impacts related to the construction or expansion of water treatment facilities are less than significant.

Wastewater

The Project site would be served by the Palmdale Sewer Maintenance District (PSMD). PSMD owns, maintains, and operates the City's Wastewater Collection System. The PSMD sewer system consists largely of clay pipe, with approximately 80 percent of the system installed after 1980 (PSMD 2009). The local PSMD system connects to the Los Angeles County Sanitation Districts, which provide major trunk lines to convey water to local treatment facilities. Wastewater generated in the City is conveyed to the Palmdale Water Reclamation Plant or the Lancaster Water Reclamation Plant. The Palmdale Water Reclamation Plant has a daily capacity of 12 million gallons per day (mgd) and currently processes 9.6 mgd (64 percent of capacity). The Lancaster Water Reclamation Plant has a daily capacity of 18 mgd and currently processes 14.3 mgd (79 percent of capacity) (County Sanitation Districts of Los Angeles County 2019).

The Project proposes the development of 86 new residential units on the subject site. Wastewater from the Project would be treated at the Lancaster Water Reclamation Plant. As stated above, the plant has a capacity of 18 mgd and can accommodate additional growth. The project would not result in a substantial increase in wastewater flows. Flows generated by the Project would be well within the capacity of the existing treatment plant and would not result in impacts related to wastewater treatment or non-compliance with wastewater treatment requirements.

The Project applicant is required to obtain a "will serve" letter from PSMD prior to construction of the Project. Further, prior to Project operation, the Project applicant would be required to pay utility connection fees and ongoing user fees to in order to defray the cost of any necessary facility upgrades, including those related to wastewater treatment facilities. The provision of a "will serve" letter from PSMD, as well as payment of sewer connection fees and ongoing user fees, would ensure the Project's potential impacts related to the construction or expansion of wastewater treatment facilities are less than significant.

Additionally, as stated above, the local PSMD system connects to the Los Angeles County Sanitation Districts, which provide major trunk lines to convey water to local treatment facilities. Currently, the Project site lies outside of the jurisdictional boundaries of the County Sanitation Districts. Therefore, the Project will be required to annex into District No. 14 and to make payment of fees for connecting (directly or indirectly) to the public system for wastewater treatment. Payment of the required fees would ensure that adequate treatment services can continue to be provided to both existing and future customers, including the proposed Project.

Storm Water

The decrease in permeable surface on the Project site has the potential to impact the City's existing stormwater drainage infrastructure, as permeable surfaces allow rain and urban runoff to infiltrate the ground and runoff infiltration reduces the amount of flow entering storm water facilities. However,

the Project would minimize potential effects to the City's storm drain system through its incorporation of a site design which would ensure that no increase in volume or rate of runoff from the Project site to the existing storm drain system would occur as compared to existing conditions.

Thus, Project operations as designed would not create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems, or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

Electric Power

Southern California Edison (SCE) is the electricity provider for the City of Palmdale and currently provides electrical service in the Project vicinity. The addition of 86 new homes on the Project site would not require or result in the relocation or construction of new or expanded electric power facilities, the construction or relocation of which could cause significant environmental effects. No impact in this regard would occur.

Natural Gas

Southern California Gas Company (SoCalGas) provides natural gas service for the City of Palmdale and currently provides natural gas service in the Project vicinity. The construction of 86 new single-family residential homes on the Project site would not require or result in the relocation or construction of new or expanded natural gas facilities, the construction or relocation of which could cause significant environmental effects. No impact in this regard would occur.

Telecommunications Facilities

Telecommunications services in the Project vicinity are currently available from various service providers. Project implementation would not require or result in the relocation or construction of new or expanded telecommunications facilities, the construction or relocation of which could cause significant environmental effects. No impact in this regard would occur.

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

Determination: Less Than Significant Impact

Refer to Response XIX-a). A less than significant impact would occur in this regard.

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

Determination: Less Than Significant Impact

Refer to Response XIX-a) above. The Project would result in a limited increase in wastewater treatment demand for the PSMD water treatment system. Further, the Project would be subject to PSMD sewer connection fees, which are used in part to mitigate impacts to wastewater treatment facilities. A less than significant impact would occur in this regard.

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

Determination: Less Than Significant Impact

The Project site is currently vacant and demolition of any existing structures is therefore not required. Project construction would produce solid waste debris, some of which would need to be delivered to a landfill. Project operations would generate non-hazardous waste, consistent with standard residential land use operations. Solid waste generated during Project construction and operation would be disposed of at a properly permitted facility in accordance with federal, State, and local statutes and regulations.

The City of Palmdale is served by the Antelope Valley Public Landfill and the Lancaster Landfill and Recycling Center. The Antelope Valley Public Landfill is located in Palmdale and has a maximum permitted throughput of 5,548 tons per day, with an anticipated closure date of April 2044 (CalRecycle 2018a). The Lancaster Landfill and Recycling Center has a maximum permitted throughput of 5,100 tons per day, with an anticipated closure date of March 2044 (CalRecycle 2018b). The Project would have a negligible impact on the capacity of either landfill because the landfills have the capacity to accommodate waste from a residential site of the Project's proposed size and use. Further, the Project would be required to be in compliance with adopted programs and federal, State, and local regulations pertaining to solid waste. Therefore, a less than significant impact would occur.

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

Determination: Less Than Significant Impact

Refer to Response XIX-d), above. A less than significant impact would occur.

XX. Wildfire

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
WILDFIRE: *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Discussion

Wildfires occur on grasslands, hillsides and mountainous terrain. Wildfire spreading speed depends on the slope, climate and vegetation of the area. The Antelope Valley has hot/dry climate that can keep vegetation dry and combustible. Santa Ana winds can spread wildfires into adjacent areas. Palmdale has wildfire areas within the southern and western portions of the City. Palmdale's *General Plan* Safety Element Exhibit S-16 shows the location of Palmdale's wildfire hazard areas. The project site is not located within a wildfire hazard area.

According to the Board of Forestry and Fire Protection website, State Responsibility Area (SRA) lands are located approximately 1.0 mile west of the project site and approximately 1.7 miles south of the project site. The SRA is the area of the state where the State of California is financially responsible for the prevention and suppression of wildfires. The SRA Fire Prevention Fee was enacted pursuant to Assembly Bill X1 29 in July 2011. The law approved the annual Fire Prevention Fee to pay for fire prevention services within the SRA. The fee is applied to all habitable structures within the SRA. Assembly Bill 398 was enacted on July 25, 2017 to suspend the SRA Fire Prevention Fee until 2031. The project site is not located within SRA lands.

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Determination: Less Than Significant Impact

The Project is located within, and surrounded by, existing urban development. The Project is not located in lands classified as very high fire severity zone or within a State Responsibility Area. The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. Therefore, impacts are considered less than significant.

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Determination: Less Than Significant Impact

The Project is located within, and surrounded by, existing urban development. The Project is not located in lands classified as very high fire severity zone or within a State Responsibility Area. The Project is not located in an area of slope, but occasionally experiences Santa Ana wind conditions. The Project would be required to comply with federal, State, and local development regulations that minimize the risk of fire hazards. Implementation of the Project would not exacerbate wildfire risks and would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts are considered less than significant.

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Determination: Less Than Significant Impact

The Project is located within, and surrounded by, existing urban development. The Project is not located in lands classified as very high fire severity zone or within a State Responsibility Area. The Project would be required to comply with federal, State and local development regulations that minimize the risk of fire hazards. Implementation of the Project would not exacerbate fire risk associated with Project construction. Impacts are considered less than significant.

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Determination: No Impact

The Project is located within, and surrounded by, existing urban development. The Project is not located in lands classified as very high fire severity zone or within a State Responsibility Area. The

Project is not located in an area of slope that could cause erosion due to wildfire destroying existing vegetation. The Project would not cause a situation that would expose people or structures to danger due to runoff, post-fire slope instability, or drainage changes. No impact would occur.

XXI. Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion

The following findings have been made, regarding the mandatory findings of significance set forth in Section 15065 of the CEQA Guidelines, based on the results of this environmental assessment:

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Determination: Less Than Significant Impact with Mitigation Incorporated

Refer to the discussions identified in Section F.IV, Biological Resources, Section F.V, Cultural Resources, and Section F. XVIII, Tribal Cultural Resources. With implementation of mitigation measures proposed, all Project impacts would be reduced to less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Determination: Less Than Significant Impact

Refer to the analysis provided in Section F, Evaluation of Environmental Impacts. With implementation of the proposed mitigation measures, impacts would be less than significant.

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

Determination: Less Than Significant Impact

Refer to the analysis provided in Section F, Evaluation of Environmental Impacts. With implementation of the proposed mitigation measures, impacts would be less than significant.

SECTION G. REFERENCES

The following references were utilized during preparation of this Initial Study/Mitigated Negative Declaration:

Antelope Valley Transit Authority (AVTA). 2018. *Local Transit Service Map*. http://www.avta.com/modules/showdocument.aspx?documentid=8. Accessed August 25, 2018.

Antelope Valley Union High School District – Schools. 2018. https://www.avdistrict.org/. Accessed August 25, 2018.

ATS Consulting. 2018. *Noise Report for Quartz Hill Residential Development, Palmdale, CA*.

California Department of Conservation (DOC). 2016. *Farmland Mapping and Monitoring Program, "Farmland of Local Importance."* Los Angeles County Important Farmland 2016. ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/los16.pdf.

California Department of Finance (DOF). 2018. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2018 with 2010 Census Benchmark*. http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/. Accessed August 23, 2018.

California Department of Toxic Substances Control, 2018. *EnviroStor Database*. https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=palmdale+ca.

California Department of Transportation (Caltrans). 2018. *California Scenic Highway Mapping System*. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/.

California Energy Commission. 2016. *2016 Energy Standards Overview*, https://www.lgc.org/wordpress/wp-content/uploads/2016/02/2016-Energy-Standards-Overview-California-Energy-Commission.pdf, accessed February 19, 2019.

_____2019. *2019 Building Energy Efficiency Standards*, https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf, accessed February 19, 2019.

California Environmental Protection Agency (CalEPA). 2018. *California Greenhouse Gas Emission Inventory - 2018 Edition,* http://www.arb.ca.gov/cc/inventory/data/data.htm. Accessed August 25, 2018.

CalRecycle. 2018a. *Facility Details: Antelope Valley Public Landfill (19-AA-5624)*. http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AA-5624/. Accessed August 24, 2018.

_____2018b. *Facility Details: Lancaster Landfill and Recycling Center (19-AA-0050)*. http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AA-0050/. Accessed August 24, 2018.

City of Palmdale. 2017. *Parkland Development Fees.* https://www.cityofpalmdale.org/Portals/0/Documents/Finance/Fee%20Resolution.pdf?ver=2017-09-28-133014-837. Accessed August 25, 2018.

_____2012. *General Plan Housing Element Update Environmental Impact Report*, June 2012.

_____2011. *Energy Action Plan.* August 2011.

_____1993. *General Plan.*

_____1993. *General Plan Environmental Impact Report.*

County Sanitation Districts of Los Angeles County. 2019. *Correspondence from Adriana Raza, Customer Service Specialist, Facilities Planning Department – Letter dated April 23, 2019.*

Federal Emergency Management Agency (FEMA). 2008. *Flood Insurance Rate Map No. 06037C0400F.*

Hagan, Mark. 2018. *Biological Resource Assessment of TTM 81337, Palmdale, California.*

Hudlow Cultural Resource Associates. 2018. *Phase I Cultural Resource Survey for Property at 70th Street West and Vista Sol.*

Los Angeles County Fire Department. 2018. *Fire Stations, Find Your Station.* https://www.lafd.org/fire-stations/station-results. Accessed August 25, 2018.

Los Angeles County Metropolitan Transportation Authority. 2010. *2010 Congestion Management Program.*

Los Angeles County Sheriff Department. 2014. *Station Map - Palmdale Station.* http://shq.lasdnews.net/content/uoa/PLM/Palmdale%20Station%20Map.pdf. Accessed August 25, 2018.

M.S. Hatch Consulting, LLC. 2018. *Air Quality Study - Tentative Tract Map (TTM) 81337 Housing Development.*

Michael Baker International. *Delineation of State and Federal Jurisdictional Waters for the Tentative Tract Map 81337 Project.* January 2020.

Palmdale Sewer Maintenance District (PSMD). 2009. *Sewer System Management Plan*, May 2009.

Palmdale Water District (PWD). 2016. *2015 Urban Water Management Plan.* *https://www.palmdalewater.org/wp-content/uploads/2016/10/PWD_2015UWMP_Final_June2016.pdf.*

Partner Engineering and Science, Inc. 2018. *Phase I Environmental Site Assessment Report.*

Westside School District - Schools. 2018. https://www.westside.k12.ca.us/schools. Accessed August 25, 2018.

SECTION H. PREPARERS

I. Initial Study/Mitigated Negative Declaration

Michael Baker International
40810 County Center Drive, Suite 200
Temecula, CA 92591-6022

Darren Edgington, CEP-IT, LEED AP BD+C, Project Manager
Nicole Marotz, AICP, LEED AP, Senior Environmental Planner

II. Technical Studies

Air Quality/Greenhouse Gas Emissions (Appendix A)

M.S. Hatch Consulting, LLC.

Biological Resources (Appendix B-1)

Mark Hagan

Jurisdictional Delineation (Appendix B-2)

Michael Baker International

Tom Millington

Cultural and Tribal Resources

Hudlow Cultural Resource Associates

Scott M. Hudlow

Hazards and Hazardous Materials (Appendix C)

Partner Engineering and Science, Inc.

Cody Taylor

Noise (Appendix D)

ATS Consulting

Jack Meighan

Appendix A

Air Quality Study and Energy Data

Air Quality Study

Date: August 2, 2018
To: Ms. Kris Pinero, Royal Investors Group, LLC
From: M. S. Hatch Consulting, LLC
Subject: Air Quality Study – Tentative Tract Map (TTM) 81337 Housing Development – 70th Street W & Avenue M, Palmdale, CA

M. S. Hatch Consulting, LLC (MSHC) appreciates the opportunity to prepare the air quality study for the proposed construction and operation of the housing development for Royal Investors Group, LLC, shown in Tentative Tract Map (TTM) 81337. The project consists of 86 single family homes on approximately 40 acres of land, in the City of Palmdale. This air quality study includes the estimated criteria pollutant and greenhouse gas emissions from the construction and operation of the proposed project.

Executive Summary

Table 1 and Table 2 compare the estimated annual and daily emissions summaries from the construction and operation of the proposed housing development to the significant emission thresholds described in the Antelope Valley Air Quality Management District (AVAQMD) California Environmental Quality Act (CEQA) and Federal Conformity Guidelines, dated August 2016, included in Attachment A. The estimated emissions of criteria pollutants and greenhouse gases for each year of construction as well as total operational emissions **are well below the applicable thresholds**. Greenhouse gas emissions are presented in units of carbon dioxide equivalent (CO_2e). The proposed project is not considered one of the project types that the AVAQMD CEQA Guidelines require to be evaluated for potentially exposing sensitive receptors to substantial pollutant concentrations.[1] As such, hazardous air pollutants (HAP) emissions were not calculated and the project was not evaluated for potential health risks to sensitive receptors.

[1] Residences, schools, daycare centers, playgrounds and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated using significance threshold criteria number 4 (refer to the significance threshold discussion): any industrial project within 1000 feet; a distribution center (40 or more trucks per day) within 1000 feet; a major transportation project (50,000 or more vehicles per day) within 1000 feet; a dry cleaner using perchloroethylene within 500 feet; or a gasoline dispensing facility within 300 feet.

Table 1. Annual Emissions Summary and Significance Thresholds

Emissions Source	Total Emissions (tons per year)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	CO_2e
Year 1 Construction Emissions (2019)	0.34	3.53	2.31	< 0.01	0.46	0.27	430
Year 2 Construction Emissions (2020)	0.44	3.94	3.61	0.01	0.47	0.23	852
Year 3 Construction Emissions (2021)	1.61	0.40	0.51	< 0.01	0.03	0.02	75
Total Operational Emissions	2.18	1.63	4.08	0.01	0.90	0.26	1,535
Significant Emissions Threshold	**25**	**25**	**100**	**25**	**15**	**12**	**100,000**

Table 2. Daily Emissions Summary and Significance Thresholds

Emissions Source	Total Emissions (pounds per day)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	CO_2e
Year 1 Construction Emissions (2019)	4.86	55.01	34.41	0.07	9.59	6.11	7,515
Year 2 Construction Emissions (2020)	3.52	29.89	28.76	0.07	3.63	1.77	7,400
Year 3 Construction Emissions (2021)	56.61	12.96	15.25	0.02	0.80	0.66	2,358
Total Operational Emissions	12.62	10.26	29.57	0.08	5.40	1.63	9,565
Significant Emissions Threshold	**137**	**137**	**548**	**137**	**82**	**65**	**548,000**

ROG: Reactive Organic Compounds, used interchangeably with Volatile Organic Compounds (VOC); NO_X: oxides of nitrogen; CO: Carbon monoxide; SO_X: Oxides of sulfur; $PM_{2.5}$: particulate matter less than 2.5 micrometers in diameter; PM_{10}: particulate matter less than 10 micrometers in diameter; CO_2e: Carbon dioxide equivalent

Project Description

The proposed project includes the construction of 86 single family houses and residential streets on 40.56 acres of land. The project site is located south of the existing residential development on W Avenue M, between 70th Street W and 65th Street W, in the City of Palmdale. The site location is included in Figure 1 and the proposed site plan is included in Figure 2.

Figure 1. Regional Vicinity

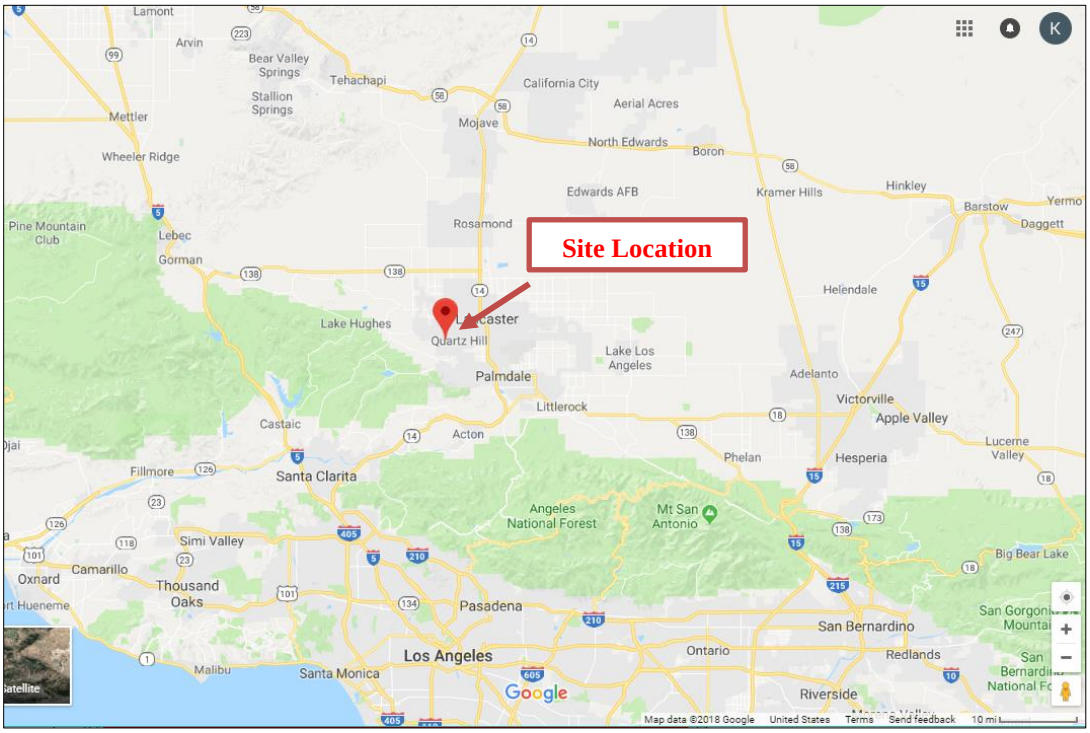


Figure 2. Site Plan – Proposed Housing Development - TTM 81337, Palmdale, CA

Sources of Emissions

The emissions associated with the proposed project consist of construction and operational emissions from the housing development. Construction emissions are temporary and include emissions of criteria pollutants and greenhouse gases from construction activities during site preparation, grading, paving, building construction, and the application of architectural coatings. Operational emissions consist of area sources (i.e., re-applying architectural coatings, consumer products, fireplaces, and landscaping equipment), energy

use (i.e., electricity and natural gas), mobile sources (e.g., commuting), solid waste disposal, and water and wastewater use (i.e., supplying and treating water and wastewater).

Emissions Estimates

Table 3 and 4 present the annual and daily emissions summaries from the construction and operation of the proposed project, respectively. Emissions were estimated using CalEEMod Version 2016.3.2. The detailed emissions model outputs are included in Attachment B.

This project is not considered one of the project types that the AVAQMD CEQA Guidelines require to be evaluated for potentially exposing sensitive receptors to substantial pollutant concentrations. As such, HAP emissions were not calculated, and the project was not evaluated for potential health risks to sensitive receptors.

Table 3. Annual Construction and Operational Emissions Summary

Emissions Source	Total Emissions (tons per year)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$	CO_2e
Construction Emissions							
Year 1 Construction Emissions (2019)	0.34	3.53	2.31	< 0.01	0.46	0.27	430
Year 2 Construction Emissions (2020)	0.44	3.94	3.61	0.01	0.47	0.23	852
Year 3 Construction Emissions (2021)	1.61	0.40	0.51	< 0.01	0.03	0.02	75
Operational Emissions							
Area Sources	1.89	0.07	0.66	< 0.01	0.01	0.01	69
Energy	0.01	0.11	0.05	< 0.01	0.01	0.01	353
Mobile Sources	0.27	1.46	3.37	0.01	0.89	0.24	1,019
Waste	N/A	N/A	N/A	N/A	0.00	0.00	51
Water	N/A	N/A	N/A	N/A	0.00	0.00	44
Total Operational Emissions	**2.18**	**1.63**	**4.08**	**0.01**	**0.90**	**0.26**	**1,535**
Significant Emissions Threshold	**25**	**25**	**100**	**25**	**15**	**12**	**100,000**

Table 4. Daily Construction and Operational Emissions Summary

Emissions Source	Total Emissions (pounds per day)						
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e
Construction Emissions							
Year 1 Construction Emissions (2019)	4.86	55.01	34.41	0.07	9.59	6.11	7,515
Year 2 Construction Emissions (2020)	3.52	29.89	28.76	0.07	3.63	1.77	7,400
Year 3 Construction Emissions (2021)	56.61	12.96	15.25	0.02	0.80	0.66	2,358
Operational Emissions							
Area Sources	10.60	1.51	7.71	0.01	0.15	0.15	1,845
Energy	0.07	0.60	0.25	< 0.01	0.05	0.05	766
Mobile	1.95	8.15	21.61	0.07	5.20	1.43	6,954

Table 4. Daily Construction and Operational Emissions Summary

Emissions Source	Total Emissions (pounds per day)						
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e
Waste	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Operational Emissions	**12.62**	**10.26**	**29.57**	**0.08**	**5.40**	**1.63**	**9,565**
Significant Emissions Threshold	**137**	**137**	**548**	**137**	**82**	**65**	**548,000**

ROG: Reactive Organic Compounds, used interchangeably with Volatile Organic Compounds (VOC); NO_X: oxides of nitrogen; CO: Carbon monoxide; SO_X: Oxides of sulfur; $PM_{2.5}$: particulate matter less than 2.5 micrometers in diameter; PM_{10}: particulate matter less than 10 micrometers in diameter; CO_2e: Carbon dioxide equivalent

Emissions Calculation Methodology

Construction and operational emissions were based on two CalEEMod land use types*: Single Family Housing* and *Other Asphalt Surfaces*. A discussion on the land use types that were used for the emissions modeling is included below.

CalEEMod Land Use Type: Single Family Housing

The *Single Family Housing* land use type was used to model the emissions associated with the proposed housing development. The total building square footage (430,000 square feet) was calculated based on the number of units (86) and the average square footage per unit (5,000 square feet) provided by Royal Investors Group, LLC (Royal). The residential acreage (29.81 acres) was provided by Cornerstone Engineering, Inc.

CalEEMod Land Use Type: Other Asphalt Areas

The *Other Asphalt Areas* land use type was used to model the emissions associated with the residential streets within the proposed housing development. The street acreage (10.75 acres) was provided by Cornerstone Engineering, Inc.

Construction Emissions

Construction emissions were calculated using CalEEMod defaults and input provided by Royal. The client reviewed and verified the list of construction equipment and the anticipated construction schedule.

Table 5 provides the anticipated construction schedule. Royal provided the proposed start date (6/3/2019) and end date for the project (6/3/2021) and indicated that work would be conducted five days per week. Apart from the *Building Construction* phase, all phase durations are based on CalEEMod default values. The *Building Construction* phase was shortened to complete the project within the anticipated project end date provided by Royal.

Table 6 provides the anticipated number of construction equipment that will be used during each phase, the hours per day the equipment will be operated, and the horsepower of the equipment, based on CalEEMod default values.

Based on input from Royal this project will require 900 cubic yards of material export during the *Grading* phase; as such, the emissions for material haul trips were included in the construction emissions. For fugitive dust emissions, CalEEMod defaults do not include any control of fugitive dust from project construction sites. AVAQMD Rule 403 requires that fugitive dust from any "active operation, open storage pile, or disturbed surface area" be controlled so that the no presence of dust remains visible beyond the property line. To meet this requirement, the standard operation is watering active sites three times per day. Although the addition of watering for dust control is listed as a mitigation measure in CalEEMod, within the AVAQMD this is a requirement, and is therefore included.

For architectural coating operations, VOC emissions were calculated based on the assumption that the coatings would be compliant with the VOC content limits of AVAQMD Rule 1113.[2]

Table 5. Construction Schedule

Construction Phase	Start Date	End Date	Days/week	Total Days
Demolition	N/A	N/A	N/A	N/A
Site Preparation	6/3/2019	7/12/2019	5	30
Grading	7/13/2019	10/25/2019	5	75
Building Construction	10/26/2019	12/31/2020	5	309
Paving	1/1/2021	3/18/2021	5	55
Architectural Coating	3/19/2021	6/3/2021	5	55

Table 6. Construction Equipment

Construction Phase	Equipment	Number of Equipment	Hours per day	Horse power
Site Preparation	Tractors/Loaders/Backhoes	4	8	97
	Rubber Tired Dozers	3	8	247
Grading	Excavators	2	8	158
	Rubber Tired Dozers	1	8	247
	Graders	1	8	187
	Tractors/Loaders/Backhoes	2	8	97
	Scrapers	2	8	367
Building Construction	Cranes	1	7	231
	Forklifts	3	8	89
	Generator Sets	1	8	84

[2] For building coatings, assumed to be 90% flat paints (50 g/L) and 10% non-flat paints (100 g/L). For the parking lot coatings, assumed to be compliant with the Traffic Marking Coating category (100 g/L). VOC limits based on AVAQMD Rule 1113.

Table 6. Construction Equipment

Construction Phase	Equipment	Number of Equipment	Hours per day	Horse power
Building Construction	Tractors/Loaders/Backhoes	3	7	97
	Welders	1	8	46
Paving	Pavers	2	8	130
	Rollers	2	8	80
	Paving Equipment	2	8	132
Architectural Coating	Air Compressors	1	6	78

Operational Emissions

Operational emissions consist of area sources (i.e., re-applying architectural coatings, consumer products, fireplaces, and landscaping equipment), energy use (i.e., electricity and natural gas), mobile sources (e.g., commuting), solid waste disposal, and water and wastewater use (i.e., supplying and treating water and wastewater).

For area-source emissions, it was determined that woodstoves and wood-burning fireplaces would not be installed; however, gas-fueled fireplaces would be installed.[3] For architectural coating operations (i.e., re-applying coatings), VOC emissions were calculated based on the assumption that the coatings would be compliant with the VOC content limits of AVAQMD Rule 1113.[4] All other operational emissions sources were calculated using CalEEMod default factors.

Findings

The estimated emissions of criteria pollutants and greenhouse gases for each year of construction and the total operational emissions **are well below the applicable AVAQMD Significant Emissions Thresholds**; therefore, this project does not have a significant air quality impact on the environment. In addition, this project is not expected to expose sensitive receptors to substantial pollutant concentrations. Since the construction and operational emissions are below the significance thresholds, emissions mitigation measures are not required.

[3] Based on data request form provided by Royal Investors Group, LLC.
[4] For building coatings, assumed to be 90% flat paints (50 g/L) and 10% non-flat paints (100 g/L). For the parking lot coatings, assumed to be compliant with the Traffic Marking Coating category (100 g/L). VOC limits based on AVAQMD Rule 1113.

ATTACHMENT A – Antelope Valley AQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines

Antelope Valley AQMD

California Environmental Quality Act (CEQA)

and

Federal Conformity

Guidelines

August 2016

AVAQMD Planning, Rule-making and Grants Section
AVAQMD Air Monitoring Section

Table of Contents

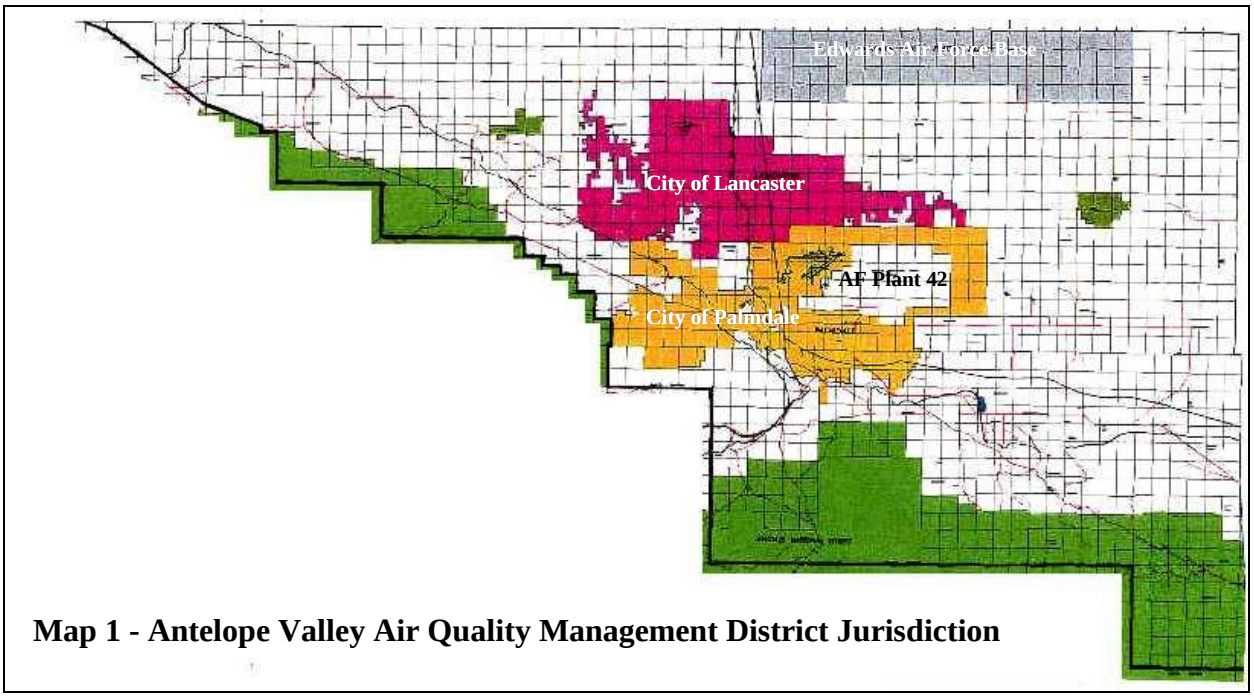
Background 1
Recommended Environmental Setting Elements 3
Recommended Impacts Discussion Elements 5
Recommended Substantiation Discussion Elements 6
Significance Thresholds 6
District Contacts 7
Appendix A – Basic Definitions of Major Air Pollutants 8

Background

Under the California Environmental Quality Act (CEQA), the AVAQMD (District) is an expert commenting agency on air quality and related matters within its jurisdiction (or impacting on its jurisdiction). The District has dedicated resources to reviewing projects to ensure that they will not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan. The District has adopted a federal attainment plan for ozone pursuant to the Federal Clean Air Act.

Purpose

These Guidelines are intended to assist persons preparing environmental analysis or review documents for any project within the jurisdiction of the District by providing background information and guidance on the preferred analysis approach.



Map 1 - Antelope Valley Air Quality Management District Jurisdiction

Jurisdiction

The District has jurisdiction over the northern, desert portion of Los Angeles County (please refer to Map 1). This region includes the incorporated cities of Lancaster and Palmdale, Air Force Plant 42, and the southern portion of Edwards Air Force Base. The Kern County-Los Angeles County boundary forms the northern boundary of the District; the San Bernardino-Los Angeles County boundary forms the eastern boundary of the District.

Non-attainment Designations and Classification Status

The United States Environmental Protection Agency and the California Air Resources Board have designated portions of the District non-attainment for a variety of pollutants, and some of those designations have an associated classification. Please refer to Table 1 for a chart of these designations and classifications.

Table 1 – AVAQMD Designations and Classifications

Ambient Air Quality Standard	AVAQMD
One-hour Ozone (Federal) – standard has been revoked, this is historical information only	Proposed attainment in 2014; historical classification Severe-17
Eight-hour Ozone (Federal 84 ppb (1997))	Subpart 2 Nonattainment; classified Severe-15
Eight-hour Ozone (Federal 75 ppb (2008))	Nonattainment, classified Severe-15
Eight-hour Ozone (Federal 70 ppb (2015))	Expected nonattainment; classification to be determined
Ozone (State)	Nonattainment; classified Extreme
PM_{10} 24-hour (Federal)	Unclassifiable/attainment
$PM_{2.5}$ Annual (Federal)	Unclassified/attainment
$PM_{2.5}$ 24-hour (Federal)	Unclassified/attainment
$PM_{2.5}$ (State)	Unclassified
PM_{10} (State)	Nonattainment
Carbon Monoxide (State and Federal)	Attainment
Nitrogen Dioxide (State and Federal)	Attainment/unclassified
Sulfur Dioxide (State and Federal)	Attainment/unclassified
Lead (State and Federal)	Attainment
Particulate Sulfate (State)	Unclassified
Hydrogen Sulfide (State)	Unclassified
Visibility Reducing Particles (State)	Unclassified

Attainment Plans

The District has adopted a single attainment plan for ozone. Please refer to Table 2 for information regarding this attainment plan.

Table 2 – AVAQMD Attainment Plans

Name of Plan	Date of Adoption	Standard(s) Targeted	Applicable Area	Pollutant(s) Targeted	Attainment Date*
AVAQMD 2004 Ozone Attainment Plan (State and Federal)	4/2004	Federal one hour ozone	Entire District	NO_x and VOC	2007
AVAQMD Federal 8-Hour Ozone Attainment Plan	5/20/2008	Federal eight hour ozone (84 ppb)	Entire District	NO_x and VOC	2019 (revised from 2021)

*Note: A historical attainment date given in an attainment plan does not necessarily mean that the affected area has been re-designated to attainment; please refer to Table 1.

Rules and Regulations

The District maintains a set of Rules and Regulations to improve air quality and maintain good air quality. Please contact the District to obtain a copy of the District rulebook, or visit www.avaqmd.ca.gov.

Recommended Environmental Setting Elements

Air Quality Data

The District gathers a variety of air quality data at the Lancaster monitoring site. Table 3 details the data available from the District for this site.

Table 3 - Available Air Quality Data

Site	Address	Pollutants	Dates
Lancaster	W. Ponderosa	O_3, NO_x, CO, PM_{10} (Hi-Vol and TEOM)	7/1/97 to 11/01
Lancaster	W. Ponderosa	$PM_{2.5}$	1/1/99 to 11/01
Lancaster	43301 Division St.	O_3, NO_x, CO, PM_{10} (hourly), $PM_{2.5}$	11/01 to present

Meteorological Data

A variety of meteorological data is available from the District for the Lancaster site. Table 4 contains a list of the data available for the Lancaster site.

Table 4 - Available Meteorological Data

Site	Address	Data	Dates
Lancaster	W. Ponderosa	Wind speed/direction, pressure, temperature, humidity	7/1/97 to 11/01
Lancaster	43301 Division St.	Wind speed/direction, pressure, temperature, humidity	11/01 to present

Topography and Climate Discussion

The District covers a western portion of the Mojave Desert Air Basin (MDAB). The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains which dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada mountains to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevadas in the north by the Tehachapi Pass (3,800 ft elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 ft).

During the summer the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time the reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. MDAB annual average precipitation is presented in Table 5; the data displayed is 1981-2010 averages from the NOAA National Climate Data Center. The MDAB is classified as a dry-hot desert climate (BWh), with portions classified as dry-very hot desert (BWhh), to indicate at least three months have maximum average temperatures over 100.4° F.

Table 5 - MDAB Average Annual Precipitation

Site	County	District	Precipitation (inches)
Baker	San Bernardino	MDAQMD	4.48
Barstow Daggett Airport	San Bernardino	MDAQMD	4.06
Barstow	San Bernardino	MDAQMD	5.30
Blythe Airport	Riverside	MDAQMD	3.77
Desert Center 2 NNE	Riverside	SCAQMD	3.92
Eagle Mountain	Riverside	SCAQMD	4.10
Goldstone Echo Number 2	San Bernardino	MDAQMD	5.88
Joshua Tree	San Bernardino	MDAQMD	5.11
Lancaster Wm J Fox Field	Los Angeles	AVAQMD	7.38
Mitchell Caverns	San Bernardino	MDAQMD	11.50
Mojave	Kern	EKAPCD	6.67
Mountain Pass 1 SE	San Bernardino	MDAQMD	9.94
Needles Airport	San Bernardino	MDAQMD	4.62
Palmdale Airport	Los Angeles	AVAQMD	8.30
Palmdale	Los Angeles	AVAQMD	7.40

Site	County	District	Precipitation (inches)
Parker Reservoir	San Bernardino	MDAQMD	6.16
Pearblossom	Los Angeles	AVAQMD	6.73
Randsburg	Kern	EKAPCD	7.26
Trona	San Bernardino	MDAQMD	3.88
Twentynine Palms	San Bernardino	MDAQMD	4.46
Victorville Pump Plant	San Bernardino	MDAQMD	6.15
Wrightwood	Los Angeles	AVAQMD	22.61

Recommended Impacts Discussion Elements

Direct Impacts

Direct impacts are the result of the project itself (from its construction and operation), in the form of project activity and trips generated by the project. For example, in the case of a subdivision project, construction emissions (equipment exhaust, wind erosion, vehicle exhaust), housing use activity (natural gas consumption) and trips to and from the housing (vehicle exhaust, tire wear) represent direct impacts. In the case of a new mine project, construction emissions (equipment exhaust, wind erosion, vehicle exhaust), material handling (drilling, blasting, transfers, crushing, screening, bagging), operational emissions (wind erosion, vehicle travel, vehicle exhaust, tire wear), and employee/customer/delivery travel (vehicle exhaust, tire wear) represent direct impacts.

Indirect Impacts

Indirect impacts are the result of changes that would not occur without the project. In the case of a subdivision project, indirect impacts on the surrounding community can be generated in many ways: nearby construction of roadways (or roadway modifications) and other infrastructure to support the subdivision, construction and operation of new commercial/retail establishments, changes in traffic/circulation patterns that result in increased congestion/delays, etc. In the case of a new mine project, indirect impacts can be generated by nearby construction of infrastructure to support the mine, housing constructed and/or occupied by mine employees, changes in traffic/circulation patterns that result in increased congestion/delays, etc.

Cumulative Impacts

Cumulative impacts are similar to direct and indirect impacts of the project, which the project contributes to. In the case of a subdivision project, a given project has a cumulative impact with all other subdivision projects, from the standpoint of each type of impact (cumulative construction emissions, residential natural gas consumption, solvent use, transportation emissions, congestion, etc.). Similarly, a new mine project has a cumulative impact with all other mining projects, from the standpoint of each type of impact (cumulative construction emissions, diesel equipment emissions, blasting emissions, fugitive emissions, transportation, congestion, etc.).

Conformity Impacts

A project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. An example of a non-conforming project would be one that increases the gross number of dwelling units, increases the number of trips, and/or increases the overall vehicle miles traveled in an affected area (relative to the applicable land use plan).

Sensitive Receptor Land Uses

Residences, schools, daycare centers, playgrounds and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated using significance threshold criteria number 4 (refer to the significance threshold discussion):

- Any industrial project within 1000 feet;
- A distribution center (40 or more trucks per day) within 1000 feet;
- A major transportation project (50,000 or more vehicles per day) within 1000 feet;
- A dry cleaner using perchloroethylene within 500 feet;
- A gasoline dispensing facility within 300 feet.

Recommended Substantiation Discussion Elements

For projects applying the emissions-based significance thresholds, project emissions quantification is required. In addition the environmental documentation must include support for the quantification methodology used, including emission factors, emission factors source, assumptions, and sample calculations where necessary. For projects using a calculation tool such as CalEEMod or URBEMIS, the support section must specify the inputs and settings used for the evaluation.

Significance Thresholds

Any project is significant if it triggers or exceeds the most appropriate evaluation criteria. The District will clarify upon request which threshold is most appropriate for a given project; in general, the emissions comparison (criteria number 1) is sufficient:

1. Generates total emissions (direct and indirect) in excess of the thresholds given in Table 6;
2. Generates a violation of any ambient air quality standard when added to the local background;
3. Does not conform with the applicable attainment or maintenance plan(s) [1];

[1] A project is deemed to not exceed this threshold, and hence not be significant, if it is consistent with the existing land use plan. Zoning changes, specific plans, general plan amendments and similar land use plan changes which do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to not exceed this threshold.

4. Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1.*

**Refer to the Sensitive Receptor Land Use discussion above*

A significant project must incorporate mitigation sufficient to reduce its impact to a level that is not significant. A project that cannot be mitigated to a level that is not significant must incorporate all feasible mitigation. Note that the emission thresholds are given as a daily value and an annual value, so that a multi-phased project (such as a project with a construction phase and a separate operational phase) with phases shorter than one year can be compared to the daily value.

Table 6 – Significant Emissions Thresholds

Criteria Pollutant	**Annual Threshold (tons)**	**Daily Threshold (pounds)**
Greenhouse Gases (CO2e)	100,000	548,000
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NO_x)	25	137
Volatile Organic Compounds (VOC)	25	137
Oxides of Sulfur (SO_x)	25	137
Particulate Matter (PM_{10})	15	82
Particulate Matter ($PM_{2.5}$)	12	65
Hydrogen Sulfide (H_2S)	10	54
Lead (Pb)	0.6	3

District Contacts

If an address is not listed, please use the general address, to the attention of the listed individual.

AVAQMD General and Rulebook	Crystal Goree (661) 723-8070 x1 Mailing and Physical Address: 43301 Division St., Suite 206 Lancaster, CA 93535-4649
Planning and Rules	Tracy Walters (760) 245-1661 x6122
Air Quality and Meteorological Data	Orlando Salinas (760) 245-1661 x1810
CEQA and Conformity	Alan De Salvio (760) 245-1661 x6726
Permitting	Bret Banks (661) 723-8070 x2

Appendix A – Basic Definitions of Major Air Pollutants

Technical and/or legal definitions exist for many of these pollutants, depending on context. The following definitions are for general, introductory purposes only:

Carbon Dioxide (CO_2) – Common product of combustion. Not a criteria pollutant, but considered an important "greenhouse gas." Important on a national or global scale.

Carbon Monoxide (CO) – Common product of incomplete combustion. A criteria pollutant with state and federal standards. Not a primary photochemical reaction compound, but involved in photochemical reactions. Dissipates rapidly, and is therefore only important on a local scale near sources.

Criteria Pollutants – Those air pollutants specifically identified for control under the Federal Clean Air Act (currently six: carbon monoxide, nitrogen oxides, lead, sulfur oxides, ozone and particulates).

Lead (Pb) – A heavy metal, present in the environment mainly due to historical use in motor vehicle fuel. Primarily associated with lead smelting operations. A criteria pollutant with state and federal standards. Primarily of concern near sources.

Oxides of Nitrogen (NO_x) – Common product of combustion in the presence of nitrogen. Includes NO_2, which is a criteria pollutant with state and federal standards. Locally and regionally important due to its involvement in the photochemical formation of ozone.

Oxides of Sulfur (SO_x) – Common product of combustion in the presence of sulfur. Associated primarily with diesel and coal burning. Includes SO_2, a criteria pollutant with state and federal standards. Primarily of concern near sources.

Ozone (O_3) – A gas mainly produced by a photochemical reaction between reactive organic gases and oxides of nitrogen in the presence of sunlight (also produced by molecular oxygen in the presence of ultraviolet light or electrical discharge). A strong oxidant that is damaging at ground level but necessary at high altitude (in the stratosphere, where it absorbs dangerous ultraviolet light). Also considered an important greenhouse gas. A criteria pollutant with state and federal standards.

Particulate Matter (TSP or PM_{30}) – Solid or liquid matter suspended in the atmosphere, excluding water. Includes aerosols and droplets that form in the atmosphere. Locally and regionally important.

Reactive/Volatile Organic Compounds/Gases (ROG, VOC, NMOG, NMOC) – A portion of total organic compounds or gases, excludes methane, ethane and acetone (due to low photochemical reactivity). "ROG" is generally used by the California Air Resources Board, "VOC" is generally used by the United States Environmental Protection Agency, but all four terms are interchangeable for most uses. Regionally important due to its involvement in the photochemical reaction that produces ozone.

Respirable Particulate Matter (coarse or PM_{10}, and fine or $PM_{2.5}$) – That portion of particulate matter that tends to penetrate into the human lung. The subscript refers to aerodynamic diameter. Criteria pollutants with state and federal standards. Locally and regionally important.

Total Organic Compounds/Gases (TOC or TOG) – Compounds containing at least one atom of carbon, except carbon monoxide, carbon dioxide, carbonic acid, metallic carbides and metallic carbonates. Primarily methane in the atmosphere, a "greenhouse gas."

ATTACHMENT B – CalEEMod Emissions Model Output

Air Quality Study - Tentative Track Map (TTM) 81337, Palmdale

Antelope Valley APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	10.75	Acre	10.75	468,270.00	0
Single Family Housing	86.00	Dwelling Unit	29.81	430,000.00	246

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage and building square footage were updated based on client's input.

Construction Phase - Construction schedule adjusted based on client input on the data request form.

Grading -

Architectural Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Woodstoves - Based on client input, gas fueled fireplaces will be installed. Woodstoves will not be installed.

Area Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Construction Off-road Equipment Mitigation - Assumed that construction site will be watered 3 times per day to be in compliance with AVAQMD Rule 403.

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	55.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	55.00
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	55
tblAreaCoating	Area_EF_Residential_Interior	250	55
tblConstructionPhase	NumDays	740.00	309.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	47.30	86.00
tblFireplaces	NumberNoFireplace	8.60	0.00
tblFireplaces	NumberWood	30.10	0.00
tblGrading	MaterialExported	0.00	900.00
tblLandUse	LandUseSquareFeet	154,800.00	430,000.00
tblLandUse	LotAcreage	27.92	29.81
tblWoodstoves	NumberCatalytic	4.30	0.00
tblWoodstoves	NumberNoncatalytic	4.30	0.00
tblWoodstoves	WoodstoveDayYear	82.00	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					
2019	0.3356	3.5255	2.3108	4.7300e-003	0.6621	0.1576	0.8197	0.3016	0.1457	0.4473	0.0000	427.2075	427.2075	0.1007	0.0000	429.7250
2020	0.4400	3.9438	3.6092	9.3900e-003	0.3156	0.1542	0.4698	0.0856	0.1450	0.2306	0.0000	849.1946	849.1946	0.0967	0.0000	851.6119
2021	1.6060	0.4025	0.5105	8.4000e-004	0.0135	0.0213	0.0349	3.5900e-003	0.0198	0.0234	0.0000	74.3274	74.3274	0.0187	0.0000	74.7952
Maximum	**1.6060**	**3.9438**	**3.6092**	**9.3900e-003**	**0.6621**	**0.1576**	**0.8197**	**0.3016**	**0.1457**	**0.4473**	**0.0000**	**849.1946**	**849.1946**	**0.1007**	**0.0000**	**851.6119**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3356	3.5255	2.3108	4.7300e-003	0.2984	0.1576	0.4560	0.1285	0.1457	0.2742	0.0000	427.2071	427.2071	0.1007	0.0000	429.7247
2020	0.4400	3.9438	3.6092	9.3900e-003	0.3156	0.1542	0.4698	0.0856	0.1450	0.2306	0.0000	849.1943	849.1943	0.0967	0.0000	851.6115
2021	1.6060	0.4025	0.5105	8.4000e-004	0.0135	0.0213	0.0349	3.5900e-003	0.0198	0.0234	0.0000	74.3273	74.3273	0.0187	0.0000	74.7951
Maximum	**1.6060**	**3.9438**	**3.6092**	**9.3900e-003**	**0.3156**	**0.1576**	**0.4698**	**0.1285**	**0.1457**	**0.2742**	**0.0000**	**849.1943**	**849.1943**	**0.1007**	**0.0000**	**851.6115**

Air Quality Study - Tentative Track Map (TTM) 81337, Palmdale - Antelope Valley APCD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**36.70**	**0.00**	**27.47**	**44.31**	**0.00**	**24.69**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-3-2019**	**9-2-2019**	1.8270	1.8270
2	**9-3-2019**	**12-2-2019**	1.6305	1.6305
3	**12-3-2019**	**3-2-2020**	1.1173	1.1173
4	**3-3-2020**	**6-2-2020**	1.0967	1.0967
5	**6-3-2020**	**9-2-2020**	1.0976	1.0976
6	**9-3-2020**	**12-2-2020**	1.0837	1.0837
7	**12-3-2020**	**3-2-2021**	0.6674	0.6674
8	**3-3-2021**	**6-2-2021**	1.6659	1.6659
9	**6-3-2021**	**9-2-2021**	0.0208	0.0208
		Highest	1.8270	1.8270

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	1.8903	0.0659	0.6642	4.1000e-004		8.2600e-003	8.2600e-003		8.2600e-003	8.2600e-003	0.0000	68.7812	68.7812	2.3100e-003	1.2400e-003	69.2089
Energy	0.0127	0.1089	0.0463	6.9000e-004		8.8000e-003	8.8000e-003		8.8000e-003	8.8000e-003	0.0000	351.0078	351.0078	0.0117	4.2300e-003	352.5617
Mobile	0.2743	1.4589	3.3694	0.0111	0.8767	8.5900e-003	0.8853	0.2351	8.0200e-003	0.2431	0.0000	1,017.7587	1,017.7587	0.0431	0.0000	1,018.8354
Waste						0.0000	0.0000		0.0000	0.0000	20.4737	0.0000	20.4737	1.2100	0.0000	50.7227
Water						0.0000	0.0000		0.0000	0.0000	1.7777	35.7512	37.5288	0.1841	4.6200e-003	43.5060
Total	**2.1773**	**1.6336**	**4.0800**	**0.0122**	**0.8767**	**0.0257**	**0.9023**	**0.2351**	**0.0251**	**0.2601**	**22.2513**	**1,473.2988**	**1,495.5501**	**1.4511**	**0.0101**	**1,534.8346**

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	1.8903	0.0659	0.6642	4.1000e-004		8.2600e-003	8.2600e-003		8.2600e-003	8.2600e-003	0.0000	68.7812	68.7812	2.3100e-003	1.2400e-003	69.2089
Energy	0.0127	0.1089	0.0463	6.9000e-004		8.8000e-003	8.8000e-003		8.8000e-003	8.8000e-003	0.0000	351.0078	351.0078	0.0117	4.2300e-003	352.5617
Mobile	0.2743	1.4589	3.3694	0.0111	0.8767	8.5900e-003	0.8853	0.2351	8.0200e-003	0.2431	0.0000	1,017.7587	1,017.7587	0.0431	0.0000	1,018.8354
Waste						0.0000	0.0000		0.0000	0.0000	20.4737	0.0000	20.4737	1.2100	0.0000	50.7227
Water						0.0000	0.0000		0.0000	0.0000	1.7777	35.7512	37.5288	0.1841	4.6200e-003	43.5060
Total	**2.1773**	**1.6336**	**4.0800**	**0.0122**	**0.8767**	**0.0257**	**0.9023**	**0.2351**	**0.0251**	**0.2601**	**22.2513**	**1,473.2988**	**1,495.5501**	**1.4511**	**0.0101**	**1,534.8346**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/3/2019	7/12/2019	5	30	
2	Grading	Grading	7/13/2019	10/25/2019	5	75	
3	Building Construction	Building Construction	10/26/2019	12/31/2020	5	309	
4	Paving	Paving	1/1/2021	3/18/2021	5	55	
5	Architectural Coating	Architectural Coating	3/19/2021	6/3/2021	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 10.75

Residential Indoor: 870,750; Residential Outdoor: 290,250; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 28,096 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	113.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	228.00	86.00	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	46.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0650	0.6836	0.3310	5.7000e-004		0.0359	0.0359		0.0330	0.0330	0.0000	51.2530	51.2530	0.0162	0.0000	51.6584
Total	**0.0650**	**0.6836**	**0.3310**	**5.7000e-004**	**0.2710**	**0.0359**	**0.3069**	**0.1490**	**0.0330**	**0.1820**	**0.0000**	**51.2530**	**51.2530**	**0.0162**	**0.0000**	**51.6584**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.0400e-003	0.0111	2.0000e-005	2.1700e-003	2.0000e-005	2.1900e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.0816	2.0816	8.0000e-005	0.0000	2.0836
Total	**1.2000e-003**	**1.0400e-003**	**0.0111**	**2.0000e-005**	**2.1700e-003**	**2.0000e-005**	**2.1900e-003**	**5.8000e-004**	**2.0000e-005**	**6.0000e-004**	**0.0000**	**2.0816**	**2.0816**	**8.0000e-005**	**0.0000**	**2.0836**

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					0.1057	0.0000	0.1057	0.0581	0.0000	0.0581	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0650	0.6836	0.3309	5.7000e-004		0.0359	0.0359		0.0330	0.0330	0.0000	51.2530	51.2530	0.0162	0.0000	51.6584
Total	**0.0650**	**0.6836**	**0.3309**	**5.7000e-004**	**0.1057**	**0.0359**	**0.1416**	**0.0581**	**0.0330**	**0.0911**	**0.0000**	**51.2530**	**51.2530**	**0.0162**	**0.0000**	**51.6584**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.0400e-003	0.0111	2.0000e-005	2.1700e-003	2.0000e-005	2.1900e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.0816	2.0816	8.0000e-005	0.0000	2.0836
Total	**1.2000e-003**	**1.0400e-003**	**0.0111**	**2.0000e-005**	**2.1700e-003**	**2.0000e-005**	**2.1900e-003**	**5.8000e-004**	**2.0000e-005**	**6.0000e-004**	**0.0000**	**2.0816**	**2.0816**	**8.0000e-005**	**0.0000**	**2.0836**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3253	0.0000	0.3253	0.1349	0.0000	0.1349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1777	2.0445	1.2516	2.3300e-003		0.0894	0.0894		0.0822	0.0822	0.0000	208.8800	208.8800	0.0661	0.0000	210.5321
Total	**0.1777**	**2.0445**	**1.2516**	**2.3300e-003**	**0.3253**	**0.0894**	**0.4147**	**0.1349**	**0.0822**	**0.2171**	**0.0000**	**208.8800**	**208.8800**	**0.0661**	**0.0000**	**210.5321**

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0163	3.3900e-003	5.0000e-005	9.7000e-004	5.0000e-005	1.0200e-003	2.7000e-004	5.0000e-005	3.1000e-004	0.0000	4.5508	4.5508	1.7000e-004	0.0000	4.5552
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3300e-003	2.8800e-003	0.0307	6.0000e-005	6.0400e-003	5.0000e-005	6.0900e-003	1.6000e-003	5.0000e-005	1.6500e-003	0.0000	5.7821	5.7821	2.3000e-004	0.0000	5.7879
Total	**3.8200e-003**	**0.0192**	**0.0341**	**1.1000e-004**	**7.0100e-003**	**1.0000e-004**	**7.1100e-003**	**1.8700e-003**	**1.0000e-004**	**1.9600e-003**	**0.0000**	**10.3329**	**10.3329**	**4.0000e-004**	**0.0000**	**10.3430**

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					0.1269	0.0000	0.1269	0.0526	0.0000	0.0526	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1777	2.0445	1.2516	2.3300e-003		0.0894	0.0894		0.0822	0.0822	0.0000	208.8797	208.8797	0.0661	0.0000	210.5319
Total	**0.1777**	**2.0445**	**1.2516**	**2.3300e-003**	**0.1269**	**0.0894**	**0.2162**	**0.0526**	**0.0822**	**0.1348**	**0.0000**	**208.8797**	**208.8797**	**0.0661**	**0.0000**	**210.5319**

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0163	3.3900e-003	5.0000e-005	9.7000e-004	5.0000e-005	1.0200e-003	2.7000e-004	5.0000e-005	3.1000e-004	0.0000	4.5508	4.5508	1.7000e-004	0.0000	4.5552
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3300e-003	2.8800e-003	0.0307	6.0000e-005	6.0400e-003	5.0000e-005	6.0900e-003	1.6000e-003	5.0000e-005	1.6500e-003	0.0000	5.7821	5.7821	2.3000e-004	0.0000	5.7879
Total	**3.8200e-003**	**0.0192**	**0.0341**	**1.1000e-004**	**7.0100e-003**	**1.0000e-004**	**7.1100e-003**	**1.8700e-003**	**1.0000e-004**	**1.9600e-003**	**0.0000**	**10.3329**	**10.3329**	**4.0000e-004**	**0.0000**	**10.3430**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0555	0.4954	0.4034	6.3000e-004		0.0303	0.0303		0.0285	0.0285	0.0000	55.2495	55.2495	0.0135	0.0000	55.5860
Total	**0.0555**	**0.4954**	**0.4034**	**6.3000e-004**		**0.0303**	**0.0303**		**0.0285**	**0.0285**	**0.0000**	**55.2495**	**55.2495**	**0.0135**	**0.0000**	**55.5860**

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.5900e-003	0.2613	0.0603	6.1000e-004	0.0135	1.6000e-003	0.0151	3.8800e-003	1.5300e-003	5.4200e-003	0.0000	58.1030	58.1030	2.8100e-003	0.0000	58.1732
Worker	0.0238	0.0206	0.2194	4.6000e-004	0.0432	3.8000e-004	0.0435	0.0115	3.5000e-004	0.0118	0.0000	41.3075	41.3075	1.6500e-003	0.0000	41.3487
Total	**0.0324**	**0.2818**	**0.2797**	**1.0700e-003**	**0.0566**	**1.9800e-003**	**0.0586**	**0.0153**	**1.8800e-003**	**0.0172**	**0.0000**	**99.4105**	**99.4105**	**4.4600e-003**	**0.0000**	**99.5218**

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	0.0555	0.4954	0.4034	6.3000e-004		0.0303	0.0303		0.0285	0.0285	0.0000	55.2494	55.2494	0.0135	0.0000	55.5859
Total	**0.0555**	**0.4954**	**0.4034**	**6.3000e-004**		**0.0303**	**0.0303**		**0.0285**	**0.0285**	**0.0000**	**55.2494**	**55.2494**	**0.0135**	**0.0000**	**55.5859**

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.5900e-003	0.2613	0.0603	6.1000e-004	0.0135	1.6000e-003	0.0151	3.8800e-003	1.5300e-003	5.4200e-003	0.0000	58.1030	58.1030	2.8100e-003	0.0000	58.1732
Worker	0.0238	0.0206	0.2194	4.6000e-004	0.0432	3.8000e-004	0.0435	0.0115	3.5000e-004	0.0118	0.0000	41.3075	41.3075	1.6500e-003	0.0000	41.3487
Total	**0.0324**	**0.2818**	**0.2797**	**1.0700e-003**	**0.0566**	**1.9800e-003**	**0.0586**	**0.0153**	**1.8800e-003**	**0.0172**	**0.0000**	**99.4105**	**99.4105**	**4.4600e-003**	**0.0000**	**99.5218**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2777	2.5134	2.2072	3.5300e-003		0.1463	0.1463		0.1376	0.1376	0.0000	303.4091	303.4091	0.0740	0.0000	305.2596
Total	**0.2777**	**2.5134**	**2.2072**	**3.5300e-003**		**0.1463**	**0.1463**		**0.1376**	**0.1376**	**0.0000**	**303.4091**	**303.4091**	**0.0740**	**0.0000**	**305.2596**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0403	1.3280	0.2963	3.3900e-003	0.0750	5.8000e-003	0.0808	0.0217	5.5400e-003	0.0272	0.0000	322.2737	322.2737	0.0145	0.0000	322.6369
Worker	0.1220	0.1024	1.1057	2.4800e-003	0.2405	2.0700e-003	0.2426	0.0639	1.9000e-003	0.0658	0.0000	223.5119	223.5119	8.1400e-003	0.0000	223.7153
Total	**0.1623**	**1.4304**	**1.4021**	**5.8700e-003**	**0.3156**	**7.8700e-003**	**0.3234**	**0.0856**	**7.4400e-003**	**0.0930**	**0.0000**	**545.7856**	**545.7856**	**0.0227**	**0.0000**	**546.3523**

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	0.2777	2.5134	2.2072	3.5300e-003		0.1463	0.1463		0.1376	0.1376	0.0000	303.4087	303.4087	0.0740	0.0000	305.2592
Total	**0.2777**	**2.5134**	**2.2072**	**3.5300e-003**		**0.1463**	**0.1463**		**0.1376**	**0.1376**	**0.0000**	**303.4087**	**303.4087**	**0.0740**	**0.0000**	**305.2592**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0403	1.3280	0.2963	3.3900e-003	0.0750	5.8000e-003	0.0808	0.0217	5.5400e-003	0.0272	0.0000	322.2737	322.2737	0.0145	0.0000	322.6369
Worker	0.1220	0.1024	1.1057	2.4800e-003	0.2405	2.0700e-003	0.2426	0.0639	1.9000e-003	0.0658	0.0000	223.5119	223.5119	8.1400e-003	0.0000	223.7153
Total	**0.1623**	**1.4304**	**1.4021**	**5.8700e-003**	**0.3156**	**7.8700e-003**	**0.3234**	**0.0856**	**7.4400e-003**	**0.0930**	**0.0000**	**545.7856**	**545.7856**	**0.0227**	**0.0000**	**546.3523**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0345	0.3553	0.4030	6.3000e-004		0.0186	0.0186		0.0172	0.0172	0.0000	55.0646	55.0646	0.0178	0.0000	55.5098
Paving	0.0141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0486**	**0.3553**	**0.4030**	**6.3000e-004**		**0.0186**	**0.0186**		**0.0172**	**0.0172**	**0.0000**	**55.0646**	**55.0646**	**0.0178**	**0.0000**	**55.5098**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5800e-003	1.2800e-003	0.0142	3.0000e-005	3.3200e-003	3.0000e-005	3.3500e-003	8.8000e-004	3.0000e-005	9.1000e-004	0.0000	3.0102	3.0102	1.0000e-004	0.0000	3.0128
Total	**1.5800e-003**	**1.2800e-003**	**0.0142**	**3.0000e-005**	**3.3200e-003**	**3.0000e-005**	**3.3500e-003**	**8.8000e-004**	**3.0000e-005**	**9.1000e-004**	**0.0000**	**3.0102**	**3.0102**	**1.0000e-004**	**0.0000**	**3.0128**

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	0.0345	0.3553	0.4030	6.3000e-004		0.0186	0.0186		0.0172	0.0172	0.0000	55.0645	55.0645	0.0178	0.0000	55.5097
Paving	0.0141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0486**	**0.3553**	**0.4030**	**6.3000e-004**		**0.0186**	**0.0186**		**0.0172**	**0.0172**	**0.0000**	**55.0645**	**55.0645**	**0.0178**	**0.0000**	**55.5097**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5800e-003	1.2800e-003	0.0142	3.0000e-005	3.3200e-003	3.0000e-005	3.3500e-003	8.8000e-004	3.0000e-005	9.1000e-004	0.0000	3.0102	3.0102	1.0000e-004	0.0000	3.0128
Total	**1.5800e-003**	**1.2800e-003**	**0.0142**	**3.0000e-005**	**3.3200e-003**	**3.0000e-005**	**3.3500e-003**	**8.8000e-004**	**3.0000e-005**	**9.1000e-004**	**0.0000**	**3.0102**	**3.0102**	**1.0000e-004**	**0.0000**	**3.0128**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5450					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0200e-003	0.0420	0.0500	8.0000e-005		2.5900e-003	2.5900e-003		2.5900e-003	2.5900e-003	0.0000	7.0215	7.0215	4.8000e-004	0.0000	7.0335
Total	**1.5510**	**0.0420**	**0.0500**	**8.0000e-005**		**2.5900e-003**	**2.5900e-003**		**2.5900e-003**	**2.5900e-003**	**0.0000**	**7.0215**	**7.0215**	**4.8000e-004**	**0.0000**	**7.0335**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8400e-003	3.9400e-003	0.0434	1.0000e-004	0.0102	9.0000e-005	0.0103	2.7100e-003	8.0000e-005	2.7900e-003	0.0000	9.2312	9.2312	3.2000e-004	0.0000	9.2391
Total	**4.8400e-003**	**3.9400e-003**	**0.0434**	**1.0000e-004**	**0.0102**	**9.0000e-005**	**0.0103**	**2.7100e-003**	**8.0000e-005**	**2.7900e-003**	**0.0000**	**9.2312**	**9.2312**	**3.2000e-004**	**0.0000**	**9.2391**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5450					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0200e-003	0.0420	0.0500	8.0000e-005		2.5900e-003	2.5900e-003		2.5900e-003	2.5900e-003	0.0000	7.0214	7.0214	4.8000e-004	0.0000	7.0335
Total	**1.5510**	**0.0420**	**0.0500**	**8.0000e-005**		**2.5900e-003**	**2.5900e-003**		**2.5900e-003**	**2.5900e-003**	**0.0000**	**7.0214**	**7.0214**	**4.8000e-004**	**0.0000**	**7.0335**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8400e-003	3.9400e-003	0.0434	1.0000e-004	0.0102	9.0000e-005	0.0103	2.7100e-003	8.0000e-005	2.7900e-003	0.0000	9.2312	9.2312	3.2000e-004	0.0000	9.2391
Total	**4.8400e-003**	**3.9400e-003**	**0.0434**	**1.0000e-004**	**0.0102**	**9.0000e-005**	**0.0103**	**2.7100e-003**	**8.0000e-005**	**2.7900e-003**	**0.0000**	**9.2312**	**9.2312**	**3.2000e-004**	**0.0000**	**9.2391**

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	0.2743	1.4589	3.3694	0.0111	0.8767	8.5900e-003	0.8853	0.2351	8.0200e-003	0.2431	0.0000	1,017.7587	1,017.7587	0.0431	0.0000	1,018.8354
Unmitigated	0.2743	1.4589	3.3694	0.0111	0.8767	8.5900e-003	0.8853	0.2351	8.0200e-003	0.2431	0.0000	1,017.7587	1,017.7587	0.0431	0.0000	1,018.8354

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	818.72	852.26	741.32	2,307,468	2,307,468
Total	818.72	852.26	741.32	2,307,468	2,307,468

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
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.621119	0.036839	0.149412	0.101634	0.016073	0.004933	0.018414	0.037394	0.002239	0.001889	0.007289	0.001543	0.001221
Single Family Housing	0.621119	0.036839	0.149412	0.101634	0.016073	0.004933	0.018414	0.037394	0.002239	0.001889	0.007289	0.001543	0.001221

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	224.9190	224.9190	9.2900e-003	1.9200e-003	225.7236
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	224.9190	224.9190	9.2900e-003	1.9200e-003	225.7236
NaturalGas Mitigated	0.0127	0.1089	0.0463	6.9000e-004		8.8000e-003	8.8000e-003		8.8000e-003	8.8000e-003	0.0000	126.0888	126.0888	2.4200e-003	2.3100e-003	126.8381
NaturalGas Unmitigated	0.0127	0.1089	0.0463	6.9000e-004		8.8000e-003	8.8000e-003		8.8000e-003	8.8000e-003	0.0000	126.0888	126.0888	2.4200e-003	2.3100e-003	126.8381

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.36281e+006	0.0127	0.1089	0.0463	6.9000e-004		8.8000e-003	8.8000e-003		8.8000e-003	8.8000e-003	0.0000	126.0888	126.0888	2.4200e-003	2.3100e-003	126.8381
Total		**0.0127**	**0.1089**	**0.0463**	**6.9000e-004**		**8.8000e-003**	**8.8000e-003**		**8.8000e-003**	**8.8000e-003**	**0.0000**	**126.0888**	**126.0888**	**2.4200e-003**	**2.3100e-003**	**126.8381**

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.36281e+006	0.0127	0.1089	0.0463	6.9000e-004		8.8000e-003	8.8000e-003		8.8000e-003	8.8000e-003	0.0000	126.0888	126.0888	2.4200e-003	2.3100e-003	126.8381
Total		**0.0127**	**0.1089**	**0.0463**	**6.9000e-004**		**8.8000e-003**	**8.8000e-003**		**8.8000e-003**	**8.8000e-003**	**0.0000**	**126.0888**	**126.0888**	**2.4200e-003**	**2.3100e-003**	**126.8381**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	705913	224.9190	9.2900e-003	1.9200e-003	225.7236
Total		**224.9190**	**9.2900e-003**	**1.9200e-003**	**225.7236**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	705913	224.9190	9.2900e-003	1.9200e-003	225.7236
Total		**224.9190**	**9.2900e-003**	**1.9200e-003**	**225.7236**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.8903	0.0659	0.6642	4.1000e-004		8.2600e-003	8.2600e-003		8.2600e-003	8.2600e-003	0.0000	68.7812	68.7812	2.3100e-003	1.2400e-003	69.2089
Unmitigated	1.8903	0.0659	0.6642	4.1000e-004		8.2600e-003	8.2600e-003		8.2600e-003	8.2600e-003	0.0000	68.7812	68.7812	2.3100e-003	1.2400e-003	69.2089

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	0.1545					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7096					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.8400e-003	0.0585	0.0249	3.7000e-004		4.7300e-003	4.7300e-003		4.7300e-003	4.7300e-003	0.0000	67.7379	67.7379	1.3000e-003	1.2400e-003	68.1404
Landscaping	0.0193	7.3700e-003	0.6394	3.0000e-005		3.5300e-003	3.5300e-003		3.5300e-003	3.5300e-003	0.0000	1.0433	1.0433	1.0100e-003	0.0000	1.0684
Total	**1.8903**	**0.0659**	**0.6642**	**4.0000e-004**		**8.2600e-003**	**8.2600e-003**		**8.2600e-003**	**8.2600e-003**	**0.0000**	**68.7812**	**68.7812**	**2.3100e-003**	**1.2400e-003**	**69.2089**

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	0.1545					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7096					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.8400e-003	0.0585	0.0249	3.7000e-004		4.7300e-003	4.7300e-003		4.7300e-003	4.7300e-003	0.0000	67.7379	67.7379	1.3000e-003	1.2400e-003	68.1404
Landscaping	0.0193	7.3700e-003	0.6394	3.0000e-005		3.5300e-003	3.5300e-003		3.5300e-003	3.5300e-003	0.0000	1.0433	1.0433	1.0100e-003	0.0000	1.0684
Total	**1.8903**	**0.0659**	**0.6642**	**4.0000e-004**		**8.2600e-003**	**8.2600e-003**		**8.2600e-003**	**8.2600e-003**	**0.0000**	**68.7812**	**68.7812**	**2.3100e-003**	**1.2400e-003**	**69.2089**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	37.5288	0.1841	4.6200e-003	43.5060
Unmitigated	37.5288	0.1841	4.6200e-003	43.5060

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	5.60325 / 3.53248	37.5288	0.1841	4.6200e-003	43.5060
Total		**37.5288**	**0.1841**	**4.6200e-003**	**43.5060**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	5.60325 / 3.53248	37.5288	0.1841	4.6200e-003	43.5060
Total		**37.5288**	**0.1841**	**4.6200e-003**	**43.5060**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	20.4737	1.2100	0.0000	50.7227
Unmitigated	20.4737	1.2100	0.0000	50.7227

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	100.86	20.4737	1.2100	0.0000	50.7227
Total		**20.4737**	**1.2100**	**0.0000**	**50.7227**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	100.86	20.4737	1.2100	0.0000	50.7227
Total		**20.4737**	**1.2100**	**0.0000**	**50.7227**

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

Air Quality Study - Tentative Track Map (TTM) 81337, Palmdale

Antelope Valley APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	10.75	Acre	10.75	468,270.00	0
Single Family Housing	86.00	Dwelling Unit	29.81	430,000.00	246

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage and building square footage were updated based on client's input.

Construction Phase - Construction schedule adjusted based on client input on the data request form.

Grading -

Architectural Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Woodstoves - Based on client input, gas fueled fireplaces will be installed. Woodstoves will not be installed.

Area Coating - VOC limits from AVAQMD Rule 1113. For the building, assumes 90% flat paint (50 g/L) and 10% non-flat (100 g/L). For parking lot coatings, assumed to be compliant with the Traffic Marking Coating category VOC limit of 100 g/L.

Construction Off-road Equipment Mitigation - Assumed that construction site will be watered 3 times per day to be in compliance with AVAQMD Rule 403.

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	55.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	55.00
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	55
tblAreaCoating	Area_EF_Residential_Interior	250	55
tblConstructionPhase	NumDays	740.00	309.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	47.30	86.00
tblFireplaces	NumberNoFireplace	8.60	0.00
tblFireplaces	NumberWood	30.10	0.00
tblGrading	MaterialExported	0.00	900.00
tblLandUse	LandUseSquareFeet	154,800.00	430,000.00
tblLandUse	LotAcreage	27.92	29.81
tblWoodstoves	NumberCatalytic	4.30	0.00
tblWoodstoves	NumberNoncatalytic	4.30	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.8559	55.0114	34.4132	0.0748	18.2141	2.3917	20.6058	9.9699	2.2003	12.1702	0.0000	7,493.9161	7,493.9161	1.9551	0.0000	7,514.9952
2020	3.5155	29.8895	28.7588	0.0741	2.4552	1.1768	3.6320	0.6644	1.1070	1.7714	0.0000	7,379.8252	7,379.8252	0.8160	0.0000	7,400.2245
2021	56.6059	12.9608	15.2531	0.0241	0.3779	0.6787	0.8020	0.1002	0.6244	0.6571	0.0000	2,339.9221	2,339.9221	0.7185	0.0000	2,357.8844
Maximum	**56.6059**	**55.0114**	**34.4132**	**0.0748**	**18.2141**	**2.3917**	**20.6058**	**9.9699**	**2.2003**	**12.1702**	**0.0000**	**7,493.9161**	**7,493.9161**	**1.9551**	**0.0000**	**7,514.9952**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.8559	55.0114	34.4132	0.0748	7.1937	2.3917	9.5854	3.9122	2.2003	6.1125	0.0000	7,493.9161	7,493.9161	1.9551	0.0000	7,514.9952
2020	3.5155	29.8895	28.7588	0.0741	2.4552	1.1768	3.6320	0.6644	1.1070	1.7714	0.0000	7,379.8252	7,379.8252	0.8160	0.0000	7,400.2245
2021	56.6059	12.9608	15.2531	0.0241	0.3779	0.6787	0.8020	0.1002	0.6244	0.6571	0.0000	2,339.9221	2,339.9221	0.7185	0.0000	2,357.8843
Maximum	**56.6059**	**55.0114**	**34.4132**	**0.0748**	**7.1937**	**2.3917**	**9.5854**	**3.9122**	**2.2003**	**6.1125**	**0.0000**	**7,493.9161**	**7,493.9161**	**1.9551**	**0.0000**	**7,514.9952**

Air Quality Study - Tentative Track Map (TTM) 81337, Palmdale - Antelope Valley APCD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.36**	**0.00**	**44.01**	**56.43**	**0.00**	**41.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.5960	1.5085	7.7109	9.4800e-003		0.1546	0.1546		0.1546	0.1546	0.0000	1,833.9543	1,833.9543	0.0472	0.0334	1,845.0850
Energy	0.0698	0.5966	0.2539	3.8100e-003		0.0482	0.0482		0.0482	0.0482		761.5841	761.5841	0.0146	0.0140	766.1098
Mobile	1.9530	8.1515	21.6065	0.0687	5.1523	0.0495	5.2018	1.3792	0.0462	1.4254		6,946.7404	6,946.7404	0.2810		6,953.7641
Total	**12.6188**	**10.2566**	**29.5712**	**0.0819**	**5.1523**	**0.2523**	**5.4046**	**1.3792**	**0.2490**	**1.6282**	**0.0000**	**9,542.2789**	**9,542.2789**	**0.3428**	**0.0474**	**9,564.9588**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.5960	1.5085	7.7109	9.4800e-003		0.1546	0.1546		0.1546	0.1546	0.0000	1,833.9543	1,833.9543	0.0472	0.0334	1,845.0850
Energy	0.0698	0.5966	0.2539	3.8100e-003		0.0482	0.0482		0.0482	0.0482		761.5841	761.5841	0.0146	0.0140	766.1098
Mobile	1.9530	8.1515	21.6065	0.0687	5.1523	0.0495	5.2018	1.3792	0.0462	1.4254		6,946.7404	6,946.7404	0.2810		6,953.7641
Total	**12.6188**	**10.2566**	**29.5712**	**0.0819**	**5.1523**	**0.2523**	**5.4046**	**1.3792**	**0.2490**	**1.6282**	**0.0000**	**9,542.2789**	**9,542.2789**	**0.3428**	**0.0474**	**9,564.9588**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/3/2019	7/12/2019	5	30	
2	Grading	Grading	7/13/2019	10/25/2019	5	75	
3	Building Construction	Building Construction	10/26/2019	12/31/2020	5	309	
4	Paving	Paving	1/1/2021	3/18/2021	5	55	
5	Architectural Coating	Architectural Coating	3/19/2021	6/3/2021	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 10.75

Residential Indoor: 870,750; Residential Outdoor: 290,250; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 28,096 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	113.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	228.00	86.00	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	46.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**18.0663**	**2.3904**	**20.4566**	**9.9307**	**2.1991**	**12.1298**		**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0937	0.0616	0.8548	1.6900e-003	0.1479	1.2900e-003	0.1492	0.0392	1.1900e-003	0.0404		168.2217	168.2217	6.7900e-003		168.3915
Total	**0.0937**	**0.0616**	**0.8548**	**1.6900e-003**	**0.1479**	**1.2900e-003**	**0.1492**	**0.0392**	**1.1900e-003**	**0.0404**		**168.2217**	**168.2217**	**6.7900e-003**		**168.3915**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**7.0458**	**2.3904**	**9.4362**	**3.8730**	**2.1991**	**6.0721**	**0.0000**	**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0937	0.0616	0.8548	1.6900e-003	0.1479	1.2900e-003	0.1492	0.0392	1.1900e-003	0.0404		168.2217	168.2217	6.7900e-003		168.3915
Total	**0.0937**	**0.0616**	**0.8548**	**1.6900e-003**	**0.1479**	**1.2900e-003**	**0.1492**	**0.0392**	**1.1900e-003**	**0.0404**		**168.2217**	**168.2217**	**6.7900e-003**		**168.3915**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6747	0.0000	8.6747	3.5967	0.0000	3.5967			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**8.6747**	**2.3827**	**11.0573**	**3.5967**	**2.1920**	**5.7888**		**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0129	0.4228	0.0866	1.2900e-003	0.0263	1.3400e-003	0.0277	7.2200e-003	1.2800e-003	8.5000e-003		135.3487	135.3487	4.9500e-003		135.4723
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1041	0.0684	0.9498	1.8800e-003	0.1643	1.4300e-003	0.1657	0.0436	1.3200e-003	0.0449		186.9130	186.9130	7.5500e-003		187.1017
Total	**0.1170**	**0.4912**	**1.0364**	**3.1700e-003**	**0.1906**	**2.7700e-003**	**0.1934**	**0.0508**	**2.6000e-003**	**0.0534**		**322.2617**	**322.2617**	**0.0125**		**322.5740**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3831	0.0000	3.3831	1.4027	0.0000	1.4027			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**3.3831**	**2.3827**	**5.7658**	**1.4027**	**2.1920**	**3.5948**	**0.0000**	**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0129	0.4228	0.0866	1.2900e-003	0.0263	1.3400e-003	0.0277	7.2200e-003	1.2800e-003	8.5000e-003		135.3487	135.3487	4.9500e-003		135.4723
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1041	0.0684	0.9498	1.8800e-003	0.1643	1.4300e-003	0.1657	0.0436	1.3200e-003	0.0449		186.9130	186.9130	7.5500e-003		187.1017
Total	**0.1170**	**0.4912**	**1.0364**	**3.1700e-003**	**0.1906**	**2.7700e-003**	**0.1934**	**0.0508**	**2.6000e-003**	**0.0534**		**322.2617**	**322.2617**	**0.0125**		**322.5740**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3589	10.9433	2.3883	0.0265	0.5822	0.0677	0.6500	0.1676	0.0648	0.2324		2,771.5279	2,771.5279	0.1258		2,774.6724
Worker	1.1867	0.7800	10.8277	0.0215	1.8730	0.0163	1.8893	0.4968	0.0150	0.5118		2,130.8080	2,130.8080	0.0861		2,132.9593
Total	**1.5456**	**11.7233**	**13.2161**	**0.0479**	**2.4552**	**0.0840**	**2.5392**	**0.6644**	**0.0798**	**0.7442**		**4,902.3360**	**4,902.3360**	**0.2118**		**4,907.6317**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3589	10.9433	2.3883	0.0265	0.5822	0.0677	0.6500	0.1676	0.0648	0.2324		2,771.5279	2,771.5279	0.1258		2,774.6724
Worker	1.1867	0.7800	10.8277	0.0215	1.8730	0.0163	1.8893	0.4968	0.0150	0.5118		2,130.8080	2,130.8080	0.0861		2,132.9593
Total	**1.5456**	**11.7233**	**13.2161**	**0.0479**	**2.4552**	**0.0840**	**2.5392**	**0.6644**	**0.0798**	**0.7442**		**4,902.3360**	**4,902.3360**	**0.2118**		**4,907.6317**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3010	10.0059	2.0980	0.0263	0.5822	0.0440	0.6263	0.1676	0.0421	0.2097		2,758.2951	2,758.2951	0.1167		2,761.2132
Worker	1.0947	0.6975	9.8123	0.0208	1.8730	0.0158	1.8887	0.4968	0.0145	0.5113		2,068.4670	2,068.4670	0.0764		2,070.3769
Total	**1.3957**	**10.7034**	**11.9103**	**0.0471**	**2.4552**	**0.0598**	**2.5150**	**0.6644**	**0.0566**	**0.7211**		**4,826.7622**	**4,826.7622**	**0.1931**		**4,831.5900**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3010	10.0059	2.0980	0.0263	0.5822	0.0440	0.6263	0.1676	0.0421	0.2097		2,758.2951	2,758.2951	0.1167		2,761.2132
Worker	1.0947	0.6975	9.8123	0.0208	1.8730	0.0158	1.8887	0.4968	0.0145	0.5113		2,068.4670	2,068.4670	0.0764		2,070.3769
Total	**1.3957**	**10.7034**	**11.9103**	**0.0471**	**2.4552**	**0.0598**	**2.5150**	**0.6644**	**0.0566**	**0.7211**		**4,826.7622**	**4,826.7622**	**0.1931**		**4,831.5900**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.5121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7676**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0675	0.0417	0.5998	1.3300e-003	0.1232	1.0200e-003	0.1242	0.0327	9.4000e-004	0.0336		132.7113	132.7113	4.6300e-003		132.8271
Total	**0.0675**	**0.0417**	**0.5998**	**1.3300e-003**	**0.1232**	**1.0200e-003**	**0.1242**	**0.0327**	**9.4000e-004**	**0.0336**		**132.7113**	**132.7113**	**4.6300e-003**		**132.8271**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.5121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7676**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0675	0.0417	0.5998	1.3300e-003	0.1232	1.0200e-003	0.1242	0.0327	9.4000e-004	0.0336		132.7113	132.7113	4.6300e-003		132.8271
Total	**0.0675**	**0.0417**	**0.5998**	**1.3300e-003**	**0.1232**	**1.0200e-003**	**0.1242**	**0.0327**	**9.4000e-004**	**0.0336**		**132.7113**	**132.7113**	**4.6300e-003**		**132.8271**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	56.1801					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**56.3990**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2070	0.1278	1.8395	4.0900e-003	0.3779	3.1200e-003	0.3810	0.1002	2.8700e-003	0.1031		406.9812	406.9812	0.0142		407.3363
Total	**0.2070**	**0.1278**	**1.8395**	**4.0900e-003**	**0.3779**	**3.1200e-003**	**0.3810**	**0.1002**	**2.8700e-003**	**0.1031**		**406.9812**	**406.9812**	**0.0142**		**407.3363**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	56.1801					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**56.3990**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2070	0.1278	1.8395	4.0900e-003	0.3779	3.1200e-003	0.3810	0.1002	2.8700e-003	0.1031		406.9812	406.9812	0.0142		407.3363
Total	**0.2070**	**0.1278**	**1.8395**	**4.0900e-003**	**0.3779**	**3.1200e-003**	**0.3810**	**0.1002**	**2.8700e-003**	**0.1031**		**406.9812**	**406.9812**	**0.0142**		**407.3363**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.9530	8.1515	21.6065	0.0687	5.1523	0.0495	5.2018	1.3792	0.0462	1.4254		6,946.7404	6,946.7404	0.2810		6,953.7641
Unmitigated	1.9530	8.1515	21.6065	0.0687	5.1523	0.0495	5.2018	1.3792	0.0462	1.4254		6,946.7404	6,946.7404	0.2810		6,953.7641

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	818.72	852.26	741.32	2,307,468	2,307,468
Total	818.72	852.26	741.32	2,307,468	2,307,468

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
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.621119	0.036839	0.149412	0.101634	0.016073	0.004933	0.018414	0.037394	0.002239	0.001889	0.007289	0.001543	0.001221
Single Family Housing	0.621119	0.036839	0.149412	0.101634	0.016073	0.004933	0.018414	0.037394	0.002239	0.001889	0.007289	0.001543	0.001221

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	lb/day										lb/day					
NaturalGas Mitigated	0.0698	0.5966	0.2539	3.8100e-003		0.0482	0.0482		0.0482	0.0482		761.5841	761.5841	0.0146	0.0140	766.1098
NaturalGas Unmitigated	0.0698	0.5966	0.2539	3.8100e-003		0.0482	0.0482		0.0482	0.0482		761.5841	761.5841	0.0146	0.0140	766.1098

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	6473.47	0.0698	0.5966	0.2539	3.8100e-003		0.0482	0.0482		0.0482	0.0482		761.5841	761.5841	0.0146	0.0140	766.1098
Total		**0.0698**	**0.5966**	**0.2539**	**3.8100e-003**		**0.0482**	**0.0482**		**0.0482**	**0.0482**		**761.5841**	**761.5841**	**0.0146**	**0.0140**	**766.1098**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	6.47347	0.0698	0.5966	0.2539	3.8100e-003		0.0482	0.0482		0.0482	0.0482		761.5841	761.5841	0.0146	0.0140	766.1098
Total		**0.0698**	**0.5966**	**0.2539**	**3.8100e-003**		**0.0482**	**0.0482**		**0.0482**	**0.0482**		**761.5841**	**761.5841**	**0.0146**	**0.0140**	**766.1098**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.5960	1.5085	7.7109	9.4800e-003		0.1546	0.1546		0.1546	0.1546	0.0000	1,833.9543	1,833.9543	0.0472	0.0334	1,845.0850
Unmitigated	10.5960	1.5085	7.7109	9.4800e-003		0.1546	0.1546		0.1546	0.1546	0.0000	1,833.9543	1,833.9543	0.0472	0.0334	1,845.0850

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.3679					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1669	1.4266	0.6071	9.1100e-003		0.1153	0.1153		0.1153	0.1153	0.0000	1,821.1765	1,821.1765	0.0349	0.0334	1,831.9988
Landscaping	0.2146	0.0819	7.1039	3.7000e-004		0.0393	0.0393		0.0393	0.0393		12.7779	12.7779	0.0123		13.0861
Total	**10.5960**	**1.5085**	**7.7109**	**9.4800e-003**		**0.1546**	**0.1546**		**0.1546**	**0.1546**	**0.0000**	**1,833.9543**	**1,833.9543**	**0.0472**	**0.0334**	**1,845.0850**

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	lb/day										lb/day					
Architectural Coating	0.8466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.3679					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1669	1.4266	0.6071	9.1100e-003		0.1153	0.1153		0.1153	0.1153	0.0000	1,821.1765	1,821.1765	0.0349	0.0334	1,831.9988
Landscaping	0.2146	0.0819	7.1039	3.7000e-004		0.0393	0.0393		0.0393	0.0393		12.7779	12.7779	0.0123		13.0861
Total	**10.5960**	**1.5085**	**7.7109**	**9.4800e-003**		**0.1546**	**0.1546**		**0.1546**	**0.1546**	**0.0000**	**1,833.9543**	**1,833.9543**	**0.0472**	**0.0334**	**1,845.0850**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Energy Data

Vehicle Type	Percent of Vehicle Trips[1]	Daily Trips[2]	Annual Vehicle Miles Traveled[3]	Average Fuel Economy (miles per gallon)[4]	Total Annual Fuel Consumption (gallons)[5]
Passenger Cars	0.62	--	1433212.22	22	65,146
Light/Medium Trucks	0.31	--	712756.10	17.3	41,200
Heavy Trucks/Other	0.07	--	161499.69	6.4	25,234
TOTAL [6]	***1.00***	--	***2,307,468***	*--*	***131,580***

Notes:

1. Percent of Vehicle Trip distribution based on trip characteristics within the CalEEMod model.
2. Daily Trips calculated by multiplying the total daily trips by percent vehicle trips (i.e., Daily Trips x percent of Vehicle Trips).
3. Daily Vehicle Miles Traveled (VMT) calculated by multiplying percent vehicle trips by total VMT (i.e., VMT x percent of Vehicle Trips).
4. Average fuel economy derived from the Department of Transportation.
5. Total Daily Fuel Consumption calculated by dividing the daily VMT by the average fuel economy (i.e., VMT/Average Fuel Economy).
6. Values may be slightly off due to rounding.

Source: Refer to Appendix A for CalEEMod assumptions used in this analysis.

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Fuel Consumption Rate (gallons per hour)	Duration (total hours/day)	# days	Total Fuel Consumption (gallons)
Site Preparation	Rubber Tired Dozers	3	8	247	0.4	3.952	24	30	2845.44
	Tractors/Loaders/Backhoes	4	8	97	0.37	1.4356	32	30	1378.176
Grading	Excavators	2	8	158	0.38	2.4016	16	75	2881.92
	Graders	1	8	187	0.41	3.0668	8	75	1840.08
	Rubber Tired Dozers	1	8	247	0.4	3.952	8	75	2371.2
	Scrapers	2	8	367	0.48	7.0464	16	75	8455.68
	Tractors/Loaders/Backhoes	2	8	97	0.37	1.4356	8	75	861.36
Building Construction	Cranes	1	7	231	0.29	2.6796	7	309	5795.9748
	Forklifts	3	8	89	0.2	0.712	24	309	5280.192
	Generator Sets	1	8	84	0.74	2.4864	8	309	6146.3808
	Tractors/Loaders/Backhoes	3	7	97	0.37	1.4356	21	309	9315.6084
	Welders	1	8	46	0.45	0.828	8	309	2046.816
Architectural Coating	Air Compressors	1	6	78	0.48	1.4976	6	55	494.208
Paving	Pavers	2	8	130	0.42	2.184	16	55	1921.92
	Paving Equipment	2	8	132	0.36	1.9008	16	55	1672.704
	Rollers	2	8	80	0.38	1.216	16	55	1070.08
								Total:	**54,378**

Notes:

Fuel Consumption Rate = Horsepower x Load Factor x Fuel Consumption Factor

Where:

Fuel Consumption Factor for a diesel engine is 0.04 gallons per horsepower per hour (gal/hp/hr) and a gasoline engine is 0.06 gal/hp/hr.

Source: Refer to Appendix A for CalEEMod assumptions used in this analysis.

Appendix B-1

Biological Resource Assessment

Biological Resource Assessment of
TTM 81337
Palmdale, California

April 23, 2018

Mark Hagan, Wildlife Biologist
44715 17th Street East
Lancaster, CA 93535
(661) 723-0086
(661) 433-9956 (m)

B.S. Degree, Wildlife Management
Humboldt State University

Biological Resource Assessment of TTM 81337, Palmdale, California

Mark Hagan, Wildlife Biologist, 44715 17th Street East, Lancaster, CA 93535

Abstract

Development has been proposed for TTM 81337 (APN 3204-025-048), Palmdale, California. The approximately 40 acre (16 ha) study area was located south of Avenue M and east of 70th Street West, T6N, R13W**,** the S1/2 of the N1/2 of the NW1/4 of Section 3, S.B.B.M. A line transect survey was conducted on 14 April 2018 to inventory biological resources. The proposed project area was characteristic of highly disturbed invasive grass fields with small patches of Great Basin sagebrush (*Artemisia tridentata*), California buckwheat (*Eriogonum fasciculatum*), and rabbit brush (*Chrysothamnus nauseosis*). A total of fifty plant species and twenty-nine wildlife species or their sign were observed during the line transect survey. No desert tortoises (*Gopherus agassizii*) or their sign were observed during the field survey. There was no suitable habitat for desert tortoises. Coast horned lizards (*Phrynosoma blainvillii*) are not likely to occur due to the highly disturbed nature of the study site, and impacts from adjacent residential areas. Silvery legless lizards (*Anniella pulchra pulchra*) were not observed but marginal habitat for the species appears to be present within the wash system. No Mohave ground squirrels (*Xerospermophilus mohavensis*) were observed or audibly detected during the field survey. There was no suitable habitat for Mohave ground squirrels. No desert kit foxes (*Vulpes macrotis*) or their sign were observed during the line transect survey. However, their presence has been documented nearby and they would be expected to potentially use the site. No burrowing owls (*Athene cunicularia*) were observed during the field survey. California ground squirrel burrows (*Citellus beecheyi*) were present which can provide potential cover sites for burrowing owl. Experience from surveys in the Antelope Valley suggests sites that may appear suitable for burrowing owl, but have a lot of human and pet traffic, tend not to become occupied. Children were physically playing on site during the field survey and a child "foxhole" with food in it was observed suggesting regular use of the site. Vegetation within the study area provides potential nesting sites for smaller migratory birds. Swainson's hawk and other raptors may fly over and use the site for forage but would not be expected to nest within the study area due to a lack of suitable nesting habitat. No sensitive plants, specifically, Clokey's cryptantha (*Cryptantha clokeyi*), alkali mariposa lily (*Calochortus striatus*), desert cymopterus (*Cymopterus deserticola*), and Barstow woolly sunflower (*Eriophyllum mohanense*) were observed during the field survey. No sensitive plants are expected to occur within the study area due to the high level of impacts and the lack of suitable habitat. No other state or federally listed species are expected to occur within the proposed project area. An old ephemeral wash system was observed within the study site. This wash system preceded the construction of the surrounding residential areas. However it has been severed from the headwaters and appears to only receive run off and storm water flow from the surrounding streets and on-site rainfall. A large detention basin exists adjacent to the northeast corner of the study site. No Army Corp of Engineers jurisdictional Waters of the U.S. are present on the study site.

<u>Recommended Protection Measures</u>:

Burrowing owls are considered a species of special concern by the CDFW. Although not expected to inhabit this study area, a burrowing owl survey should be accomplished within 30 days prior to construction activities to ensure burrowing owls have not moved into the site. If

burrowing owls are discovered the guidance outlined in the CDFW 2012 "Staff Report on Burrowing Owl Mitigation" will be used for addressing burrowing owl issues on and adjacent to the study site (California Department of Fish and Game 2012).

The desert kit fox is a fully protected species and no take permits are available. The "U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance, January 2011" will be used as guidelines for addressing desert kit fox issues if they are present within the study site (U.S. Fish & Wildlife Service 2011).

If possible, removal of vegetation will occur outside the breeding season for migratory birds. Breeding generally lasts from February to July but may extend beyond this time frame. If vegetation removal will occur during or close to the nesting season, a qualified biologist will survey all potential nesting areas to be disturbed as close as possible but no more than one week prior to removal. If active bird nests are found, impacts to nests will be avoided by either delaying work or establishing initial buffer areas of a minimum of 50 feet around active migratory bird species nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

An area that has any of the following characteristics which will be impacted by development: distinct bed, bank, channel, signs of scouring, evidence of water flow, may require a Lake and Streambed Alteration Agreement (LSA) from the CDFW prior to development activities. This project will require consultation with CDFW to determine whether a LSA is required. A jurisdictional delineation of the wash system would be required as part of the LSA process. It would be determined through the LSA process whether mitigation for the wash system is required. Silvery legless lizards will be addressed during the LSA process. Consultation with Lahontan Water Quality Control Board (LWQCB) may be required to determine the need for a Section 401 water quality permit. This project may be able to use the LWQCB's General Permit R6T-2003-0004 for minor streambed/lakebed alteration projects when the federal Clean Water Act is not applicable.

Significance: Given the small size of the study area, the adjacent land uses, high disturbance of the habitat, and continual human use; this project is not expected to result in a significant adverse impact to biological resources.

Development has been proposed for TTM 81337 (APN 3204-025-048), Palmdale, California (Figure 1). Development would include installation of access roads, parking and utilities (water, sewer, electric, etc.). The entire project area would be graded prior to construction activities.

An environmental analysis should be conducted prior to any development project. An assessment of biological resources is an integral part of environmental analyses (Gilbert and Dodds 1987). The purpose of this study was to provide an assessment of biological resources potentially occurring within, or utilizing the proposed project area. Specific focus was on the presence/absence of rare, threatened and endangered species of plants and wildlife. Species of concern included the desert tortoise (*Gopherus agassizii*), silvery legless lizard (*Anniella*

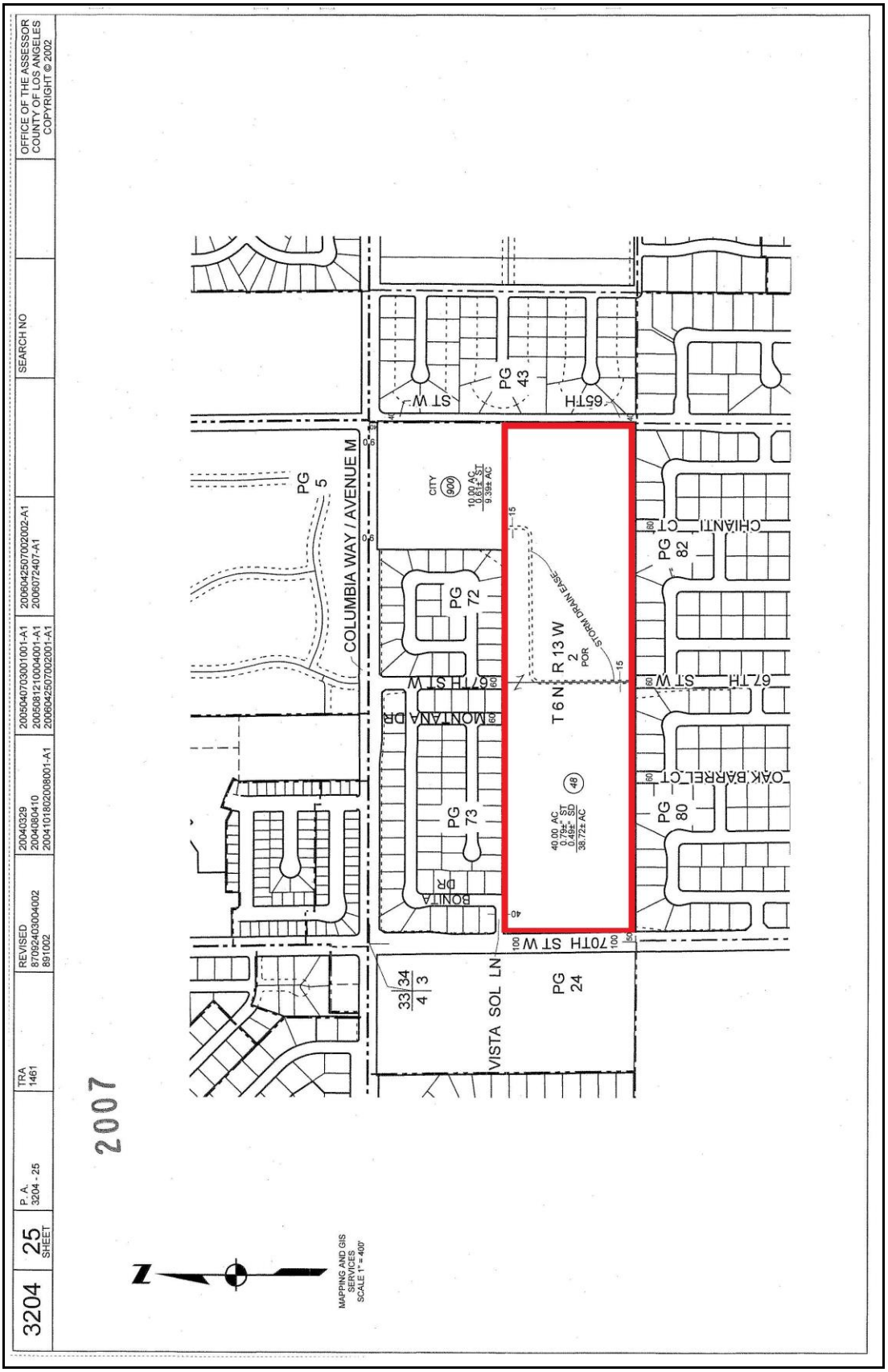


Figure 1. Approximate location of proposed project area as depicted on APN map.

pulchra pulchra), coast horned lizard (*Phrynosoma blainvillii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), desert kit fox (*Vulpes macrotis*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), Clokey's cryptantha (*Cryptantha clokeyi*), desert cymopterus (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohanense*), and alkali mariposa lily (*Calochortus striatus*).

Study Area

The approximately 40 acre (16 ha) study area was located south of Avenue M and east of 70th Street West, T6N, R13W**,** the S1/2 of the N1/2 of the NW1/4 of Section 3, S.B.B.M. (Figures 2 and 3). The western boundary was formed by 70th Street West. Partially developed lots were present west of 70th Street West. Residential housing existed along the northwestern and southern boundaries of the study area. A detention basin existed along the northeastern boundary of the study site. The eastern boundary was formed by 65th Street West. Residential housing was present east of 65th Street West.

Methods

A line transect survey was conducted to inventory plant and wildlife species occurring within the proposed project area (Cooperrider et al. 1986, Davis 1990). The project area was split in half and transects accomplished on both halves. Line transects were walked in an east-west orientation. Line transects were approximately 1,290 feet (416 m) long and spaced 50 feet (16 m) apart on each half of the project area (U.S. Fish & Wildlife Service 2010). Transect spacing was adjusted based on site conditions within the study area (U.S. Fish & Wildlife Service 2010). This transect spacing was considered sufficient to provide coverage for each species of concern given site conditions.

All observations of plant and animal species were recorded in field notes. Field guides were used to aid in the identification of plant and animal species (Arnett and Jacques 1981, Borror and White 1970, Burt and Grossenheider 1976, Gould 1981, Jaeger 1969, Knobel 1980, Robbins et al. 1983, Stark 2000,). Other sources were also used to aid in plant identification (calflora.org 2018, calphotos.berkeley.edu 2018, D. Charlton, personal communication, April 21, 2018). Observations were aided with the use of 10x50 and 10x42 binoculars. Observations of animal tracks, scat, and burrows were also utilized to determine the presence of wildlife species inhabiting the proposed project area (Cooperrider et al. 1986, Halfpenny 1986, Lowrey 2006, Murie 1974). Historical aerial photographs and the USGS topographic maps of the study area and surrounding vicinity were reviewed. Review of documented sightings was accomplished using the California Natural Diversity Database (CNDD) (Lancaster West, 2016, Del Sur 2016) and Ebird.org. Previous surveys in the area (Hagan 2006, 2008, 2014, 2016a, 2016b, 2017, Aspen Group 2015, Joseph & Associates 2007) were reviewed for historical sightings and background information. Photographs of the study site were taken (Figures 4 and 5).

Results

A total of 24 line transects were walked on 14 April 2018. Weather conditions consisted of warm temperatures (estimated 55 to 70 degrees F), 0% cloud cover, and light to moderate wind. Sandy loam surface soil texture was observed throughout the study area. No blue line

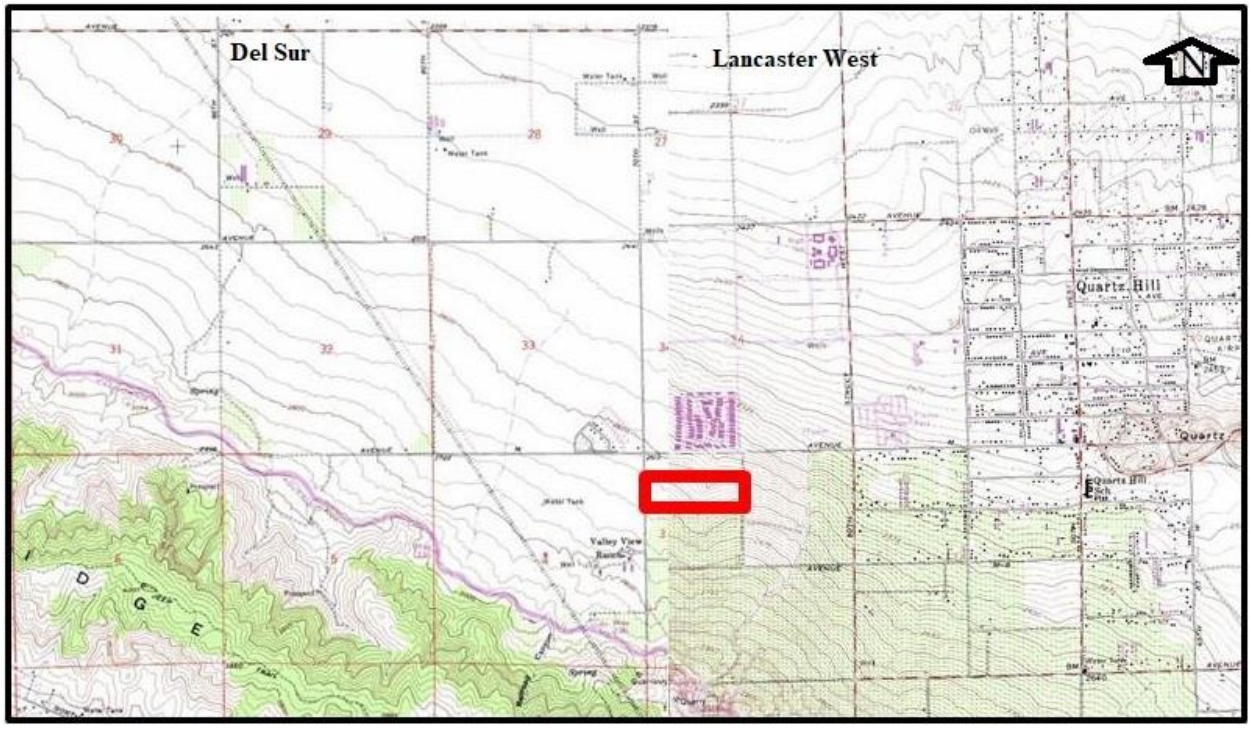


Figure 2. Approximate location of study area as depicted on excerpt from U.S.G.S. Quadrangles, Del Sur and Lancaster West, California, 7.5' 1974.

Figure 3. Aerial photograph showing surrounding land use, April 2017, Google Earth.

Invasive grass field, west side

Invasive grass field, east side

Figure 4. Photographs depicting the general habitat within the study site.

Rabbit brush patch, east side

California buckwheat patch, wash system

Great Basin sage patch, west side

Figure 5. Photographs depicting the general habitat within the study area.

streams were found on the USGS topographic maps. There was a storm drain easement noted on the APN map (Figure 1). A wash system is visible in the aerial photography (Figure 3). An ephemeral wash system was observed within the study site during field surveys. Topography of the study area ranged from approximately 2,593 to 2,663 feet (836 to 859 m) above sea level.

The proposed project area was characteristic of highly disturbed invasive grass fields with small patches of Great Basin sagebrush (*Artemisia tridentata*), California buckwheat (*Eriogonum fasciculatum*), and rabbit brush (*Chrysothamnus nauseosis*) (Figure 6). A total of fifty plant species were observed during the line transect survey (Table 1). The dominant shrub species throughout the study area was California buckwheat (*Eriogonum fasciculatum*). Invasive grasses (*Bromus* spp.) were the dominant annual species throughout the study area. No sensitive plant species or suitable habitat were observed within the study site. No sensitive plants were documented in the CNDD within or near the study site. Previous surveys from similar nearby sites did not detect any sensitive plant species on those study sites.

A total of twenty-nine wildlife species, or their sign were observed during the line transect survey (Table 2). No desert tortoises or their sign were observed during the field survey. No burrowing owls or their sign were observed within the study site during the field survey. No bird nests were observed within the study area. No sensitive bird species were observed during the field survey. No Mohave ground squirrels were detected visually or audibly during the field survey. No desert kit foxes or their sign were observed during the field survey. No silvery legless lizards or coast horned lizards were observed within the study site. California ground squirrel (*Citellus beecheyi*) burrows were observed within the study site.

Off-road vehicle tracks were observed within the study area. Children were observed playing within the study area during the field survey. Children riding bikes were observed within the study area. An adult walking three dogs was observed within the study area. A "foxhole" was observed within the study area. A small amount of litter was observed within the study area. Small dump sites were observed within the study area. A wood pile was observed within the study area. Two dirt roads were observed within the study area, one oriented east-west, and one oriented north-south.

Discussion

Most annual vegetation is expected to have germinated and flowered at the time the field survey was conducted. The study area was highly disturbed with few areas of native vegetation remaining. No sensitive plant species are expected to exist within the study site. Although not observed, several wildlife species would be expected to occur within the proposed project area (Table 3).

Human impacts such as trash dumping, species collection, excavation, pet use, and child play within the study area are expected to continue. Non-adjacent habitat in the general area will continue to become degraded and fragmented. Burrowing animals within the proposed project area are not expected to survive construction activities. More mobile species, such as lagomorphs (rabbits and hares), coyotes (*Canis latrans*), and birds are expected to survive construction activities. Development of this site will result in less cover and foraging opportunities for the species occurring within and adjacent to the study area.

Figure 6. Map showing patches dominated with Great Basin sagebrush (red), California buckwheat (yellow), and rabbit brush (blue). The remaining area is dominated by invasive grasses.

Table 1. List of plant species that were observed during the line transect survey of TTM 81337, Palmdale, California.

Common Name	Scientific Name
Narrow-leaf willow	*Salix exigua*
Salt cedar	*Tamarix aphylla*
Peach sp.	*Prunus persica*
Desert apricot	*Prunes fremontii*
Great basin sagebrush	*Artemisia tridentata*
Rabbit brush	*Chrysothamnus nauseosis*
Cheesebush	*Hymenoclea salsola*
Peachthorn	*Lycium cooperi*
California aster	*Corethrogune filaginifolia*
Jimson weed	*Datura meteloides*
California buckwheat	*Eriogonum fasciculatum*
Longstem buckwheat	*Eriogonum elongatum*
Buckwheat sp.	*Eriogonum* sp.
Horehound	*Marrubium vulgare*
Desert straw	*Stephanomeria pauciflora*
Vinegar weed	*Trichostema lanceolatum*
Wishbone plant	*Mirabilis bigelovii*
Nevada forget-me-not	*Cryptantha nevadensis*
Blue dicks	*Dichelostemma capitatum*
Lacy phacelia	*Phacelia tanacetifolia*
Goldenaster	*Chrysopsis villosa*
Pygmy-leaved lupine	*Lupinus bicolor*
Goldfields	*Lasthenia californica*
California poppy	*Eschscholtzia californica*
Comet blazing star	*Mentzelia albicaulis*
Western forget-me-not	*Cryptantha circumscissa*
Comb-bur	*Pectocarya recurvata*
Silver puff	*Uropappus lindleyi*
Desert dandelion	*Malacothrix glabrata*
Broadleaf gilia	*Gilia latiflora*
Fremont pincushion	*Chaenactis fremontii*
Yellow pincushion	*Chaenactis glabriuscula*
Blue mantle	*Eriastrum diffusum*
Pineapple weed	*Matricaria discoidea*
Fiddleneck	*Amsinckia tessellata*
Turkey mullein	*Eremocarpus setigerus*
Rattlesnake weed	*Euphorbia albomarginata*
Mustard sp.	Brassicaceae
Tumble mustard	*Sisymbrium altisissiimum*
Prickly sowthistle	*Sonchus asper*
Poa sp.	Family: Poaceae
Chilean chess	*Bromus trinii*

Table 1 continued. List of plant species that were observed during the line transect survey of TTM 81337, Palmdale, California.

Common Name	Scientific Name
Squirrel-tail grass	*Hordeum jubatum*
Cheatgrass	*Bromus tectorum*
Schismus	*Schismus* sp.
Red brome	*Bromus rubens*
Foxtail barley	*Hordeum leporinum*
Red stemmed filaree	*Erodium cicutarium*
Annual burweed	*Franseria acanthicarpa*
Russian thistle	*Salsola iberica*

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of TTM 81337, Palmdale, California.

Common Name	Scientific Name
Rodents	Order: Rodentia
Pocket gopher	*Thomomys bottae*
California ground squirrel	*Citellus beecheyi*
Desert cottontail	*Sylvilagus auduboni*
Black-tailed jackrabbit	*Lepus californicus*
Coyote	*Canis latrans*
Domestic dog	*Canis familiaris*
Domestic cat	*Felis* sp.
Red-tailed hawk	*Buteo jamaicensis*
California quail	*Callipepla californica*
Mourning dove	*Zenaida macroura*
Black-chinned hummingbird	*Archilochus alexandri*
Hummingbird sp.	Family: Trochilidae
Common raven	*Corvus corax*
Say's phoebe	*Sayornis saya*
Northern mockingbird	*Mimus polyglottos*
Western meadowlark	*Sturnella neglecta*
House finch	*Carpodacus mexicanus*
White crowned sparrow	*Zonotrichia leucophrys*
Side blotched lizard	*Uta stansburiana*
Vinegaroon	Order: Araneida
Bee, native	Order: Hymenoptera
Grasshopper	Order: Orthoptera
Ladybird beetle	*Hippodamia convergens*
Harvester ants	Order: Hymenoptera
Fly	Order: Diptera
Butterfly (white)	Order: Lepidoptera
Spider 2 spp.	Order: Araneida

Table 3. List of wildlife species that may occur within the study area, TTM 81337, Palmdale, California.

Common Name	Scientific Name
Deer mouse	*Peromyscus maniculatus*
Desert kit fox	*Vulpes macrotis*
Horned lark	*Eremophila alpestris*
Sage sparrow	*Amphispiza belli*
Western whiptail	*Cnemidophorus tigris*
Desert horned lizard	*Phrynosoma platyrhinos*
Gopher snake	*Pituophis melanoleucus*
Desert night lizard	*Xantusia vigilis*
Darkling beetle	*Coelocnemis californicus*
Moth	Order: Lepidoptera
Ants, black, small	Order: Hymenoptera

The desert tortoise is a state and federal listed threatened species. The proposed project area was located within the geographic range of the desert tortoise. The proposed project site was not located in critical habitat designated for the Mojave population of the desert tortoise. No desert tortoises or their sign were observed within the study area. Suitable habitat for desert tortoise was not present within or adjacent to this study area. Desert tortoises are not expected to inhabit the study area. No protection measures are recommended for desert tortoises.

Burrowing owls are considered a species of special concern by the California Department of Fish and Wildlife (CDFW). No burrowing owls or their sign were observed within the study area. California ground squirrel burrows observed during the field survey provide potential cover sites for burrowing owl. No sign of burrowing owl use was observed during the field survey. Experience from surveys in the Antelope Valley suggests sites that may appear suitable for burrowing owl, but have a lot of human and pet traffic, tend not to become occupied. Children were physically playing on site during the field survey and a child's "foxhole" with food in it was observed suggesting regular use of the site. Burrowing owls are not expected to inhabit the study area at this time.

The Mohave ground squirrel (MGS) is a state listed threatened species. The proposed project site was not located within the geographic range of the MGS. Suitable habitat was not present within or adjacent to the study site. No protection measures are recommended for Mojave ground squirrels.

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. Vegetation within the study area provides potential nesting sites for smaller migratory birds. Swainson's hawk and other raptors may fly over and use the site for forage but would not be expected to nest within the study area due to a lack of suitable nesting habitat.

No suitable habitat for sensitive plant species were observed within the study site. Based on the results of the field survey sensitive plant species are not expected to occur within the study area and no protection measures are recommended. No other state or federally listed species are expected to occur within the proposed project area (CDFW 2017, CDFW 2018, Smith and Berg 1988, U.S. Fish & Wildlife Service 2016).

The ephemeral wash system observed within the study area will require a jurisdictional delineation prior to consultation with the CDFW. This biological study notes the existence of the wash but is not intended to delineate it. The wash system within this study area appears to support the few patches of remaining native vegetation (Figure 6). The wash system has a sandy bottom, was braided in some areas, and varied in depth and width throughout it's length. During review of the historical photography it was noted the wash system on site was probably connected to Ana Verde Creek prior to the post 2003 residential development. The wash system was heavily impacted, even obliterated at one point, during construction activities. This wash system does not appear to be connected to the headwaters any longer. The wash system only appears to drain the storm and lawn irrigation run-off from adjacent residential lands and run-off from the roads.

Landscape design should incorporate the use of native plants to the maximum extent feasible. Native plants that have food and cover value to wildlife should be used in landscape design (Adams and Dove 1989). Diversity of native plants should be maximized in landscape design (Adams and Dove 1989).

Recommended Protection Measures:

Burrowing owls are considered a species of special concern by the CDFW. Although not expected to inhabit this study area, a burrowing owl survey should be accomplished within 30 days prior to construction activities to ensure burrowing owls have not moved into the site. If burrowing owls are discovered the guidance outlined in the CDFW 2012 "Staff Report on Burrowing Owl Mitigation" will be used for addressing burrowing owl issues on and adjacent to the study site (California Department of Fish and Game 2012).

The desert kit fox is a fully protected species and no take permits are available. The "U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance, January 2011" will be used as guidelines for addressing desert kit fox issues if they are present within the study site (U.S. Fish & Wildlife Service 2011).

If possible, removal of vegetation will occur outside the breeding season for migratory birds. Breeding generally lasts from February to July but may extend beyond this time frame. If vegetation removal will occur during or close to the nesting season, a qualified biologist will survey all potential nesting areas to be disturbed as close as possible but no more than one week prior to removal. If active bird nests are found, impacts to nests will be avoided by either delaying work or establishing initial buffer areas of a minimum of 50 feet around active migratory bird species nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

An area that has any of the following characteristics which will be impacted by development: distinct bed, bank, channel, signs of scouring, evidence of water flow, may require a Lake and Streambed Alteration Agreement (LSA) from the CDFW prior to development activities. This project will require consultation with CDFW to determine whether a LSA is required. A jurisdictional delineation of the wash system would be required as part of the LSA process. It would be determined through the LSA process whether mitigation for the wash system is required. Silvery legless lizards will be addressed during the LSA process. Consultation with Lahontan Water Quality Control Board (LWQCB) may be required to determine the need for a Section 401 water quality permit. This project may be able to use the LWQCB's General Permit R6T-2003-0004 for minor streambed/lakebed alteration projects when the federal Clean Water Act is not applicable.

Significance: Given the small size of the study area, the adjacent land uses, high disturbance of the habitat, and continual human use; this project is not expected to result in a significant adverse impact to biological resources.

Literature Cited

Adams, L.W. and L.E. Dove. 1989. Wildlife reserves and corridors in the urban environment. National Institute for Urban Wildlife, Columbia, MD. 91pp.

Arnett, R.H., Jr. and R.L. Jacques, Jr. 1981. Simon and Schuster's guide to insects. Simon and Schuster, Inc. New York. 511pp.

Aspen Environmental Group. 2015. "Biological resources technical report, del sur solar project, lancaster, california." City of Lancaster Planning Department, 44933 North Fern Avenue, Lancaster, California. 83pp.

Borror, D.J. and R.E. White. 1970. A field guide to insects. Houghton Mifflin Company, Boston. 404pp.

Burt, W.H. and R.P Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Company, Boston. 289pp.

Calflora: Information on California plants for education, research and conservation. [web application]. 2014. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/ (Accessed: April 20, 2018).

California Department of Fish and Game. 2012. Staff report on burrowing owl mitigation. Calif. Dept. of Fish and Wildlife, Wildlife Branch, Sacramento, CA. 36pp.

California Department of Fish and Wildlife. 2017. State & federally listed endangered & threatened animals in california. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 14pp.

California Department of Fish and Wildlife. 2018. State and federally listed endangered, threatened, and rare plants of california. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 8pp.

California Natural Diversity Database (CNDDB). 2016. Del sur quadrangle. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 33pp.

California Natural Diversity Database (CNDDB). 2016. Lancaster west quadrangle. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 32pp.

CalPhotos: A database of photos of plants, animals, habitats and other natural history subjects [web application]. BSCIT, University of California, Berkeley. Available: http://calphotos.berkeley.edu/. (Accessed: April 20, 2018).

Cooperrider, A.L., Boyd, R.J. and H.R. Stuart, Eds. 1986. Inventory and monitoring of wildlife habitat. U.S. Dept. of Inter., Bur. Land Manage. Service Center, CO. 858pp.

Davis, D.E. 1990. Handbook of census methods for terrestrial vertebrates. CRC Press, Boca Raton, FL. 397pp.
Gilbert, F.F. and D.G. Dodds. 1987. The philosophy and practice of wildlife management. Krieger Publishing Company, Malabar, FL. 279pp.
Gould, F.W. 1981. Grasses of southwestern united states. Univ. of Arizona Press, Tucson, AZ. 343pp.
Halfpenny, J. 1986. A field guide to mammal tracking in western america. Johnson Publishing Company, Boulder, CO. 161pp.
Hagan, Mark. 2006. "Biological resource assessment of apn 3024-017-046, lancaster, california." Mark Hagan, 44715 17th Street East, Lancaster, California. 12pp.
Hagan, Mark. 2008. "Biological resource assessment of apn 3204-007-015, lancaster, california." Mark Hagan, 44715 17th Street East, Lancaster, California. 16pp.
Hagan, Mark. 2014. "Biological resource assessment of avanti Project, lancaster, california." Mark Hagan, 44715 17th Street East, Lancaster, California. 14pp.
Hagan, Mark. 2016a. "Biological resource assessment of apns 3204-001-184 and 195, lancaster, california." Mark Hagan, 44715 17th Street East, Lancaster, California. 14pp.
Hagan, Mark. 2016b. "Biological resource assessment of apns 3265-006-001, 002, and apns 3265-007-001, 003, 007, lancaster, california." Mark Hagan, 44715 17th Street East, Lancaster, California. 16pp.
Hagan, Mark. 2017. "Biological resource assessment of apns 3203-033-02, 21, and 22, lancaster, california." Mark Hagan, 44715 17th Street East, Lancaster, California. 15pp.
Jaeger, E.C. 1969. Desert wild flowers. Stanford Univ. Press, Stanford, CA. 322pp.
Joseph, Christopher A., and Associates. 2007. "Biological site assessment, the commons at quartz hill." Christopher A. Joseph & Associates, 11849 West Olympic Boulevard, Suite 101 Los Angeles, California. 70pp.
Knobel, E. 1980. Field guide to the grasses, sedges and rushes of the united states. Dover Publications Inc. New York, NY 83pp.
Leitner, P. 2008. Current status of the mohave ground squirrel. Transactions of the Western Section of the Wildlife Society 44:11-29 .
Lowery, J.C. 2006. The tracker's field guide. The Globe Pequot Press, Gilford, CT 408pp.
Murie, O.J. 1974. A field guide to animal tracks. Houghton Mifflin Company, Boston. 375pp.
Robbins, C.S., Bruun, B. and H.S. Zim. 1983. A field guide to identification: birds of north america. Golden Press, NY. 360pp.
Smith, J.P., Jr. and K. Berg, Eds. 1988. Inventory of rare and endangered plants vascular plants of california. Calif. Native Plant Society, Special Publication No. 1. Fourth Edition, Sacramento, CA. 168pp.
Stark, M. 2000. A flower-watchers guide to wildflowers of the western mojave desert. Published by Milt Stark. Lancaster, CA 160pp.
U.S. Fish & Wildlife Service. 2010. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*), 2010 field season. U.S. Fish & Wildl. Serv., 18pp.
U.S. Fish & Wildlife Service. 2011. Standardized recommendations for protection of the endangered san joaquin kit fox prior to or during ground disturbance. U.S. Fish & Wildl. Serv., January 2011. 9pp.
U.S. Fish & Wildlife Service. 2016. Listed species believed to or known to occur in California. 8pp. http://ecos.fws.gov/tess_public/reports/species-listed-by-state-report?state=CA&status=listed , accessed 22 April 2018.

Appendix B-2

Jurisdictional Delineation

January 6, 2020 JN 174320

ROYAL INVESTORS GROUP, LLC
Attn: Kris Pinero
15821 Ventura Boulevard, Suite 460
Encino, California 91436

SUBJECT: Delineation of State and Federal Jurisdictional Waters for the Tentative Tract Map 81337 Project – City of Palmdale, County of Los Angeles, California

Dear Ms. Pinero:

On behalf of Royal Investors Group, LLC, Michael Baker International (Michael Baker) has prepared this Delineation of State and Federal Jurisdictional Waters Report to describe, map, and quantify aquatic and other hydrological features located within the proposed Tentative Tract Map 81337 (project or project site) that potentially fall under the regulatory authority of the U.S. Army Corps of Engineers (Corps), Lahontan Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW). This report describes the regulatory setting, methodologies, and results of the jurisdictional delineation, including recommendations for any proposed impacts to previously documented or potential jurisdictional resources. This report presents Michael Baker's best professional effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, only the regulatory agencies can make a final determination of jurisdictional limits.

Project Location

The project site is comprised of approximately 39.8 acres of vacant, undeveloped land located in the City of Palmdale, Los Angeles County, California (refer to Figure 1, *Regional Vicinity*). The project site is located within Section 3, Township 6 North, Range 13 West, of the U.S. Geological Survey *Lancaster West, California* and in Section 3, Township 6 North, Range 13 West of the *Del Sur, California* 7.5-minute topographic quadrangle maps (refer to Figure 2, *Site Vicinity*). Specifically, the project site is bounded by existing residential development to the north and south, 65th Street to the east, and 70th Street to the west (refer to Figure 3, *Project Site*).

Project Description

The project proposes the construction of approximately 86 single-family residential homes on approximately 39.8 acres within Assessor Parcel Number 3204-025-048. The proposed density is 0.45 dwelling units per gross acre. The proposed project would also include grading, roadway improvements/right-of-way for interior and existing streets, sidewalks, landscaping, walls/fences, street lighting, and relevant infrastructure (water, sewer, storm drain

5 Hutton Centre Drive, Suite 500 | Santa Ana, CA 92707
Office: 949-472-3505 | Fax: 949-472-8373

facilities, electrical, cable, etc.). The infrastructure proposed would connect to existing facilities in neighboring residential developments to the north and south of the project site, as well as 65th Street and 70th Street.

Summary of Regulations

There are three key agencies that regulate activities within streams, wetlands, and riparian areas in California. The Corps Regulatory Division regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the Regional Board regulates activities pursuant to Section 401 of the CWA and Section 13263 of the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and the CDFW regulates activities under Sections 1600 *et seq*. of the California Fish and Game Code (CFGC).

Literature Review

A thorough review of relevant literature and materials was conducted to obtain a general understanding of the environmental setting and to preliminarily identify features/areas that may fall under the jurisdiction of the regulatory agencies.

Watershed

The project site is located within the southwest portion of the Antelope Hydrologic Unit (HU 26.00) of the Antelope-Fremont Valley Watershed (Hydrologic Unit Code 18090206). Specifically, the project site is located within the Lancaster Hydrologic Area (HA 26.50). The Antelope-Fremont Valley Watershed is a large, closed basin within the western Mojave Desert, bordered on the southwest by the San Gabriel Mountains and the San Andreas Fault, on the east by hills and buttes generally along the boundary between Los Angeles and San Bernardino Counties, and on the northwest by the Tehachapi Mountains and the Garlock Fault. A system of Rosamond, Buckhorn, and Rogers dry lakes act as the central watershed terminus. These dry lakes and their tributaries function as an isolated intrastate watershed system.

Soils

On-site and adjoining soils were reviewed prior to conducting the field delineation using the U.S. Department of Agriculture, Natural Resources Conservation Service (USDA), Web Soil Survey (refer to Attachment B). According to the *Custom Soil Resources Report for Antelope Valley Area, California* (USDA, 2019), the project site is underlain by the following soil units: 1) GsC – Greenfield sandy loam, 2 to 9 percent slopes; 2) GsC2 – Greenfield sandy loam, 2 to 9 percent slopes, eroded; 3) HbC – Hanford coarse sandy loam, 2 to 9 percent slopes; and 4) HbD – Hanford coarse sandy loam, 9 to 15 percent slopes. Michael Baker also reviewed the USDA *Hydric Soils List for California* to preliminarily verify whether any of the soil units identified above are considered to be hydric. According to the *Hydric Soils List for California* (USDA, 2018), Greenfield sandy loam, 2 to 9 percent slopes, eroded (GsC2) is the only soil unit within the project site that is considered hydric.

National Wetlands Inventory

Michael Baker reviewed the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Mapper. No portions of the project site or areas adjacent to the project site have been mapped as wetlands. Refer to Attachment C for a copy of the USFWS NWI map.

Flood Zone

Michael Baker also reviewed the Federal Emergency Management Agency's (FEMA's) National Flood Hazard Layer. According to FIRM Nos. 06037C0400F and 06037C0415F, the project site is located outside of the 100-year flood plain within Zone X which is described as areas of minimal flood hazard (FEMA, 2008). Refer to Attachment D for copies of the FEMA flood zone maps.

Field Methodology

Michael Baker regulatory specialist Tom Millington and CDFW environmental scientists Andrew Valand and Audrey Kelly attended an on-site field meeting on July 30, 2019 to review existing conditions and discuss survey methods, potential impacts, and permitting requirements. In addition, Michael Baker delineators/biologists Ashley Spencer and Stephen Anderson conducted a formal jurisdictional delineation of the project site on August 5, 2019 using the most recent, agency-approved methodology, to identify and map jurisdictional features that occur within the project site. The delineation was conducted to determine the jurisdictional limits of waters of the U.S. (WoUS), including potential wetlands, and waters of the State (i.e., streambed/riparian) located within the project site. For this location, potential wetlands were delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps, 2008). While in the field, jurisdictional features were recorded on an aerial base map at a scale of 1" = 200' using topographic contours and visible landmarks as guidelines. Data points were obtained with a Garmin Map62 Global Positioning System to record and identify specific widths for ordinary high-water mark (OHWM) indicators and the locations of photographs, soil points, and other pertinent jurisdictional features, if present. These data were then transferred as a .shp file and added to the project's jurisdictional figures. The jurisdictional figures were prepared using ESRI ArcMap Version 10.5 software.

Results

Four (4) unnamed drainage features were identified within the project site: Drainage 1 (D1), Drainage 2 (D2), Drainage 3 (D3), and Drainage 4 (D4). All drainage features within the project site are fed by rainwater and urban runoff from the surrounding landscape (e.g., driveways, curbs/gutters, yards). It should also be noted that a concrete-lined v-ditch was constructed along the northern boundary of the project site in 2006 as part of the residential development located immediately to the north. This concrete-lined v-ditch collects runoff from 70th Street, Vista Sol Lane, and the residential properties located to the north before discharging into an existing detention basin located north of the project site and west of 65th Street. Since the concrete-lined v-ditch is a stormwater control feature that was constructed in the uplands on an area that was not previously an existing natural drainage, it is Michael Baker's position that this feature would not qualify as WoUS/water of the State or be regulated by the Corps, Regional Board, or CDFW. Refer to Attachment E for representative photographs taken during the field delineation.

Non-Wetland Features

Drainage 1 is an ephemeral drainage located in the eastern portion of the project site. Drainage 1 exhibits an earthen substrate consisting mostly of sand and gravel. No surface water was present within Drainage 1 during the site visit. Evidence of an OHWM was observed via a natural line impressed on the bank, scour, a break in the bank slope, and a change in vegetation community from sparsely vegetated to upland species consisting primarily

of California buckwheat (*Eriogonum fasciculatum*; UPL), rubber rabbitbrush (*Ericameria nauseosa;* UPL), great basin sagebrush (*Artemisia tridentata*; UPL), cheat grass (*Bromus tectorum*; UPL), and slender buckwheat (*Eriogonum gracile*; UPL). Drainage 1 lacks riparian overstory. Within the project site, Drainage 1 measures approximately 772 linear feet in length and ranges from approximately 9 to 45 feet in width for CDFW and the Regional Board.

Drainage 2 is an ephemeral drainage located in the eastern portion of the project site and is tributary to Drainage 1. Drainage 2 exhibits an earthen substrate consisting mostly of sand and gravel. No surface water was present within Drainage 2 during the site visit. Evidence of an OHWM was observed via a natural line impressed on the bank, scour, a break in the bank slope, and a change in vegetation community from sparsely vegetated to upland species similar to Drainage 1. Drainage 2 lacks riparian overstory. Within the project site, Drainage 2 measures approximately 274 linear feet in length and ranges from approximately 8 to 18 feet in width for CDFW and the Regional Board.

Drainage 3 is an ephemeral drainage located in the eastern portion of the project site and is tributary to Drainage 1. Drainage 3 exhibits an earthen substrate consisting mostly of sand and gravel. No surface water was present within Drainage 3 during the site visit. Evidence of an OHWM was observed via a natural line impressed on the bank, scour, a break in the bank slope, and a change in vegetation community from sparsely vegetated to upland species similar to Drainage 1. Drainage 3 lacks riparian overstory. Within the project site, Drainage 3 measures approximately 359 linear feet in length and ranges from approximately 4 to 7 feet in width for CDFW and the Regional Board.

Drainage 4 is an ephemeral drainage located in the eastern portion of the project site and is tributary to Drainage 1. Drainage 4 exhibits an earthen substrate consisting mostly of sand and gravel. No surface water was present within Drainage 4 during the site visit. Evidence of an OHWM was observed via a natural line impressed on the bank, scour, a break in the bank slope, and a change in vegetation community from sparsely vegetated to upland species similar to Drainage 1. Drainage 4 lacks riparian overstory. Within the project site, Drainage 4 measures approximately 612 linear feet in length and ranges from approximately 6 to 10 feet in width for CDFW and the Regional Board.

Wetland Features

No wetland features were noted within the project site. One soil pit (SP1) was dug along the southeast border of the project site. Dominant hydrophytic vegetation was not present. Sediment deposits were observed. SP1 consisted of a single layer which extended to a depth of 10 inches and exhibited a texture of sandy loam with a matrix color of 10 YR 3/4 when moist. No redoximorphic features were observed within the matrix. As such, it was determined that no indicators for hydric soils were present. Therefore, based on the results of the field delineation, it was determined that SP1 did not meet all three of the required parameters (hydrophytic vegetation, hydric soils, and hydrology) and thus does not qualify as a wetland. Refer to Attachment F for a copy of the wetland determination data form.

Conclusions and Recommendations

U.S. Army Corps of Engineers

The project site is located within the Antelope-Fremont Valley Watershed, a closed basin within the western Mojave Desert. Based on a previous approved jurisdictional determination (SPL-2019-00510-VN; dated July 16, 2019), most of the surface water flows within the Antelope Valley either infiltrate into the groundwater basin or evaporate, or during large storm events, continue to flow to three central dry lakes situated on Edwards Air Force Base (Rosamond dry lake, Buckhorn dry lake, and Rogers dry lake). These dry lakes and their tributaries function as an isolated intrastate watershed system, which lacks the presence of a Traditional Navigable Water (TNW). The ephemeral drainage features within the project site flow to the northeast and discharge into an existing detention basin that was constructed immediately north of the project site. As such, all ephemeral drainage features within the project site would be considered non-navigable, non-relatively permanent waters that lack a direct connection to a TNW and would not qualify as WoUS or be regulated by the Corps under Section 404 of the CWA.

Lahontan Regional Water Quality Control Board

The Regional Board regulates discharges of fill and dredged material to surface waters under Section 401 of the CWA, and Section 13263 of the Porter-Cologne Act for those that do not. Based on the results of the field delineation, it was determined that approximately 0.87 acre of Regional Board jurisdiction (non-wetland waters of the State) is located within the project site (refer to Figure 4, *Regional Board Jurisdiction*). Refer to Table 1 for a summary of the jurisdictional features that were documented within the project site.

Table 1: Jurisdictional Features within the Project Site

Feature	Cowardin Class	Aquatic Resource Type	Linear Feet	Jurisdictional Area (Acres)		
				Corps	Regional Board	CDFW
Drainage 1 (D1)	Riverine	Non-Wetland Waters	772	0.00	0.64	0.64
Drainage 2 (D2)	Riverine	Non-Wetland Waters	274	0.00	0.07	0.07
Drainage 3 (D3)	Riverine	Non-Wetland Waters	359	0.00	0.05	0.05
Drainage 4 (D4)	Riverine	Non-Wetland Waters	612	0.00	0.11	0.11
		TOTAL*	**2017**	**0.00**	**0.87**	**0.87**

*Total may not equal sum due to rounding.

Since the on-site drainage features do not qualify as WoUS and would not be regulated under Section 404 of the CWA, a Section 401 Water Quality Certification would not be required for the proposed project. However, the on-site drainage features still qualify as waters of the State and would be regulated by the Regional Board under Section 13263 of the Porter-Cologne Act. Therefore, it is recommended that Royal Investors Group, LLC, submit this report to the Regional Board and obtain written confirmation that an application for Waste Discharge Requirements would not be required for the proposed project.

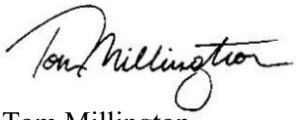
California Department of Fish and Wildlife

The on-site drainage features exhibited a bed and bank and are considered CDFW jurisdictional streambed. Based on the results of the field delineation, it was determined that approximately 0.87 acre of CDFW jurisdiction is

located within the project site (refer to Figure 5, *CDFW Jurisdiction*). Pursuant to Section 1602 of the CFGC, the CDFW regulates any activity that would divert or obstruct the natural flow or alter the bed, channel, or bank of a lake or streambed; this would also include any impacts to associated riparian vegetation. Based on the results of the field delineation, a total of approximately 0.87 acre of CDFW streambed will be permanently impacted by project activities. Based on initial discussions with Andrew Valand (CDFW Environmental Scientist) and Audrey Kelly (CDFW Environmental Scientist) during an on-site field meeting held on July 30, 2019, Royal Investors Group, LLC would be required to submit written notification to CDFW and obtain a Lake or Streambed Alteration Agreement prior to the alteration of any of the on-site jurisdictional features. Royal Investors Group, LLC would also be required to provide compensatory mitigation to offset the loss of CDFW jurisdiction that would occur as a result of the proposed project. Due to the level of impact and lack of on-site mitigation options, it is recommended that Royal Investors Group, LLC mitigate the loss of CDFW streambed at a minimum 1:1 ratio through the one-time purchase of ephemeral streambed credits from the Peterson Ranch Mitigation Bank. It should be noted that this compensatory mitigation strategy would need to be reviewed and approved by CDFW prior to issuance of the Final LSAA.

This report has been prepared for Royal Investors Group, LLC to document the jurisdictional authority of the Corps, Regional Board, and CDFW within the project site and describes the regulatory setting, methodologies, and results of the jurisdictional delineation, including recommendations for any proposed impacts to previously documented or potential jurisdictional resources. This report presents Michael Baker's best professional effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, only the regulatory agencies can make a final determination of jurisdictional limits. Please feel free to contact me at (949) 855-5777 or tommillington@mbakerintl.com with any questions you may have regarding the information presented in this report.

Sincerely,



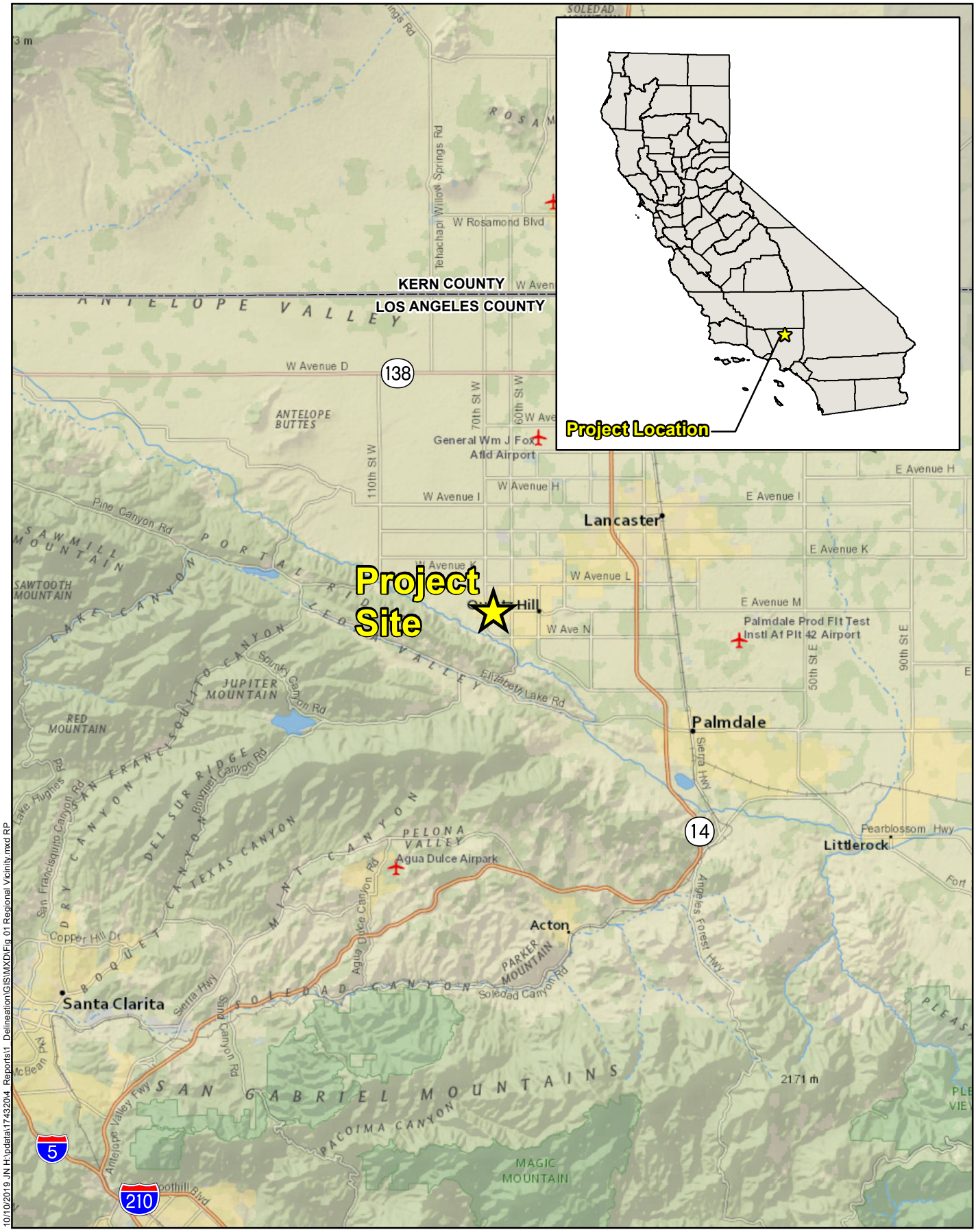
Tom Millington
Senior Biologist/Regulatory Specialist
Natural Resources and Regulatory Permitting

Attachments:

A. *Figures*
B. *USDA Custom Soil Resources Report*
C. *USFWS National Wetlands Inventory*
D. *FEMA Flood Zone Maps*
E. *Site Photographs*
F. *Wetland Determination Data Forms*
G. *References*

Attachment A

Figures



10/10/2019 JN H:\pdata\1743204_Reports\1_Delineation\GIS\MXD\Fig_01 Regional Vicinity.mxd RP

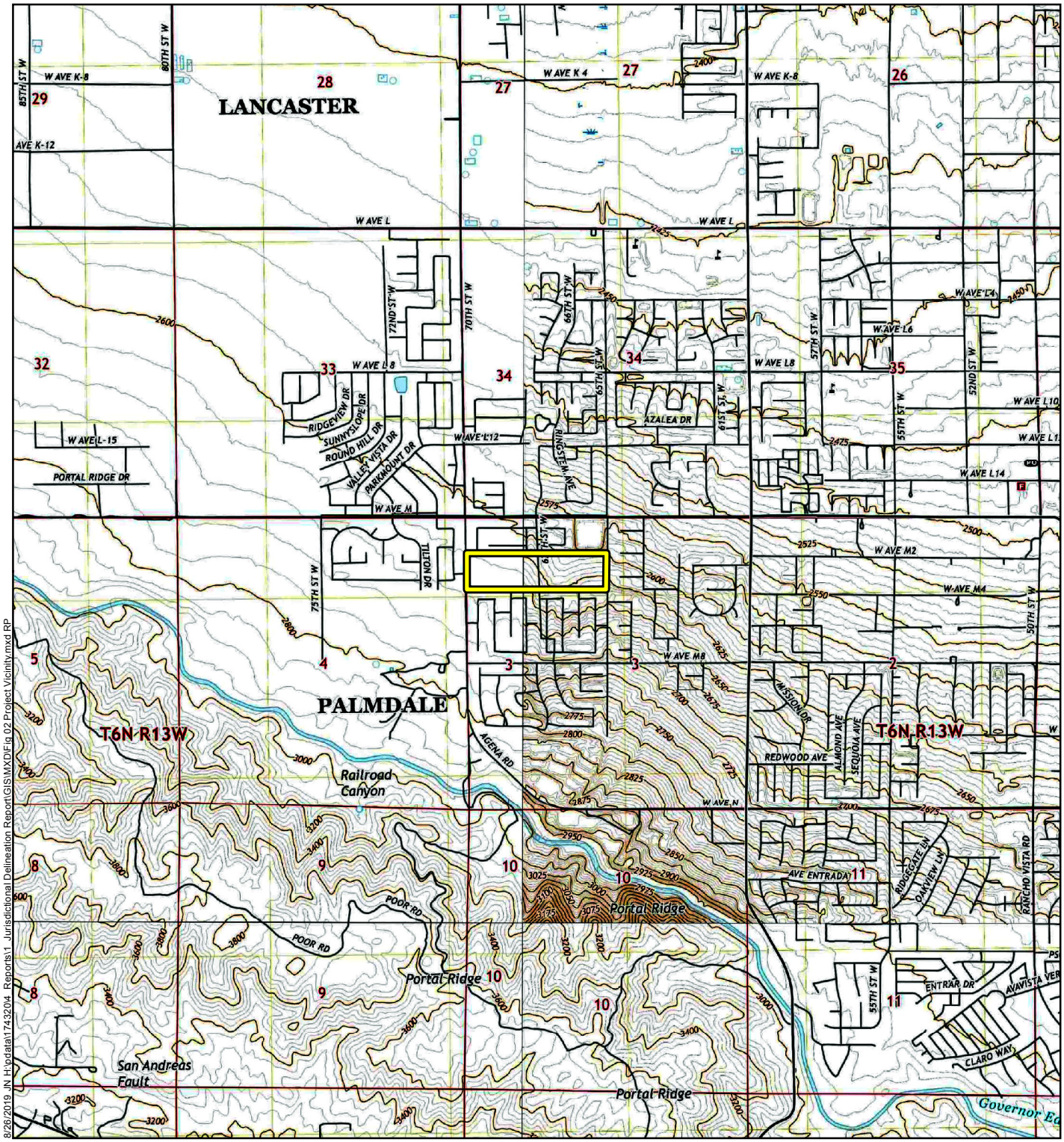
TENTATIVE TRACT MAP 81337
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Regional Vicinity

0 2.5 5 Miles

Source: ArcGIS Online, 2018

Figure 1



Legend

Project Site

TENTATIVE TRACT MAP 81337
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Project Vicinity

Michael Baker INTERNATIONAL

0 0.25 0.5 Miles

Source: USGS 7.5-Minute topographic quadrangle maps: *Del Sur, Lancaster West, Ritter Ridge and Sleepy Valley, California (2018)*

Figure 2

Legend

- Project Site
- Photograph Point and Direction
- Reference Point

0 100 200 Feet

10/10/2019 JN:H:\pdata\1743\2014 Reports\1 Delineation\GIS\MXD\Fig 03-06.mxd RP

Michael Baker INTERNATIONAL

Source: Eagle Aerial, 2014

TENTATIVE TRACT MAP 81337
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Project Site

Figure 3

10/10/2019 JN H:\pdata\174320\4_Reports\1_Delineation\GIS\MXD\Fig 03-05.mxd RP

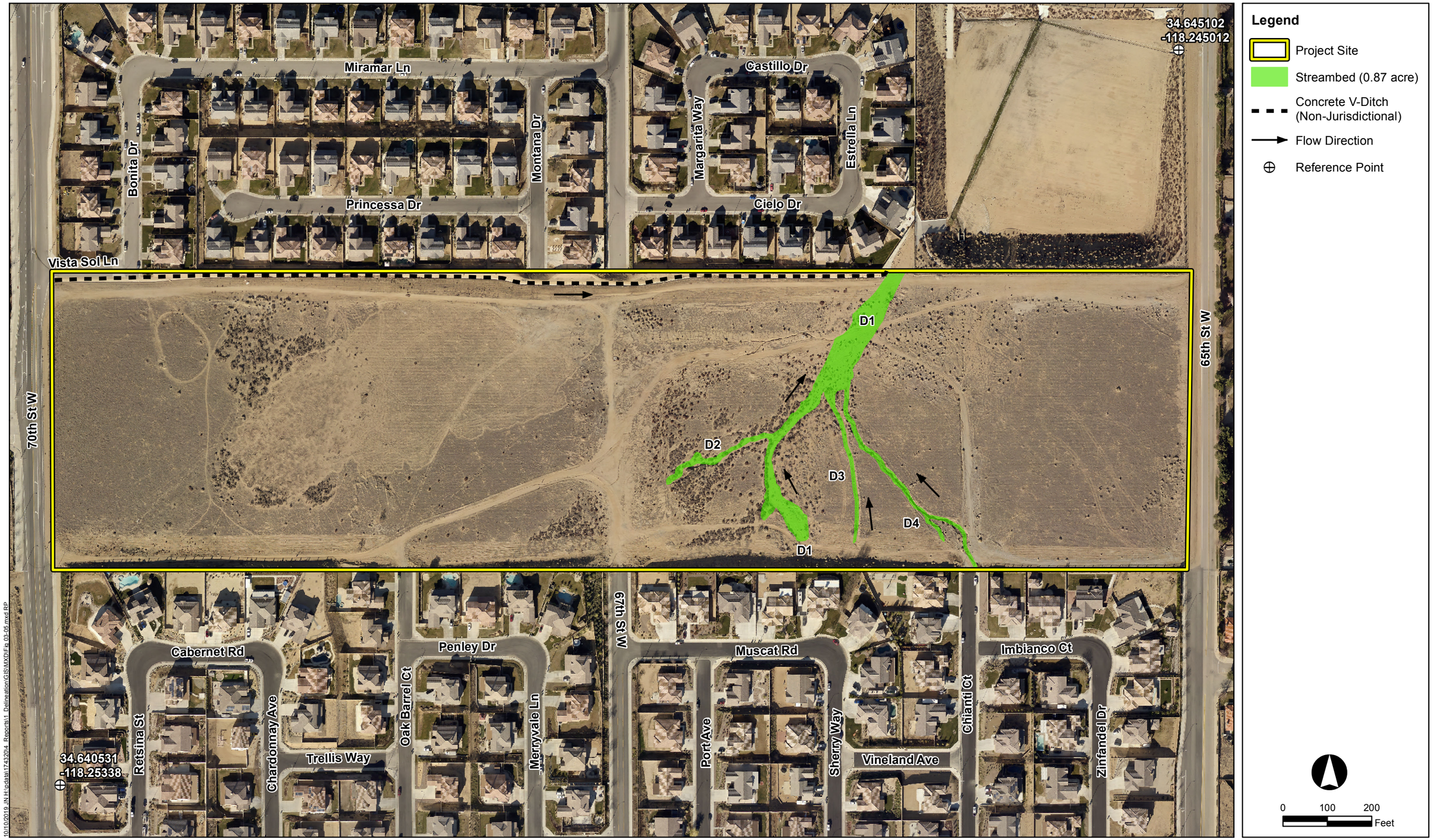
Michael Baker INTERNATIONAL

Source: Eagle Aerial, 2014

TENTATIVE TRACT MAP 81337
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Regional Board Jurisdiction

Figure 4



10/10/2019 JN H:\pdata\174320\4_Reports\1_Delineation\GIS\MXD\Fig 03-05.mxd RP

Michael Baker INTERNATIONAL

Source: Eagle Aerial, 2014

TENTATIVE TRACT MAP 81337
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

CDFW Jurisdiction

Figure 5

Attachment B

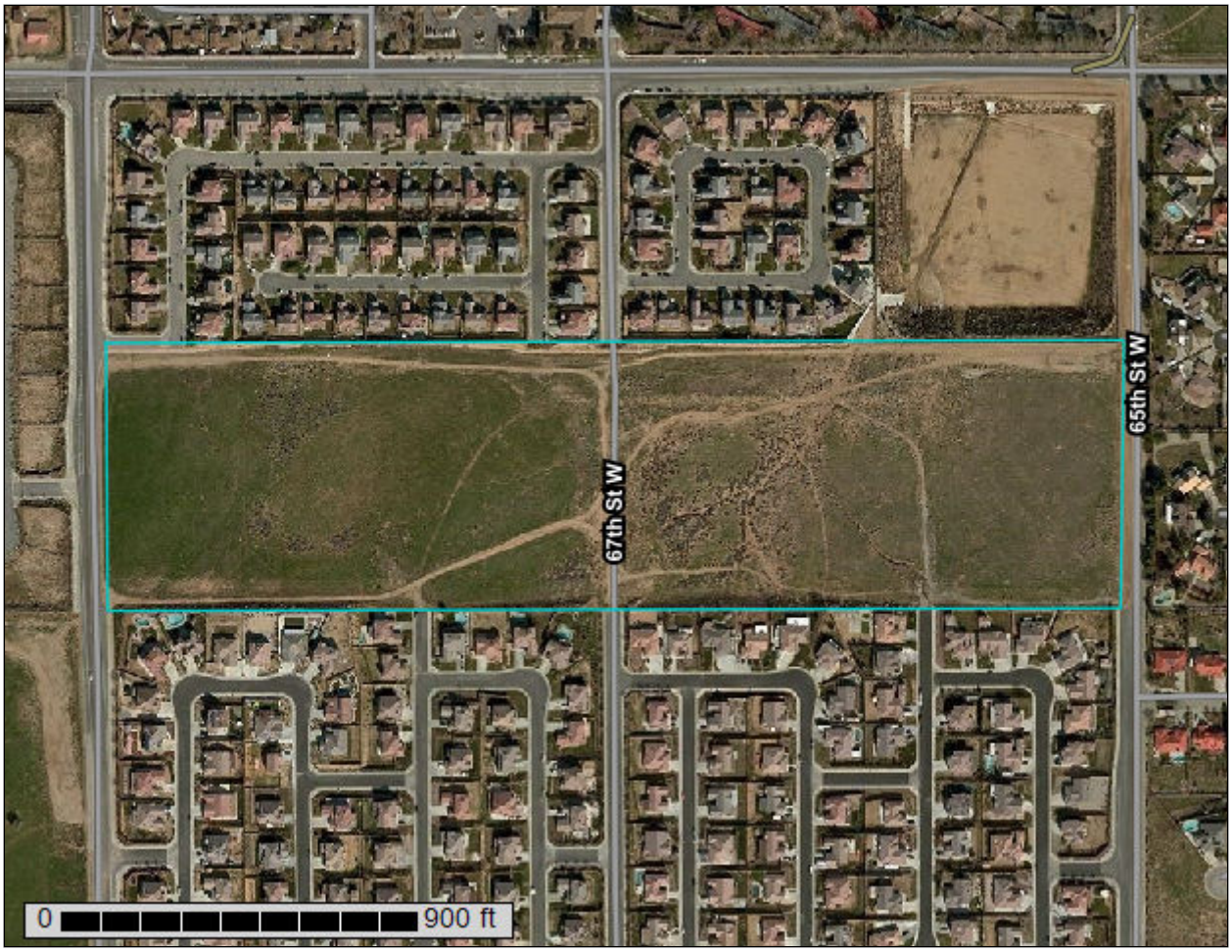
USDA Custom Soil Resources Report

United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Antelope Valley Area, California



July 31, 2019

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....11
Antelope Valley Area, California.....13
GsC—Greenfield sandy loam, 2 to 9 percent slopes.....13
GsC2—Greenfield sandy loam, 2 to 9 percent slopes, eroded.....14
HbC—Hanford coarse sandy loam, 2 to 9 percent slopes.....15
HbD—Hanford coarse sandy loam, 9 to 15 percent slopes.....16
References.....19

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:4,300 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Antelope Valley Area, California
Survey Area Data: Version 11, Sep 17, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 25, 2010—Feb 1, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GsC	Greenfield sandy loam, 2 to 9 percent slopes	10.2	25.7%
GsC2	Greenfield sandy loam, 2 to 9 percent slopes, eroded	28.4	71.7%
HbC	Hanford coarse sandy loam, 2 to 9 percent slopes	0.6	1.5%
HbD	Hanford coarse sandy loam, 9 to 15 percent slopes	0.4	1.1%
Totals for Area of Interest		**39.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Antelope Valley Area, California

GsC—Greenfield sandy loam, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: hcdw
Elevation: 2,600 to 4,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 200 to 250 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Greenfield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Greenfield

Setting

Landform: Terraces, alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 20 inches: sandy loam
H2 - 20 to 60 inches: sandy loam
H3 - 60 to 80 inches: stratified loamy sand to coarse sandy loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: LOAMY 9-20" (R019XD064CA)
Hydric soil rating: No

Minor Components

Hanford

Percent of map unit: 8 percent
Hydric soil rating: No

Ramona
Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed
Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed
Percent of map unit: 1 percent
Hydric soil rating: No

GsC2—Greenfield sandy loam, 2 to 9 percent slopes, eroded

Map Unit Setting
National map unit symbol: hcdx
Elevation: 2,600 to 4,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 200 to 250 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Greenfield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Greenfield

Setting
Landform: Terraces, alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile
H1 - 0 to 17 inches: sandy loam
H2 - 17 to 60 inches: sandy loam
H3 - 60 to 80 inches: stratified loamy sand to coarse sandy loam

Properties and qualities
Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Available water storage in profile: Moderate (about 8.2 inches)

Interpretive groups
Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: LOAMY 9-20" (R019XD064CA)
Hydric soil rating: No

Minor Components

Hanford
Percent of map unit: 10 percent
Hydric soil rating: No

Unnamed
Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed
Percent of map unit: 1 percent
Landform: Drainageways
Hydric soil rating: Yes

HbC—Hanford coarse sandy loam, 2 to 9 percent slopes

Map Unit Setting
National map unit symbol: hcf2
Elevation: 2,600 to 4,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 200 to 250 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Hanford and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hanford

Setting
Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile
H1 - 0 to 8 inches: coarse sandy loam

H2 - 8 to 39 inches: coarse sandy loam, sandy loam
H2 - 8 to 39 inches: gravelly coarse sandy loam, gravelly loamy coarse sand
H3 - 39 to 70 inches:
H3 - 39 to 70 inches:

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 13.3 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: LOAMY 9-20" (R019XD064CA)
Hydric soil rating: No

Minor Components

Greenfield

Percent of map unit: 8 percent
Hydric soil rating: No

Ramona

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 2 percent
Hydric soil rating: No

HbD—Hanford coarse sandy loam, 9 to 15 percent slopes

Map Unit Setting

National map unit symbol: hcf3
Elevation: 2,600 to 4,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 200 to 250 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hanford and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hanford

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 8 inches: coarse sandy loam
H2 - 8 to 39 inches: coarse sandy loam, sandy loam
H2 - 8 to 39 inches: gravelly coarse sandy loam, gravelly loamy coarse sand
H3 - 39 to 70 inches:
H3 - 39 to 70 inches:

Properties and qualities

Slope: 9 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 13.3 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: LOAMY 9-20" (R019XD064CA)
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent
Hydric soil rating: No

Ramona

Percent of map unit: 5 percent
Hydric soil rating: No

Greenfield

Percent of map unit: 5 percent
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

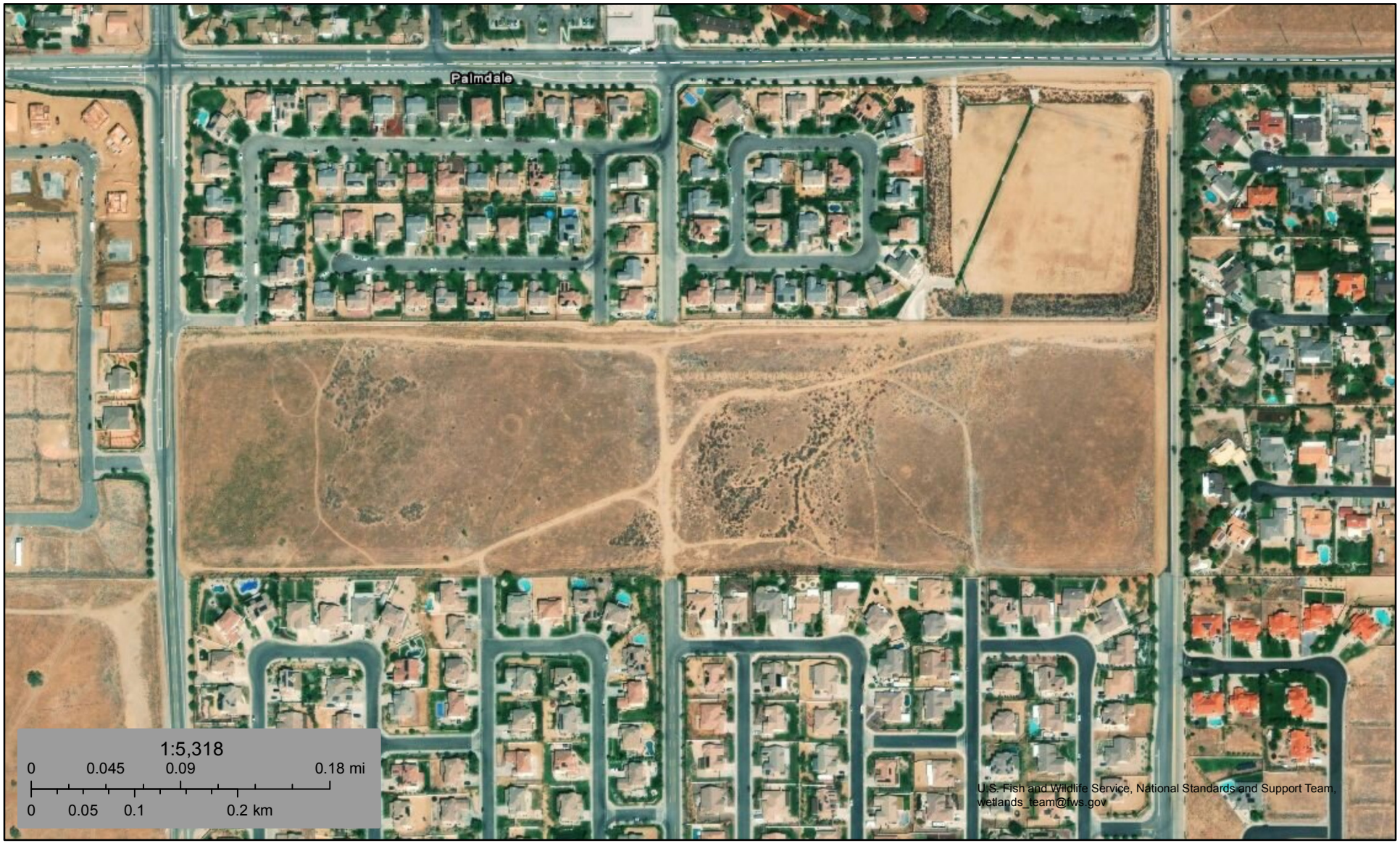
United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Attachment C

USFWS National Wetlands Inventory

U.S. Fish and Wildlife Service

National Wetlands Inventory



July 31, 2019

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Attachment D

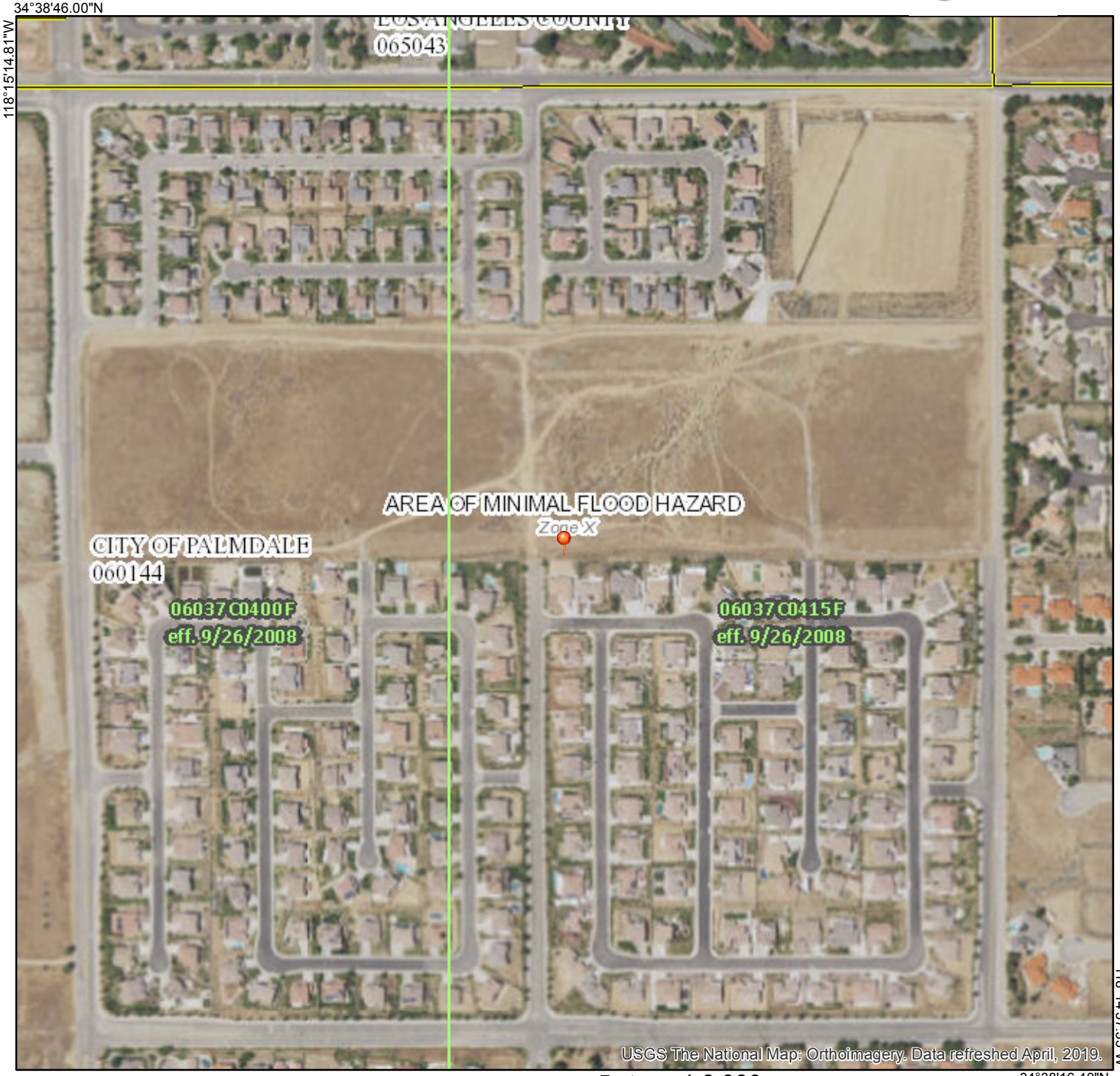
FEMA Flood Insurance Rate Maps

National Flood Hazard Layer FIRMette

FEMA

34°38'46.00"N

118°15'14.81"W



118°14'37.35"W

34°38'16.40"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/31/2019 at 5:53:45 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Attachment E

Site Photographs

Photograph 1: View of southern portion of the project site with upstream end of Drainage 1 in the background, facing northwest.

Photograph 2: View of Drainage 1 on the southern portion of the project site, facing south (upstream).

Photograph 3: View of Drainage 1 downstream of Drainage 2 confluence, facing southwest (upstream).

Photograph 4: View of central portion of Drainage 1, facing southwest (upstream).

Photograph 5: View of downstream portion of Drainage 1, facing northeast (downstream).

Photograph 6: View of concrete spillway and detention basin located to the north of the project site, facing northeast.

Photograph 7: View of central portion of Drainage 2, facing northeast (downstream).

Photograph 8: View of central portion of Drainage 3, facing south (upstream).

Photograph 9: View of upstream portion of Drainage 4, facing northwest (downstream).

Photograph 10: View of central portion of Drainage 4, facing northwest (downstream).

Photograph 11: View of downstream portion of Drainage 4, facing south (downstream).

Photograph 12: View of eastern portion of non-jurisdictional concrete v-ditch located along the southern boundary of the project site, facing west.

Photograph 13: View of central portion of non-jurisdictional concrete v-ditch, facing east.

Photograph 14: View of western end of non-jurisdictional concrete v-ditch at the 70th Street/Vista Sol Lane intersection, facing east.

Attachment F

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Tentative Tract Map 81337 City/County: Palmdale / Los Angeles Sampling Date: 08/05/2019

Applicant/Owner: Royal Investors Group, LLC State: CA Sampling Point: SP1

Investigator(s): Ashley Spencer and Stephen Anderson Section, Township, Range: Section 3, Township 6 North, Range 13 West

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 1%

Subregion (LRR): Interior Deserts (LRR - D) Lat: 34.641892 Long: -118.246635 Datum: WGS 1984

Soil Map Unit Name: Greenfield Sandy Loam, 2 to 9 Percent Slopes, Eroded (GsC2) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 feet)			
1. Ericameria nauseosa	10	Yes	UPL
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. Polypogon monspeliensis	10	Yes	FACW
2. Cynodon dactylon	10	Yes	FACU
3. Heterotheca grandiflora	7	No	UPL
4. Erigeron canadensis	4	No	FACU
5.			
6.			
7.			
8.			
	31 = Total Cover		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	14	x 4 =	56
UPL species	17	x 5 =	85
Column Totals:	41 (A)		161 (B)

Prevalence Index = B/A = 3.93

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✓

Remarks:

Remaining ground cover is leaf litter and thatch.

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 10"	10YR 3/4	100	-	-	-	-	SL	Sandy Loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

Soil comprised of a single layer with no redoximorphic concentrations or depletions. Soil did not meet any hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
✓ Sediment Deposits (B2) (**Riverine**)
✓ Drift Deposits (B3) (**Riverine**)
✓ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface water runoff from adjacent residential properties flows north via curb and gutter to the northern terminus of Chanti Court and infiltrates at the southern boundary of the project site.

Photograph 1: View of SP1 taken near the southern boundary of the project site.

Attachment G

References

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, Editors. 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press, Berkeley, CA.

California Department of Fish and Wildlife. *Lake and Streambed Alteration Program*. Accessed online at: https://www.wildlife.ca.gov/Conservation/LSA.

California Regional Water Quality Control Board, Lahontan Region. 2016. *Water Quality Control Plan for the Lahontan Region: North and South Basins*. Amended January 14, 2016.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1*. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Google, Inc. 2019. Google Earth Pro Imagery Version 7.3.2.5776. Build date 03/05/2019. Aerial Image dated April 29, 2017.

Jepson Flora Project (eds.). 2018. Jepson eFlora. Accessed online at: http://ucjeps.berkeley.edu/eflora/.

Hagan, M. 2018. *Biological Resource Assessment of TTM 81337, Palmdale, California*. Report dated April 23, 2018.

Holland, R. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Department of Fish and Game, Sacramento, CA.

Lichvar, R.W., D.C. Finnegan, M.P. Ericsson, and W. Ochs. 2006. *Distribution of Ordinary High Water Mark Indicators and their Reliability in Identifying the Limits of "Waters of the United States" in the Arid Southwestern Channels*. ERDC/CRREL TR-06-5. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

Lichvar, R.W., and S.M McColley. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List: 2016 Wetland Ratings*. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X. Accessed online at: http://wetland-plants.usace.army.mil/.

Munsell Color. 2012. *Munsell Soil Color Charts*. Munsell Color, Grand Rapids, MI.

State Water Resources Control Board (SWRCB). 2017. *401 Water Quality Certification and Wetlands Program.* Accessed online at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/.

SWRCB. 2019. *State Wetland Definition and Procedures for Discharged of Dredged or Fill Material to Waters of the State.* Adopted April 2, 2019.

U.S. Army Corps of Engineers (Corps). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Corps. 2016. *Special Public Notice: Updated Map and Drawing Standards for the South Pacific Regulatory Division Regulatory Program*. Issued on February 10, 2016.

Corps. 2016. *Regional Guidance Letter No. 16-01: Jurisdictional Determinations*. Issued October 2016.

Corps. 2017. *Special Public Notice: Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*. Issued on March 16, 2017.

Corps. 2017. *Special Public Notice: Reissuance of the Nationwide Permits and Issuance of Final Regional Conditions for the Los Angeles District.* Issued on March 22, 2017.

Corps. 2019. Approved Jurisdictional Determination (AJD) SPL-2019-00510-VN. Dated July 16, 2019.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA). 2019. *Custom Soil Resources Report for Antelope Valley, California.* Accessed online at: http://websoilsurvey.nrcs.usda.gov/app/.

USDA. 2018. *List of Hydric Soils for the State of California*. Accessed online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/.

U.S. Department of Homeland Security, Federal Emergency Management Agency. 2008. *National Flood Insurance Rate Maps No. 06037C0400F and 06037C0415F*. Accessed online at: https://msc.fema.gov/portal/home.

U.S. Fish and Wildlife Service. 2019. National Wetlands Inventory Mapper. Accessed online at: http://www.fws.gov/wetlands/data/Mapper.html.

U.S. Geological Survey (USGS). 2019. *Del Sur, California* 7.5-Minute Topographic Quadrangle Map. Photorevised 1974.

USGS. 1958. *Lancaster West, California* 7.5-Minute Topographic Quadrangle Map. Photorevised 1974.

Appendix C

Phase I Environmental Site Assessment

PARTNER
Engineering and Science, Inc.

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Tentative Tract Map No. 81337
70th Street West, South of Princessa Drive
Palmdale, California 93551

Report Date: July 19, 2018
Partner Project No. 18-216019.1

Prepared for:

Royal Investors Group, LLC
15836 Ventura Boulevard, Suite 460
Encino, California 91436

PARTNER
Engineering and Science, Inc.

July 19, 2018

Ms. Kris Pinero
Royal Investors Group, LLC
15836 Ventura Boulevard, Suite 460
Encino, California 91436

Subject: Phase I Environmental Site Assessment
Tentative Tract Map No. 81337
70th Street West, South of Princessa Drive
Palmdale, California 93551
Partner Project No. 18-216019.1

Dear Ms. Pinero:

Partner Engineering and Science, Inc. (Partner) is pleased to provide the results of the *Phase I Environmental Site Assessment* (Phase I ESA) report of the abovementioned address (the "subject property"). This assessment was performed in conformance with the scope and limitations as detailed in the ASTM Practice E1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

This assessment included a site reconnaissance as well as research and interviews with representatives of the public, property ownership, site manager, and regulatory agencies. An assessment was made, conclusions stated, and recommendations outlined.

We appreciate the opportunity to provide environmental services to you. If you have any questions concerning this report, or if we can assist you in any other matter, please contact me at (310) 615-4500 or ctaylor@partneresi.com.

Sincerely,

Cody Taylor
National Client Manager

2154 Torrance Blvd., Suite 200, Torrance, CA 90501 ◊ Phone 800-419-4923 ◊ Fax 866-928-7418

EXECUTIVE SUMMARY

Partner Engineering and Science, Inc. (Partner) has performed a Phase I Environmental Site Assessment (ESA) in accordance with the scope of work and limitations of ASTM Standard Practice E1527-13, the Environmental Protection Agency Standards and Practices for All Appropriate Inquiries (AAI) (40 CFR Part 312) and set forth by Royal Investors Group, LLC, for the property located at 70th Street West, South of Princessa Drive, in the City of Palmdale, Los Angeles County, California (the "subject property"). The Phase I Environmental Site Assessment is designed to provide Royal Investors Group, LLC, with an assessment concerning environmental conditions (limited to those issues identified in the report) as they exist at the subject property.

Property Description

The subject property is located on the western side of 65th Street West, the eastern side of 70th Street West, and approximately 135 feet to the south of Princessa Drive, within a mixed residential, commercial, and undeveloped area of Palmdale, California. Please refer to the table below for further description of the subject property:

Subject Property Data	
Addresses:	None
Property Use:	Vacant Land
Land Acreage (Ac):	40.56 Ac
Assessor's Parcel Number (APN):	3204-025-048
Current Tenants:	None
Site Assessment Performed By:	Philip Marquez
Site Assessment Conducted On:	July 13, 2018

The subject property is currently vacant land. No operations are currently performed on site.

According to available historical sources, the subject property was formerly undeveloped as early as 1928 until at least 1948; developed with an orchard on the southern portion of the property and undeveloped within the northern portion of the property from at least 1953 until at least 1974; and has been vacant land from at least 1987 to the present.

The immediately surrounding properties consist of single-family residential developments and a stormwater basin to the north; single-family residential developments to the south; single-family residential developments to the east across 65th Street West; and single-family residential developments and undeveloped land to the west across 70th Street West.

According to groundwater measurement data obtained from the United States Geological Survey (USGS) Groundwater Watch website for a nearby well (Well No. 343932118144001), groundwater in the vicinity of the subject property is inferred to be approximately 225 feet below ground surface (bgs). Based on topographic map interpretation, groundwater in the vicinity of the subject property is inferred to flow toward the northeast.

Findings

A *recognized environmental condition (REC)* refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment. The following was identified during the course of this assessment:

- Partner did not identify evidence of RECs during the course of this assessment.

A *controlled recognized environmental condition (CREC)* refers to a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. The following was identified during the course of this assessment:

- Partner did not identify evidence of CRECs during the course of this assessment.

A *historical recognized environmental condition (HREC)* refers to a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls. The following was identified during the course of this assessment:

- Partner did not identify evidence of HRECs during the course of this assessment.

An *environmental issue* refers to environmental concerns identified by Partner, which do not qualify as RECs; however, warrant further discussion. The following was identified during the course of this assessment:

- The subject property was utilized for agricultural purposes from at least 1953 until at least 1974. It is unknown if environmentally persistent pesticides and/or herbicides were historically applied to the crops grown on the subject property. It has been Partner's experience with similar agricultural properties that there is a low potential for soil contamination at concentrations in excess of regulatory thresholds as a result of the past use of persistent pesticides/herbicides from normal crop application. Partner's experience further indicates that the accumulation of persistent pesticides/herbicides in soils at concentrations in excess of regulatory thresholds is more commonly associated with the cultivation of orchards over prolonged periods of time; or in areas where repeated mixing and rinsing of chemical application equipment may have occurred. The orchards appear to have only been present on site for approximately 21 years, and no evidence of former on-site structures which might indicate bulk storage or mixing activities were identified in historical aerial photographs. Furthermore, no specific areas of concern related to on-site agricultural chemical storage and usage (spills, releases, etc.) have been identified during the course of this assessment. Based on these factors, the potential for elevated concentrations of environmentally persistent pesticides/herbicides to exist in the near-surface soils of the subject property, which would require regulatory action, appears to be low.

Conclusions, Opinions, and Recommendations

Partner has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of the property located at 70th Street West, South of Princessa Drive, in the City of Palmdale, Los Angeles County, California (the "subject property"). Any exceptions to, or deletions from, this practice are described in Section 1.5 of this report.

This assessment has revealed no evidence of RECs in connection with the subject property; however, environmental issues were identified. Based on the conclusions of this assessment, Partner recommends the following:

- If a higher level of due diligence is desired, a limited subsurface investigation could be conducted to assess the presence or absence of environmentally persistent agricultural chemicals within near surface soils at the subject property as a result of the historical agricultural uses.

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 Purpose 1
1.2 Scope of Work 1
1.3 Limitations 2
1.4 User Reliance 3
1.5 Limiting Conditions 3

2.0 SITE DESCRIPTION 4

2.1 Site Location and Legal Description 4
2.2 Current Property Use 4
2.3 Current Use of Adjacent Properties 4
2.4 Physical Setting Sources 4
2.4.1 Topography 4
2.4.2 Hydrology 5
2.4.3 Geology/Soils 5
2.4.4 Flood Zone Information 5

3.0 HISTORICAL INFORMATION 6

3.1 Aerial Photograph Review 6
3.2 Fire Insurance Maps 8
3.3 City Directories 8
3.4 Historical Topographic Maps 8

4.0 REGULATORY RECORDS REVIEW 9

4.1 Regulatory Agencies 9
4.1.1 State Department 9
4.1.2 Health Department 9
4.1.3 Fire Department 9
4.1.4 Air Pollution Control Agency 9
4.1.5 Water Resources Control Board 10
4.1.6 Department of Toxic Substances Control 10
4.1.7 Building Department 10
4.1.8 Planning Department 10
4.1.9 Oil & Gas Exploration 11
4.1.10 Assessor's Office 11
4.2 Mapped Database Records Search 12
4.2.1 Regulatory Database Summary 12
4.2.2 Subject Property Listings 12
4.2.3 Adjacent Property Listings 12
4.2.4 Sites of Concern Listings 13
4.2.5 Orphan Listings 13

5.0 USER PROVIDED INFORMATION AND INTERVIEWS 14

5.1 Interviews 14
5.1.1 Interview with Owner 14
5.1.2 Interview with Report User 15
5.1.3 Interview with Key Site Manager 15
5.1.4 Interviews with Past Owners, Operators, and Occupants 15

5.1.5 Interview with Others 15
5.2 User Provided Information 15
5.2.1 Title Records, Environmental Liens, and AULs 15
5.2.2 Specialized Knowledge 15
5.2.3 Actual Knowledge of the User 15
5.2.4 Valuation Reduction for Environmental Issues 15
5.2.5 Commonly Known or Reasonably Ascertainable Information 15
5.2.6 Previous Reports and Other Provided Documentation 16
6.0 SITE RECONNAISSANCE 17
6.1 General Site Characteristics 17
6.2 Potential Environmental Hazards 18
6.3 Non-ASTM Services 19
6.3.1 Asbestos-Containing Materials (ACMs) 19
6.3.2 Lead-Based Paint (LBP) 19
6.3.3 Radon 19
6.3.4 Lead in Drinking Water 20
6.3.5 Mold 20
6.4 Adjacent Property Reconnaissance 20
7.0 FINDINGS AND CONCLUSIONS 21
8.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS 23
9.0 REFERENCES 24

Figures

Figure 1 Site Location Map
Figure 2 Site Plan
Figure 3 Topographic Map

Appendices

Appendix A Site Photographs
Appendix B Historical/Regulatory Documentation
Appendix C Regulatory Database Report
Appendix D Qualifications

1.0 INTRODUCTION

Partner Engineering and Science, Inc. (Partner) has performed a Phase I Environmental Site Assessment (ESA) in conformance with the scope and limitations of ASTM Standard Practice E1527-13 and the Environmental Protection Agency Standards and Practices for All Appropriate Inquiries (AAI) (40 CFR Part 312) for the property located at 70th Street West, South of Princessa Drive, in the City of Palmdale, Los Angeles County, California (the "subject property"). Any exceptions to, or deletions from, this scope of work are described in the report.

1.1 Purpose

The purpose of this ESA is to identify existing or potential Recognized Environmental Conditions (as defined by ASTM Standard E1527-13) affecting the subject property that: 1) constitute or result in a material violation or a potential material violation of any applicable environmental law; 2) impose any material constraints on the operation of the subject property or require a material change in the use thereof; 3) require clean-up, remedial action or other response with respect to Hazardous Substances or Petroleum Products on or affecting the subject property under any applicable environmental law; 4) may affect the value of the subject property; and 5) may require specific actions to be performed with regard to such conditions and circumstances. The information contained in the ESA Report will be used by Client to: 1) evaluate its legal and financial liabilities for transactions related to foreclosure, purchase, sale, loan origination, loan workout or seller financing; 2) evaluate the subject property's overall development potential, the associated market value and the impact of applicable laws that restrict financial and other types of assistance for the future development of the subject property; and/or 3) determine whether specific actions are required to be performed prior to the foreclosure, purchase, sale, loan origination, loan workout or seller financing of the subject property.

This ESA was performed to permit the *User* to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) liability (hereinafter, the "*landowner liability protections*," or "*LLPs*"). ASTM Standard E1527-13 constitutes "*all appropriate inquiry* into the previous ownership and uses of the *property* consistent with good commercial or customary practice" as defined at 42 U.S.C. §9601(35)(B).

1.2 Scope of Work

The scope of work for this ESA is in accordance with the requirements of ASTM Standard E1527-13. This assessment included: 1) a property and adjacent site reconnaissance; 2) interviews with key personnel; 3) a review of historical sources; 4) a review of regulatory agency records; and 5) a review of a regulatory database report provided by a third-party vendor. Partner contacted local agencies, such as environmental health departments, fire departments and building departments in order to determine any current and/or former hazardous substances usage, storage and/or releases of hazardous substances on the subject property.

Additionally, Partner researched information on the presence of activity and use limitations (AULs) at these agencies. As defined by ASTM E1527-13, AULs are the legal or physical restrictions or limitations on the use of, or access to, a site or facility: 1) to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil or groundwater on the subject property; or 2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment. These legal or physical restrictions, which may include institutional and/or engineering controls (IC/ECs), are intended to prevent adverse impacts to individuals or populations that may be exposed to hazardous substances and petroleum products in the soil or groundwater on the property.

If requested by Client, this report may also include the identification, discussion of, and/or limited sampling of asbestos-containing materials (ACMs), lead-based paint (LBP), mold, and/or radon.

1.3 Limitations

Partner warrants that the findings and conclusions contained herein were accomplished in accordance with the methodologies set forth in the Scope of Work. These methodologies are described as representing good commercial and customary practice for conducting an ESA of a property for the purpose of identifying recognized environmental conditions. There is a possibility that even with the proper application of these methodologies there may exist on the subject property conditions that could not be identified within the scope of the assessment or which were not reasonably identifiable from the available information. Partner believes that the information obtained from the record review and the interviews concerning the subject property is reliable. However, Partner cannot and does not warrant or guarantee that the information provided by these other sources is accurate or complete. The conclusions and findings set forth in this report are strictly limited in time and scope to the date of the evaluations. The conclusions presented in the report are based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of agreed-upon services or the time and budgeting restraints imposed by the Client. No other warranties are implied or expressed.

Some of the information provided in this report is based upon personal interviews, and research of available documents, records, and maps held by the appropriate government and private agencies. This report is subject to the limitations of historical documentation, availability, and accuracy of pertinent records, and the personal recollections of those persons contacted.

This practice does not address requirements of any state or local laws or of any federal laws other than the all appropriate inquiry provisions of the LLPs. Further, this report does not intend to address all of the safety concerns, if any, associated with the subject property.

Environmental concerns, which are beyond the scope of a Phase I ESA as defined by ASTM include the following: ACMs, LBP, radon, and lead in drinking water. These issues may affect environmental risk at the subject property and may warrant discussion and/or assessment; however, are considered non-scope issues. If specifically requested by the Client, these non-scope issues are discussed in Section 6.3.

1.4 User Reliance

Royal Investors Group, LLC, engaged Partner to perform this assessment in accordance with an agreement governing the nature, scope and purpose of the work as well as other matters critical to the engagement. All reports, both verbal and written, are for the sole use and benefit of Royal Investors Group, LLC. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with Partner granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against Partner, its officers, employees, vendors, successors or assigns. Any such unauthorized user shall be responsible to protect, indemnify and hold Partner, Client and their respective officers, employees, vendors, successors and assigns harmless from any and all claims, damages, losses, liabilities, expenses (including reasonable attorneys' fees) and costs attributable to such Use. Unauthorized use of this report shall constitute acceptance of and commitment to these responsibilities, which shall be irrevocable and shall apply regardless of the cause of action or legal theory pled or asserted. Additional legal penalties may apply.

This report has been completed under specific Terms and Conditions relating to scope, relying parties, limitations of liability, indemnification, dispute resolution, and other factors relevant to any reliance on this report.

1.5 Limiting Conditions

The findings and conclusions contain all of the limitations inherent in these methodologies that are referred to in ASTM E1527-13. Specific limitations and exceptions to this ESA are more specifically set forth below:

- Partner was unable to determine the property use at 5-year intervals, which constitutes a data gap. Except for property tax files and recorded land title records, which were not considered to be sufficiently useful, Partner reviewed all standard historical sources and conducted appropriate interviews.
- Partner submitted Freedom of Information Act (FOIA) requests to the Los Angeles County Fire Department (LACFD) and the Antelope Valley Air Quality Management District (AVAQMD) for information pertaining to hazardous substances, underground storage tanks, releases, inspection records, etc. for the subject property. As of this writing, these agencies have not responded to Partner's requests. Based on information obtained from other sources, this limitation is not expected to alter the overall findings of this assessment.
- Interviews with past or current owners, operators, and occupants were not reasonably ascertainable and thus constitute a data gap. Based on information obtained from other historical sources (as discussed in Section 3.0), this data gap is not expected to alter the findings of this assessment.
- Partner requested information relative to deed restrictions and environmental liens, a title search, and completion of a pre-survey questionnaire from the Report User. This information was not provided at the time of the assessment.

2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The subject property is located on the western side of 65th Street West, the eastern side of 70th Street West, and approximately 135 feet to the south of Princessa Drive, in Palmdale, California. According to information obtained from the Los Angeles Office of the Assessor, the subject property is identified as APN 3204-025-048, and ownership is currently vested in Shayan Capital, LLC, since at least 2018.

Please refer to Figure 1: Site Location Map, Figure 2: Site Plan, Figure 3: Topographic Map, and Appendix A: Site Photographs for the location and site characteristics of the subject property.

2.2 Current Property Use

The subject property is currently vacant land. No operations are currently performed on site. A concrete-lined stormwater runoff channel is located along the northern edge of the property, and appears to drain into an adjacent stormwater basin located to the north of the subject property. Additionally, a subsurface stormwater pipeline, operated by the Los Angeles County Department of Public Works (LACDPW), bisects the central portion of the subject property. No other improvements were identified on the subject property.

The subject property is designated for residential development by the City of Palmdale.

The subject property was not identified in the regulatory database report, discussed in Section 4.2.

2.3 Current Use of Adjacent Properties

The subject property is located within a mixed residential, commercial, and undeveloped area of Los Angeles County. During the vicinity reconnaissance, Partner observed the following land use on properties in the immediate vicinity of the subject property:

Immediately Surrounding Properties	
North:	Single-family residential developments and a stormwater basin
South:	Single-family residential developments
East:	65th Street West, beyond which are single-family residential developments
West:	70th Street West, beyond which are single-family residential developments and undeveloped land

No adjacent properties were identified in the regulatory database report, discussed in Section 4.2.

2.4 Physical Setting Sources

2.4.1 Topography

The USGS *Lancaster West, California* Quadrangle and *Del Sur, California* Quadrangle, 7.5-minute series topographic maps, were reviewed for this ESA. According to the contour lines on the topographic maps, the subject property is located at approximately 2,600 to 2,680 feet above mean sea level (MSL). The contour lines on the map indicate the area is sloping moderately toward the northeast. Site-specific improvements are not depicted on the 2015 topographic map.

A copy of the topographic map is included as Figure 3 of this report.

2.4.2 Hydrology

According to topographic map interpretation, groundwater in the vicinity of the subject property is inferred to flow toward the northeast. The nearest surface water in the vicinity of the subject property is a stormwater basin located adjacent to the north of the subject property. No settling ponds, lagoons, surface impoundments, wetlands, or natural catch basins were observed at the subject property during this assessment.

According to available information, a public water system operated by the Palmdale Water District (PWD) serves the subject property vicinity. According to a representative of the PWD, the sources of public water for the PWD are public wells located approximately ¼-mile to the south of the subject property.

Information specific to the subject property regarding the depth to groundwater and direction of groundwater flow was not available for the subject area. However, according to groundwater measurement data obtained from the USGS Groundwater Watch website for a nearby well (Well No. 343932118144001), groundwater in the vicinity of the subject property is inferred to be approximately 225 feet bgs.

2.4.3 Geology/Soils

The subject property is located in the Antelope Valley which is situated within the western portion of the Mojave Desert Geomorphic Province of California. The Antelope Valley is bounded on the southwest by the Portal Ridge, on the east by the Mojave Desert, and on the north by the Rosamond Hills. The San Andreas Fault trends northwest-southeast along Portal Ridge and through Palmdale Lake, forming the southern boundary of the valley (USGS, 1984). The Antelope Valley is a relatively flat alluvial plain surrounded by low residual bedrock peaks, ridges, and rounded domes reduced by erosion. The valley is underlain by unconsolidated alluvial fill, up to 2,000 feet thick (Sharp, 1975).

Based on information obtained from the USDA Natural Resources Conservation Service Web Soil Survey online database, the subject property is mapped as Greenfield sandy loam. The Greenfield series consists of deep, well-drained, permeable soils that formed from alluvium derived from granitic rock. These soils are on alluvial fans and terraces. Slopes range from 2 to 9 percent.

2.4.4 Flood Zone Information

Partner performed a review of the Flood Insurance Rate Map, published by the Federal Emergency Management Agency. According to Community Panel Number 06037C0400F, dated September 26, 2008, the subject property appears to be located in Zone X (unshaded), an area located outside of the 100-year and 500-year flood plains.

A copy of the reviewed flood map is not included in Appendix B of this report.

3.0 HISTORICAL INFORMATION

Partner obtained historical use information about the subject property from a variety of sources. A chronological listing of the historical data found is summarized in the table below:

Historical Use Information		
Period/Date	**Source**	**Description/Use**
1928-1948	Aerial Photographs	Undeveloped
1953-1974	Aerial Photographs	Agricultural and Undeveloped
1987-Present	Aerial Photographs, Interviews, On-Site Observations	Undeveloped

The subject property was utilized for agricultural purposes from at least 1953 until at least 1974. It is unknown if environmentally persistent pesticides and/or herbicides were historically applied to the crops grown on the subject property. It has been Partner's experience with similar agricultural properties that there is a low potential for soil contamination at concentrations in excess of regulatory thresholds as a result of the past use of persistent pesticides/herbicides from normal crop application. Partner's experience further indicates that the accumulation of persistent pesticides/herbicides in soils at concentrations in excess of regulatory thresholds is more commonly associated with the cultivation of orchards over prolonged periods of time; or in areas where repeated mixing and rinsing of chemical application equipment may have occurred. The orchards appear to have only been present on site for approximately 21 years, and no evidence of former on-site structures which might indicate bulk storage or mixing activities were identified in historical aerial photographs. Furthermore, no specific areas of concern related to on-site agricultural chemical storage and usage (spills, releases, etc.) have been identified during the course of this assessment. Based on these factors, the potential for elevated concentrations of environmentally persistent pesticides/herbicides to exist in the near-surface soils of the subject property, which would require regulatory action, appears to be low.

No other potential environmental concerns were identified in connection with the historical uses of the subject property.

3.1 Aerial Photograph Review

Partner obtained available aerial photographs of the subject property and surrounding area from Environmental Data Resources, Inc. (EDR) on July 16, 2018. The following features were noted to be visible on the subject property and adjacent properties during the aerial photograph review:

Date: 1928, 1940, 1948	*Scale: 1" =500'*
Subject Property:	Appears to be undeveloped land
North:	Appears to be undeveloped land
South:	Appears to be undeveloped land
East:	Appears to be undeveloped land
West:	Appears to be undeveloped land across 70th Street West

Date: 1953, 1968, 1974	Scale: 1" =500'
Subject Property:	The southern portion of the property appears to be developed with an orchard, and the northern portion of the property appears to be undeveloped
North:	No significant changes visible
South:	Appears to be developed with an orchard
East:	No significant changes visible
West:	No significant changes visible

Date: 1987	Scale: 1" =500'
Subject Property:	Appears to be undeveloped
North:	No significant changes visible
South:	Appears to be undeveloped
East:	No significant changes visible
West:	No significant changes visible

Date: 1989	Scale: 1" =500'
Subject Property:	No significant changes visible
North:	No significant changes visible
South:	No significant changes visible
East:	Appears to be under development with the existing residential development across an unpaved road
West:	No significant changes visible

Date: 1994, 2002	Scale: 1" =500'
Subject Property:	No significant changes visible
North:	No significant changes visible
South:	No significant changes visible
East:	Appears to be developed with the existing residential development across 65th Street West
West:	No significant changes visible

Date: 2005	Scale: 1" =500'
Subject Property:	No significant changes visible
North:	Appears to be under development with the existing residential development
South:	Appears to be under development with the existing residential development
East:	No significant changes visible
West:	No significant changes visible

Date: 2009, 2012, 2016	Scale: 1" =500'
Subject Property:	Undeveloped land
North:	Appears to be developed with the existing residential development and stormwater basin
South:	Appears to be developed with the existing residential development
East:	No significant changes visible
West:	Appears to be under development with the existing residential development across 70th Street West

Copies of reviewed aerial photographs are included in Appendix B of this report.

3.2 Fire Insurance Maps

Partner contracted with EDR to provide Sanborn fire insurance maps for the subject property and surrounding area on July 2, 2018. Sanborn map coverage was not available.

A copy of the EDR, *Certified Sanborn Map Report* is included in Appendix B of this report.

3.3 City Directories

City directories were not researched due to the absence of addresses or developments associated with the subject property.

3.4 Historical Topographic Maps

Partner reviewed historical topographic maps obtained from NETR Online on July 16, 2018. The following features were noted to be depicted on the subject property and adjacent properties during the topographic map review:

Date:	***1931, 1936, 1951***
Subject Property:	Undeveloped land
North:	Undeveloped land
South:	Undeveloped land
East:	Undeveloped land
West:	Undeveloped land across 70th Street West

Date:	***1959, 1960***
Subject Property:	Primarily undeveloped land with agricultural development depicted in the southern portion
North:	Undeveloped land beyond which is M Street
South:	Agricultural development
East:	Undeveloped land is depicted beyond 65th Street West
West:	Undeveloped land beyond 70th Street West

Date:	***1975***
Subject Property:	No significant changes depicted
North:	No significant changes depicted except that residential development is identified north of M Street
South:	No significant changes depicted
East:	No significant changes depicted
West:	No significant changes depicted

Due to copyright considerations, copies of reviewed topographic maps are not included in Appendix B of this report.

4.0 REGULATORY RECORDS REVIEW

4.1 Regulatory Agencies

4.1.1 State Department

Regulatory Agency Data	
Name of Agency:	California Environmental Protection Agency (CalEPA)
Point of Contact:	CalEPA Regulated Site Portal
Agency Address:	https://siteportal.calepa.ca.gov/nsite/
Date of Contact:	July 10, 2018
Method of Communication:	Online Research
Summary of Communication:	No records regarding hazardous substance use, storage, or releases; or the presence of USTs and AULs on the subject property were on file with the LACPDW.

4.1.2 Health Department

Regulatory Agency Data	
Name of Agency:	Los Angeles County Department of Public Health (LACDPW)
Point of Contact:	LACDPW Online File Review Database
Agency Address:	http://dpw.lacounty.gov/epd/CleanLA/OpenFileReview.aspx
Date of Contact:	July 10, 2018
Method of Communication:	Online Research
Summary of Communication:	No records regarding hazardous substance use, storage, or releases; or the presence of USTs and AULs on the subject property were on file with the LACPDW.

4.1.3 Fire Department

Regulatory Agency Data	
Name of Agency:	Los Angeles County Fire Department (LACFD)
Point of Contact:	Mr. Keith Mora
Agency Address:	1320 North Eastern Avenue, Los Angeles, California 90063
Agency Phone Number:	(323) 881-2411
Date of Contact:	July 10, 2018
Method of Communication:	Email
Summary of Communication:	As of the date of this report, Partner has not received a response from the LACFD for inclusion in this report.

4.1.4 Air Pollution Control Agency

Regulatory Agency Data	
Name of Agency:	Antelope Valley Air Quality Management District (AVAQMD)
Point of Contact:	Public Records Coordinator
Agency Address:	43301 Division Street, Suite 106 in Lancaster, California 93535
Agency Phone Number:	(661) 723-8070
Date of Contact:	July 10, 2018
Method of Communication:	Email
Summary of Communication:	As of the date of this report, Partner has not received a response from the AVAQMD for inclusion in this report.

4.1.5 Water Resources Control Board

Regulatory Agency Data	
Name of Agency:	State Water Resources Control Board (SWRCB)
Point of Contact:	SWRCB GeoTracker Database
Agency Address:	http://geotracker.waterboards.ca.gov/
Date of Contact:	July 11, 2018
Method of Communication:	Online Research
Summary of Communication:	No records regarding hazardous substance use, storage, or releases; or the presence of USTs and AULs on the subject property were on file with the SWRCB.

4.1.6 Department of Toxic Substances Control

Regulatory Agency Data	
Name of Agency:	California Department of Toxic Substances Control (DTSC)
Point of Contact:	DTSC EnviroStor Database
Agency Address:	https://www.envirostor.dtsc.ca.gov/public/
Date of Contact:	July 12, 2018
Method of Communication:	Online Research
Summary of Communication:	No records regarding hazardous substance use, storage, or releases; or the presence of USTs and AULs on the subject property were on file with the DTSC.

4.1.7 Building Department

Regulatory Agency Data	
Name of Agency:	City of Palmdale Building & Safety Division (CPBSD)
Point of Contact:	Office Personnel (name not provided)
Agency Address:	38250 Sierra Highway, Palmdale California 93550
Agency Phone Number:	(661) 267-5353
Date of Contact:	June 10, 2018
Method of Communication:	Telephone
Summary of Communication:	No building permit information was available for the subject property.

4.1.8 Planning Department

Regulatory Agency Data	
Name of Agency:	City of Palmdale Planning Department (CPPD)
Point of Contact:	Office Personnel (name not provided)
Agency Address:	38250 Sierra Highway Palmdale, California 93550
Agency Phone Number:	(661) 267-5200
Date of Contact:	July 10, 2018
Method of Communication:	(661) 267-5200
Summary of Communication:	According to records reviewed, the subject property is zoned R-1 for residential development by the City of Palmdale.

4.1.9 Oil & Gas Exploration

Regulatory Agency Data	
Name of Agency:	California Division of Oil, Gas and Geothermal Resources (DOGGR)
Point of Contact:	DOGGR Well Finder Database
Agency Address:	https://maps.conservation.ca.gov/doggr/wellfinder
Date of Contact:	July 11, 2018
Method of Communication:	Online Research
Summary of Communication:	According to DOGGR, no oil or gas wells are located on or adjacent to the subject property.

4.1.10 Assessor's Office

Regulatory Agency Data	
Name of Agency:	Los Angeles County Office of the Assessor (LACOA)
Point of Contact:	LACOA Property Information Database
Agency Address:	https://assessor.lacounty.gov/
Date of Contact:	July 10, 2018
Method of Communication:	Online Research
Summary of Communication:	According to records reviewed, the subject property is identified by Assessor Parcel Number (APN) 3204-025-048. No other pertinent information was available from the LACOA.

Copies of pertinent documents obtained from the aforementioned regulatory agencies, if available, are included in Appendix B of this report.

4.2 Mapped Database Records Search

Information from standard federal, state, county, and city environmental record sources was provided by EDR. Data from governmental agency lists are updated and integrated into one database, which is updated as these data are released. The information contained in this report was compiled from publicly available sources and the locations of the sites are plotted utilizing a geographic information system, which geocodes the site addresses. The accuracy of the geocoded locations is approximately +/-300 feet.

Using the ASTM definition of migration, Partner considers the migration of hazardous substances or petroleum products in any form onto the subject property during the evaluation of each site listed on the radius report, which includes solid, liquid, and vapor.

4.2.1 Regulatory Database Summary

Radius Report Data				
Database	**Search Radius (mile)**	**Subject Property**	**Adjacent Properties**	**Sites of Concern**
Federal NPL or Delisted NPL Site	1.00	No	No	No
Federal CERCLIS Site	0.50	No	No	No
Federal CERCLIS-NFRAP Site	0.50	No	No	No
Federal RCRA CORRACTS Facility	1.00	No	No	No
Federal RCRA TSDF Facility	0.50	No	No	No
Federal RCRA Generators Site	0.25	No	No	N/A
Federal IC/EC Registries	0.50	No	No	No
Federal ERNS Site	Subject Property	No	N/A	N/A
State/Tribal Equivalent NPL	1.00	No	No	No
State/Tribal Equivalent CERCLIS	1.00	No	No	No
State/Tribal Landfill/Solid Waste Disposal Site	0.50	No	No	No
State/Tribal Leaking Storage Tank Site	0.50	No	No	No
State/Tribal Registered Storage Tank Sites	0.25	No	No	N/A
State/Tribal Voluntary Cleanup Sites (VCP)	0.50	No	No	No
State/Tribal Spills	0.50	No	No	No
Federal Brownfield Sites	0.50	No	No	No
State Brownfield Sites	0.50	No	No	No
Miscellaneous Databases	Varies	No	No	No
EDR MGP	1.00	No	No	No
EDR Hist Auto	0.125	No	No	N/A
EDR Hist Cleaner	0.125	No	No	N/A

4.2.2 Subject Property Listings

The subject property is not identified in the regulatory database report.

4.2.3 Adjacent Property Listings

The adjacent properties are not identified in the regulatory database report.

Based on the findings, vapor migration from the adjacent properties is not expected to represent a significant environmental concern at this time.

4.2.4 Sites of Concern Listings

No sites of concern are identified in the regulatory database report. Based on various mitigating factors including relative distance from the subject property, inferred direction of groundwater flow, media affected, and/or regulatory status, the remaining listed sites within the specified search radius of the subject property which appeared on local, State, or Federally published lists of sites that have had releases of hazardous substances, are not expected to represent a significant environmental concern.

Based on the findings, vapor migration from the surrounding properties is not expected to represent a significant environmental concern at this time.

4.2.5 Orphan Listings

No orphan listings of potential environmental concern to the subject property are identified in the regulatory database report.

A copy of the regulatory database report is included in Appendix C of this report.

5.0 USER PROVIDED INFORMATION AND INTERVIEWS

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *User* must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30, and 312.31. The *User* should provide the following information to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiries* is not complete. The *User* is asked to provide information or knowledge of the following:

- Review Title and Judicial Records for Environmental Liens and AULs
- Specialized Knowledge or Experience of the User
- Actual Knowledge of the User
- Reason for Significantly Lower Purchase Price
- Commonly Known or *Reasonably Ascertainable* information
- Degree of Obviousness
- Reason for Preparation of this Phase I ESA

Fulfillment of these user responsibilities is key to qualification for the identified defenses to CERCLA liability. Partner requested our Client to provide information to satisfy User Responsibilities as identified in Section 6 of the ASTM guidance.

Pursuant to ASTM E1527-13, Partner requested the following site information from Royal Investors Group, LLC (User of this report).

User Responsibilities				
Item	**Provided By User**	**Not Provided By User**	**Discussed Below**	**Does Not Apply**
Environmental Pre-Survey Questionnaire			**X**	
Title Records, Environmental Liens, and AULs			**X**	
Specialized Knowledge			**X**	
Actual Knowledge			**X**	
Valuation Reduction for Environmental Issues			**X**	
Identification of Key Site Manager	**Section 5.1.3**			
Reason for Performing Phase I ESA	**Section 1.1**			
Prior Environmental Reports		**X**		
Other		**X**		

5.1 Interviews

5.1.1 Interview with Owner

The owner of the subject property since at least 2018, identified as Shayan Capital, LLC, was not available to be interviewed at the time of the assessment.

5.1.2 Interview with Report User

Please refer to Sections 5.1.3 and 5.2 for information requested from the Report User.

5.1.3 Interview with Key Site Manager

Ms. Kris Pinero, key site manager, indicated that she had no information pertaining to any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the subject property; any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property; or any notices from a governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.

According to Ms. Pinero, the subject property has likely always been undeveloped. Ms. Pinero further stated that she had no knowledge of USTs, ASTs, clarifiers, oil/water separators, groundwater monitoring wells, or hazardous substance use/storage/generation on the subject property.

5.1.4 Interviews with Past Owners, Operators, and Occupants

Interviews with past owners, operators, and occupants were not reasonably ascertainable and thus constitute a data gap.

5.1.5 Interview with Others

As the subject property is not an abandoned property as defined in ASTM 1527-13, interview with others were not performed.

5.2 User Provided Information

5.2.1 Title Records, Environmental Liens, and AULs

Partner was not provided with title records or environmental lien and AUL information for review as part of this assessment.

5.2.2 Specialized Knowledge

No specialized knowledge of environmental conditions associated with the subject property was provided by the User at the time of the assessment.

5.2.3 Actual Knowledge of the User

No actual knowledge of any environmental lien or AULs encumbering the subject property or in connection with the subject property was provided by the User at the time of the assessment.

5.2.4 Valuation Reduction for Environmental Issues

No knowledge of valuation reductions associated with the subject property was provided by the User at the time of the assessment.

5.2.5 Commonly Known or Reasonably Ascertainable Information

The User did not provide information that is commonly known or *reasonably ascertainable* within the local community about the subject property at the time of the assessment.

5.2.6 Previous Reports and Other Provided Documentation

No previous reports or other pertinent documentation was provided to Partner for review during the course of this assessment.

6.0 SITE RECONNAISSANCE

The weather at the time of the site visit was sunny and clear. Refer to Section 1.5 for limitations encountered during the site reconnaissance, and Sections 2.1 and 2.2 for a discussion of subject property operations. The table below provides the site assessment details:

Site Assessment Data	
Site Assessment Performed By:	Philip Marquez
Site Assessment Conducted On:	July 13, 2018

The table below provides the subject property personnel interviewed during the site reconnaissance:

Site Visit Personnel for <Property Address> (Subject Property)			
Name	**Title/Role**	**Contact Number**	**Site Walk* Yes/No**
Ms. Kris Pinero	Key Site Manager	(818) 981-3000	Yes

** Accompanied Partner during the site reconnaissance activities and provided information pertaining to the current operations and maintenance of the subject property*

No potential environmental concerns were identified during the site reconnaissance.

6.1 General Site Characteristics

6.1.1 Solid Waste Disposal

Solid waste is not currently generated at the subject property. No evidence of illegal dumping of solid waste was observed during the site reconnaissance.

6.1.2 Sewage Discharge and Disposal

Sanitary discharges are not currently generated at the subject property. No wastewater treatment facilities or septic systems were observed or reported on the subject property.

6.1.3 Surface Water Drainage

No paved surfaces are present on the subject property. Stormwater directly infiltrates on-site soils.

The subject property does not appear to be a designated wetland area, based on information obtained from the United States Fish & Wildlife Service; however, a comprehensive wetlands survey would be required in order to formally determine actual wetlands on the subject property. No surface impoundments, wetlands, natural catch basins, settling ponds, or lagoons are located on the subject property. No drywells were identified on the subject property.

6.1.4 Source of Heating and Cooling

No heating or cooling equipment was observed on the subject property. Municipal electrical and natural gas utilities are available in the subject property vicinity.

6.1.5 Wells and Cisterns

No aboveground evidence of wells or cisterns was observed during the site reconnaissance.

6.1.6 Wastewater

Domestic wastewater is not currently generated at the subject property. No industrial process is currently performed at the subject property.

6.1.7 Septic Systems

No septic systems were observed or reported on the subject property.

6.1.8 Additional Site Observations

No additional general site characteristics were observed during the site reconnaissance.

6.2 Potential Environmental Hazards

6.2.1 Hazardous Substances and Petroleum Products Used or Stored at the Site

No hazardous substances or petroleum products were observed on the subject property during the site reconnaissance.

6.2.3 Evidence of Releases

No spills, stains, or other indications that a surficial release has occurred at the subject property were observed.

6.2.4 Polychlorinated Biphenyls (PCBs)

No potential PCB-containing equipment (transformers, oil-filled switches, hoists, lifts, dock levelers, hydraulic elevators, etc.) was observed on the subject property during the site reconnaissance.

6.2.5 Strong, Pungent, or Noxious Odors

No strong, pungent, or noxious odors were evident during the site reconnaissance.

6.2.6 Pools of Liquid

No pools of liquid were observed on the subject property during the site reconnaissance.

6.2.7 Drains, Sumps, and Clarifiers

No drains, sumps, or clarifiers were observed on the subject property during the site reconnaissance.

6.2.8 Pits, Ponds, and Lagoons

No pits, ponds, or lagoons were observed on the subject property.

6.2.9 Stressed Vegetation

No stressed vegetation was observed on the subject property.

6.2.10 Additional Potential Environmental Hazards

No additional environmental hazards, including landfill activities or radiological hazards, were observed.

6.3 Non-ASTM Services

6.3.1 Asbestos-Containing Materials (ACMs)

Asbestos is the name given to a number of naturally occurring, fibrous silicate minerals mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926.1101 requires certain construction materials to be *presumed* to contain asbestos, for purposes of this regulation. All thermal system insulation (TSI), surfacing material, and asphalt/vinyl flooring that are present in a building constructed prior to 1981 and have not been appropriately tested are "presumed asbestos-containing material" (PACM).

No buildings or structures are located on the subject property. As such, an asbestos evaluation was not required by the scope of services.

6.3.2 Lead-Based Paint (LBP)

Lead is a highly toxic metal that affects virtually every system of the body. LBP is defined as any paint, varnish, stain, or other applied coating that has 1 mg/cm^2 (or 5,000 ug/g or 0.5% by weight) or more of lead. Congress passed the Residential Lead-Based Paint Hazard Reduction Act of 1992, also known as "Title X", to protect families from exposure to lead from paint, dust, and soil. Under Section 1017 of Title X, intact LBP on most walls and ceilings is not considered a "hazard," although the condition of the paint should be monitored and maintained to ensure that it does not become deteriorated. Further, Section 1018 of this law directed the Housing and Urban Development (HUD) and the US EPA to require the disclosure of known information on LBP and LBP hazards before the sale or lease of most housing built before 1978.

No buildings or structures are located on the subject property. As such, a LBP evaluation was not required by the scope of services.

6.3.3 Radon

Radon is a colorless, odorless, naturally occurring, radioactive, inert, gaseous element formed by radioactive decay of radium (Ra) atoms. The US EPA has prepared a map to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones, according to the table below:

EPA Radon Zones		
EPA Zones	**Average Predicted Radon Levels**	**Potential**
Zone 1	Exceed 4.0 pCi/L	Highest
Zone 2	Between 2.0 and 4.0 pCi/L	Moderate
Zone 3	Less than 2.0 pCi/L	Low

It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the US EPA recommends site-specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures.

Radon sampling was not conducted as part of this assessment. Review of the US EPA Map of Radon Zones places the subject property in Zone 2. Based upon the radon zone classification, radon is not considered to be a significant environmental concern.

6.3.4 Lead in Drinking Water

According to available information, a public water system operated by the Palmdale Water District (PWD) serves the subject property vicinity. According to a representative of the PWD, the sources of public water for the PWD are public wells located approximately ¼-mile to the south of the subject property. According to the 2017 Annual Water Quality Report, water supplied by the PWD is in compliance with applicable State and Federal regulations pertaining to drinking water standards, including lead and copper.

6.3.5 Mold

Molds are microscopic organisms found virtually everywhere, indoors and outdoors. Mold will grow and multiply under the right conditions, needing only sufficient moisture (e.g.in the form of very high humidity, condensation, or water from a leaking pipe, etc.) and organic material (e.g., ceiling tile, drywall, paper, or natural fiber carpet padding).

No buildings or structures are located on the subject property. As such, a mold evaluation was not required by the scope of services.

6.4 Adjacent Property Reconnaissance

The adjacent property reconnaissance consisted of observing the adjacent properties from the subject property premises. No items of environmental concern were identified on the adjacent properties during the site assessment, including hazardous substances, petroleum products, ASTs, USTs, evidence of releases, PCBs, strong or noxious odors, pools of liquids, sumps or clarifiers, pits or lagoons, stressed vegetation, or any other potential environmental hazards.

7.0 FINDINGS AND CONCLUSIONS

Findings

A *REC* refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment. The following was identified during the course of this assessment:

- Partner did not identify evidence of RECs during the course of this assessment.

A *CREC* refers to a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. The following was identified during the course of this assessment:

- Partner did not identify evidence of CRECs during the course of this assessment.

A *HREC* refers to a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls. The following was identified during the course of this assessment:

- Partner did not identify evidence of HRECs during the course of this assessment.

An *environmental issue* refers to environmental concerns identified by Partner, which do not qualify as RECs; however, warrant further discussion. The following was identified during the course of this assessment:

- The subject property was utilized for agricultural purposes from at least 1953 until at least 1974. It is unknown if environmentally persistent pesticides and/or herbicides were historically applied to the crops grown on the subject property. It has been Partner's experience with similar agricultural properties that there is a low potential for soil contamination at concentrations in excess of regulatory thresholds as a result of the past use of persistent pesticides/herbicides from normal crop application. Partner's experience further indicates that the accumulation of persistent pesticides/herbicides in soils at concentrations in excess of regulatory thresholds is more commonly associated with the cultivation of orchards over prolonged periods of time; or in areas where repeated mixing and rinsing of chemical application equipment may have occurred. The orchards appear to have only been present on site for approximately 21 years, and no evidence of former on-site structures which might indicate bulk storage or mixing activities were identified in historical aerial photographs. Furthermore, no specific areas of concern related to on-site agricultural chemical storage and usage (spills, releases, etc.) have been identified during the course of this assessment. Based on these factors, the potential for elevated concentrations of environmentally persistent pesticides/herbicides to exist in the near-surface soils of the subject property, which would require regulatory action, appears to be low.

Conclusions, Opinions, and Recommendations

Partner has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of the property located at 70th Street West, South of Princessa Drive, in the City of Palmdale, Los Angeles County, California (the "subject property"). Any exceptions to, or deletions from, this practice are described in Section 1.5 of this report.

This assessment has revealed no evidence of RECs in connection with the subject property; however, environmental issues were identified. Based on the conclusions of this assessment, Partner recommends the following:

- If a higher level of due diligence is desired, a limited subsurface investigation could be conducted to assess the presence or absence of environmentally persistent agricultural chemicals within near surface soils at the subject property as a result of the historical agricultural uses.

8.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

Partner has performed a Phase I Environmental Site Assessment of property located at 70th Street West, South of Princessa Drive, in the City of Palmdale, Los Angeles County, California, in conformance with the scope and limitations of the protocol and the limitations stated earlier in this report. Exceptions to or deletions from this protocol are discussed earlier in this report.

By signing below, Partner declares that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR §312. Partner has the specific qualifications based on education, training, and experience to assess a *property* of the nature, history, and setting of the subject *property*. Partner has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Prepared By:

Philip Marquez
Environmental Professional

Reviewed By:

Joel Redding
Environmental Professional
Project Manager

9.0 REFERENCES

Reference Documents

American Society for Testing and Materials, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM Designation: E1527-13.

Environmental Data Resources, Inc. (EDR), 6 Armstrong Road, 4th Floor, Shelton, Connecticut 06484

EDR, Certified Sanborn Map Report, July 2018

EDR, Aerial Photo Decade Package, July 2018

EDR, Radius Map Report, July 2018

Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, accessed via the internet, July 2018

United States Department of Agriculture, Natural Resources Conservation Service, accessed via the internet, July 2018

United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed via the internet, July 2018

United States Environmental Protection Agency, EPA Map of Radon Zones (Document EPA-402-R-93-071), accessed via the internet, July 2018

United States Geological Survey, accessed via the Internet, July 2018

United States Geological Survey Topographic Map 2015, 7.5-minute series, accessed via the internet, July 2018

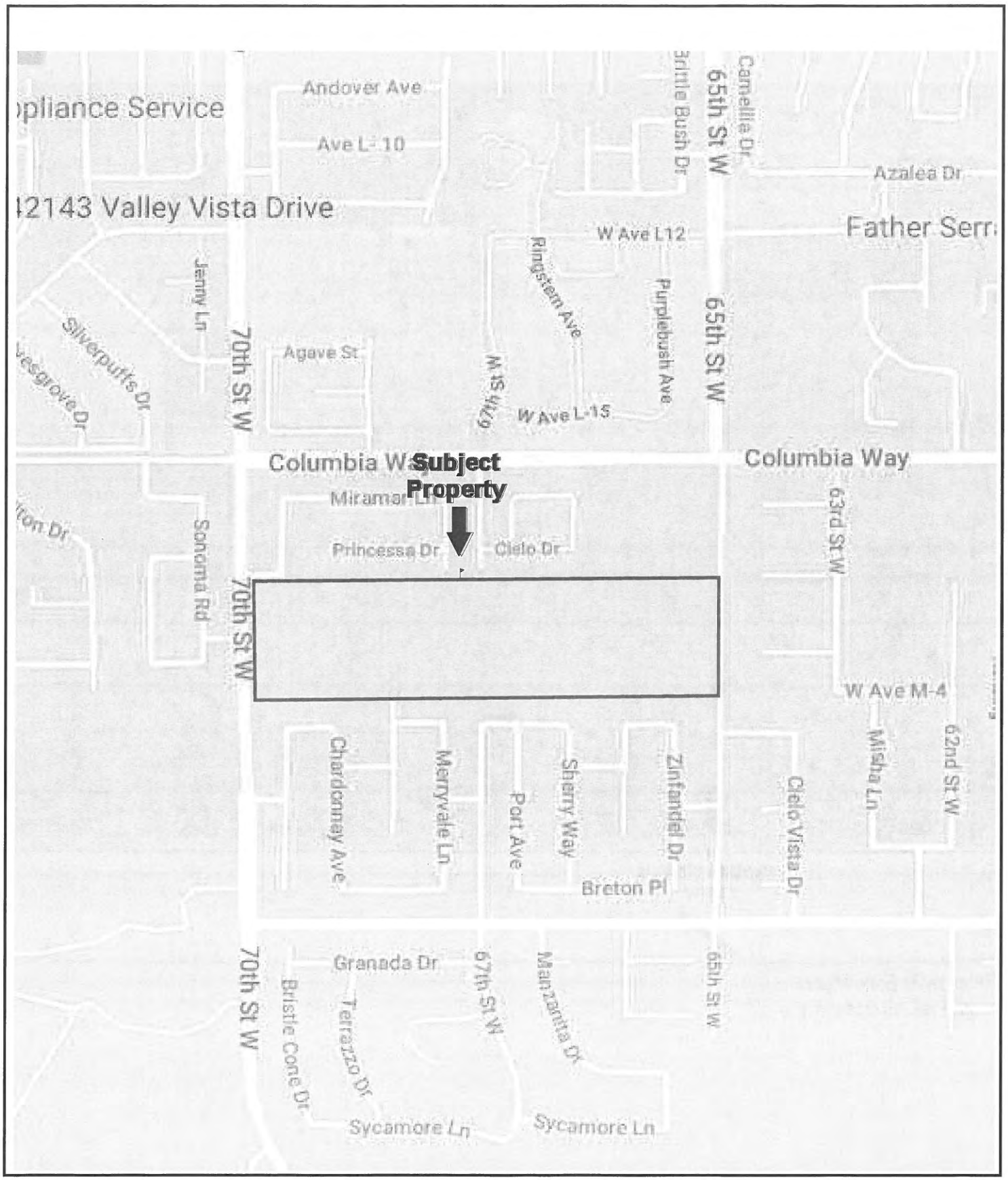
FIGURES

1 SITE LOCATION MAP

2 SITE PLAN

3 TOPOGRAPHIC MAP

PARTNER



N

Drawing Not To Scale

KEY:
Subject Property

FIGURE 1: SITE LOCATION MAP
Project No. 18-216019.1

PARTNER

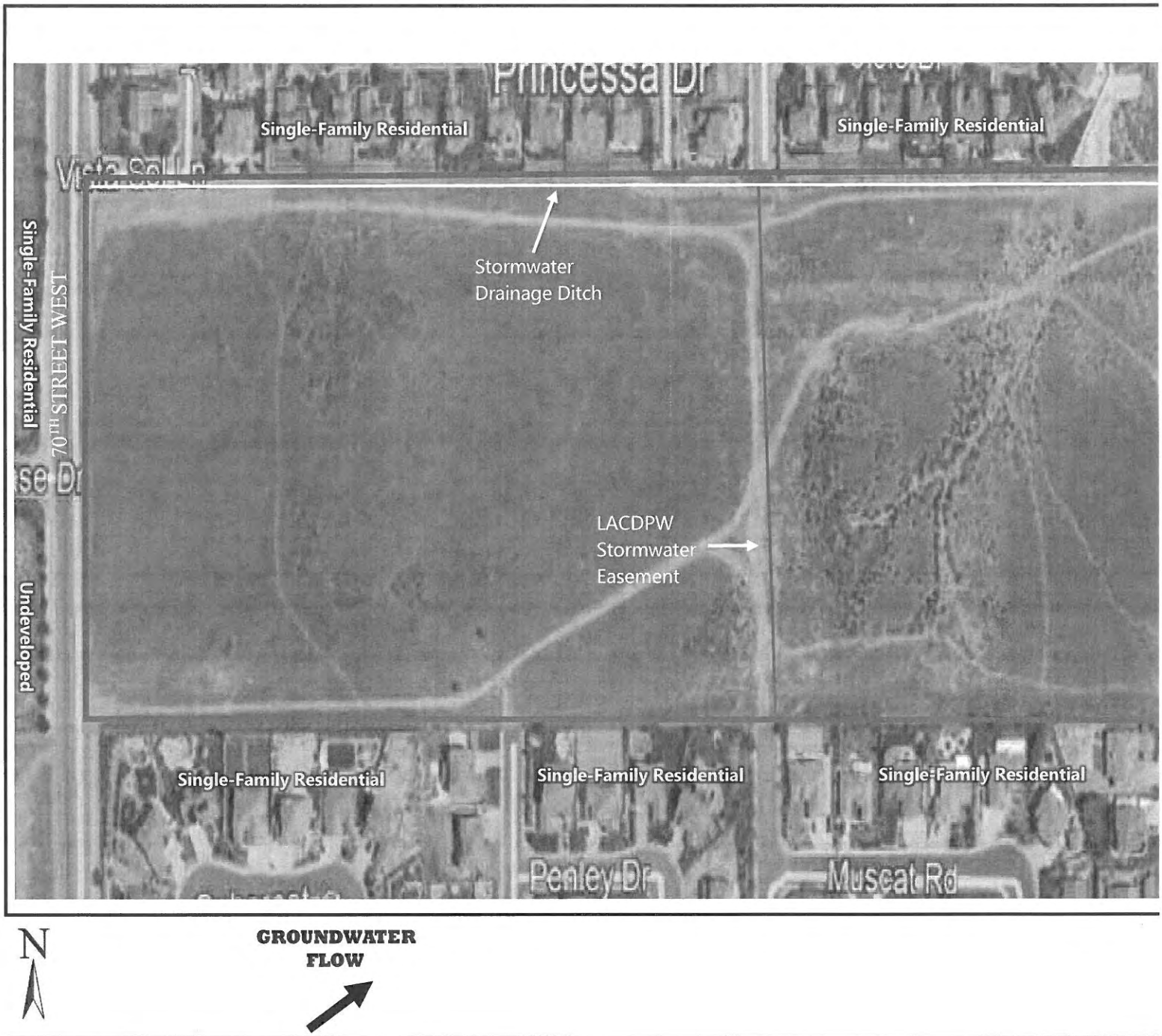
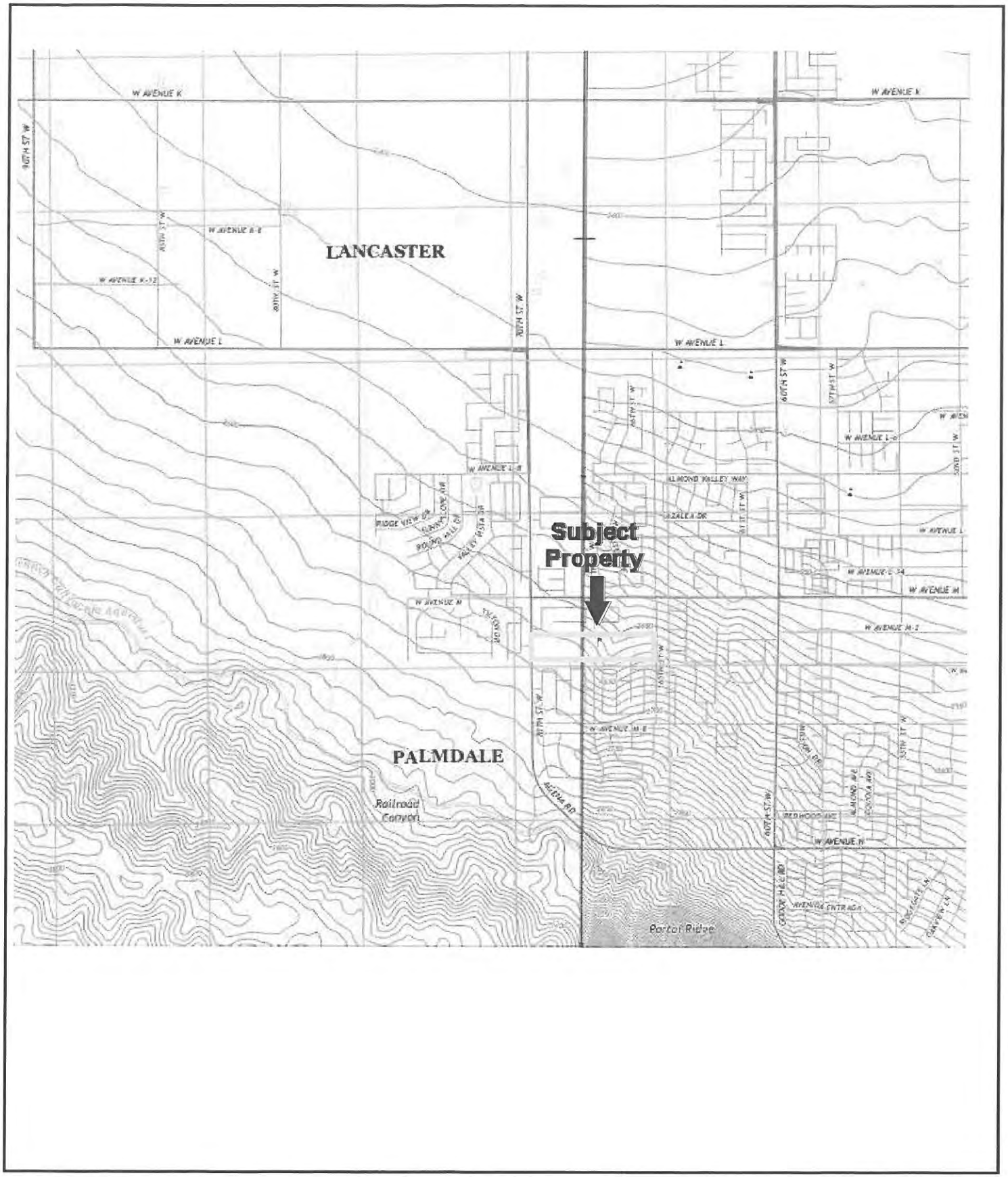


FIGURE 2: SITE PLAN
Project No. 18-216019.1



N

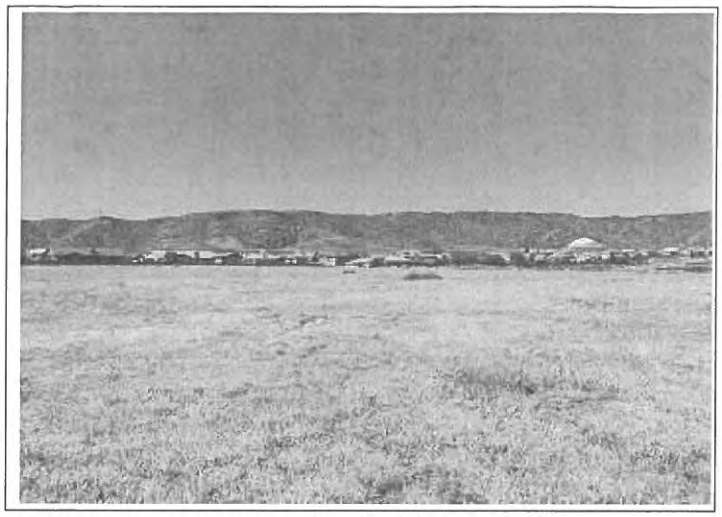
USGS 7.5 Minute *Del Sur & Lancaster West, California* Quadrangles
Created: 2015

KEY:
Subject Property

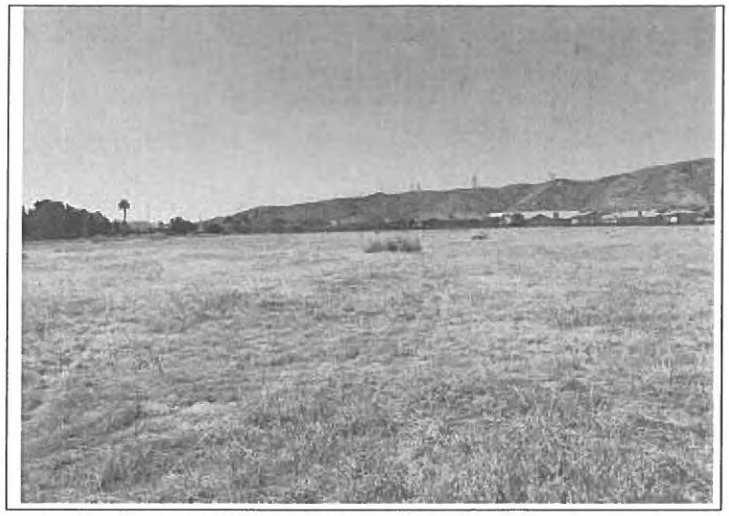
FIGURE 3: TOPOGRAPHIC MAP
Project No. 18-216019.1

PARTNER

APPENDIX A: SITE PHOTOGRAPHS

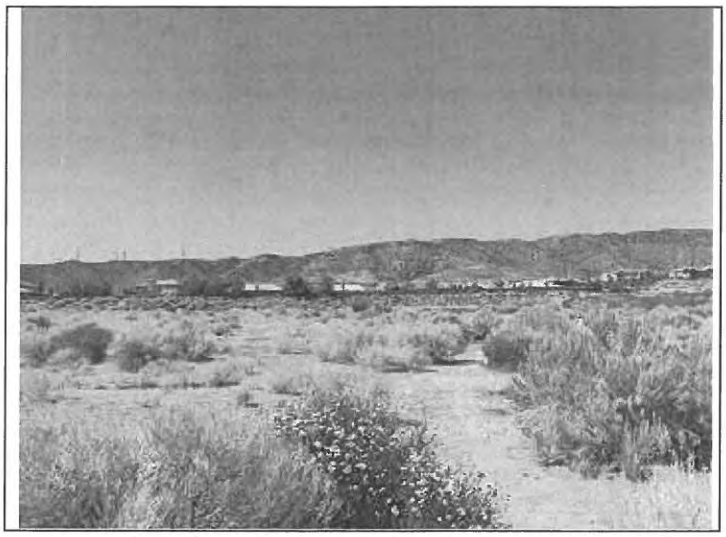


1. Subject property overview, looking southwest.



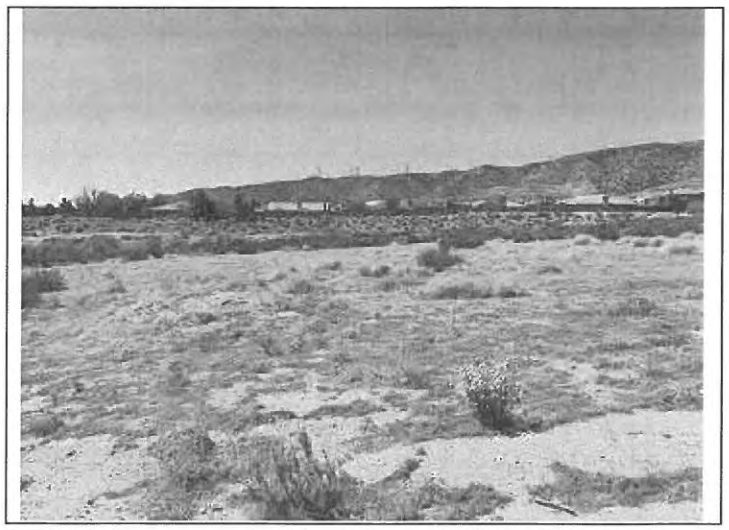
2. Subject property overview, looking northwest.

3. Northern portion of the subject property, looking west.



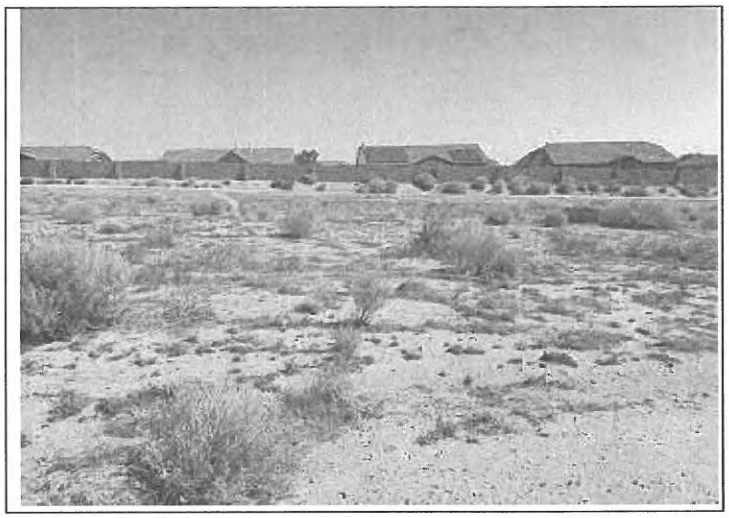
4. Central portion of the subject property, looking south.

5. Concrete vault associated with the LACDPW stormwater system.

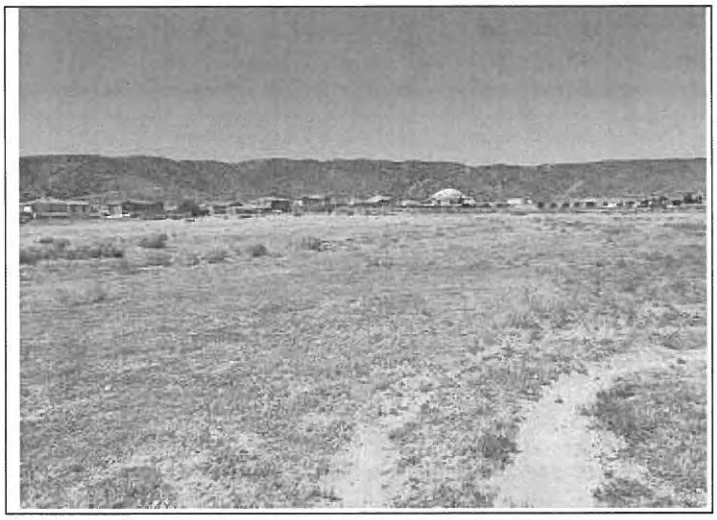


6. Subject property, looking southwest from the central portion.

7. Central portion of the subject property, looking north.

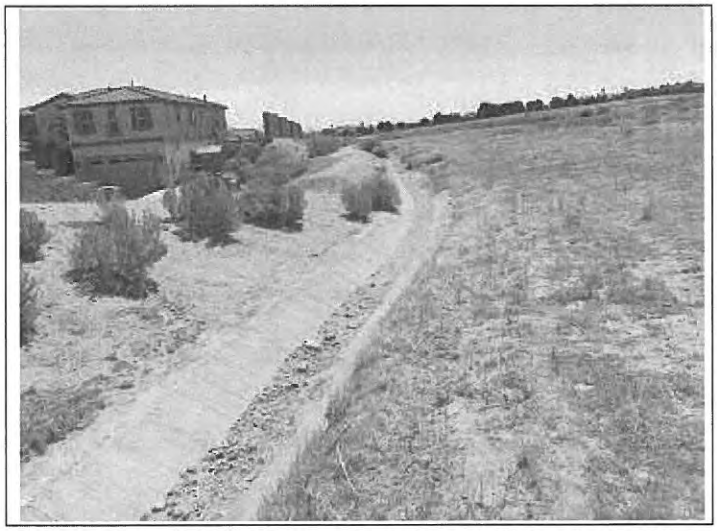


8. Central portion of the subject property, looking south.

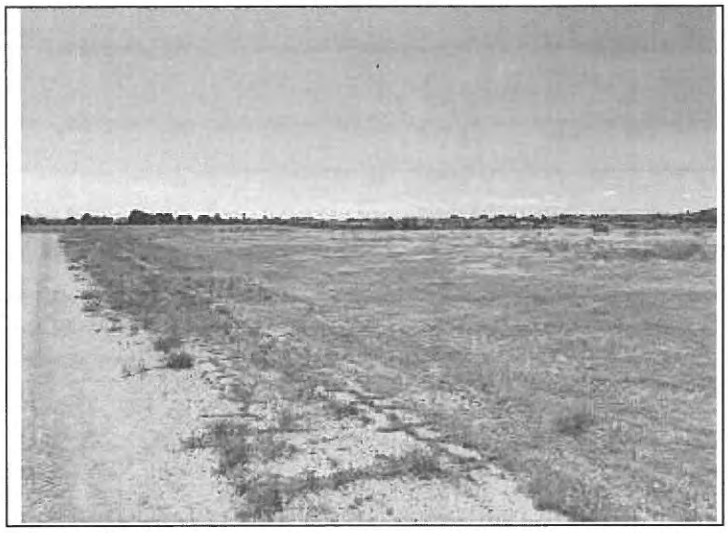


9. Southwestern portion of the subject property.

10. Northwestern portion of the subject property.

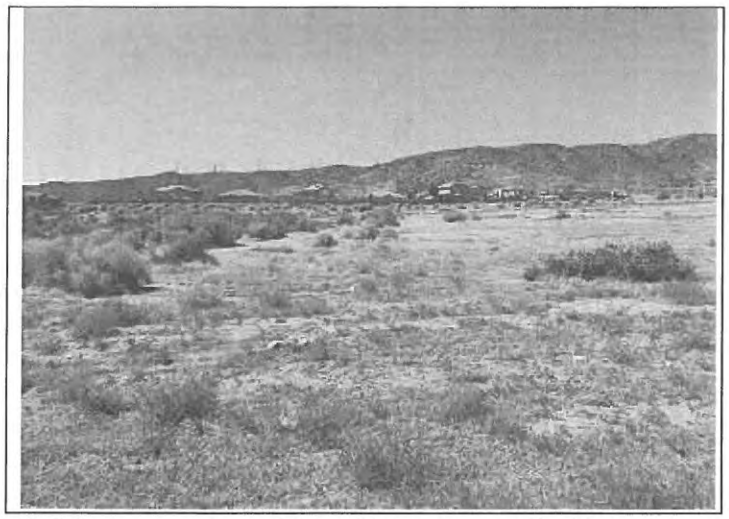


11. Concrete-lined stormwater drainage ditch, observed along the northern portion of the subject property.



12. Subject property looking southeast from the northern portion.

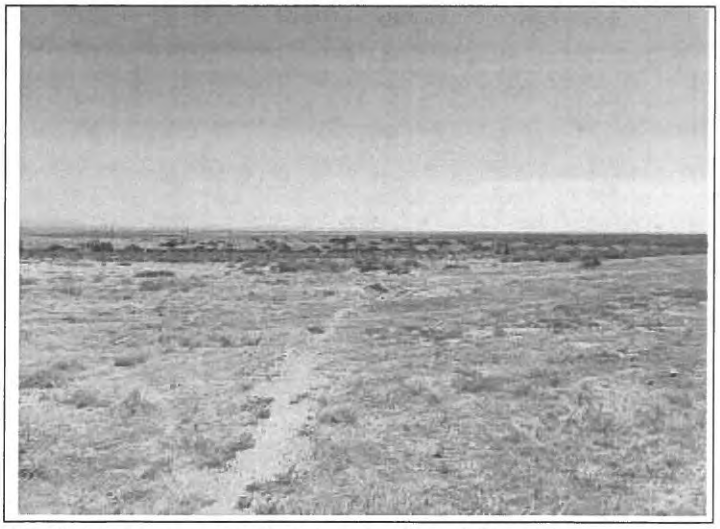
13. Mattress frame, observed in the central portion.



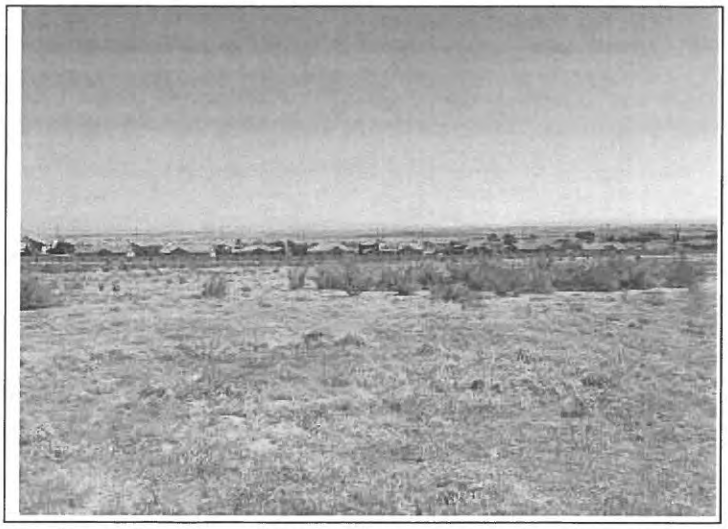
14. Western portion of the subject property, looking west.

15. Overview of subject property, looking east.

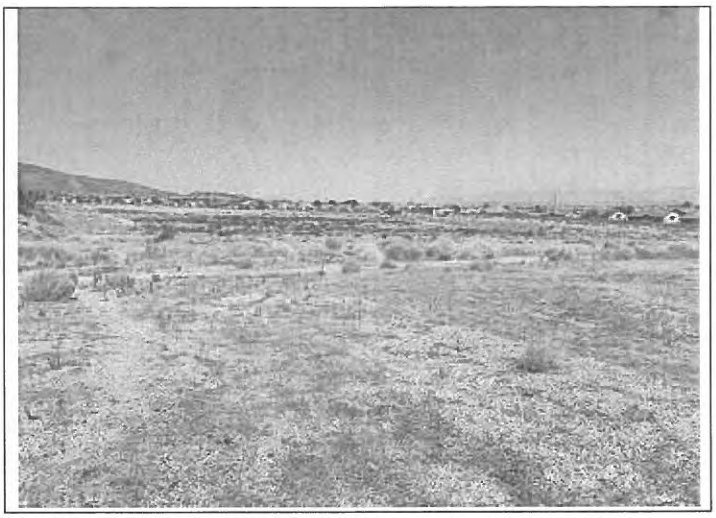
16. Southern portion of the subject property, looking east.



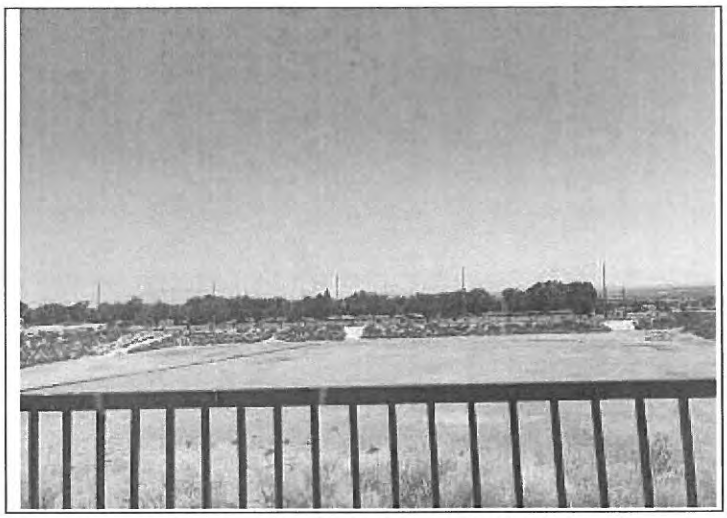
17. Subject property, looking northeast from the southwestern corner.



18. Central portion of the subject property, looking north.

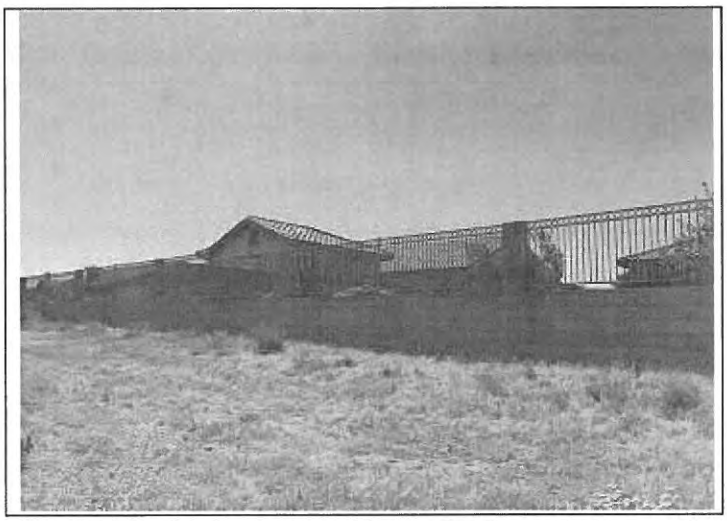


19. Overview of the subject property, looking northwest.



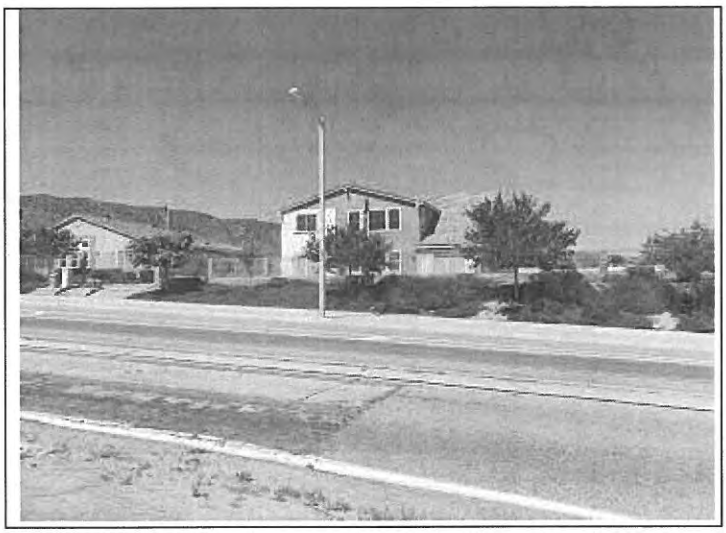
20. Stormwater retention basin located adjacent to the north of the subject property.

21. Residential development located adjacent to the north of the subject property.



22. Residential development located adjacent to the south of the subject property.

23. Residential development located adjacent to the east of the subject property.



24. Residential development located adjacent to the west of the subject property.

APPENDIX B: HISTORICAL/REGULATORY DOCUMENTATION

PARTNER

Tentative Tract Map No. 81337

70th Street West, South of Princessa Drive

Palmdale, CA 93551

Inquiry Number: 5350368.5

July 05, 2018

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

07/05/18

Site Name:

Tentative Tract Map No. 81337
70th Street West, South of Prin
Palmdale, CA 93551
EDR Inquiry # 5350368.5

Client Name:

Partner Engineering and Science, Inc.
2154 Torrance Blvd, Suite 200
Torrance, CA 90501-0000
Contact: Colleen Tubridy

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
1928	1"=500'	Flight Date: January 01, 1928	USGS
1940	1"=500'	Flight Date: May 02, 1940	USDA
1948	1"=500'	Flight Date: November 20, 1948	USDA
1953	1"=500'	Flight Date: September 04, 1953	USDA
1968	1"=500'	Flight Date: March 28, 1968	USGS
1974	1"=500'	Flight Date: April 13, 1974	USGS
1987	1"=500'	Flight Date: July 25, 1987	USDA
1989	1"=500'	Flight Date: August 22, 1989	USDA
1994	1"=500'	Acquisition Date: May 31, 1994	USGS/DOQQ
2002	1"=500'	Flight Date: June 07, 2002	USDA
2005	1"=500'	Flight Year: 2005	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

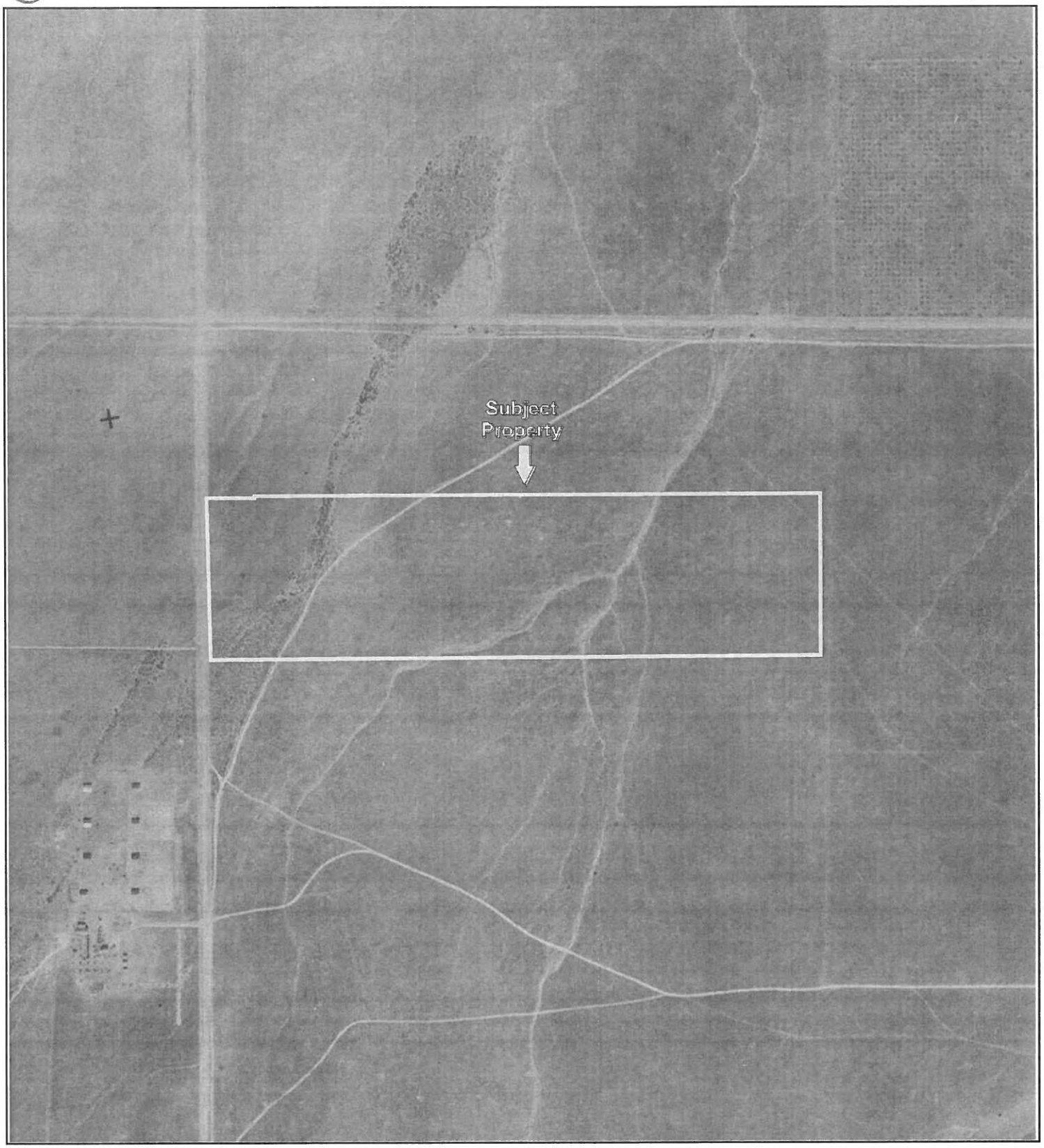
Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2018 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Aerial Photograph Year: 1928

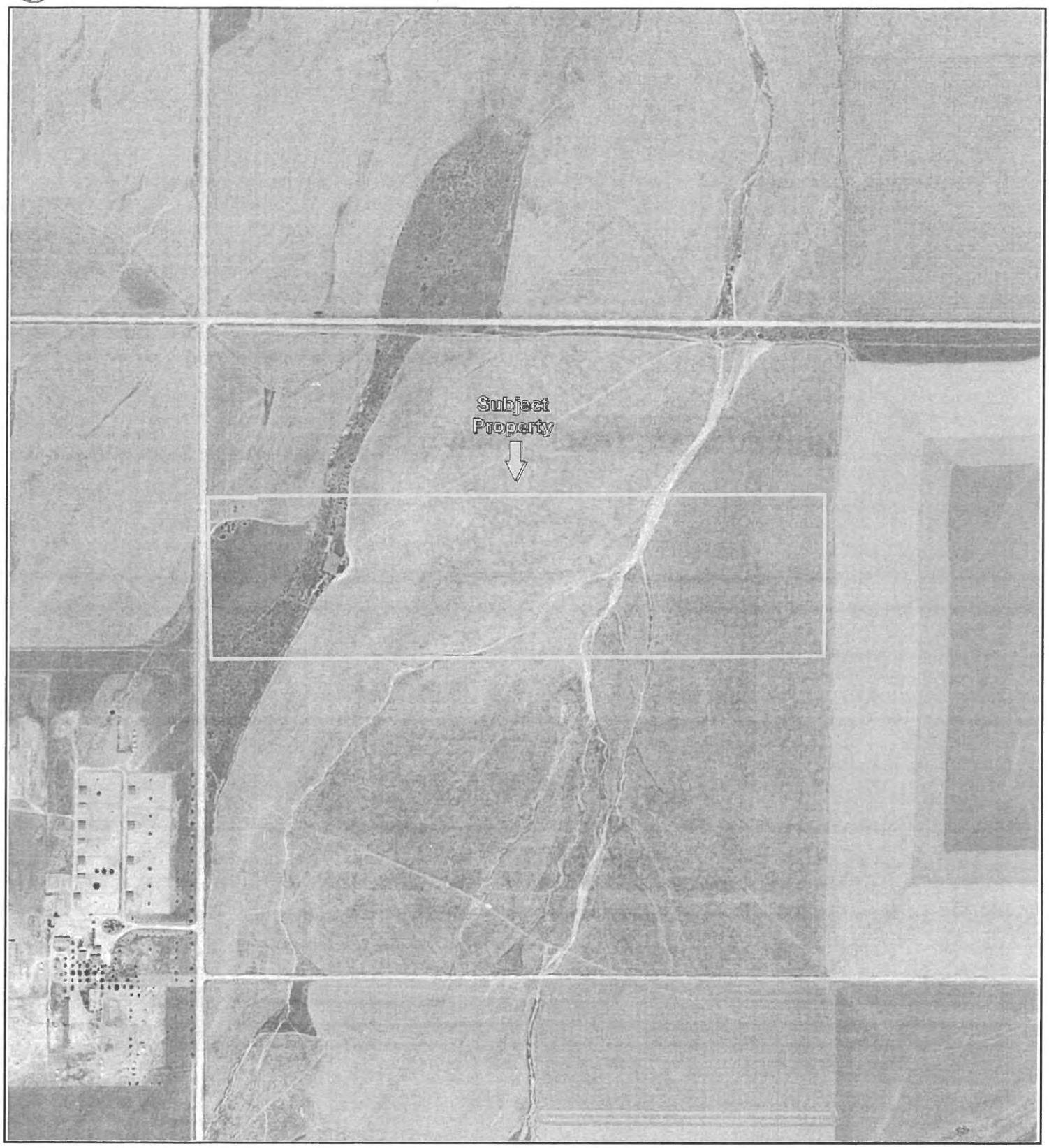


500 1000 2000

N

Key: Subject Property

Aerial Photograph Year: 1940



500 1000 2000

N

Key: Subject Property

Aerial Photograph Year: 1948

500 1000 2000

N

Key: Subject Property

APPENDIX B: AERIAL PHOTOGRAPHS

Project No. 18-216019.1

PARTNER

Aerial Photograph Year: 1953

500 1000 2000

N

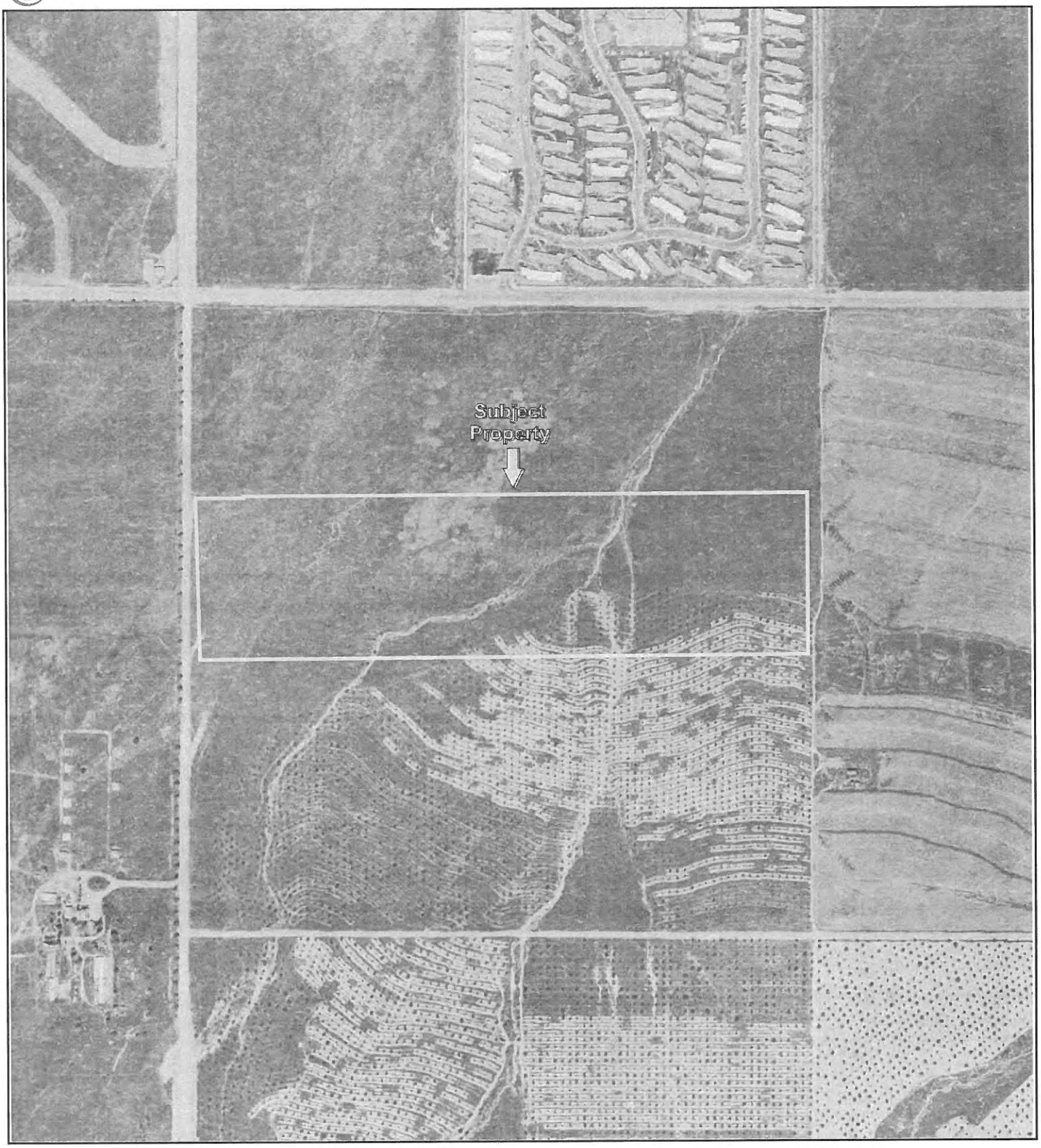
Key: Subject Property

APPENDIX B: AERIAL PHOTOGRAPHS

Project No. 18-216019.1

PARTNER

Aerial Photograph Year: 1968



500 1000 2000

N

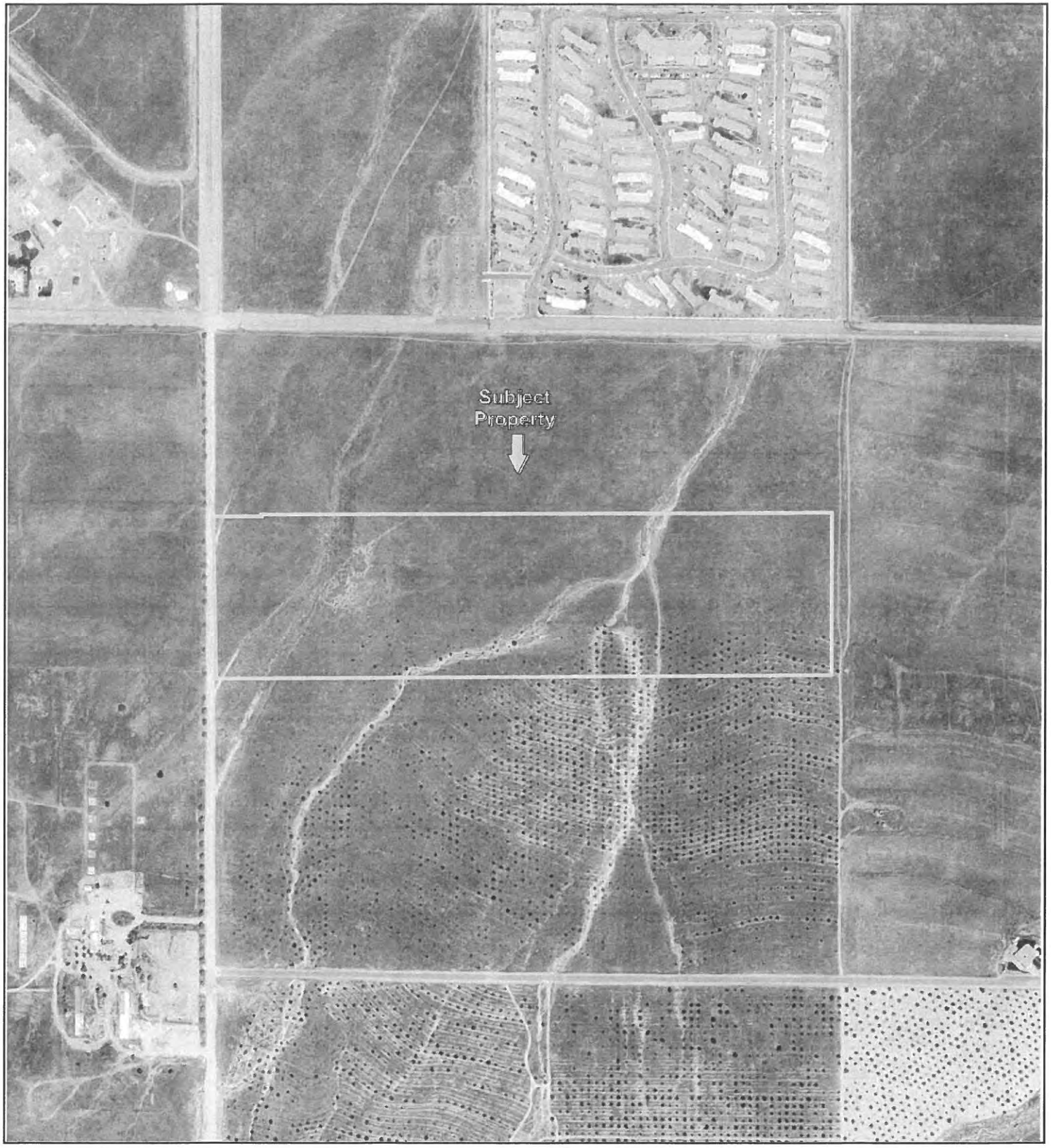
Key: Subject Property

APPENDIX B: AERIAL PHOTOGRAPHS

Project No. 18-216019.1

PARTNER

Aerial Photograph Year: 1974



500 1000 2000

N

Key: Subject Property

APPENDIX B: AERIAL PHOTOGRAPHS

Project No. 18-216019.1

PARTNER

Aerial Photograph Year: 1987

500 1000 2000

N

Key: Subject Property

APPENDIX B: AERIAL PHOTOGRAPHS

Project No. 18-216019.1

PARTNER

Aerial Photograph Year: 1989

500 1000 2000

N

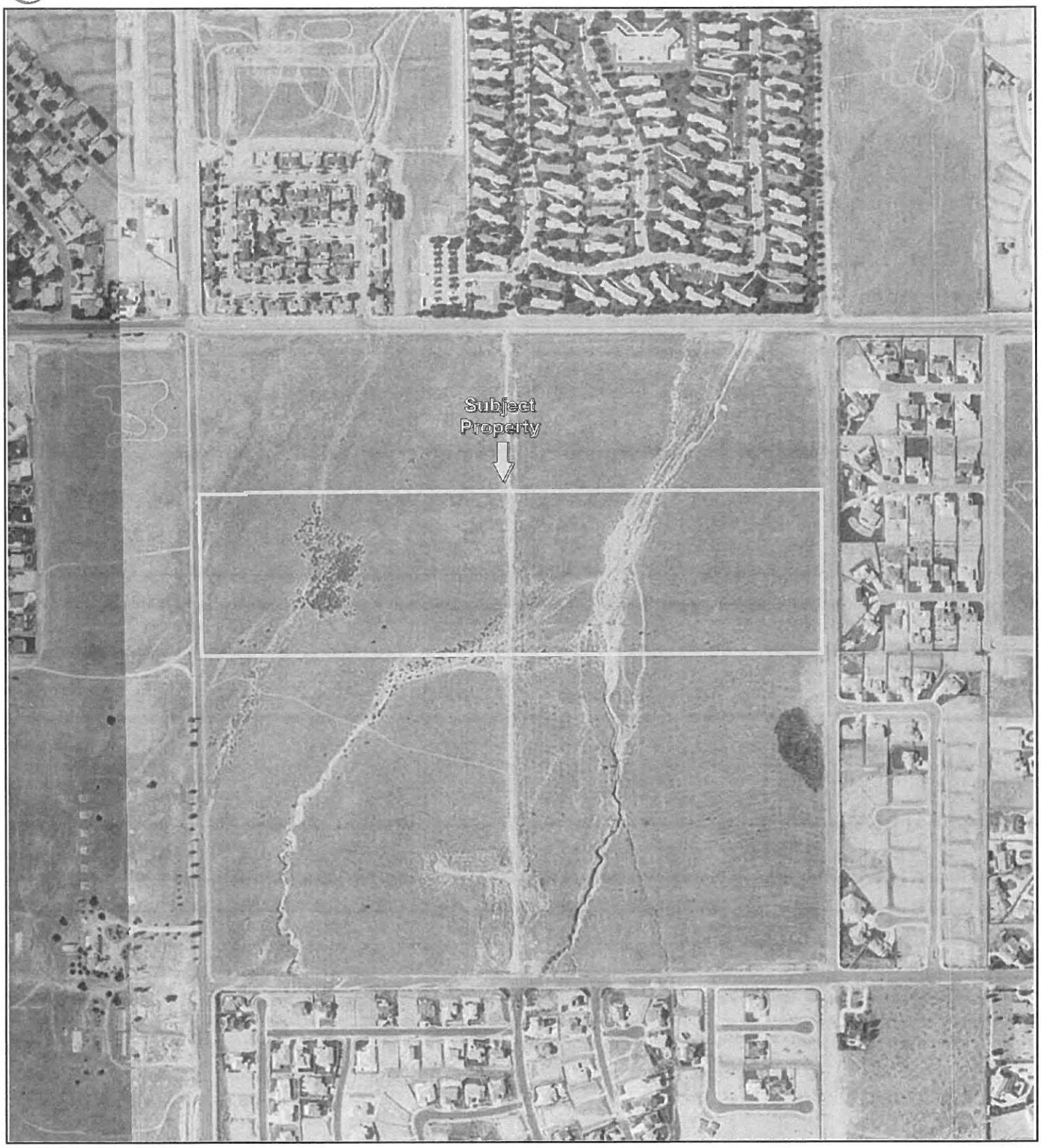
Key: Subject Property

APPENDIX B: AERIAL PHOTOGRAPHS

Project No. 18-216019.1

PARTNER

Aerial Photograph Year: 1994



500 1000 2000

N

Key: Subject Property

APPENDIX B: AERIAL PHOTOGRAPHS

Project No. 18-216019.1

PARTNER

Aerial Photograph Year: 2002

500 1000 2000

N

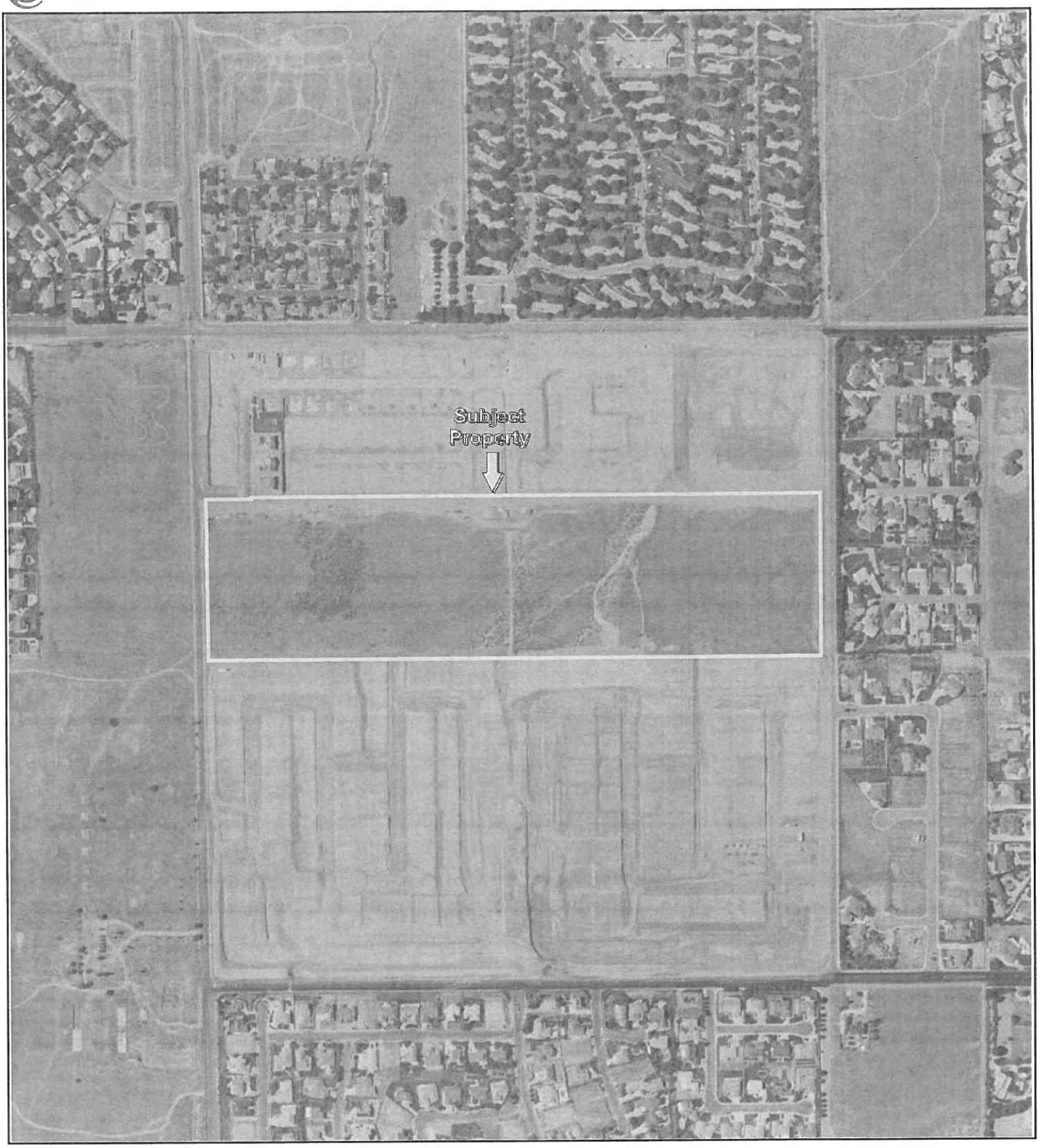
Key: Subject Property

APPENDIX B: AERIAL PHOTOGRAPHS

Project No. 18-216019.1

PARTNER

Aerial Photograph Year: 2005



500 1000 2000

N

Key: Subject Property

Aerial Photograph Year: 2009

500 1000 2000

N

Key: Subject Property

Aerial Photograph Year: 2012

500 1000 2000

N

Key: Subject Property

500 1000 2000

N

Key: Subject Property

Tentative Tract Map No. 81337
70th Street West, South of Princessa Drive
Palmdale, CA 93551

Inquiry Number: 5350368.3
July 02, 2018

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

07/02/18

Site Name:	Client Name:
Tentative Tract Map No. 81337 70th Street West, South of Prin Palmdale, CA 93551 EDR Inquiry # 5350368.3	Partner Engineering and Science, Inc. 2154 Torrance Blvd, Suite 200 Torrance, CA 90501-0000 Contact: Colleen Tubridy

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Partner Engineering and Science, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 1857-405E-BDA4

PO # NA

Project 18-216019.1

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 1857-405E-BDA4

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Partner Engineering and Science, Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2018 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Antelope Valley Air Quality Management District

43301 Division Street, Suite 206, Lancaster, CA 93535-4649
Phone: 661.723.8070
E-Mail: PIR@AVAQMD.CA.GOV

Request for Public Information

ATTENTION REQUESTER: To expedite your request for district records, please fill out this form completely and identify specifically the type of records you are requesting. Please limit your request to one facility or one site address for each request form filed and three requested items per form. Additional forms or pages can be used if requesting information for more than one facility of for records not identified on this form. Requests should reasonably describe identifiable records prepared, owned, used, or retained by the district. Public Records Unit staff is available to assist you in identifying those records in the district's possession. The district is not required by law to create a new record or list from an existing record.

PRR Office Use Only
Log Number:

Requester Information

Name: Philip Marquez
Date: 7/9/2018
Company: Partner
Mailing Address: 5669 N. Fresno Street, #148
City/State/Zip: Fresno, California
Phone: (559) 317-8606
E-Mail: pmarquez@partneresi.com

Requested Records (only 3 items per request form) Direct cost of duplication: 15¢ per page for paper copies. After a preliminary estimate, advance payment might be required.

Time Period of Documents Requested: From 1950 To 2018

- ☐ Applications (APPLS)
- ☒ Permits to Operate (P/O)
- ☐ Equipment List Report (EQL)
- ☒ Notices of Violation (NOV)
- ☐ Notices to Comply (N/C)
- ☐ Complaints
- ☒ Site Inspection Reports (I/R)
- ☐ Emissions Summary
- ☐ Source Test Reports (S/T RPTS)
- ☐ Air Monitoring Data
- ☐ Asbestos Notifications/Records
- ☐ Facility Potential to Emit (PTE)
- ☐ Facility Positive balance (NSR)
- ☐ Toxic-Health Risk Assessment (HRA)
- ☐ Other (Describe below or on additional attached pages)

Describe Other:

Requested Facility Information (if applicable)

Facility Name: Tentative Tract Map No. 81337
Facility Address: Between 65th Street West and 70th Street West
City/State/Zip: Palmdale, CA 93551
Facility I.D. # (if known):

Appr... (if applicable): _____

lease check the appropriate request:

☐ I wish to inspect the requested records, where applicable, and do not want copies produced at this time.

☒ I request that the AVAQMD contact me prior to copying the requested records if the cost exceeds $20.00.

☐ I would like copies of the requested records and I hereby agree to reimburse the AVAQMD for the direct cost of duplicating the requested records in accordance with Gov. Code Sec. 6253(b).

Phil Moore

ignature of Requestor

Official Use Only

PROJECT SPECIFIC INFORMATION:

OWNER.	SHAYAN CAPITAL, LLC OAKMONT PROPERTIES, LLC CANDLES CAPITAL GROUP, LLC DAVID RABIZADEH DRAKHSHANI, LLC
DEVELOPER.	ROYAL INVESTORS GROUP 15821 VENTURA BLVD, STE 460 ENCINO, CA 91436 818-981-3000
ENGINEER/SURVEYOR.	CORNERSTONE ENGINEERING, INC. 208 OAK ST BAKERSFIELD, CA 93304 661-325-9474
NUMBER OF LOTS.	86
LAND USE.	EXISTING. . . VACANT (SFR-2) PROPOSED. . RESIDENTIAL
ACREAGE.	40.56 GROSS ACRES
DENSITY.	0.45 DWELLING UNITS PER GROSS ACRE
ZONING.	R-1-13,000
GRADING.	ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE GRADING CODE OF THE CITY OF PALMDALE
TOPOGRAPHY.	EXISTING TOPOGRAPHY SHOWN IN THIS MAP TAKEN FROM AN AERIAL SURVEY PERFORMED BY KENNEY AERIAL MAPPING INC. IN 2016
ASSESSOR'S MAP BOOK NO. .	3204-025-048
LEGAL DESCRIPTION.	THE SOUTH HALF OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 3, TOWNSHIP 6 NORTH, RANGE 13 WEST, SAN BERNARDINO MERIDIAN, ACCORDING TO THE OFFICIAL PLAT.
FLOOD ZONE.	ZONE X, FIRM PANEL NO. 06037C0400F & 06037C0415F

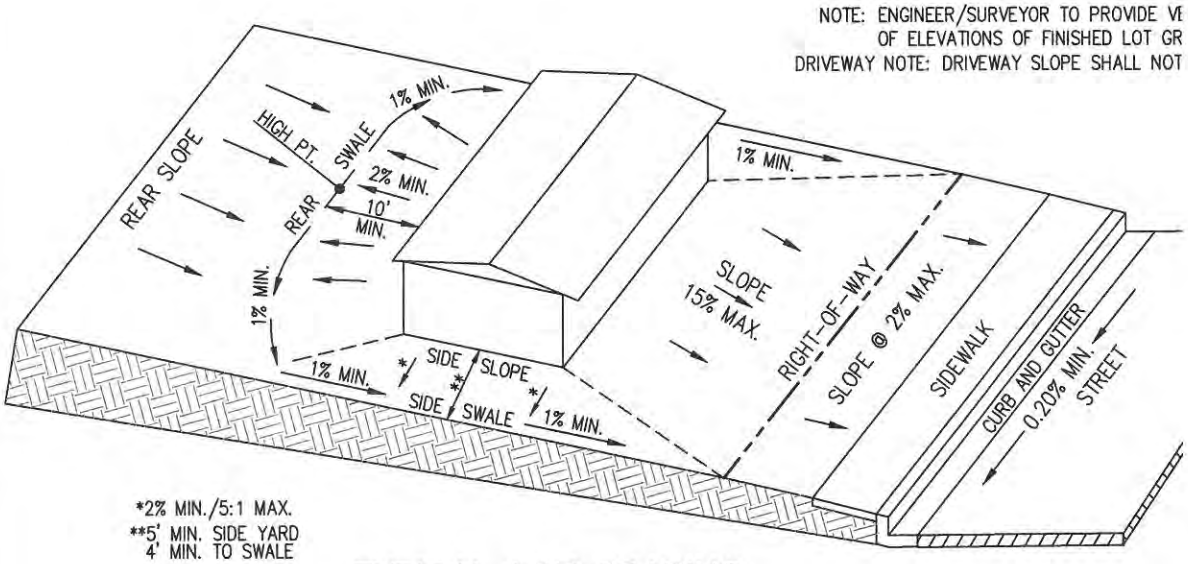
EARTHWORK QUANTITIES:

CUBIC YARDS CUT (RAW) =	130,200 C.Y.
CUBIC YARDS FILL (RAW) =	80,000 C.Y.
OVEREXCAVATION (5'-PADS)=	66,900 C.Y.
CLEAR & GRUB (1")=	5,400 C.Y.
CUBIC YARDS CUT (ADJUSTED) =	197,100 C.Y.
CUBIC YARDS FILL (ADJUSTED) = (80,000+67,000+5,400)X1.3* =	198,000 C.Y.
TOTAL EARTHWORK QUANTITIES =	900 C.Y. EXPORT

*(FILL WAS CALCULATED WITH A COMPACTION FACTOR OF 1.3)

THE ABOVE QUANTITIES ARE BASED ON GRADING LINES AND ELEVATIONS SHOWN ON THE DRAWINGS. ACTUAL QUANTITIES OF EARTHWORK MAY VARY FROM THAT STATED ABOVE DEPENDING UPON VARYING SOIL DENSITIES AND ON THE DEGREE OF SITE PREPARATION ACTUALLY REQUIRED IN THE FIELD.

NOTE: ENGINEER/SURVEYOR TO PROVIDE VE
OF ELEVATIONS OF FINISHED LOT GR
DRIVEWAY NOTE: DRIVEWAY SLOPE SHALL NOT



*2% MIN./5:1 MAX.
**5' MIN. SIDE YARD
4' MIN. TO SWALE

TYPICAL LOT GRADING

NO SCALE

EASEMENT PER PRELIMINARY REPORT #FWKN-T017000217

(4) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS GRANTED IN A DOCUMENT:
GRANTED TO: COUNTY OF LOS ANGELES
PURPOSE: PUBLIC STREET, ROAD OR HIGHWAY
RECORDING NO.: BOOK 7006, PAGE 263, OFFICIAL RECORDS
AFFECTS: SAID LAND

(5) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS GRANTED IN A DOCUMENT:
GRANTED TO: COUNTY OF LOS ANGELES
PURPOSE: PUBLIC STREET, ROAD OR HIGHWAY
RECORDING DATE: JANUARY 29, 1968
RECORDING NO.: 1572, OFFICIAL RECORDS
AFFECTS: THE EASTERLY 20 FEET OF THE WESTERLY 50 FEET

(6) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS GRANTED IN A DOCUMENT:
GRANTED TO: COUNTY OF LOS ANGELES
PURPOSE: SANITARY SEWERS
RECORDING DATE: DECEMBER 7, 1987
RECORDING NO.: 87-1933055, OFFICIAL RECORDS
AFFECTS: SAID LAND

(7) MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: AGREEMENT RE GRANT OF EASEMENT
DATED: FEBRUARY 24, 2004
EXECUTED BY: EDWARD S. SALKIN AND KB HOME GREATER LOS ANGELES, INC., A CALIFORNIA CORPORATION
RECORDING DATE: FEBRUARY 26, 2004
RECORDING NO.: 2004-0444313, OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS

SHALL BE VACATED WITH THE RECORDING OF THIS MAP

(8) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:
GRANTED TO: CITY OF PALMDALE
PURPOSE: PUBLIC ROAD AND HIGHWAY
RECORDING DATE: MARCH 25, 2005
RECORDING NO.: 2005-692537, OFFICIAL RECORDS
AFFECTS: SAID LAND

APPENDIX C: REGULATORY DATABASE REPORT

PARTNER

Tentative Tract Map No. 81337
70th Street West, South of Princessa Drive
Palmdale, CA 93551

Inquiry Number: 5350368.2s
July 02, 2018

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	12
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-11
Physical Setting Source Map Findings	A-13
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2018 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

70TH STREET WEST, SOUTH OF PRINCESSA DRIVE
PALMDALE, CA 93551

COORDINATES

Latitude (North):	34.6427840 - 34˚ 38' 34.02"
Longitude (West):	118.2491080 - 118˚ 14' 56.78"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	385517.8
UTM Y (Meters):	3833943.2
Elevation:	2628 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5630747 LANCASTER WEST, CA
Version Date:	2012
Southeast Map:	5630765 RITTER RIDGE, CA
Version Date:	2012
Southwest Map:	5636835 SLEEPY VALLEY, CA
Version Date:	2012
Northwest Map:	5636851 DEL SUR, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140515
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
70TH STREET WEST, SOUTH OF PRINCESSA DRIVE
PALMDALE, CA 93551

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	MAYFLOWER GARDENS	6570 L12	LUST, HIST CORTESE	Lower	1414, 0.268, NNE
2	RETIREMENT HOUSING F	6570 WEST AVENUE, L-	ENVIROSTOR	Lower	1996, 0.378, NNW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Active UST Facilities
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database
SWRCY..... Recycler Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
ODI..... Open Dump Inventory
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

AOCONCERN..... San Gabriel Valley Areas of Concern

US HIST CDL	Delisted National Clandestine Laboratory Register
HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
CDL	Clandestine Drug Labs
Toxic Pits	Toxic Pits Cleanup Act Sites
US CDL	National Clandestine Laboratory Register
CERS HAZ WASTE	CERS HAZ WASTE

Local Lists of Registered Storage Tanks

SWEEPS UST	SWEEPS UST Listing
HIST UST	Hazardous Substance Storage Container Database
CA FID UST	Facility Inventory Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing

DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
LOS ANGELES CO. HMS	HMS: Street Number List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
LA Co. Site Mitigation	Site Mitigation List
UIC	UIC Listing
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
CERS	CERS
CIWQS	California Integrated Water Quality System
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)
UIC GEO	UIC GEO (GEOTRACKER)
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations

EXECUTIVE SUMMARY

EDR Hist Cleaner..... EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF..... Recovered Government Archive Solid Waste Facilities List
RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 04/30/2018 has revealed that there is 1 ENVIROSTOR site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
RETIREMENT HOUSING F Facility Id: 19830008 Status: No Action Required	6570 WEST AVENUE, L-	NNW 1/4 - 1/2 (0.378 mi.)	2	10

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MAYFLOWER GARDENS	***6570 L12***	***NNE 1/4 - 1/2 (0.268 mi.)***	***1***	***8***

Database: LUST REG 6V, Date of Government Version: 06/07/2005
Database: LUST, Date of Government Version: 03/12/2018
Status: Completed - Case Closed
Global Id: T0603700264
Close Date: 10/13/1992
Status: Case Closed

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there is 1 HIST CORTESE site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MAYFLOWER GARDENS	***6570 L12***	***NNE 1/4 - 1/2 (0.268 mi.)***	***1***	***8***

Reg Id: 6B1900211T

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

Site Name	Database(s)
	CDL

OVERVIEW MAP - 5350368.2S

0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Upgradient Area
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Tentative Tract Map No. 81337 ADDRESS: 70th Street West, South of Princessa Drive Palmdale CA 93551 LAT/LONG: 34.642784 / 118.249108	CLIENT: Partner Engineering and Science, Inc. CONTACT: Colleen Tubridy INQUIRY #: 5350368.2s DATE: July 02, 2018 1:25 pm

Copyright © 2018 EDR, Inc. © 2015 TomTom Rel. 2015

DETAIL MAP - 5350368.2S

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/8 1/4 1/2 Miles

- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Tentative Tract Map No. 81337 ADDRESS: 70th Street West, South of Princessa Drive Palmdale CA 93551 LAT/LONG: 34.642784 / 118.249108	CLIENT: Partner Engineering and Science, Inc. CONTACT: Colleen Tubridy INQUIRY #: 5350368.2s DATE: July 02, 2018 1:28 pm

Copyright © 2018 EDR, Inc. © 2015 TomTom Rel. 2015.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	0	NR	1
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	1	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
AOCONCERN	1.000		0	0	0	0	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	1	NR	NR	1
LOS ANGELES CO. HMS	TP		NR	NR	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
LA Co. Site Mitigation	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	0	3	0	0	3

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1 NNE 1/4-1/2 0.268 mi. 1414 ft. | **MAYFLOWER GARDENS**
6570 L12
LANCASTER, CA 93536 | **LUST** | **S105024393**
HIST CORTESE | **N/A**

Relative: Lower
Actual: 2551 ft.

LUST:

Lead Agency:	LOS ANGELES COUNTY
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0603700264
Global Id:	T0603700264
Latitude:	34.6491056
Longitude:	-118.2470688
Status:	Completed - Case Closed
Status Date:	10/13/1992
Case Worker:	Not reported
RB Case Number:	6B1900211T
Local Agency:	LOS ANGELES COUNTY
File Location:	Not reported
Local Case Number:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

LUST:

Global Id:	T0603700264
Contact Type:	Regional Board Caseworker
Contact Name:	JEHIEL CASS
Organization Name:	LAHONTAN RWQCB (REGION 6V)
Address:	15095 Armagosa Road, Building 2, Suite 210
City:	VICTORVILLE
Email:	jehiel.cass@waterboards.ca.gov
Phone Number:	7602412434

Global Id:	T0603700264
Contact Type:	Local Agency Caseworker
Contact Name:	Manual Regalado
Organization Name:	LOS ANGELES COUNTY
Address:	Not reported
City:	Palmdale
Email:	mregalado@dpw.lacounty.gov
Phone Number:	Not reported

LUST:

Global Id:	T0603700264
Action Type:	ENFORCEMENT
Date:	09/30/1992
Action:	* Historical Enforcement

Global Id:	T0603700264
Action Type:	Other
Date:	03/05/1990
Action:	Leak Discovery

Global Id:	T0603700264
Action Type:	Other
Date:	07/05/1990
Action:	Leak Stopped

MAYFLOWER GARDENS (Continued) **S105024393**

Global Id: T0603700264
Action Type: Other
Date: 08/16/1990
Action: Leak Reported

LUST:
Global Id: T0603700264
Status: Open - Case Begin Date
Status Date: 07/27/1989

Global Id: T0603700264
Status: Open - Remediation
Status Date: 07/27/1989

Global Id: T0603700264
Status: Open - Site Assessment
Status Date: 07/27/1989

Global Id: T0603700264
Status: Completed - Case Closed
Status Date: 10/13/1992

LUST Region 6V:
Region: 6V
Case Number: 6B1900211T
Leak Record: 9/28/1990
Report Date: 8/16/1990
Reported By Address: Not reported
Responsible Party: MAYFLOWER GARDENS
Operator: JOHN FRITZ
Cross Street: 66TH ST
Local Agency: 19000
Regional Board: 6V
Chemical: Unleaded Gasoline
Case Type: Soil only
Funding: S
Enforce Type: EF
How Found: Tank Closure
How Stopped: Not reported
Cause of Leak: UNK
Leak Source: UNK
Global ID: T0603700264
Stop Date: 7/5/1990
Leak Confirm: Not reported
Submit Workplan: Not reported
Prelim Assess: Not reported
Pollution Char: 7/27/1989
Remed Plan: Not reported
Remed Action: 7/27/1989
Monitoring: Not reported
Close Date: 10/13/1992
Discovered: 3/5/1990
Enforce Date: 9/30/1992
Review Date: 9/28/1990
GW Qualifier: Not reported

MAYFLOWER GARDENS (Continued) **S105024393**

Soil Qualifier:	Not reported
MTBE class:	*
Max MTBE Grnd Wtr:	Not reported
Max MTBE Soil:	Not reported
MTBE Counts:	0
MTBE Fuel:	1
MTBE Tested:	NT
Organization Name:	Not reported
Status:	Case Closed
Contact:	Not reported
Interim Action:	Not reported
Pilot Program:	LUST
Lat/Long:	34.6471475 / -118.2488735
Staff Initials:	KD
Local Agency Staff:	UNK
Lead Agency:	Local Agency
Summary:	Not reported
Basin Number:	ANTELOPE VALLEY (6-4
Beneficial:	Not reported
Priority:	Not reported
UST Cleanup Fund ID:	Not reported
Suspended:	Not reported
Local Case Number:	Not reported
Amount:	Not reported
Abate Method:	Not reported
Water System:	Not reported
Well Name:	Not reported
Distance:	4497.612799
Wst Disch Reqrmnt Global ID:	Not reported
Wst Disch Reqrmnt Name:	Not reported

HIST CORTESE:

Region:	CORTESE
Facility County Code:	18
Reg By:	LTNKA
Reg Id:	6B1900211T

---

2 NNW 1/4-1/2 0.378 mi. 1996 ft. **RETIREMENT HOUSING FOUND., MAYFLOWER**
6570 WEST AVENUE, L-12
LANCASTER, CA 93536

ENVIROSTOR **S118756610**
N/A

Relative: Lower
Actual: 2563 ft.

ENVIROSTOR:

Facility ID:	19830008
Status:	No Action Required
Status Date:	03/11/1998
Site Code:	300693
Site Type:	Calmortgage
Site Type Detailed:	Calmortgage
Acres:	0
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Sandra Karinen
Supervisor:	William Beckman
Division Branch:	Cleanup Sacramento

RETIREMENT HOUSING FOUND., MAYFLOWER (Continued) **S118756610**

Assembly:	36
Senate:	21
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	CalMortgage
Latitude:	34.64888
Longitude:	-118.2458
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	NONE SPECIFIED No Contaminants found
Confirmed COC:	No Contaminants found
Potential Description:	NMA
Alias Name:	300693
Alias Type:	Project Code (Site Code)
Alias Name:	19830008
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	03/11/1998
Comments:	Pursuant to the MOU, DTSC has prepared a Phase I Environmental Assessment for the Retirement Housing Foundation (RHF). The subject property, currently a vacant lot, is proposed for use as an exchange property. RHF has no intention to develop this property themselves since it is not contiguous to their existing Lancaster retirement complex, Mayflower Gardens. A Phase I Report was prepared by DTSC and concluded that no action was needed for this property; there is no contamination on the property.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

ORPHAN SUMMARY

Site Name	Site Address	Zip	Database(s)
	70TH ST EAST (.5 MI S OF AVENU		CDL

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: N/A
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: N/A
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: N/A
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 05/18/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 05/18/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/16/2018
Date Data Arrived at EDR: 02/22/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 78

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/29/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/29/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/19/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites
Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/02/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database
The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/02/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System
Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/14/2018
Date Data Arrived at EDR: 05/16/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 37

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/24/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/12/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/12/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/06/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/16/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 15

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 06/21/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/24/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/12/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 01/13/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 134

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/16/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/22/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/02/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/19/2018
Date Data Arrived at EDR: 03/21/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 39

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/30/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 05/04/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/02/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs
A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 34

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Quarterly

CERS HAZ WASTE: CERS HAZ WASTE
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/07/2018
Number of Days to Update: 44

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 04/24/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 27

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 04/19/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 10

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/07/2018
Number of Days to Update: 44

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/24/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 01/28/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 46

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing
Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/08/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 0

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 51

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/24/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/25/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/15/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/08/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/22/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/25/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/09/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/20/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 126

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 04/09/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/07/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/04/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/03/2018
Date Data Arrived at EDR: 04/05/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/31/2018
Date Data Arrived at EDR: 04/16/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 74

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/22/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/03/2018
Date Data Arrived at EDR: 05/31/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing
Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 87

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 28

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 06/01/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 02/25/2018
Date Data Arrived at EDR: 03/17/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 73

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 30

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/23/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 38

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 04/03/2018
Date Data Arrived at EDR: 05/07/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 39

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA SAN FRANCISCO CO
Cupa facilities

Date of Government Version: 04/20/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 10

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 03/27/2018
Date Data Arrived at EDR: 03/29/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 36

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Annually

DRYCLEAN AVAQMD: DRYCLEAN AVAQMD
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 52

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 06/22/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: DRYCLEAN SOUTH COAST
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/16/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 06/11/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 147

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 54

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/20/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 60

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/14/2018
Date Data Arrived at EDR: 05/15/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 38

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 97

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/12/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Annually

ICE: ICE
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 41

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/23/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/23/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/09/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 02/27/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 42

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 03/14/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 04/19/2018
Number of Days to Update: 45

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/23/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/14/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 04/13/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/25/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Varies

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data
The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/07/2018
Number of Days to Update: 44

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/24/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

OTHER OIL GAS: OTHER OIL & GAS (GEOTRACKER)
Other Oil & Gas Projects sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

PROD WATER PONDS: PROD WATER PONDS (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

PROJECT: PROJECT (GEOTRACKER)
Projects sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

NON-CASE INFO: NON-CASE INFO (GEOTRACKER)
Non-Case Information sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

SAMPLING POINT: SAMPLING POINT (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

WELL STIM PROJ: WELL SAMP PROJ (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

CIWQS: The California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 60

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

UIC GEO: UIC GEO (GEOTRACKER)
Underground control injection sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank
The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 65

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List
Cupa Facility List

Date of Government Version: 03/31/2018
Date Data Arrived at EDR: 04/05/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 70

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/14/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 05/07/2018
Date Data Arrived at EDR: 05/09/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 36

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/25/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/26/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 14

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 48

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/30/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 04/27/2018
Date Data Arrived at EDR: 05/02/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 44

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/25/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/08/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 39

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 04/30/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 9

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/26/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/08/2018
Date Made Active in Reports: 04/30/2018
Number of Days to Update: 53

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/21/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 50

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 02/02/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 54

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/14/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 28

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 05/09/2018
Date Data Arrived at EDR: 05/11/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 34

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/16/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 04/16/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 60

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/16/2018
Date Data Arrived at EDR: 04/17/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 63

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/17/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 05/01/2018
Date Made Active in Reports: 05/14/2018
Number of Days to Update: 13

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 04/17/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 63

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/17/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/05/2018
Date Made Active in Reports: 01/18/2018
Number of Days to Update: 13

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/22/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 40

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 03/30/2018
Date Data Arrived at EDR: 04/06/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 28

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 01/11/2018
Date Data Arrived at EDR: 01/12/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 27

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 15

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 03/27/2018
Date Data Arrived at EDR: 03/29/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 18

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/21/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 30

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/01/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 45

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/25/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 05/11/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 42

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 05/11/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 45

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2018
Date Data Arrived at EDR: 02/07/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 49

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/08/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/15/2018
Date Data Arrived at EDR: 03/19/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 46

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 50

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/18/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/18/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/02/2018
Date Data Arrived at EDR: 04/04/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 71

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/02/2018
Date Data Arrived at EDR: 04/04/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 76

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 11/17/2017
Number of Days to Update: 14

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 04/09/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 69

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/07/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 40

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/23/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 11

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/19/2017
Number of Days to Update: 42

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/20/2018
Date Data Arrived at EDR: 03/22/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 43

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/14/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/16/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/18/2017
Number of Days to Update: 31

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 03/14/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/15/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/04/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 42

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 52

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 16

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 20

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/21/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/03/2018
Date Data Arrived at EDR: 04/06/2018
Date Made Active in Reports: 05/09/2018
Number of Days to Update: 33

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/21/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/11/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 35

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/16/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 01/08/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/30/2018
Number of Days to Update: 29

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List
Cupa facilities

Date of Government Version: 01/26/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 47

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 03/19/2018
Date Data Arrived at EDR: 03/22/2018
Date Made Active in Reports: 04/17/2018
Number of Days to Update: 26

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 06/18/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 58

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/23/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/23/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/30/2018
Number of Days to Update: 16

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/27/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 31

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 05/10/2018
Date Data Arrived at EDR: 05/15/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 31

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/25/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 01/03/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 03/22/2018
Number of Days to Update: 36

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 107

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/23/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/03/2018
Date Made Active in Reports: 06/07/2018
Number of Days to Update: 35

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 09/25/2017
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/12/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/21/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 07/14/2017
Number of Days to Update: 92

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/11/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

TENTATIVE TRACT MAP NO. 81337
70TH STREET WEST, SOUTH OF PRINCESSA DRIVE
PALMDALE, CA 93551

TARGET PROPERTY COORDINATES

Latitude (North):	34.642784 - 34° 38' 34.02"
Longitude (West):	118.249108 - 118° 14' 56.79"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	385517.8
UTM Y (Meters):	3833943.2
Elevation:	2628 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5630747 LANCASTER WEST, CA
Version Date:	2012
Southeast Map:	5630765 RITTER RIDGE, CA
Version Date:	2012
Southwest Map:	5636835 SLEEPY VALLEY, CA
Version Date:	2012
Northwest Map:	5636851 DEL SUR, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

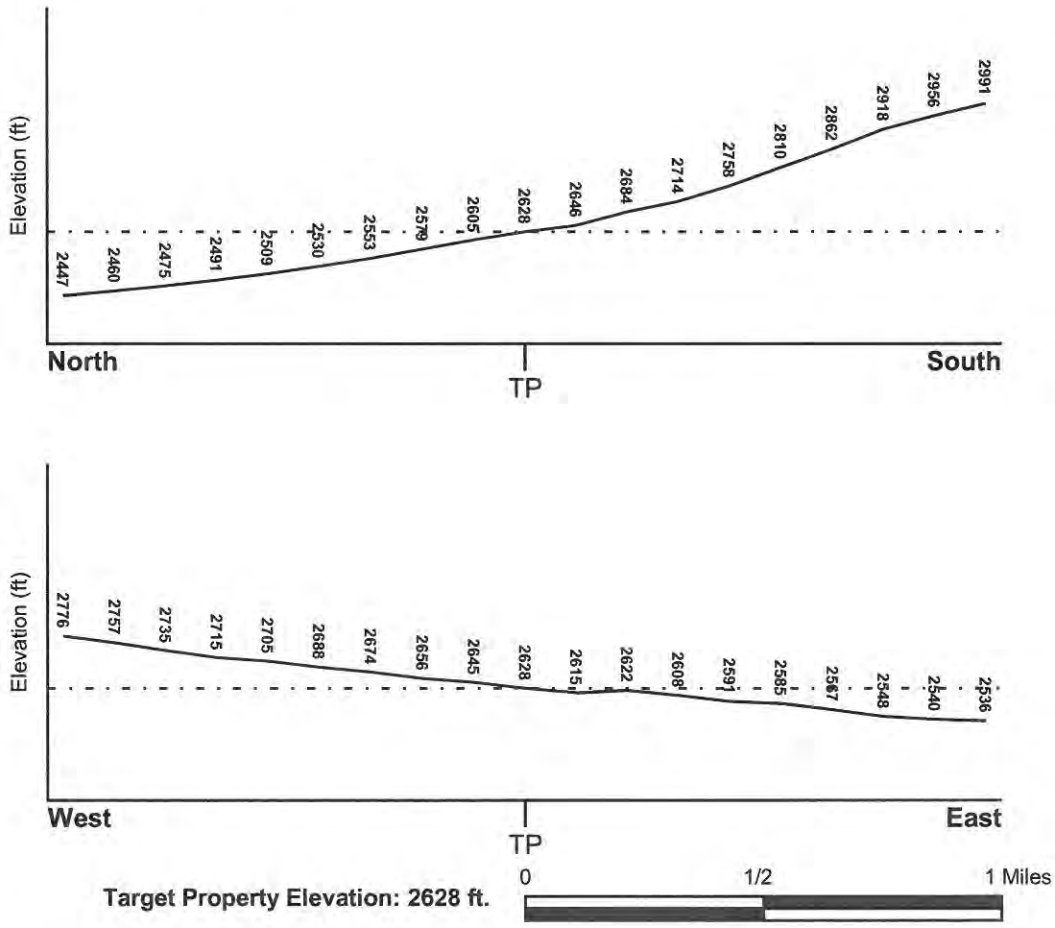
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NNE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06037C0415F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06037C0400F	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
LANCASTER WEST	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

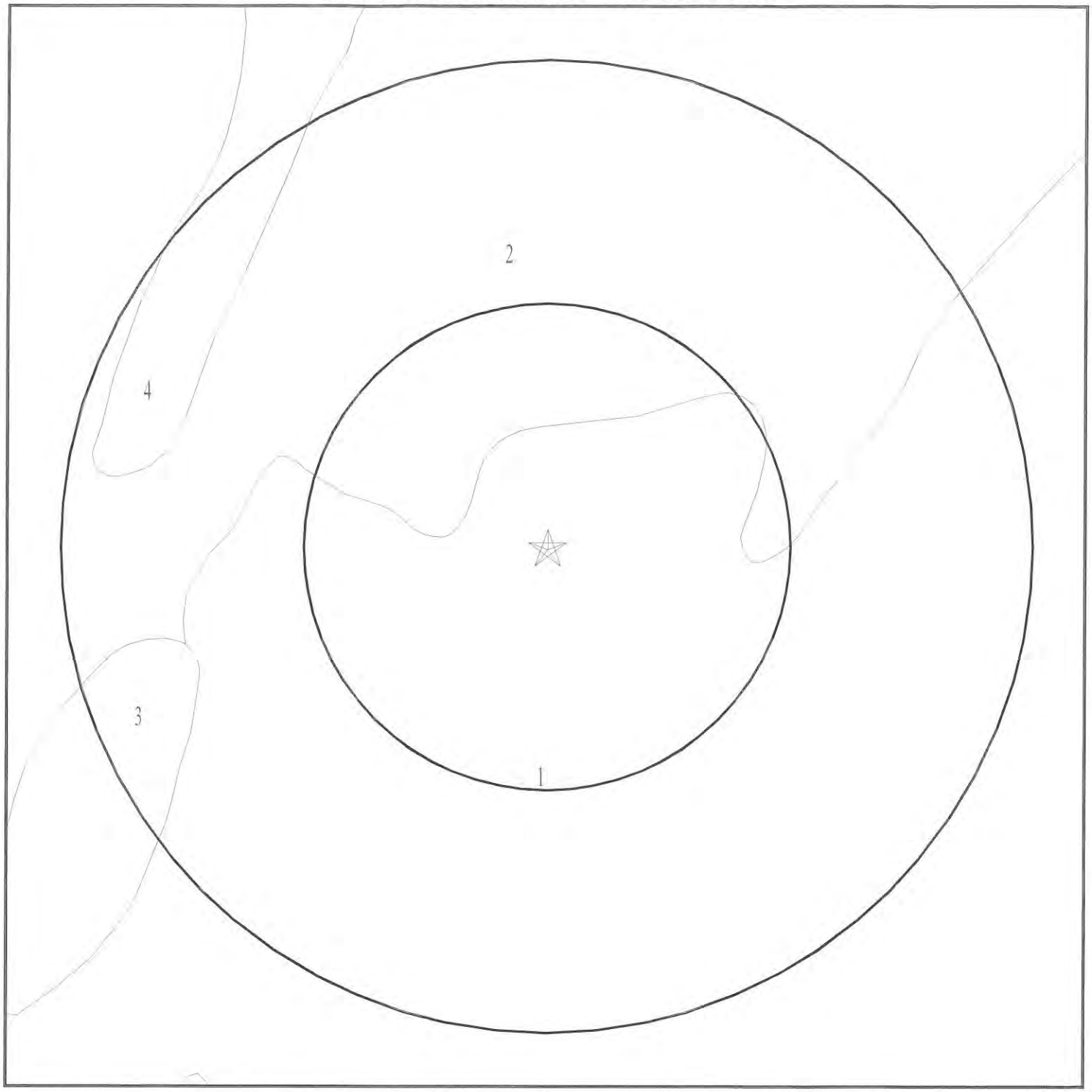
Era:	Mesozoic
System:	Cretaceous
Series:	Upper Mesozoic
Code:	uMze*(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5350368.2s



☆ Target Property

SSURGO Soil

Water

0 1/16 1/8 1/4 Miles

SITE NAME: Tentative Tract Map No. 81337 ADDRESS: 70th Street West, South of Princessa Drive Palmdale CA 93551 LAT/LONG: 34.642784 / 118.249108	CLIENT: Partner Engineering and Science, Inc. CONTACT: Colleen Tubridy INQUIRY #: 5350368.2s DATE: July 02, 2018 1:29 pm

Copyright © 2018 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Greenfield

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
2	16 inches	59 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	59 inches	79 inches	stratified loamy sand to coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: Greenfield

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
2	20 inches	59 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	59 inches	79 inches	stratified loamy sand to coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 3

Soil Component Name: Hanford

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
2	7 inches	38 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	38 inches	70 inches	gravelly loamy coarse sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 4

Soil Component Name: Hanford

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
2	7 inches	38 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	38 inches	70 inches	gravelly loamy coarse sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000149340	1/4 - 1/2 Mile South
2	USGS40000149435	1/4 - 1/2 Mile WSW
A3	USGS40000149341	1/2 - 1 Mile SW
B5	USGS40000149378	1/2 - 1 Mile WSW
C7	USGS40000150015	1/2 - 1 Mile NNW
10	USGS40000149209	1/2 - 1 Mile SW
11	USGS40000149414	1/2 - 1 Mile ESE
E13	USGS40000149093	1/2 - 1 Mile SSE
D14	USGS40000150005	1/2 - 1 Mile NE
15	USGS40000149664	1/2 - 1 Mile East
F17	USGS40000149913	1/2 - 1 Mile NE
F18	USGS40000149867	1/2 - 1 Mile ENE
19	USGS40000149252	1/2 - 1 Mile SE
G23	USGS40000150004	1/2 - 1 Mile NE
G24	USGS40000150042	1/2 - 1 Mile NE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

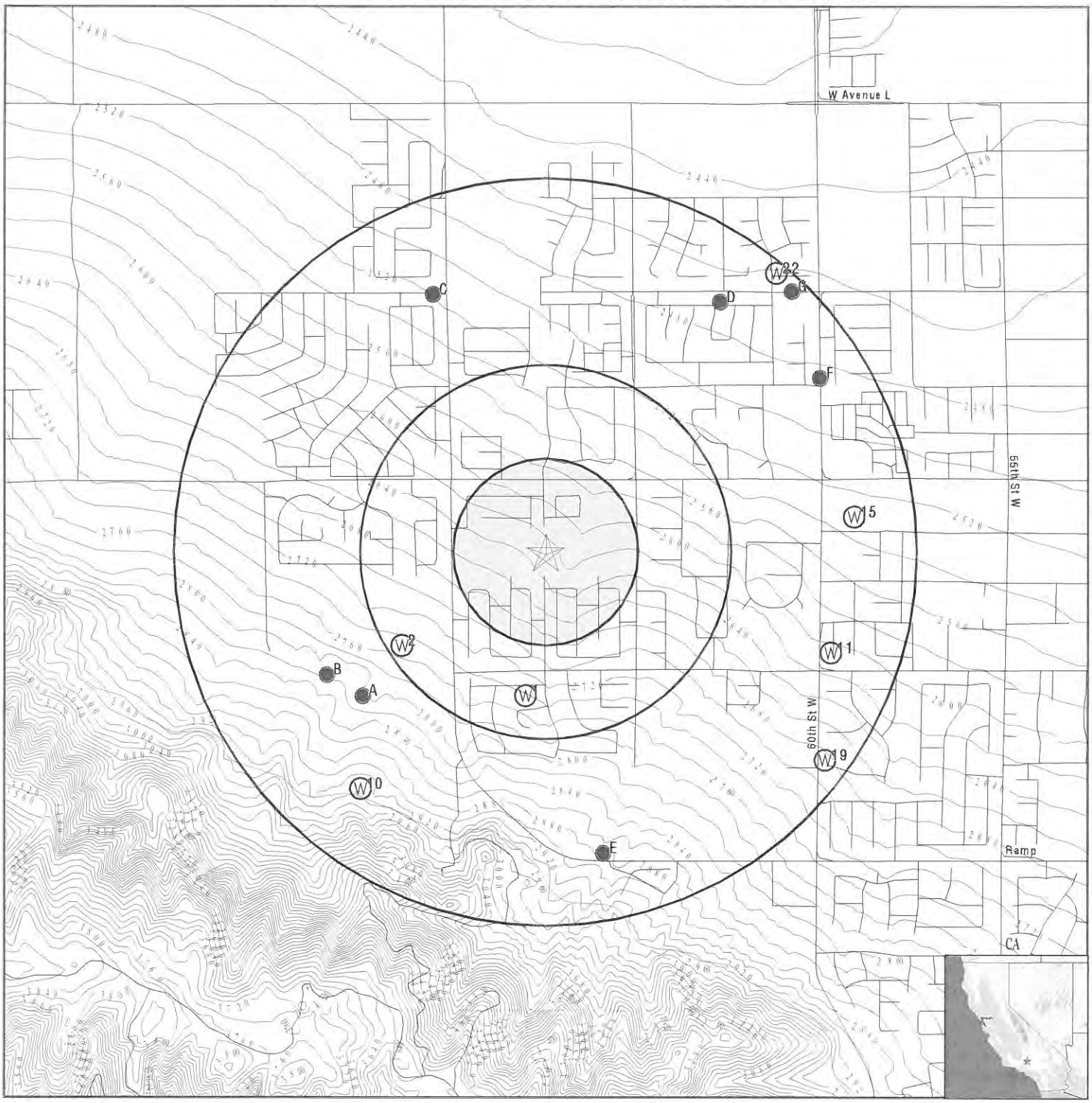
MAP ID	WELL ID	LOCATION FROM TP
A4	CADW60000002694	1/2 - 1 Mile SW
B6	CADW60000020557	1/2 - 1 Mile WSW
C8	CADW60000023981	1/2 - 1 Mile NNW
D9	CADW60000033758	1/2 - 1 Mile NNE
E12	CADW60000000223	1/2 - 1 Mile South
F16	CADW60000033761	1/2 - 1 Mile ENE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
G20	CADW60000023985	1/2 - 1 Mile NE
G21	CADW60000023983	1/2 - 1 Mile NE
22	CADW60000033757	1/2 - 1 Mile NE

PHYSICAL SETTING SOURCE MAP - 5350368.2s



County Boundary
Major Roads
Contour Lines
Earthquake Fault Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
HD Closest Hydrogeological Data
Oil, gas or related wells

N

SITE NAME: Tentative Tract Map No. 81337 ADDRESS: 70th Street West, South of Princessa Drive Palmdale CA 93551 LAT/LONG: 34.642784 / 118.249108	CLIENT: Partner Engineering and Science, Inc. CONTACT: Colleen Tubridy INQUIRY #: 5350368.2s DATE: July 02, 2018 1:29 pm

Copyright © 2018 EDR, Inc. © 2015 TomTom Rel. 2015

Map ID Direction Distance Elevation	Database	EDR ID Number
1 **South** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**USGS40000149340**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343814118145701		
Monloc name:	006N013W03Z001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6372092
Longitude:	-118.2500762	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2680.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

---

2 **WSW** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**USGS40000149435**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343821118151801		
Monloc name:	006N013W04H001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6391535
Longitude:	-118.2559097	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2755.00
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

A3
SW
1/2 - 1 Mile
Higher

FED USGS **USGS40000149341**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343814118152301		
Monloc name:	006N013W04J001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6372091
Longitude:	-118.2572987	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2790.00
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1963-06-04	34.39	

A4
SW
1/2 - 1 Mile
Higher

CA WELLS **CADW60000002694**

Objectid:	2694
Latitude:	34.6372
Longitude:	-118.2582
Site code:	346372N1182582W001
State well numbe:	06N13W04J001S
Local well name:	"
Well use id:	6
Well use descrip:	Unknown
County id:	19
County name:	Los Angeles

Basin code:	'6-44'
Basin desc:	Antelope Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000002694

B5
WSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000149378**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343817118152901		
Monloc name:	006N013W04G001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6380424
Longitude:	-118.2589654	Sourcemap scale:	24000
Horiz Acc measure:	Unknown	Horiz Acc measure units:	Unknown
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2805.00
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	280
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1963-06-04	104.50	

B6
WSW
1/2 - 1 Mile
Higher

CA WELLS **CADW60000020557**

Objectid:	20557
Latitude:	34.638
Longitude:	-118.2599
Site code:	346380N1182599W001
State well numbe:	06N13W04G001S
Local well name:	"
Well use id:	6
Well use descrip:	Unknown
County id:	19
County name:	Los Angeles

Basin code:	'6-44'
Basin desc:	Antelope Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000020557

C7
NNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000150015**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343910118151101		
Monloc name:	007N013W33J001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6527641
Longitude:	-118.2539651	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2515.00
Vert measure units:	feet	Vertacc measure val:	010
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	415
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1963-05-29	382.85	

C8
NNW
1/2 - 1 Mile
Lower

CA WELLS **CADW60000023981**

Objectid:	23981
Latitude:	34.6528
Longitude:	-118.2549
Site code:	346528N1182549W001
State well numbe:	07N13W33J001S
Local well name:	''
Well use id:	6
Well use descrip:	Unknown
County id:	19
County name:	Los Angeles

Basin code:	'6-44'
Basin desc:	Antelope Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000023981

D9
NNE
1/2 - 1 Mile
Lower

CA WELLS **CADW60000033758**

Objectid:	33758
Latitude:	34.6525
Longitude:	-118.2413
Site code:	346525N1182413W001
State well numbe:	07N13W34J001S
Local well name:	"
Well use id:	6
Well use descrip:	Unknown
County id:	19
County name:	Los Angeles
Basin code:	'6-44'
Basin desc:	Antelope Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000033758

10
SW
1/2 - 1 Mile
Higher

FED USGS **USGS40000149209**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343801118152501		
Monloc name:	006N013W04R001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6335982
Longitude:	-118.2578543	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2950.00
Vert measure units:	feet	Vertacc measure val:	010
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Other aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

Map ID Direction Distance Elevation	Database	EDR ID Number
11 **ESE** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000149414**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343820118140501		
Monloc name:	006N013W02Z005S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6388758
Longitude:	-118.2356313	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2607.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19150101	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	150
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

E12 **South** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADW60000000223**

Objectid:	223
Latitude:	34.6311
Longitude:	-118.2468
Site code:	346311N1182468W001
State well numbe:	06N13W03P001S
Local well name:	"
Well use id:	6
Well use descrip:	Unknown
County id:	19
County name:	Los Angeles
Basin code:	'6-44'
Basin desc:	Antelope Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000000223

E13 **SSE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000149093**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343752118144201		
Monloc name:	006N013W03P001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6310983
Longitude:	-118.2459095	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2876.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19560101	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	600
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1963-05-29	116.09		1963-05-01	116.00	

D14
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000150005**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343909118142201		
Monloc name:	007N013W34J001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6524864
Longitude:	-118.2403536	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2464.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19460101	Welldepth:	444
Welldepth units:	ft	Wellholedepth:	444
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 9

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1963-08-02					
Note: The site was dry (no water level recorded).					
1961-11-21	337.00		1959-10-21	327.00	
1956	313.00		1955	303.00	
1952	240.00		1948	220.00	
1947	210.00		1946-08-13	191.00	

15
East
1/2 - 1 Mile
Lower

FED USGS **USGS40000149664**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343839118140101		
Monloc name:	006N013W02Z008S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6441534
Longitude:	-118.2345202	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2528.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

F16
ENE
1/2 - 1 Mile
Lower

CA WELLS **CADW60000033761**

Objectid:	33761
Latitude:	34.6492
Longitude:	-118.2363
Site code:	346492N1182363W001
State well numbe:	07N13W35M001S
Local well name:	"
Well use id:	6
Well use descrip:	Unknown
County id:	19
County name:	Los Angeles

Basin code:	'6-44'
Basin desc:	Antelope Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000033761

F17
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000149913**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343901118140901		
Monloc name:	007N013W34J003S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6502642
Longitude:	-118.2367424	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2476.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

F18
ENE
1/2 - 1 Mile
Lower

FED USGS **USGS40000149867**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343857118140401		
Monloc name:	007N013W35M001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6491532
Longitude:	-118.2353535	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2477.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19130101	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	400
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1919	95.00		1913	85.00	

19
SE
1/2 - 1 Mile
Higher

FED USGS **USGS40000149252**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343805118140601		
Monloc name:	006N013W02Z003S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6347093
Longitude:	-118.2359092	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2679.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

G20
NE
1/2 - 1 Mile
Lower

CA WELLS **CADW60000023985**

Objectid:	23985
Latitude:	34.6525
Longitude:	-118.2376
Site code:	346525N1182376W001
State well numbe:	07N13W34J002S
Local well name:	''
Well use id:	6
Well use descrip:	Unknown
County id:	19
County name:	Los Angeles

Basin code:	'6-44'
Basin desc:	Antelope Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000023985

G21
NE
1/2 - 1 Mile
Lower

CA WELLS **CADW60000023983**

Objectid:	23983
Latitude:	34.6533
Longitude:	-118.2382
Site code:	346533N1182382W001
State well numbe:	07N13W34H001S
Local well name:	"
Well use id:	6
Well use descrip:	Unknown
County id:	19
County name:	Los Angeles
Basin code:	'6-44'
Basin desc:	Antelope Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000023983

22
NE
1/2 - 1 Mile
Lower

CA WELLS **CADW60000033757**

Objectid:	33757
Latitude:	34.6536
Longitude:	-118.2382
Site code:	346536N1182382W001
State well numbe:	07N13W34H002S
Local well name:	"
Well use id:	6
Well use descrip:	Unknown
County id:	19
County name:	Los Angeles
Basin code:	'6-44'
Basin desc:	Antelope Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000033757

G23
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000150004**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343909118140901		
Monloc name:	007N013W34J002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6524864
Longitude:	-118.2367424	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2463.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19560101	Welldepth:	690
Welldepth units:	ft	Wellholedepth:	694
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 7

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1963-08-02	340.35		1963-08-01	340.00	
1960-11-12	327.00		1959-10-21	325.60	
1956-10-01	323.00		1956-04-15	316.00	
1956-03	310.00				

G24
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000150042**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-343912118141101		
Monloc name:	007N013W34H001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18090206	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.6533197
Longitude:	-118.237298	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	2458.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Basin and Range basin-fill aquifers		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	168
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 15

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1963-08-02					
Note: The site was dry (no water level recorded).					
1942-04-21	167.40		1941-12-02	164.80	
1941-04-10	155.10		1940-11-26	164.85	
1940-03-13	151.80				
1939-11-17	160.85				
Note: A nearby site that taps the same aquifer was being pumped.					
1937-11-22	149.30				
1937-11-09	156.10				
Note: The site was being pumped.					
1937-04-22	149.30		1936-04-16	145.00	
1935-12-13	142.90		1935-05-01	140.90	
1934-04-19	142.00		1900	1.30	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93551	30	0

Federal EPA Radon Zone for LOS ANGELES County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for LOS ANGELES COUNTY, CA

Number of sites tested: 63

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.711 pCi/L	98%	2%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.933 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

APPENDIX D: QUALIFICATIONS

PARTNER

Philip Marquez
Senior Assessor

Education

Bachelor of Science Biology, California State University, Fresno, CA

Training

40 Hour HAZWOPER
AHERA Building Inspector Training Course

Highlights

17 Years of experience in national environmental due diligence consulting including Phase I Environmental Site Assessments
Phase II Subsurface Soil/Soil Gas Investigations
Biological Surveys including Threatened and Endangered Species and Wetland Studies
Asbestos and Radon Surveys
Transaction Screens

Experience Summary

Mr. Marquez is a Senior Assessor with significant environmental due diligence experience in the western United States with special geographical experience in California and the Pacific Northwest. His responsibilities include the preparation of Phase I Environmental Site Assessments and Project Management for Partner Engineering and Science, Inc. (Partner). Mr. Marquez's regional experience compliments the wide variety of Partner projects and client types including national and local lending institutions, asset management/investment groups, developers, and commercial real estate professionals.

Mr. Marquez has assessed/worked on over 1,000 property transactions. Project types have included commercial retail and office space; multi-family residential (including Freddie Mac and Fannie Mae scopes of work); agricultural properties; large-scale industrial and manufacturing facilities; gas stations; local, state and federal government projects; school sites; and military properties. Risks associated with these transactions include past hazardous materials use (i.e. gasoline stations, dry cleaners) which require historical research combined with subsurface evaluations to assess contamination that could create a human health concern to occupants or workers; evaluate for asbestos and radon to determine the need for abatement or venting systems.

Project Experience

750-Acre Chino Hills Property, Chino Hills, CA. An approximately 750-acre property located adjacent to a former Aerojet facility. The proposed project included mixed use commercial and residential development. The initial Phase I Environmental Site Assessment (Phase I ESA) and subsequent soil and groundwater sampling revealed volatile organic compound (VOC) impacted groundwater, surface water and soils. Unexploded ordinance was identified as well. As a result of these findings, surface and subsurface remediation was conducted. The adjacent Aerojet facility and the project site are currently under consideration for case closure by the Department of Toxic Substance Control (DTSC).

Lowe's of South San Francisco (Former "Goodman's Lumber"), San Francisco, CA. The subject property was historically developed for commercial and warehousing operations, and was constructed on top of bay fill material. Initial studies included a Phase I Environmental Site Assessment and lead-based paint and asbestos surveys. The Phase I ESA identified a former dry well system and one previously unidentified waste oil UST. Subsequent investigation encountered hydrocarbon-impacted soils and groundwater. Remedial activity was conducted in order to achieve a "No Further Action" status from the City and County of San Francisco. The subject property has since been developed for use as a Lowe's store.

Proposed Commercial Development within Fort Ord, Seaside, CA. The subject property was located within a portion of the former Fort Ord Military Base. Historical operations on and adjacent to the subject property included residential development, a vehicle repair facility and a fuel storage warehouse. The Phase I ESA identified hydrocarbon and VOC impacted soils and groundwater in the areas of the former vehicle repair facility. The assessment also identified potential impacts related to asbestos and lead-based paints associated with several hundred single-family residential structures constructed in the 1940s and 1950s. The subject property has since been developed for commercial retail use.

Del Monte Canning Facility, Stockton, CA. The subject property was occupied by a large-scale fruit and vegetable canning operation. At the time of investigation operations were limited to one of several available buildings. These operations included the bulk storage of hazardous substances, a maintenance shop area, and a several operational USTs. Historical operations also included the use of three waste water treatment ponds. Initial Phase I and Phase II investigations identified several areas of hydrocarbon impacted soils and groundwater, which have since been remediated.

Approximately 1,200-Acre Agriculturally Developed Property, Lodi, CA. The subject property was historically developed with several farmsteads; large areas of agricultural development, including orchards, vineyards and row crops; and several intermittent streams and riparian areas. The scope of work included a Phase I ESA and an assessment for threatened and endangered species/wetlands. The Phase I ESA identified several repair and maintenance shops, bulk storage of hazardous substances, USTs, and areas of significant staining associated with agricultural chemicals. The assessment for threatened and endangered species/wetlands identified foraging, burrowing and nesting habitat for giant garter snake (*Thamnophis gigas)*, burrowing owl (*Athene cunicularia*) and San Joaquin kit fox (*Vulpes macrotis mutica*). Several areas of inundation, meeting the U.S. Army Corps of Engineers definition of Waters of the United States, were also identified.

Contact

pmarquez@partneresi.com

Joel Redding
Project Manager

Education

B.A. Geography, California State University Fresno

Training

OSHA 24-Hour Health and Safety Training

Highlights

11 years of experience in environmental consulting
Phase I Environmental Site Assessments (ESAs)
Environmental Transaction Screens

Experience Summary

Mr. Redding serves as a Project Manager for Partner Engineering and Science, Inc. (Partner), overseeing and managing all aspects of multi-scope projects including Phase I ESAs in accordance with EPA's All Appropriate Inquiry (AAI), Property Condition Assessments (PCAs), Zoning Reports, and Seismic Assessments.

Mr. Redding has over eleven years of project experience in the environmental consulting industry. Mr. Redding is familiar with all aspects of Due Diligence Property Assessments and the needs and requirements of a varied number of reporting standards, including ASTM E1527-13, EPA's All Appropriate Inquiry (AAI), The U.S. Small Business Administration (SBA), and customized client formats and scopes. Mr. Redding has performed and supervised over 1,000 ESAs and customized environmental assessments of a variety of properties including multi-family residential, hospitality, commercial office buildings, shopping centers, multi-tenant commercial complexes, industrial warehouses, manufacturing facilities, dry cleaning plants, gasoline service stations, automotive repair and body shops, medical facilities, food processing facilities, and agricultural properties.

Project Experience

Junior College Campus and Historical Military and Medical Hospital, Modesto, CA. Mr. Redding prepared a Phase I ESA on a junior college campus in Modesto, the site of a historical World War II era military hospital and subsequent State-run hospital. Multiple recognized environmental conditions (RECs) were identified related to current and historical uses including vehicle and facilities maintenance, underground and aboveground fueling facilities, domestic wastewater treatment systems and septic systems, and asbestos and lead-based paint issues.

2,500-Acre Agricultural Property, Maricopa, CA. Mr. Redding prepared a Phase I ESA on a large agricultural property within an active oil and gas production area. Multiple RECs were identified related to oil and gas well development, oil and gas production, subsurface oil and gas pipelines, aboveground fuel storage, and agricultural chemical use, storage, and application.

Printed Circuit Board Manufacturing Facility, Redwood City, CA. Mr. Redding prepared a Phase I ESA on a printed circuit board manufacturing facility. Multiple RECs were identified related to electroplating, etching, silk screening, chemical storage, and hazardous waste generation, storage, and treatment operations.

10-Site Residential Portfolio, Central CA. Managed a multi-million dollar acquisition project consisting of Phase ESAs of ten, large-acreage, rural agricultural properties throughout Central California for a residential developer. Duties included managing, performing, and reviewing Phase I ESAs.

25-Site Grocery Chain Portfolio, OR and CA. Managed a multi-million dollar rehabilitation financing project consisting of Phase I ESAs of 25 grocery store properties throughout the State of Oregon and Northern California. Duties included managing, performing, and reviewing Phase I ESAs.

16-Site Multi-Family Residential Portfolio, FL. Managed a multi-million dollar acquisition project consisting of 16, multi-story apartment buildings in Florida. Duties included managing and reviewing Phase I ESAs.

Contact

jredding@partneresi.com

Education

B.A., Environmental Analysis and Criminal Justice, University of California Irvine
Hazardous Materials Management Certificate Courses, University of California Irvine

Registrations

OSHA 40-Hour Hazwoper
OSHA 8-Hour Hazwoper Refreshers
ASTM Technical and Professional Training

Highlights

20 years of experience in national environmental due diligence consulting
Phase I Environmental Site Assessments
Phase II Subsurface Soil/Soil Gas Investigations
Property Condition Assessments

Experience Summary

Mr. Taylor is Principal and National Client Manager with significant environmental and due diligence engineering experience in all states with specialized geographical experience in the Pacific West/Northwest. His responsibilities include full-phase environmental consulting, national client management, multi-scope contract negotiation/execution, portfolio project management, and technical report quality control. Mr. Taylor's regional and national expertise compliments the wide variety of Partner projects and client types including national and local lending institutions, asset management/investment groups, developers, and commercial real estate professionals.

Mr. Taylor has 20 years of experience in national environmental due diligence consulting including Phase I Environmental Site Assessments, Phase II Subsurface Soil/Soil Gas Investigations, Property Condition Assessments, Seismic Evaluations, Asbestos, Lead-Paint, and Radon Surveys, ALTA Surveys, Geotechnical Investigations, MEP Special Inspections, Energy Evaluations, and Construction Monitoring.

Mr. Taylor has assessed/managed over 15,000 commercial real estate transactions throughout his professional career including several multi-million dollar asset portfolios consisting of a 29-site commercial office property acquisition, two 1,200-site cellular tower transactions, a 25-site regional grocery-store chain evaluation, a 10-site residential development acquisition, and a 16-site multi-family apartment building acquisition. These transactions have included some or all of Partner's core engineering due diligence services described above. Mr. Taylor routinely manages national asset/developer clients to evaluate the environmental and structural risks associated with commercial/industrial properties prior to acquisition. These risks may be associated with past hazardous materials use (i.e., gasoline stations, dry cleaners) which require historical research combined with subsurface evaluations to assess for contamination that could devaluate the property or create a human health concern to occupants or construction workers; evaluate for asbestos, lead-based paint, and radon to determine the need for abatement or venting systems; evaluate the structural integrity of the building and assess for seismic retrofit; evaluate the roof, mechanical, electrical, plumbing systems (i.e., elevators, HVAC systems, sewer); evaluate for American Disabilities Act (ADA) deficiencies (i.e., ramps, railings, access); survey the property boundaries (i.e., ALTA Surveys); evaluate the

subsurface conditions for construction suitability (i.e., Geotechnical Investigations); and conduct energy studies of the site building to meet with current requirements and systems efficiencies.

Project Experience

Philadelphia Commercial Office Portfolio. A $186 million dollar acquisition project consisting of 29, multi-story commercial office buildings and included Phase I Environmental Site Assessments and Property Condition Assessments with special inspections of HVAC systems, elevators, and roofing systems. Multiple inspectors were coordinated and dispatched to each site within a two-week report completion timeline. Special inspection findings and related repair costs were cross-calculated with generalist inspection reporting and incorporated into the Property Condition Assessment spreadsheets for client/lender review. The acquisition was successful and exemplified Mr. Taylor's project management and negotiation skills, coordination of several in-house engineering professionals and subcontracted elevator consultants as well as Partner's responsiveness and expertise of client/lender's expedited timeline.

National Cellular Tower Portfolios. Two multi-million dollar acquisition projects consisting of over 2,400 cellular towers located throughout the United States which included Phase I Environmental Site Assessments. Multiple national inspectors were dispatched to each mountain-top tower within each state. The inspections incorporated the use of guides and four-wheel drive vehicles (primarily Jeeps) to visually inspect each tower. The acquisition project was successful and exemplified Mr. Taylor's project management skills, coordination of dozens of national inspectors, quality control reviews, and responsiveness to client's timeline.

Oregon Grocery Chain Portfolio. A multi-million dollar rehabilitation financing project consisting of 25 grocery store properties throughout the State of Oregon and included Phase I Environmental Site Assessments and ALTA Surveys. Multiple inspectors were dispatched to each site within a two-week turnaround. The financing project was successful and the project exemplified Mr. Taylor's negotiation/client management skills, coordination of inspections, quality control and completion of timely reports as well as the responsiveness and professional acumen of Partner's Engineering Team.

Central California Residential Portfolio. A multi-million dollar acquisition project consisting of 10, large-acreage, rural agricultural properties throughout Central California for a residential developer which included Phase I Environmental Site Assessments and Phase II Subsurface Investigations of former underground storage tanks, burn pits, and residual agricultural herbicides/pesticides from past orchard cultivation. The Phase II investigations included ground penetrating radar (GPR), subsurface soil sampling utilizing a hollow-stem auger drill rig, and surface soil sampling in accordance with the Cal EPA Department of Toxic Substances Control protocol. Results of the investigations revealed no evidence of underground storage tanks or former tanks pits, and no detectable concentrations of petroleum hydrocarbons or agricultural chemicals. The acquisition was successful and the project exemplified Mr. Taylor's negotiation/client management skills, coordination of inspections, quality control and completion of timely reports as well as the responsiveness and professional acumen of Partner's Engineering Team.

Florida Apartment Portfolio. A multi-million dollar acquisition project consisting of 16, multi-story apartment buildings in Florida which included Phase I Environmental Site Assessments and Property Condition Assessments. Multiple inspectors were dispatched to each site to complete the reports within a two-week timeline. The acquisition was successful and the project exemplified Mr. Taylor's

negotiation/client management skills, coordination of inspections, quality control and completion of timely reports as well as the responsiveness and professional acumen of Partner's Engineering Team.

Affiliations

ASTM Member No. 000216930
Environmental Bankers Association
Risk Management Association, Director
National Association of Development Companies
Northwest Environmental Business Council
Commercial Brokers Association

Speaking

"Regulations in Lending", Risk Management Association, Fresno, CA. Risk Tolerance and Environmental Regulation for Commercial Bankers

"Water in the Central Valley", Fresno, CA. Contaminated Sites and Environmental Remediation of Commercial Properties

Contact

CTaylor@partneresi.com

Appendix D

Noise Technical Memorandum

ATSConsulting
acoustics, transportation + strategy

MEMORANDUM

To: Kris Pinero, Project Management Consultant
Royal Investors Group, LLC

From: John Meighan
ATS Consulting

Date: August 2, 2018

Subject: Noise Report for Quartz Hill Residential Development, Palmdale, CA

Table of Contents

1. Introduction and Summary of Findings 1
2. Fundamentals of Traffic Noise 4
3. Existing Conditions 5
4. Future Noise Levels 7
   4.1 Noise Projection Approach and Assumptions 7
   4.2 Predicted Future Noise Levels 8
   4.3 Noise Mitigation Options 9
5. Construction Noise 9
   5.1 Predicted Levels of Construction Noise 10
   5.2 Minimizing Construction Noise Impacts 10

List of Figures

Figure 1. Site Plan of Proposed Development 2
Figure 2: Overview of Surrounding Area 3
Figure 3. Typical Outdoor and Indoor Noise Sources 4
Figure 4. Photograph of Measurement Location 6
Figure 5: Noise Measurements Taken from Eastern Edge of Property (Site 1) 7

List of Tables

Table 1: TNM Results for Current Traffic Conditions 8

1. INTRODUCTION AND SUMMARY OF FINDINGS

This memorandum summarizes the results of noise measurements and analysis completed by ATS Consulting for the proposed Royal Investors Group residential development project in the city of Palmdale. Figure 1 shows the layout of the proposed development, while Figure 2 shows the surrounding area. The project site is currently undeveloped. It lies in the space bounded by 70th St W to the west, W Ave M-2 to the north, 65th St W to the east, and W Ave M-4 to the south. There are other residential developments surrounding the site on all 4 sides. The main source of noise is the traffic on 70th St W, and Avenue M to the north.

The primary issues for this study are:

- Whether projected future sound levels will exceed the City of Palmdale standards for residential developments. The City of Palmdale has an exterior noise standard of 65 dBA CNEL for residential developments. CNEL, the Community Noise Equivalent Level, is a cumulative measure of total noise exposure over a 24-hour period.* Where this standard is exceeded, measures to mitigate the noise, such as sound walls or improved building sound insulation, should be specified.
- Whether noise generated by the project will affect other noise sensitive receptors. The primary noise source that would be associated with the proposed project is traffic into and out of the development.
- Whether noise from construction of the proposed project will adversely affect existing noise sensitive land uses.

The conclusions of this noise study are:

1. Current traffic on 70th St W. produces a CNEL of 64.8 dBA, just below the 65 dBA limit. It is up to the City of Palmdale to determine if mitigation is required. However, future traffic will almost assuredly be enough to raise the noise levels over 65 dBA. As a result, a noise wall is recommended along the eastern edge of the property. The existing privacy walls for nearby developments, lower sound levels, and slight changes in terrain make building sound walls for the northern, southern and western edges of the project unnecessary.
2. The small footprint of the project combined with the sparsely populated area, make it highly unlikely that the project will cause a significant increase in noise to the other single-family houses surrounding the project.
3. Construction noise could be intermittently intrusive at residences that are adjacent to the site. The construction will be in compliance with Section 8.28 of the City of Palmdale Municipal Code (Building Construction Hours of Operation and Noise Control) that prohibits the use of construction equipment between the hours of 8:00 p.m. and 6:30 a.m., Monday through Saturday, or at any time on Sunday. The contractor should be required to employ best practices to minimize noise (e.g., only use equipment with outfitted with efficient mufflers to control the noise emissions).

* The technical terms used in this report are defined in Section 2 (page 4).

Figure 1. Site Plan of Proposed Development

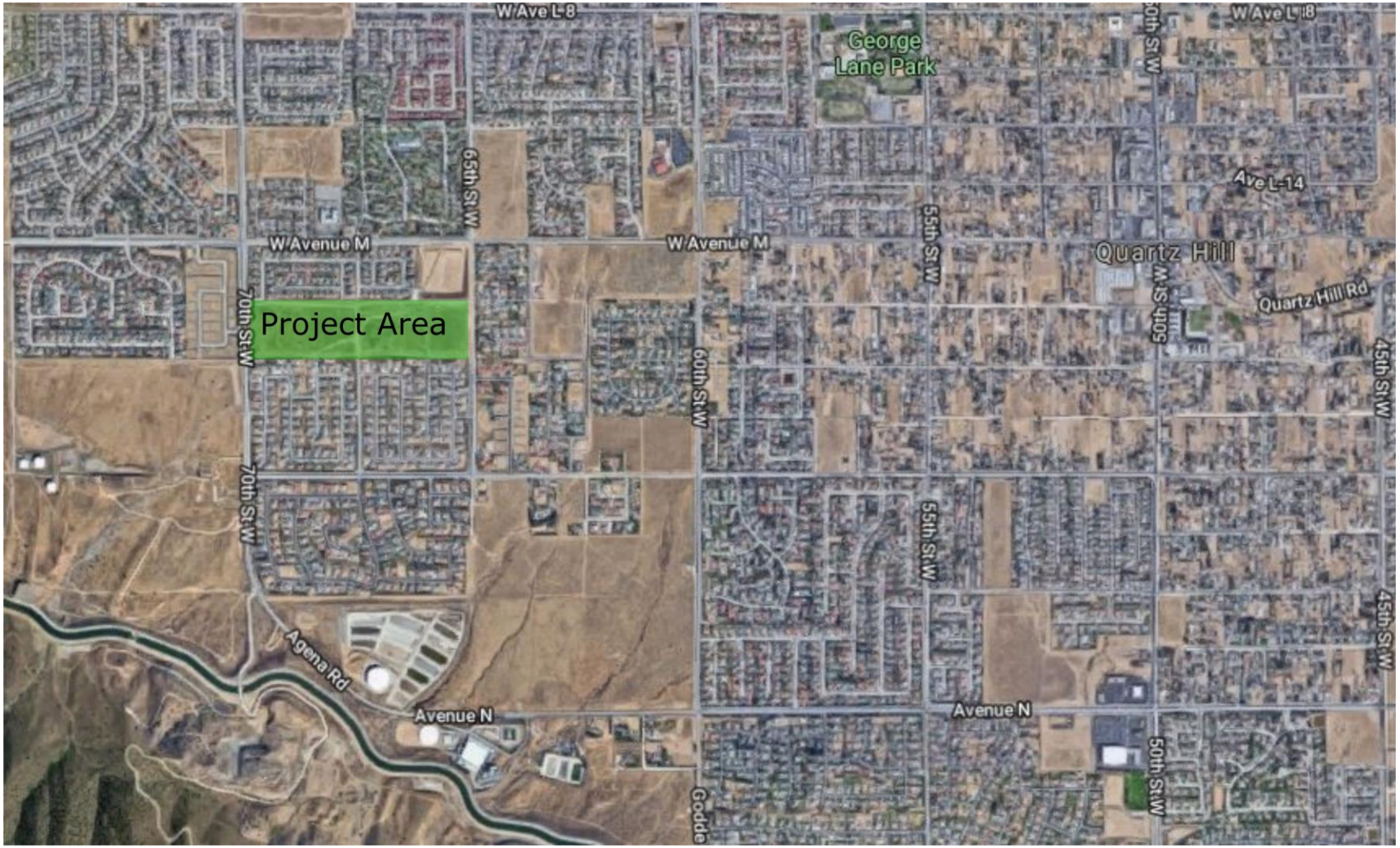


Figure 2: Overview of Surrounding Area

2. FUNDAMENTALS OF TRAFFIC NOISE

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally defined as unwanted or excessive sound. Sound can vary in intensity by over one million times within the range of human hearing. This is one reason that a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity and compress the scale to a more meaningful range. The other reason is that human hearing is approximately logarithmic. A one decibel change in sound level is perceived similarly regardless of the how loud the existing sound is.

Sound is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear deemphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale has been developed. A-weighted decibels are abbreviated as "dBA". On this scale, the human range of hearing extends from approximately 3 dBA to around 140 dBA. As a point of reference, Figure 3 includes examples of A-weighted sound levels from common indoor and outdoor sounds.

Using the decibel scale, sound levels from two or more sources cannot be directly added together to determine the overall sound level. Rather, the combination of two sounds at the same level yields an increase of 3 dBA. The smallest recognizable change in sound level is approximately 1 dBA. A 3-dBA increase is generally considered perceptible, whereas a 5-dBA increase is readily perceptible. A 10-dBA increase is judged by most people as an approximate doubling of the perceived loudness.

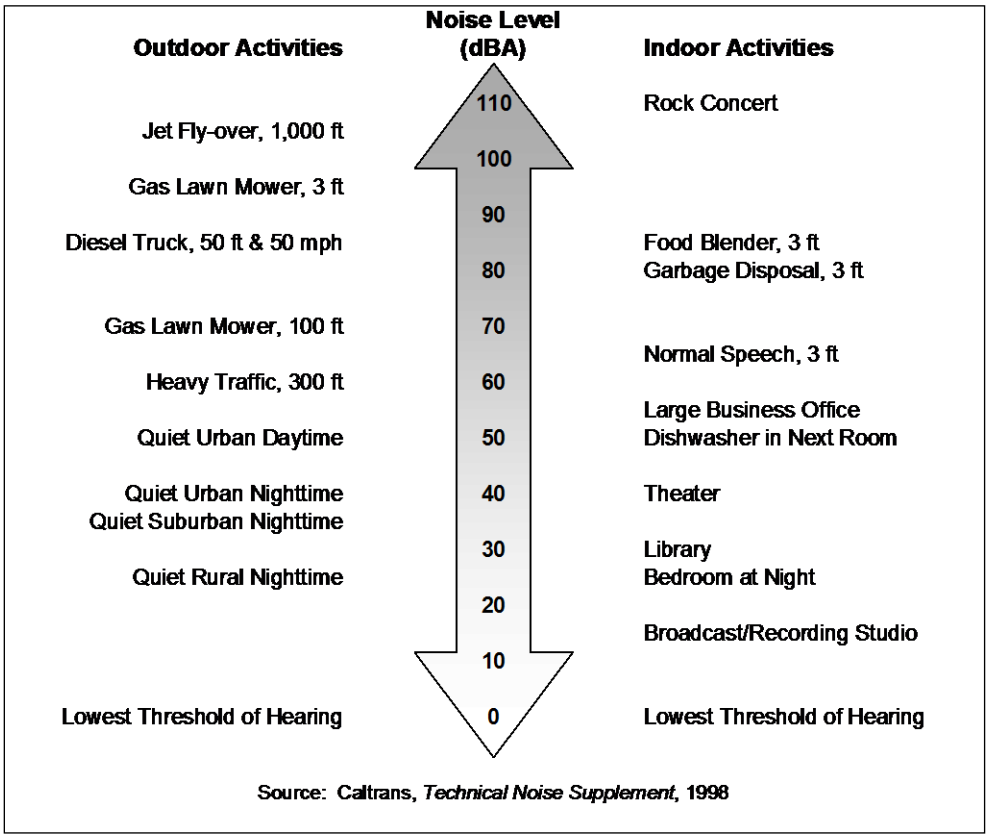


Figure 3. Typical Outdoor and Indoor Noise Sources

Two of the primary factors that reduce levels of environmental sounds are increasing the distance between the sound source to the receiver and having intervening obstacles such as walls, buildings, or terrain features that block the direct path between the sound source and the receiver. Factors that act to increase the loudness of environmental sounds include moving the sound source closer to the receiver, sound enhancements caused by reflections, and focusing caused by various meteorological conditions.

Following are brief definitions of the two measures of environmental noise that have been used in this study:

- **Equivalent Sound Level (Leq)**: Environment sound fluctuates constantly. The equivalent sound level (Leq), sometimes referred to as the energy average sound level, is the most common means of characterizing community noise. Leq represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. The short- and long-term noise measurements taken for this project are reported in terms of the 1-second and 1-hour Leqs.
- **Community Noise Equivalent Level (CNEL)**: CNEL is basically a 24-hour Leq with adjustments to reflect the greater sensitivity of most people to noise during the evening (7 PM to 10 PM) and nighttime (10 PM to 7 AM). The adjustments are a 5 dBA penalty for evening noise and a 10-dBA penalty for nighttime noise. The effect of the penalties are that in the calculation of CNEL, an event that occurs during the evening hours is equivalent to three of the same events during the daytime hours and an event in the nighttime hours is equivalent to ten of the same event during the daytime hours.

  CNEL is very similar to the more common "Day Night Average Level", which is usually abbreviated as Ldn or DNL. The only difference is that Ldn does not include the evening adjustment. In most residential communities, CNEL will be 0 to 0.5 dB greater than Ldn. CNEL and Ldn are the most common measures of total community noise over a 24-hour period. They are used by most cities in California, the Federal Transit Administration, the Federal Aviation Administration, and many other state and federal agencies to evaluate residential noise impacts from proposed transportation projects.

3. EXISTING CONDITIONS

The proposed development site is a large tract of undeveloped land in the Quartz Hill section of Palmdale. Current sound levels on the site are moderate, with the majority of the activity coming from Ave 70th W. Quieter, but still audible, noise sources are W Avenue M and 56th St W. The streets in this area are relatively straight with few stops and turns and a speed limit around 50 miles per hour, depending on the street. The city of Palmdale expects the traffic levels to grow between now and 2025, as a result of this and other projects. In addition, minor noise sources include distant traffic on SR 14 and local arterials, occasional aircraft overflights, and noise from adjacent developments.

Existing noise levels were documented with measurements taken by ATS between the evening of July 9th and the morning of July 11th. 1-second and 1-hour Leqs were taken at a site on the property with the highest noise levels, right next to the major arterial of 70th St W. The microphone was placed next to a sign on the east side of 70st St W, right before the intersection with Vista Sol Ln. Figure 4 is a photograph of the microphone location. Throughout the day, the dominant noise source was the traffic on 70th St W.

The measurement results for are shown graphically in Figure 5. The heavy line is the 1-hour Leq values and the lighter lines are the 1-second Leq values. The 1-second values fluctuate around the 1-hour values by ±5 to ±15 dBA. Events that were not representative of normal traffic were removed, which can be seen in red. These were single events at abnormally high levels or with frequencies not usually seen generated by broadband traffic. The CNEL was calculated to be 70.6 at the microphone location.

Figure 4. Photograph of Measurement Location

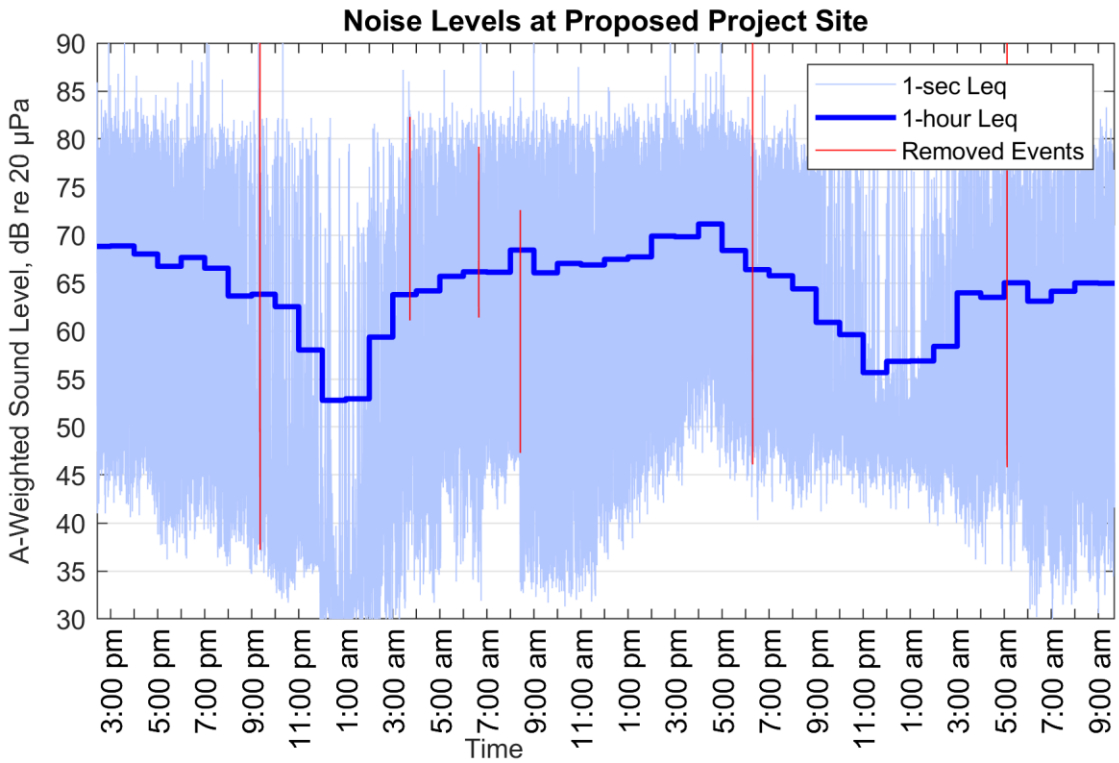


Figure 5: Noise Measurements Taken from Eastern Edge of Property (Site 1)

4. FUTURE NOISE LEVELS

The main noise source that will affect the project is the traffic on 70th St W. The noise projections have focused on noise from 70th St W traffic at the first row of building sites east of 70th St W. These lots range from about 40 to 50 feet from the edge of 70th St W. This section covers the approach and assumptions used to develop the noise projections, identifies the locations where the future noise levels are likely to exceed the City of Palmdale acceptability threshold of 65 dBA CNEL, and discusses the mitigation approaches.

4.1 Noise Projection Approach and Assumptions

Since the measurement ran for longer than 24 hours, multiple CNEL values could be derived depending on the 24-hour block chosen. A CNEL was calculated for every full 24-hour time block during the measurement, and the largest value was used in this analysis to give the most conservative estimates. That CNEL was found to be 70.6 dBA at the location of the microphone. A distance correction was applied using logarithmic decay to estimate the CNEL at the nearest proposed residential locations, which will be set back further from 70th St. W. This correction factor comes out to -5.8 dB. Applying the correction factor to the measured value results in a CNEL of 64.8 dBA for the closest potential receivers.

To estimate future conditions, as well as impacts to existing receivers, an analysis of traffic noise was necessary. The Federal Highway Administration “Traffic Noise Model” computer program (TNM version 2.5) was used to conduct that analysis. Following are the key assumptions made when developing the TNM model:

- The receivers were located on the western part of the building site, 10 feet from the property line. Since the main concern is the 65 CNEL outdoor level, noise projections were made for ground level receivers. The ear level of a person standing on the ground was assumed to be 5 ft
- For 70th St W, each traffic lane was modeled as a roadway, with median lanes and shoulders modeled as roadways without traffic if applicable. Avenue M was modeled with 1 roadway lane representing two lanes of traffic for model simplification.

The noise projections are based on forecasted future average daily traffic (ADT) on 70th St W of 2,808 vehicles and 2,371 vehicles for Avenue W. This information was received from the City of Palmdale website. Peak hour was estimated to be 7% of total traffic based on measurements ATS preformed at a similar area in Palmdale. For projections of the future CNEL, it is necessary to estimate the distribution of traffic between automobiles and heavy trucks. Since the area is mostly single-family homes and lacks routes allowing for thru traffic to the north, south, and west of the project area, heavy truck traffic was estimated at 1% of the total traffic. The modeled area was compared to the adjusted first row measurement in order to validate the model. The peak hour Leq was measured at 65.4 dBA, while the model produced a result 65.0 dBA, confirming the accuracy of the model.

4.2 Predicted Future Noise Levels

The model was run to predict the future noise levels under 3 conditions:

- Current no-build situation
- Current no-build situation with a noise barrier for the proposed development
- Future conditions with a noise barrier for the proposed development

Noise predictions were made for multiple first-row locations within the proposed development, but the predictions were all within 1 dB of each other, so the model was simplified into one receiver. The noise barrier was assumed to be 6 feet tall based on the developer's existing plan to build a 6-foot privacy wall along 70 St. W. The two closest existing receivers to the proposed project were also analyzed to see if they were close to the 65 dBA CNEL limit. The results of the first two models are shown below in Table 1.

Table 1: TNM Results for Current Traffic Conditions

	Current Traffic	Current Traffic with Project Noise Barrier
41913 Bonita Dr	59.5 dBA	59.4 dBA
Proposed Project	65.0 dBA	58.1 dBA
41735 Retsina St	60.5 dBA	60.3 dBA

The proposed noise barrier would clearly lower the sound levels by around 7dBA, which is more than enough reduction for the resulting sound levels would be below the 65 dBA CNEL threshold. The existing nearby receivers are currently beneath that limit as well.

For future conditions, the model was run to determine the daily traffic needed to produce a CNEL of over 65 dBA for these three receivers, to determine if it is reasonable to say that increased noise as a result of the project would create impacts at receivers on or near the property. The day/night split was obtained by

taking the hourly results from the long-term measurement and calculating the total amount of energy exposure over each period. Using this method, it was determined that the traffic would need to be increased 5 times above the current amount to raise the CNEL to 65.0 dBA. Note that this result assumes the presence of the proposed privacy noise barrier. Considering the current daily traffic counts of 2,808 vehicles for 70th St W and 2,371 vehicles for Avenue W, it is highly unlikely that this current project with 86 single-family houses will increase traffic by a factor of 5 and raise noise levels above the limit.

4.3 Noise Mitigation Options

The current CNEL of 64.8 dBA is close enough to the 65 dBA threshold along Avenue 70th St W, where mitigation is recommended. The primary options for mitigating the noise are: (1) building sound walls long Avenue 70th St W, and (2) increasing the sound insulation properties of the buildings. The general guidelines for noise mitigation are that it should reduce noise levels by at least 5 dBA and that the interior CNEL should not exceed 45 dBA. Given that the outdoor to indoor sound reduction for new residential construction is typically in the 20 to 25 dBA range, as long as the exterior noise levels are below 65 dBA CNEL, the interior levels should be below 45 dBA CNEL.

Improving the sound insulation properties of the residences would require using acoustically rated windows and upgraded mechanical ventilation. Mechanical ventilation is necessary because opening the windows for ventilation will negate the acoustical benefits of the acoustically rated windows.

In this case, we believe that construction of sound walls along 70th St W will be the most effective noise mitigation approach. The primary requirements for the sound walls are:

1. The wall should be constructed of an impervious material with no gaps between panels. Even the small gaps between boards on a typical wood landscaping fence are sufficient to severely degrade the effectiveness of the fence as a sound wall.
2. There should not be any openings at the bottom of the wall. Any openings that result from minor fluctuations of the ground surface should be filled with soil.
3. The sound wall material should be impervious with a minimum surface density of 3.5 lb/ft^2. There is a wide range of suitable materials for sound walls ranging from masonry blocks to lap joint or tongue and grove wood panels. Wood panels that are at least 1 to 1.5 inches thick will usually meet the surface density requirement. The primary considerations in selecting the material and construction methods for a noise mitigating wall are architectural and structural (e.g., will it stand up in a wind storm?).
4. A wall of at least 6 feet should be used to block the line-of-sight between the noise source and receiver.

5. CONSTRUCTION NOISE

Due to the proximity of the existing single-family residences directly north and south of the proposed development, there is potential to generate intrusive noise during the construction process. The Palmdale Municipal Code prohibits the use of construction equipment between the hours of 8:00 p.m. and 6:30 a.m., Monday through Saturday, or at any time on Sunday, if the noise disturbs any persons occupying sleeping quarters in a residence. This means that any intrusive noise would be limited to daytime hours.

5.1 Predicted Levels of Construction Noise

The loudest portion of the construction process would be during the clearing and preparation of the site. This would require large earth moving equipment and trucks on the site for eight to ten hours per day over a period of several months.

There are two receivers to the north of the project where there will be partial line-of-sight to construction activities, 41870 Montana Dr and 41900 Bonita Dr. Both of these properties have privacy and sound walls, like the other properties directly to the south and north of the project area, but there are gaps in the walls to the west that will increase sound levels

ATS used the following assumptions to estimate Leq at these two residences to the north over an 8-hour shift during the site clearing and preparation phase:

1. The loudest piece of equipment would be a bulldozer or similar earth moving equipment with a noise emission of 85 dBA at a distance of 50 feet when operating under full load.
2. The bulldozer would operate at full load 50% of the time. At other times, it would be at lower power settings or idling. This means that the Leq noise level over an 8-hour shift would be 82 dBA at a distance of 50 feet from the center of the worksite.
3. Sound levels will attenuate at a rate of 6 decibels for every doubling of distance. This means that the 8-hour Leq will be 76 dBA at a distance of 100 ft, 70 dBA at a distance of 200 ft, and 65 dBA at a distance of 400 ft.
4. These buildings are 350 feet from the center of the construction site.
5. Based on these assumptions, the Leq at the receivers over an 8-hour work shift is predicted to be 66 dBA

Other sites directly bordering the property are expected to be several decibels below 66 dBA due to the presence of sound walls around the property.

The existing noise level at 41900 Bonita Dr is dominated by traffic noise. The exact value was determined by taking the daytime Leq from the long-term measurement and applying an adjustment factor. The adjustment factor is the difference between the TNM results at the measurement site and at the adjacent receivers. Using this adjustment, the estimated ambient noise level at 41900 Bonita Dr. is 53 dBA from 7 a.m. to 6 p.m.

This means that construction will cause a 13 dB increase in the daytime noise levels for 41900 Bonita Dr. A similar result should be expected at 41870 Montana Dr. Although no specific criteria have been established for impacts from construction noise, increases of this magnitude are usually considered to be a impact. Other adjacent homes will also have daily Leqs over the ambient during peak construction activities, but to a lesser degree due to the presence of sound walls surrounding the property.

5.2 Minimizing Construction Noise Impacts

Noise impacts during the site clearing and preparation phase will be limited to a period of eight to twelve weeks. However, the contractor should be required to limit construction to daytime hours as specified in the City of Palmdale Municipal Ordinance. To further minimize potential construction noise impacts, other best-practices to reduce noise levels should be followed by the contractor, including:

- Installing and maintaining effective mufflers on construction equipment,
- Locating equipment and staging areas as far from residences as possible,

- Limiting unnecessary idling of equipment,
- Minimize the use of backup alarms where possible without compromising worker safety.

For the two residences at 41870 Montana Dr and 41900 Bonita Dr, a 6-foot high temporary sound wall could be constructed along the gaps in walls at the end of Montana Dr and Bonita Dr, which would reduce levels of noise by 5 to 10 dBA, if extra reduction is deemed helpful.

It should be noted that if bulldozing takes place for the majority of the day near the adjacent residences, it would create a daily Leq of 82 dBA, since they are roughly 50 feet away. This would represent an increase of 20+ dBA in the daytime noise levels. These levels should be avoided by making sure that the contractor does not do all the grading -or using any other loud mechanical equipment- for locations close to adjacent property on a single day.