



**Addendum No. 1 to the 2023-  
2031 House Element Update  
Environmental Impact Report  
(State Clearinghouse No.  
2021110146)**

Laurel Ranch Townhomes Project

September 19, 2023

Prepared for:

City of Antioch  
Community Development Department,  
Planning Division  
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# LAUREL RANCH TOWNHOMES PROJECT

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## LAUREL RANCH TOWNHOMES PROJECT

### Acronyms and Abbreviations

## Acronyms and Abbreviations

AB	Assembly Bill
ABAG	Association of Bay Area Governments
APCO	Air Pollution Control Officer
APD	Antioch Police Department
APN	Assessor's Parcel Number
APCO	Air Pollution Control Officer
AUSD	Antioch Unified School District
BAAQMD	Bay Area Air Quality Management
BCMM	Basic Construction Mitigation Measures
BMPs	Best Management Practices
CAAQS	California ambient air quality standards
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCCFFPD	Contra Costa County Fire Protection District
CCR	California Code of Regulations
CCTA	Contra Costa Transportation Authority
CCWD	Contra Costa Water District
CEQA	California Environmental Quality Act
City	City of Antioch
CN	Commercial Retail
CNEL	Community Noise Equivalent Level
CY	cubic yards
dba	A-weighted decibel
DOC	California Department of Conservation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
ECC	East Contra Costa
EIR	Environmental Impact Report
ESA	Environmental Site Assessment
EVAE	Emergency Vehicle Access Easement
GHG	Greenhouse Gas Emissions
GSP	Groundwater Sustainability Plan
HFC	Hydrofluorocarbons

## LAUREL RANCH TOWNHOMES PROJECT

### Acronyms and Abbreviations

Housing Element EIR	Antioch Housing, Environmental Hazards, and Environmental Justice Elements Environmental Impact Report
LID	Low Impact Development
MLD	Most Likely Descendant
NAAQS	National ambient air quality standards
NAHC	Native American Heritage Commission
NO <sub>x</sub>	nitrogen oxides
NOA	naturally occurring asbestos
NPDES	National Pollutant Discharge Elimination System
PG&E	Pacific Gas and Electric
PM	Particulate matter
PM <sub>10</sub>	fugitive dust emissions/particulate matter between 2.5 and 10 microns
RH	Medium High Density Residential
RHNA	Regional Housing Needs Allocation
RMP	Resource Management Plan
ROG	reactive organic gases
SB	Senate Bill
S-P	Specific Plan
SRA	State Responsibility Area
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminants
TAZ	Traffic analysis zone
TDM	Transportation demand management
UWMP	Urban Water Management Plan
VMT	vehicle miles traveled
WCSMP	Wastewater Collection System Master Plan
WWTP	Wastewater Treatment Plant
ZEV	Zero Emission Vehicle

## 1.0 INTRODUCTION

This document is an Addendum to the Antioch Housing, Environmental Hazards, and Environmental Justice Elements Environmental Impact Report<sup>1</sup> (Housing Element EIR), which was previously certified by the City of Antioch in January 2023 for the City of Antioch 2023-2031 Housing Element Update, State Clearinghouse No. 2021110146.

The Addendum focuses on the analysis of an 18.5-acre site, consisting of four parcels with Assessor's Parcel Numbers (APNs) 053-060-063, 053-060-057, 053-060-056, and 053-060-055. These parcels are located within the East Lone Tree Specific Plan Area and are zoned as Specific Plan with a land use designation of Community Retail (CN). The East Lone Tree Specific Plan allows for multi-family residential use and Medium High Density Residential (RH) as an alternative use for the CN-designated sites<sup>2</sup>. Therefore, residential development on the entire 18.5-acre site is permitted under the Specific Plan without requiring an amendment.

The Housing Element Draft EIR identified three of the four parcels (APNs 053-060-057, 053-060-056, and 053-060-055) as suitable sites for residential development to meet the City's Regional Housing Needs Allocation (RHNA)<sup>3</sup>. The Housing Element Draft EIR proposed rezoning these three parcels to R-35<sup>4</sup> for the development of a maximum of 292 units. However, conservative assumptions led to a realistic capacity estimation of 286 residential units for these parcels in the Housing Element Draft EIR<sup>5</sup>. Thus, the analysis in the Housing Element Draft EIR considered the potential impacts of developing these three sites with 286 residential units.

During the preparation of the Housing Element Final EIR, a development application was submitted for the construction of 216 residential units on APN 053-060-063, in addition to the already included APNs 053-060-057, 053-060-056, and 053-060-055. Consequently, the Housing Sites Inventory in the Final Housing Element EIR was revised to include the additional parcel, and all four parcels were classified as "pending units" in the Housing Element Update. As the proposed development aligned with the existing

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<sup>1</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf).

<sup>2</sup> City of Antioch. 1996. East Lone Tree Specific Plan. Volume 1, Adopted May 1996. <https://www.antiochca.gov/fc/community-development/planning/East-Lone-Tree-Specific-Plan.pdf>. Page 3-5.

<sup>3</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Table III-4, Page III-18.

<sup>4</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Table III-5, Page III-30.

<sup>5</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Table III-4, Page III-18.

# LAUREL RANCH TOWNHOMES PROJECT

## Introduction

zoning of the project site, the three sites originally proposed for rezoning in the Draft EIR were no longer subject to rezone in the Final EIR as part of the Housing Element Update<sup>6</sup>.

This Addendum focuses on the “previous project”, which refers to the project site’s Specific Plan zoning, land use designation, and the analysis provided in the Housing Element EIR for the development of the project site with 286 residential units.

The proposed modified project, known as the Laurel Ranch Townhomes Project, presents a change in the previous project by proposing a lower density development with 216 rental units. While the Housing Element Draft EIR analyzed the potential impacts of developing the site with up to 286 units, the proposed modified project is proposing development of the site with a lower density development resulting in the construction of 216 units. These units would be located within a series of 4-, 5-, and 6-plex buildings, accompanied by shared onsite amenities such as a pool, leasing center, restrooms, fire lounge, and indoor community room.

The purpose of this Addendum is to analyze the environmental impacts of the proposed modified project, determine if any new significant impacts would occur or if previously identified impacts would become substantially more severe due to the changes, and conclude whether subsequent environmental review is necessary. Based on the analysis conducted, this Addendum confirms that the proposed modified project would not have more severe impacts than those previously identified, and no new significant impacts would arise.

## 1.1 PROJECT TITLE

Laurel Ranch Townhomes Project

## 1.2 LEAD AGENCY

City of Antioch  
Community Development Department  
Planning Division  
200 H Street  
Antioch, California 94531

Staff Contact: Zoe Merideth  
Phone: (925) 779-6519  
Email: [zmerideth@antioch.gov](mailto:zmerideth@antioch.gov)

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<sup>6</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Final Environmental Impact Report (SCH 2021110146), December 2022. <https://www.antiochca.gov/fc/community-development/planning/housing-element/FEIR-Response-to-Comments.pdf>. Pages I-5 through I-6.

## **LAUREL RANCH TOWNHOMES PROJECT**

Introduction

### **1.3 APPLICANT/PROJECT SPONSOR**

Laurel Ranch 216 Owner, LLC  
1255 Treat Boulevard Suite 300  
Concord, California 94597

Sponsor Contact: Charles McKeag  
Phone: (925) 401-5052  
Email: [cmckeag@brightskyresidential.com](mailto:cmckeag@brightskyresidential.com)

## **2.0 CEQA AUTHORITY FOR THE ADDENDUM**

According to the California Environmental Quality Act (CEQA) Guidelines Section 15164, an Addendum to a previously certified EIR should be prepared by the lead agency if changes or additions are necessary, and none of the conditions outlined below for the preparation of a subsequent EIR have occurred (CEQA Guidelines Section 15162):

1. *Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*
2. *Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or*
3. *New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:*
  - a. *The project will have one or more significant effects not discussed in the previous EIR or negative declaration;*
  - b. *Significant effects previously examined will be substantially more severe than shown in the previous EIR;*
  - c. *Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or*
  - d. *Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment but, the project proponents decline to adopt the mitigation measure or alternative.*

As stated above, CEQA Guidelines Section 15164 requires a lead agency or a responsible agency to prepare an addendum to a previously certified EIR if changes or additions are necessary. Based on the analysis conducted and provided herein, this Addendum concludes that the proposed modified project does not warrant subsequent environmental review as required by Section 15162. The proposed modified project does not include substantial changes to the Housing Element EIR, and no other circumstances have changed that would meet the criteria set forth in CEQA Guidelines Section 15162, which would require the preparation of a subsequent EIR. Therefore, a subsequent EIR is not required for the proposed modified project, and preparation of an Addendum to the certified EIR is appropriate pursuant to CEQA.

**LAUREL RANCH TOWNHOMES PROJECT**  
CEQA Authority for the Addendum

According to CEQA Guidelines Section 15164(c), addenda are not required to be circulated for public review. All documents referenced in this Addendum are available at the City of Antioch Community Development Department, located at 200 H Street, Antioch, CA 94531.



## **LAUREL RANCH TOWNHOMES PROJECT**

Description of Project Addressed in Certified EIR for the Housing Element Update

### **3.0 DESCRIPTION OF PROJECT ADDRESSED IN CERTIFIED EIR FOR THE HOUSING ELEMENT UPDATE**

The Housing Element EIR, adopted by the City Council in January 2023, evaluated the overall impacts related to the implementation of the City's Housing, Environmental Hazards, and Environmental Justice Elements of the City's General Plan. As described in the Housing Element EIR, the Housing Element Update was proposed by the City of Antioch (City) to comply with California Government Code Sections 65580-65589.8, which requires local jurisdictions to update the Housing Element of their General Plans every eight years to adequately plan for the regional housing needs of residents of all income groups. The previous project included the following: (1) adoption and implementation of the City's 6<sup>th</sup> Cycle Housing Element Update (2023-2031); (2) adoption and implementation of related updates to the City's Environmental Hazards Element; (3) development and adoption of associated Environmental Justice Policies per Senate Bill (SB) 1000; and (4) adoption of rezonings and specific plan amendments necessary to accommodate the City's RHNA.

The Housing Element EIR found that the implementation of the City's 6<sup>th</sup> Cycle Housing Element Update (2023-2031) would have the following significant and unavoidable impacts:

- Transportation (Vehicle Miles Traveled)

All other impacts were considered to be less than significant or would be reduced to less than significant levels with mitigation.

## LAUREL RANCH TOWNHOMES PROJECT

### Project Description

## 4.0 PROJECT DESCRIPTION

### 4.1 PROJECT LOCATION

The proposed modified project is situated in Antioch, Contra Costa County, California (Figure 1). Specifically, it is located within the City's East Lone Tree Specific Plan area at the southeast corner of the intersection of Laurel Road and Country Hills Drive (Figure 2). The project site spans 18.5 acres and comprises four parcels identified as APNs 053-060-063, 053-060-057, 053-060-056, and 053-060-055.

### 4.2 PROJECT OVERVIEW

The 18.5-acre proposed modified project involves a change from the previous project to develop the site with a new multi-family residential development consisting of 216 for-rent residential units. These residential units would be accommodated within a series of 4-, 5-, and 6-plex buildings. Each residential unit would comprise two to three bedrooms and two to 2.5 bathrooms, along with a one or two-car private garage with direct access. Additionally, the proposed modified project would feature shared onsite amenities, including a pool, leasing center, restrooms, fire lounge, and indoor community room (Figure 3).

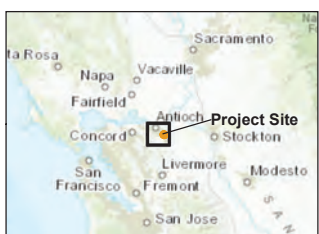
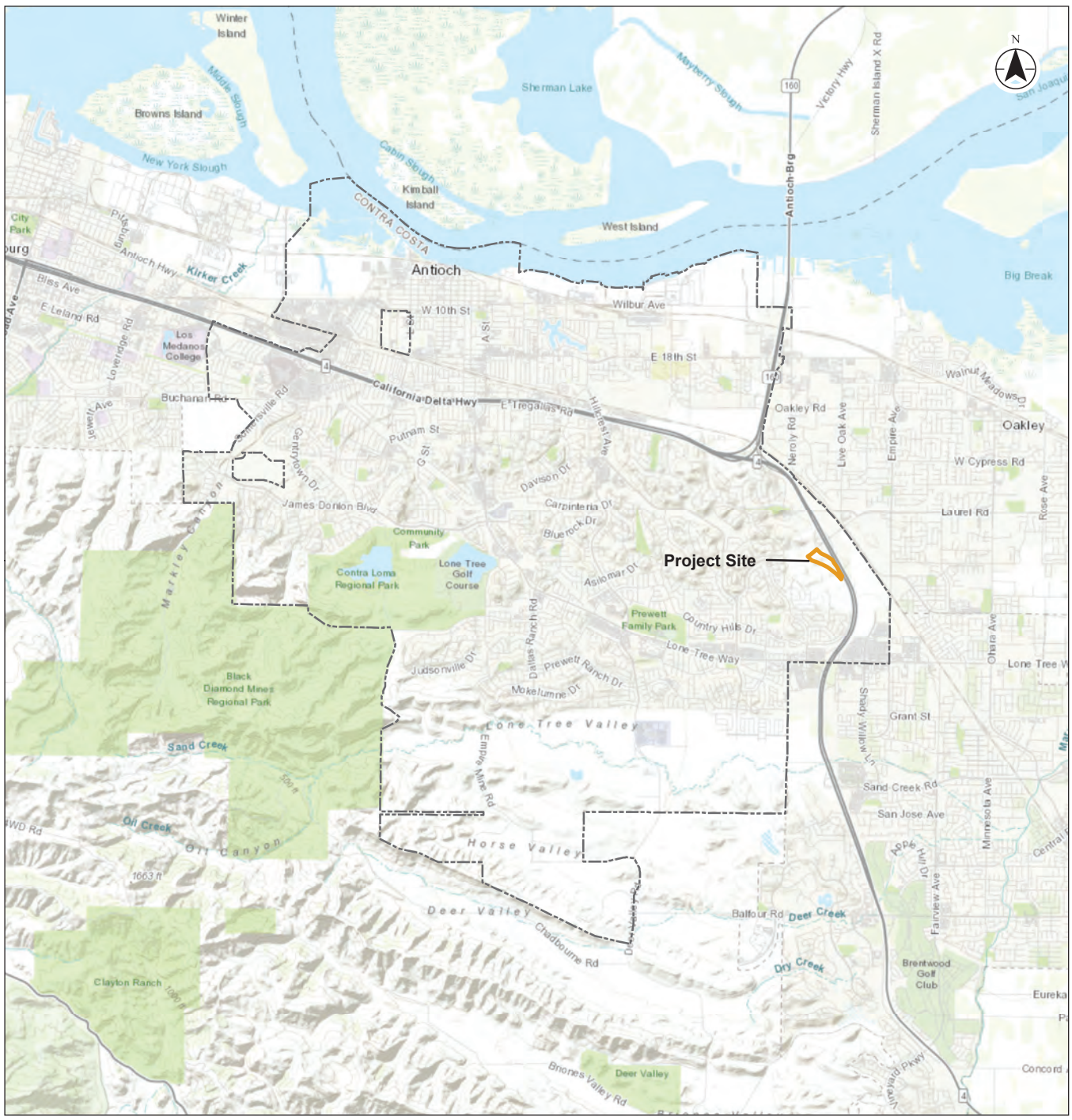
### 4.3 EXISTING SITE CONDITIONS

Currently, the 18.5-acre project site is undeveloped. It is located within the larger East Lone Tree Specific Plan area. Presently, the project site is being used for temporary storage of general construction materials related to surrounding development activities. These materials would be cleared once the nearby work is complete and before construction of the proposed modified project begins.

### 4.4 SURROUNDING LAND USES

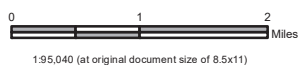
The project site is bordered by the following:

- **North:** Laurel Road and Highway 4 on- and off-ramps and the Laurel Ranch Subdivision Project (consisting of single-family homes).
- **South:** Country Hills Road and single-family developments.
- **East:** Highway 4, beyond which lies undeveloped land.
- **West:** Laurel Ranch Subdivision Project and single-family homes.



**Legend**

- Project Site
- City of Antioch



1:95,040 (at original document size of 8.5x11)



Project Location: Antioch, California  
 Prepared by KJ on 2023-07-28  
 Technical Review by AR on 2023-07-28

Client/Project: City of Antioch  
 Laurel Ranch Townhomes Project  
 Addendum

Figure No. 1

Title: **Regional Overview**

**Notes**

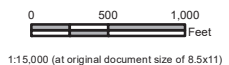
1. Coordinate System: NAD 1983 StatePlane California III  
 FPS 0403 Feet
2. Base features produced under license with the Ontario

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- Legend**
- East Lone Tree Specific Plan
  - APN Boundary
  - Project Site



Project Location: Antioch, California  
 Prepared by KJ on 2023-07-28  
 Technical Review by AR on 2023-07-28

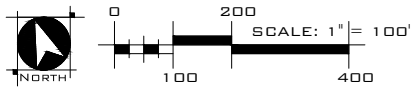
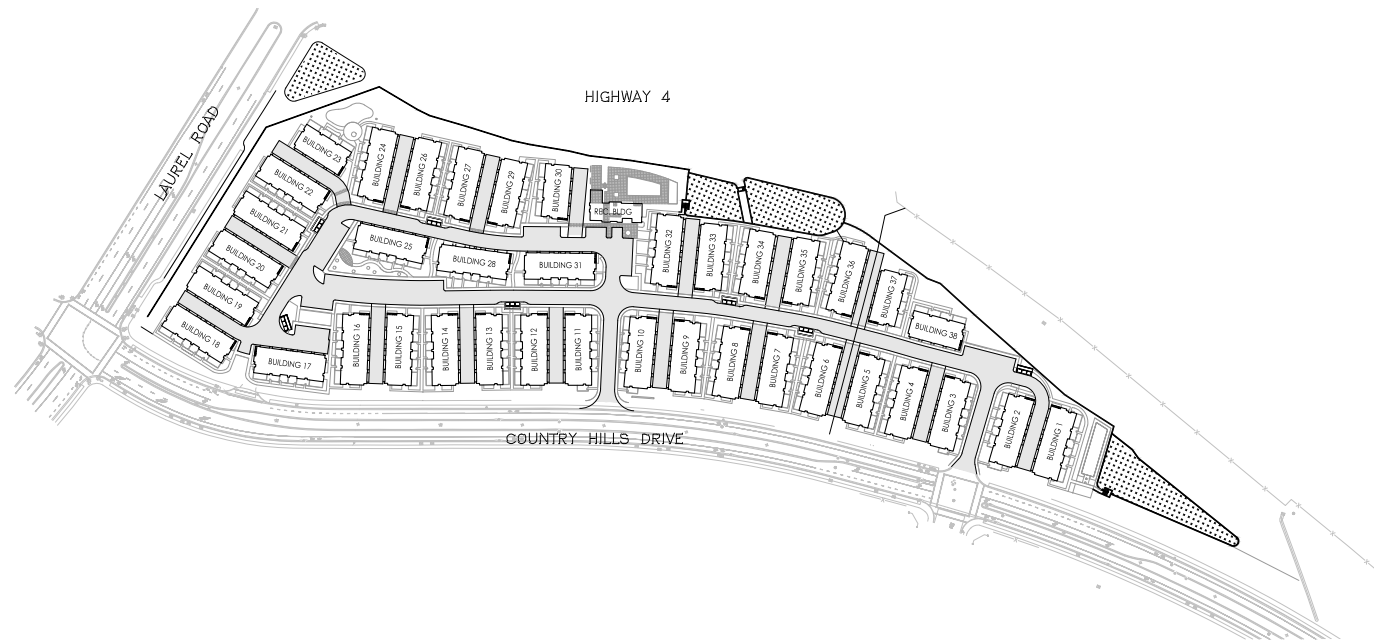
Client/Project:  
 City of Antioch  
 Laurel Ranch Townhomes Project  
 Addendum

Figure No.  
**2**

Title  
**Project Site**

**Notes**  
 1. Coordinate System: NAD 1983 StatePlane California III  
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Source: Wood Rodgers, March 2023

Project Location  
Antioch, CA

Client/Project  
City of Antioch  
Laurel Ranch Townhomes Project  
Addendum

Figure No.  
**3**

Title  
**Site Plan**



## LAUREL RANCH TOWNHOMES PROJECT

### Project Description

#### 4.4.1 Land Use Changes

##### General Plan

The current General Plan designation for the project site is the East Lone Tree Specific Plan Focus Area. Within the East Lone Tree Specific Plan, the project site is designated as Community Retail (CN), which is defined as follows:

*“Supermarket anchored retail oriented primarily to the day-to-day needs of local residents. Community retail in East Lone Tree Area is envisioned not merely as a generic strip center, but rather as an integral part of the community, with a scale and character that complements and enhances its single-family neighbors.”<sup>7</sup>*

Additionally, the East Lone Tree Specific Plan allows for alternative uses of the CN designated sites, including medium-density residential (RH). The Specific Plan encourages RH as an alternative use for CN sites. As a result, use of the CN sites for residential development consistent with RH controls would conform to the Specific Plan and would not necessitate a change in designation<sup>8</sup>.

The proposed modified project does not propose to change the General Plan land use designation of the project site.

##### Zoning

Currently, the project site is zoned Specific Plan (S-P). The S-P zoning district is defined as follows:

*“This District is intended to provide a base designation to further implement the goals, objectives, and policies of the General Plan with respect to specific areas and uses which, because of their unique character, require a more comprehensive and intense evaluation and planning effort. This district will apply to individual parcel(s) only after the adoption of a specific plan by the City Council, pursuant to Government Code § 65450 et seq. Within the S-P zoning district, permitted uses and development standards shall be as specified in the adopted Specific Plan.”*

The proposed modified project is not proposing to change the zoning designation of the project site.

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<sup>7</sup> City of Antioch. 1996. East Lone Tree Specific Plan. Volume 1, Adopted May 1996. <https://www.antiochca.gov/fc/community-development/planning/East-Lone-Tree-Specific-Plan.pdf>. Page 3-3.

<sup>8</sup> City of Antioch. 1996. East Lone Tree Specific Plan. Volume 1, Adopted May 1996. <https://www.antiochca.gov/fc/community-development/planning/East-Lone-Tree-Specific-Plan.pdf>. Page 3-5.



## LAUREL RANCH TOWNHOMES PROJECT

### Project Description

## 4.5 PROPOSED DEVELOPMENT CHARACTERISTICS

### 4.5.1 Proposed Modified Project

The proposed modified project involves the development of a multi-family residential complex on the site, consisting of a total of 216 units distributed among 38 buildings. These buildings would be comprised of 4-, 5-, and 6-plex structures, with a maximum height of 30 feet 8 inches.

The residential units would offer either two or three bedrooms and two to 2.5 bathrooms, each equipped with a one or two-car private garage providing direct access to an individual unit. The size of each unit would range from approximately 941 to 1,504 square feet. Additionally, each unit would feature a porch spanning 40 to 52 square feet and a private yard space consisting of at least 100 square feet.

The proposed modified project would be professionally managed and would have a dedicated full-time staff of up to five employees. It would also include various shared onsite amenities, such as a pool, leasing center, restrooms, fire lounge, and indoor community room. The onsite community building would encompass approximately 3,307 square feet, comprising a 668 square foot recreation room, 524 square foot leasing office, storage and maintenance rooms, and restrooms.

To promote a sense of community and enhance the living experience, the proposed modified project would provide a total of 88,291 square feet of open space, with 44,195 square feet designated as common usable open space and 44,096 square feet as private open space. The common open space would feature amenities such as a dog park, turf park and lawn areas, children's playground, recreation center, and pool area. The recreation center and pool area would include a barbeque pavilion with dining tables, pool restrooms and showers, fire lounge, club room, lawn area, lounge chairs and a table with a cabana structure.

### Landscaping

The proposed modified project would incorporate landscaping throughout the project site. Landscaping would be provided along the project site frontage along Country Hills Drive and Laurel Road as well as along all internal streets. All common areas provided would utilize water-efficient landscaping techniques, utilizing drought-resistant plants and water-efficient methods like drip irrigation and micro-irrigation to minimize water usage. Additionally, xeriscaping (landscaping requiring little to no irrigation) would be implemented in the private front and rear yards, involving the use of decorative gravel, decomposed granite, and synthetic turf. The Arborist Report prepared for the project site identified no existing trees within the site but identified existing street trees along the project site frontage on Country Hills Drive. None of the trees identified in the Arborist Report are planned for removal. The proposed landscape plan is shown in Figure 5.



6-Plex - Modern Farmhouse Elevation



5-Plex - Farmhouse Elevation



4-Plex - Farmhouse Elevation

Source: Brightsky Residential, March 2023

Project Location  
Antioch, CA

Client/Project  
City of Antioch  
Laurel Ranch Townhomes Project  
Addendum

Figure No.  
**4**

Title  
**Elevations**





## LEGEND

- |  |                                     |
|--|-------------------------------------|
| 1. LAWN OPEN SPACE                         | 8. ALLEY DRIVE                      |
| 2. MAIL BOX TERRACE                        | 9. RETAINING WALL PER CIVIL         |
| 3. RECREATION CENTER AND POOL AREA         | 10. MAIN ENTRY                      |
| 4. DOG PARK PAVILION TRELLIS & PICNIC AREA | 11. SECONDARY ENTRY                 |
| 5. DOG PARK                                | 12. EXISTING ROAD (NOT A PART)      |
| 6. WATER QUALITY BASIN                     | 13. HYDRO SEED SLOPE AREA           |
| 7. RESIDENTIAL BUILDING                    | 14. CHILDREN'S PLAYGROUND STRUCTURE |



Source: Brightsky Residential, June 2023

Project Location  
Antioch, CA

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Client/Project  
City of Antioch  
Laurel Ranch Townhomes Project  
Addendum

Figure No.

**5**

Title

**Landscape Plan**

## **LAUREL RANCH TOWNHOMES PROJECT**

### Project Description

#### **Stormwater**

A new stormwater system would be constructed onsite for the proposed modified project. This system would consist of storm drain lines and bioretention basins (Figure 6). Runoff from the project site would be collected by the storm drain system and directed to bioretention facilities constructed according to the criteria outlined in the Contra Costa Cleanwater Program C.3 Guidebook. The site would incorporate three bioretention treatment areas totaling approximately 37,260 square feet. Storm drain lines throughout the project site would guide onsite runoff to these bioretention treatment areas. Paved walkways within the development would slope towards landscaped areas when feasible, and roof leaders would discharge to landscaped areas. Runoff from the buildings would be directed to the streets, collected by drain inlets, and ultimately discharged into the bioretention basins. Once treated in the bioretention treatment areas, the stormwater runoff would be conveyed to existing 24 and 36-inch storm drain lines located onsite. Furthermore, self-treating hydro seed slope area of approximately four acres would be provided along the eastern boundary of the project site, adjacent to Highway 4.

#### **Water**

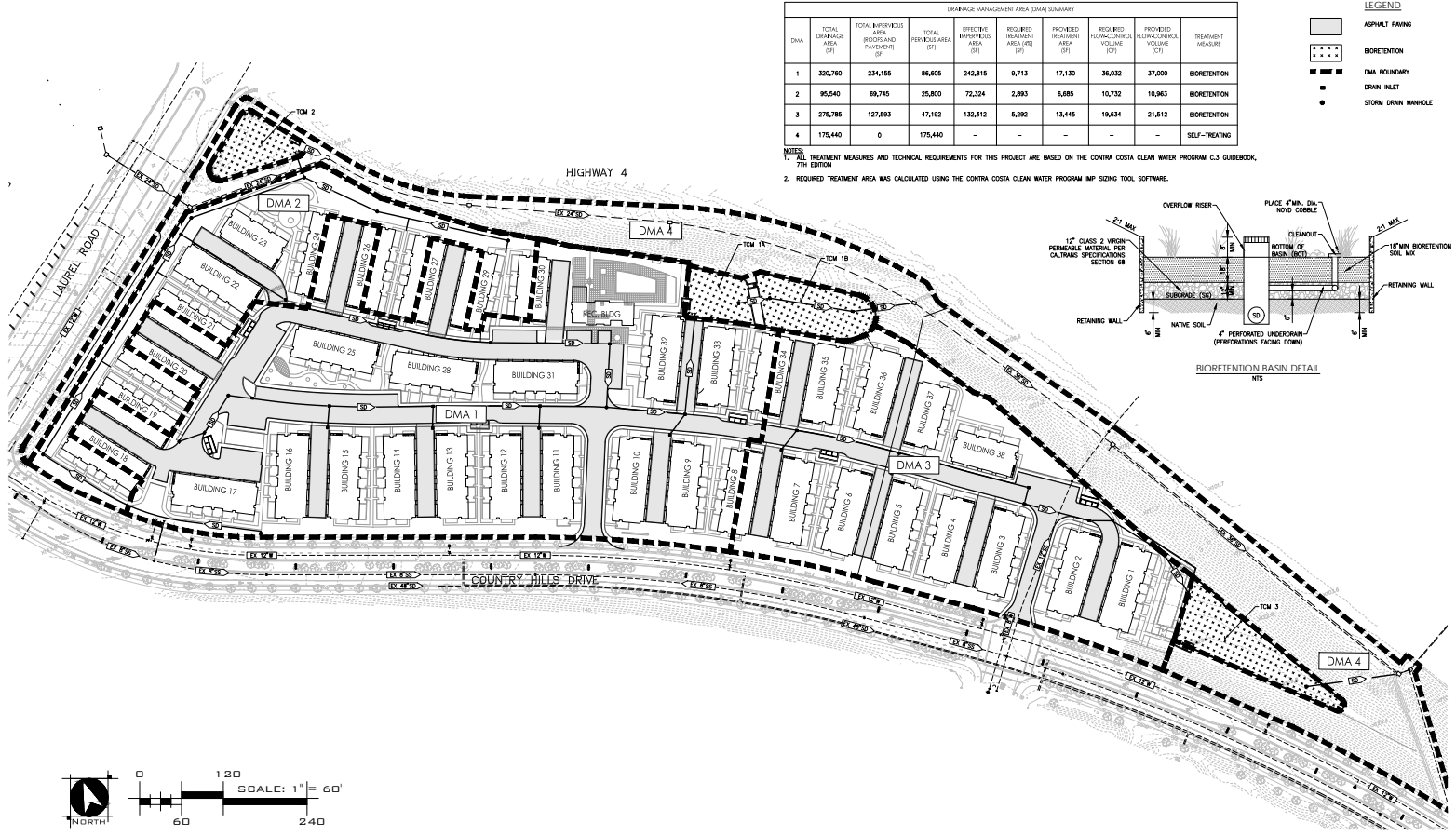
The proposed modified project would be connected to the existing water system in the area. It involves the construction of 8-inch water mains throughout the site, connecting to the existing water stubs and main located along County Hills Drive in accordance with City standards. The proposed modified project would also connect to the existing 12-inch water main along County Hills Drive and receive municipal water service from the City (Figure 7). The connection of the new 8-inch water main lines to the existing 12-inch line would be connected via a 6-inch water meter and backflow preventor and the 8-inch line would drop down to a smaller capacity line for connection to individual buildings. To promote water conservation, the proposed modified project incorporates the use of water-efficient, drought-tolerant plant materials, as well as water-efficient irrigation and xeriscaping. Additionally, the residential units would be equipped with water-efficient appliances, including washing machines and dishwashers. The estimated water demand for the proposed modified project is approximately 151,200 gallons per day. Additionally, the proposed modified project's pool would demand 294 gallons per day and fire flow demand would be approximately 4,500 gallons per minute.

#### **Sewer**

The proposed modified project would involve the construction of new sanitary sewer lines throughout the site. These sewer lines would connect to an existing 12-inch sanitary sewer main and manhole located onsite, following City standards. Sewer service for the proposed modified project would be provided by the City. The estimated wastewater generation for the proposed modified project is approximately 36,720 gallons per day.

#### **Utilities**

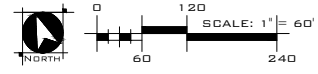
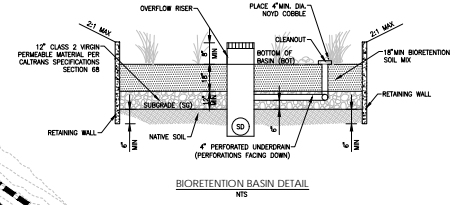
All residential buildings in the proposed modified project would be entirely electric, with no gas appliances. Active solar technology would also be utilized. Utilities for the proposed modified project would be provided by Pacific Gas and Electric (PG&E) and Comcast.



DRAINAGE MANAGEMENT AREA (DMA) SUMMARY

DMA	TOTAL DRAINAGE AREA (SF)	TOTAL IMPERVIOUS AREA (ROOFS AND PARKING) (SF)	TOTAL PERVIOUS AREA (SF)	EFFECTIVE IMPERVIOUS AREA (SF)	REQUIRED TREATMENT AREA (SF)	PROVIDED TREATMENT AREA (SF)	REQUIRED FLOW CONTROL VOLUME (CF)	PROVIDED FLOW CONTROL VOLUME (CF)	TREATMENT MEASURE
1	330,760	234,155	86,605	242,815	9,713	17,130	36,032	37,000	BIORETENTION
2	95,540	69,745	25,800	72,324	2,893	6,685	10,732	10,963	BIORETENTION
3	275,785	127,593	47,192	132,312	5,292	13,445	19,834	21,512	BIORETENTION
4	175,440	0	175,440	-	-	-	-	-	SELF-TREATING

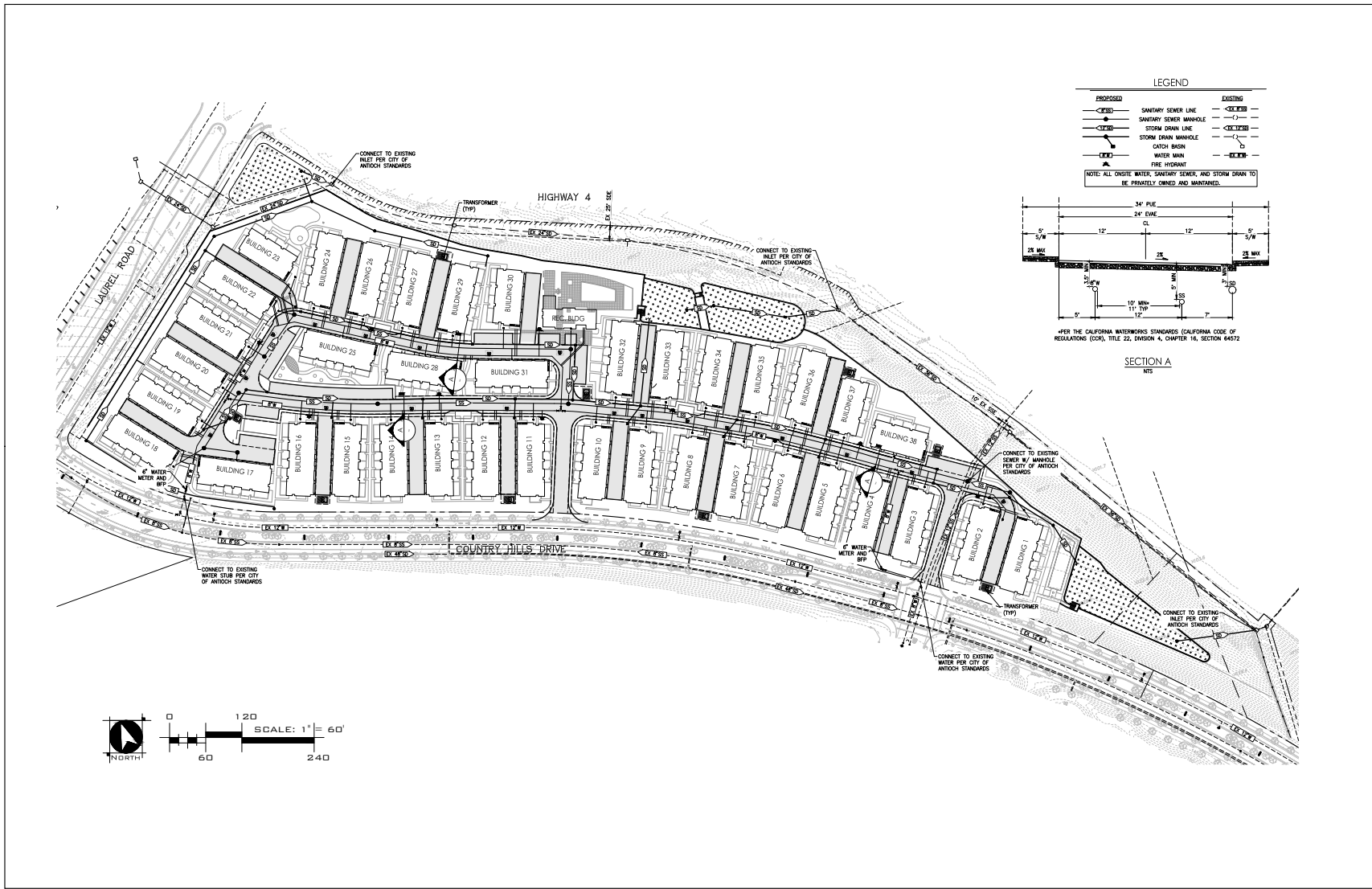
NOTES:  
 1. ALL TREATMENT MEASURES AND TECHNICAL REQUIREMENTS FOR THIS PROJECT ARE BASED ON THE CONTRA COSTA CLEAN WATER PROGRAM C.3 GUIDEBOOK, THE EDITION.  
 2. REQUIRED TREATMENT AREA WAS CALCULATED USING THE CONTRA COSTA CLEAN WATER PROGRAM MP SIZING TOOL SOFTWARE.



Source: Wood Rodgers, March 2023

Project Location  
 Antioch, CA  
 Client/Project  
 City of Antioch  
 Laurel Ranch Townhomes Project  
 Addendum  
 Figure No.  
**6**  
 Title  
**Stormwater Control Plan**





Source: Wood Rodgers, March 2023

Project Location  
 Antioch, CA  
 Client/Project  
 City of Antioch  
 Laurel Ranch Townhomes Project  
 Addendum  
 Figure No.  
**7**  
 Title  
**Utility Plan**



## **LAUREL RANCH TOWNHOMES PROJECT**

### Project Description

#### **Onsite Circulation and Parking**

Vehicle access to the project site would be facilitated through two new driveways situated off Country Hills Drive. These driveways would have a width of 24 feet to ensure adequate Emergency Vehicle Access Easement (EVAE), and all internal streets would have a minimum width of 20 feet EVAE.

The proposed modified project would provide a total of 446 parking spaces, surpassing the required number of parking spaces outlined in the Antioch Municipal Code. The majority of parking spaces would be available through one or two-car private garages for each residential unit. Additionally, 74 parking spaces would be designated as guest parking and provided as street parking stalls along the internal streets. The street parking stalls would adhere to City standards for standard parking stalls with overhang, and four of the guest parking stalls would be ADA compliant.

Furthermore, the proposed modified project would allocate onsite bicycle parking areas, consisting of 12 bicycle parking spaces distributed throughout the project site for use by residents and guests. Ample space would also be provided in each unit's individual garage to accommodate multiple bikes.

#### **Lighting**

The proposed modified project would feature outdoor lighting across the site to enhance safety and security. All lighting installations would comply with Section 9-5.1715, Lighting, of the Antioch Municipal Code, which includes lighting standards that prohibit direct illumination onto adjacent street or properties.

#### **4.4.3 Construction Phasing, Access, Staging, Equipment and Methods**

Construction of the proposed modified project is scheduled to commence in October 2023 and conclude in December 2025, resulting in a construction duration of 26 months. As per the Antioch Municipal Code Chapter 5-17.05, construction activities would be limited to normal business hours, with no nighttime work. All construction materials and equipment would be stored onsite. The construction phase is estimated to require 65 workers per day during peak periods. The proposed modified project would not involve any offsite construction work, and the total area of disturbance would be approximately 18.5 acres. The streets, curbs, gutters, and sidewalks along the project boundaries would remain unchanged. Construction of the proposed modified project is anticipated to require 7,750 cubic yards (CY) of cut and 86,750 CY of fill for a net import of 79,000 CY. Excavation for construction purposes is anticipated to reach a maximum depth of approximately 12 feet. The proposed modified project would result in 431,493 square feet of impervious area and 335,037 square feet of pervious area.

#### **4.6 PROPOSED MODIFIED PROJECT APPROVALS**

In accordance with Sections 15050 and 15367 of the State CEQA Guidelines, the City of Antioch is the Lead Agency for the proposed modified project and has principal authority and jurisdiction for CEQA actions. Responsible Agencies are those agencies that have jurisdiction or authority over one or more aspects associated with the development of a project and/or mitigation. Trustee Agencies are State agencies that have jurisdiction by law over natural resources affected by the proposed modified project.

## **LAUREL RANCH TOWNHOMES PROJECT**

### Project Description

The discretionary actions to be considered by the City of Antioch as part of the proposed modified project include, but may not be limited to, the following:

- Final Development Plan
- Use Permit
- Design Review

## **5.0 CHANGED CIRCUMSTANCES**

Section 15162 of the CEQA Guidelines states that a Subsequent EIR would be required if substantial changes occur with respect to the circumstances under which the subsequent proposed modified project is undertaken which would require major revisions of the Housing Element EIR due to the creation of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

No substantial changes to the immediate environmental setting of the project site have been identified since approval of the Housing Element EIR. The built-out nature of the surrounding area and immediately adjacent uses remain as described in the Housing Element EIR. Accordingly, existing conditions related to the environmental topics evaluated in the Housing Element EIR have not materially changed.

To address the potential for other changed circumstances to result in new or substantially more severe cumulative impacts, a review was completed of plans, policies and regulations that apply to the proposed modified project. Many of the same primary plans and regulations consulted and cited in the Housing Element EIR that relate to land use and the analysis of project impacts under CEQA still apply to both the proposed modified project and the previous project. Based on this review, no changes in plans, policies, and regulations that would present new conflicts or would result in significant or substantially more severe physical impacts on the environment were identified.

The changes in circumstances that have occurred since preparation of the Housing Element EIR would not result in new significant impacts or substantial increases in the severity of previously identified significant impacts. No other additional information of substantial importance, which would require major revisions to earlier analyses that would warrant preparation of a Subsequent EIR pursuant to Section 15162 of the CEQA Guidelines has been found.



## **6.0 COMPARATIVE ANALYSIS OF IMPACTS: PROPOSED MODIFIED PROJECT AND CERTIFIED EIR**

Section 15162 of the CEQA Guidelines states that one of the conditions that would warrant preparation of a Subsequent EIR is if substantial changes are proposed in the previous project which would require major revisions of the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. An analysis was conducted to compare the impacts of the previous project analyzed in the Housing Element EIR with the proposed modified project. The analysis presented in this section confirmed that the proposed modified project would not result in new or substantially more severe or cumulative impacts in any of the environmental topics addressed in the Housing Element EIR. Therefore, proposed modified project impacts would be within the envelope of impacts analyzed in the Housing Element EIR.

No new or substantially more severe impacts would occur as a result of the proposed modified project; as such, a Subsequent EIR would not be required to address these proposed modified project changes pursuant to Section 15162 of the CEQA Guidelines.

### **6.1 AESTHETICS**

Would the Project:

**a) Have a substantial adverse effect on a scenic vista?**

As discussed in the Housing Element EIR, buildout would not result in impacts to scenic resources including scenic vistas due to existing and proposed regulations governing scenic quality, and there would be no impacts anticipated<sup>9</sup>.

The project site is predominately flat with little topographical variation. The site contains limited views of nearby mountains and hills, and those views are further limited by existing surrounding urban development. The proposed modified project would include the development of a new multi-family residential development with a maximum height of 30 feet 8 inches. The maximum height of the proposed modified project would be similar to the heights of existing surrounding urban development. As identified in the Housing Element EIR, SR-4 which is located adjacent to the project site, is a view corridor of scenic resources. However, views of scenic resources in the distance from the portion of SR-4 adjacent to the project site is limited and obscured due to existing urban developments that surround the project site. Therefore, development of the project site would not result in changes to the views available from SR-4 or the area surrounding the project site and there would no impacts to scenic vistas resulting from development of the proposed modified project. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation

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<sup>9</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.G-21 to IV.G-24.



## LAUREL RANCH TOWNHOMES PROJECT

### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

As identified in the Housing Element EIR, there are no designated state scenic highways in the City, though SR-160 is identified as eligible to be listed as a California State Scenic Highway. Therefore, the Housing Element EIR identified that there would be no impacts related to damage of scenic resources within a state scenic highway.

As identified by the California State Scenic Highway System Map, the portion of SR-4 which runs adjacent to the project site is eligible for listing as a state scenic highway. However, it is not currently designated as an official state scenic highway. Views of scenic resources from SR-4 are limited and obstructed by surrounding existing urban development. Therefore, development of the project site would not result in changes to the views available from SR-4. The closest officially designated state scenic highway to the project site is a portion of SR-160 located approximately 3.3 miles north of the site<sup>10</sup>. Therefore, development of the proposed modified project would not result in damage to scenic resources within a state scenic highway and there would be no impacts. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **c) In nonurbanized 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?**

The Housing Element EIR identified that with implementation of General Plan policies and compliance with existing regulations related to the design review process and guidelines described in the City's zoning code, development would not result in conflict with applicable zoning and regulations governing scenic quality and there would be no impacts.

The project site is located within an urbanized area of the City and is zoned S-P. Development standards within the S-P zoning district is specified in the adopted Specific Plan. For the development of the proposed modified project, the applicable Specific Plan to the site is the East Lone Tree Specific Plan. Within the East Lone Tree Specific Plan, different parcels and areas are designated with specific site, height, and density standards. For the project site, a maximum height of 35 feet is allowed. The proposed modified project would have a maximum height of 30 feet 8 inches and therefore, would be in compliance with the applicable zoning development standard. The proposed modified project would be designed and constructed in accordance with the applicable zoning regulations and development standards to ensure that it would not conflict with the applicable zoning governing scenic quality. Additionally, as required by

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<sup>10</sup> California Department of Transportation. 2023. California State Scenic Highway System Map. <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>.

## **LAUREL RANCH TOWNHOMES PROJECT**

### **Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR**

City Municipal Code Section 9-5.2607, the proposed modified project would be required to undergo design review to ensure the proposed development would not result in impacts to scenic quality in the area. Furthermore, the proposed modified project would be designed and constructed in accordance with General Plan policies governing scenic quality outlined in Section 5.0 Community Image and Design of the City's General Plan. Therefore, the proposed modified project would not conflict with applicable zoning or other regulations governing scenic quality and there would be no impacts. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

The Housing Element EIR identified that development of properties included in the sites inventory for the Housing Element may introduce new sources of light and glare. However, the Housing Element EIR identified that with compliance with existing and proposed policies related to light and glare and with compliance with the City's design review process, impacts would be less than significant.

The proposed modified project would introduce new sources of light and glare at the project site through outdoor lighting, new reflective surfaces, and increased car headlight and window glare on adjacent streets. Though the proposed modified project would introduce new sources of light and glare, the site is located in an urbanized area surrounded by existing developments and therefore, would not substantially change light and glare conditions in the area. The proposed modified project would design the new multi-family residential development to minimize potential light and glare impacts by designing the proposed modified project in accordance with the City's design guidelines and standards. The proposed modified project would design all outdoor lighting in accordance with Antioch Municipal Code Section 9-4.617.1 and 9-5.1715 to ensure that lighting does not shine directly onto adjacent streets or property. The proposed modified project would also be required to undergo design review as required by Antioch Municipal Code Section 9-5.2607 to ensure the proposed modified project would be designed in compliance with City guidelines and regulations related to lighting and glare. Therefore, the proposed modified project would not create a new source of substantial light and glare that would adversely affect day or nighttime views in the area and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **Conclusion**

Based on an examination of the analysis, findings, and conclusions of the Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to aesthetics from what has been identified in the Housing Element EIR, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Housing Element EIR. No new mitigation measures would be warranted. Furthermore, the proposed modified project's impacts to aesthetics are within the scope of impacts identified in the Housing Element EIR.

## LAUREL RANCH TOWNHOMES PROJECT

Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

### 6.2 AGRICULTURE AND FORESTRY RESOURCES

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?**

According to the Housing Element EIR, there are no lands designated as Prime Farmland by the California Department of Conservation (DOC) within the City with multiple parcels in the northeast quadrant of the City designated as Farmland of Statewide Importance. The Housing Element EIR identified that implementation of the previous project would result in a negligible effect on agricultural production in the County and would not result in the conversion of Important Farmland to non-agricultural uses<sup>11</sup>. Therefore, the Housing Element EIR determined that the previous project would result in a less than significant impact to agricultural resources.

The project site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The DOC's Important Farmland Finder map identifies the project site as Farmland of Local Importance<sup>12</sup>. Therefore, development of the proposed modified project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

As identified in the Housing Element EIR, none of the sites identified in the Housing Element EIR, including the project site, is zoned for agricultural use or are under a Williamson Act contract and therefore, the Housing Element EIR determined that there would be no impact on lands zoned for agricultural uses or under a Williamson Act contract<sup>13</sup>. The project site is not zoned for agricultural uses and is not subject to a Williamson Act contract and would not conflict with existing zoning for agricultural uses or a Williamson Act contract. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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<sup>11</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.Q-10.

<sup>12</sup> California Department of Conservation. 2023. Important Farmland Finder. <https://maps.conservation.ca.gov/dlrp/ciff/>.

<sup>13</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.Q-11.

## LAUREL RANCH TOWNHOMES PROJECT

Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

**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?**

(c, d) The Housing Element EIR identified that there are no lands designated as forestland or land devoted to timber production within the City<sup>14</sup>. Therefore, the Housing Element EIR determined that there would be no impacts to forestland or timberland. The project site is not zoned forestland or timberland and development of the proposed modified project would not result in the conversion of forest land to non-forest uses. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

**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?**

The Housing Element EIR determined that implementation of the previous project would not have any potentially significant impacts to agriculture and forestry resources. The Housing Element EIR identified that though some active viticultural production on parcels adjacent to the identified Housing Sites in the northeast quadrant in the City, construction and operation of these sites would not obstruct or interfere with agricultural uses located on adjacent properties. The project site is located within a highly urbanized area of the City and is surrounded by existing residential developments. There are no parcels with existing agricultural or forest land uses surrounding the project site. Therefore, the proposed modified project would not involve other changes in the existing environment that could result in conversion of Farmland to non-agricultural uses or conversion of forest land to non-forest uses and there would be no impact. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

### Conclusion

Based on an examination of the analysis, findings, and conclusions of the Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to agriculture and forestry resources from what has been identified in the Housing Element EIR, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Housing Element EIR. No new mitigation measures would be warranted. Furthermore, the

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<sup>14</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.Q-5.

## LAUREL RANCH TOWNHOMES PROJECT

### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

proposed modified project's impacts on agriculture and forestry resources are within the scope of impacts identified in the Housing Element EIR.

## 6.3 AIR QUALITY

Would the Project:

### a) Conflict with or obstruct implementation of the applicable air quality plan?

The Housing Element EIR, under Air Quality Criterion 1, determined that implementation of the Housing Element would comply with the applicable control measures from the 2017 Clean Air Plan. Therefore, the Housing Element EIR concluded that the previous project would not conflict with or obstruct implementation of the applicable air quality plan, and the impact would be less than significant.<sup>15</sup>

The project site lies within the San Francisco Bay Area Air Basin which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The BAAQMD region is designated as nonattainment for the federal and state ozone and PM<sub>2.5</sub> standards as well as the state PM<sub>10</sub> standards.<sup>16</sup> Accordingly, the BAAQMD has prepared air quality plans, including the 2017 Clean Air Plan, to achieve attainment of the applicable ozone and PM standards. The 2017 Clean Air Plan includes control strategies to reduce ozone precursors (reactive organic gases [ROG] and oxides of nitrogen [NOx]), particulate matter (PM), toxic air contaminants (TACs), and greenhouse gas (GHG) emissions.<sup>17</sup> The BAAQMD's adopted thresholds of significance indicate the levels of emissions that projects may emit while the region still moves towards attainments of the state ambient air quality standards (CAAQS) and the federal ambient air quality standards (NAAQS). Projects that exceed thresholds would be considered to conflict with the 2017 Clean Air Plan.

As described further under Impact b) below, the proposed modified project would not exceed the thresholds established by the BAAQMD. As a result, the proposed modified project would not conflict with or obstruct implementation of the applicable air quality plan. The proposed modified project would not conflict with or obstruct implementation of the applicable air quality plan, and the impact is less than significant. Therefore, the proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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<sup>15</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.C-15 to 17.

<sup>16</sup> BAAQMD. 2017. Air Quality Standards and Attainment Status. <https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status#:~:text=%E2%80%9CAttainment%E2%80%9D%20status%20for%20a%20pollutant%20means%20that%20the,ensures%20that%20these%20standards%20are%20met%20and%20maintained>. Accessed July 18, 2023.

<sup>17</sup> BAAQMD. 2023b. Air Quality Plans. <https://www.baaqmd.gov/plans-and-climate/air-quality-plans>. Accessed July 6, 2023

## LAUREL RANCH TOWNHOMES PROJECT

### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

**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?**

The Housing Element EIR, under Air Quality Criterion 2, found that implementation of the Housing Element would result in a less than significant impact at the plan level. However, at the project level, the Housing Element EIR determined that a potentially significant impact could occur related to construction emissions for projects with more than 114 single-family or 240 multi-family units, and related to operational emissions for projects with more than 325 single-family or 451 multi-family units. Mitigation Measures AIR-1 and AIR-2 would reduce the foregoing impacts to less than significant levels.<sup>18</sup> The proposed modified project would involve the construction of 216 multi-family dwelling units, which is below the number of units that trigger mitigation. As a result, the proposed modified project would not be subject to Housing Element EIR Mitigation Measures AIR-1 and AIR-2.

In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

In addition to project-specific thresholds, the BAAQMD identified screening criteria to provide lead agencies and project applicants with a conservative indication of whether the proposed project could result in potentially significant air quality impacts. If all screening criteria are met by a proposed project, then the lead agency or applicant would not need to perform a detailed air quality assessment of their project's air pollutant emissions. The screening criteria are meant to represent greenfield development and do not account for project design features that would reduce air quality emissions.

The proposed modified project would involve construction of a 216-unit residential community on a vacant site. The BAAQMD criteria air pollutant screening criteria thresholds for condo/townhouses are 416 dwelling units and 637 dwelling units for construction and operation, respectively.<sup>19</sup> The proposed unit count falls below the construction and operational screening thresholds, and, as a result, a detailed air quality analysis is not required. Therefore, impacts are considered less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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<sup>18</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.C-17 to 21.

<sup>19</sup> BAAQMD. 2023c. California Environmental Quality Act: Air Quality Guidelines. <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>. Accessed July 6, 2023.

## LAUREL RANCH TOWNHOMES PROJECT

### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

#### c) Expose sensitive receptors to substantial pollutant concentrations?

The Housing Element EIR, under Air Quality Criterion 3, found that future residential development at certain locations within the City that have elevated pollution levels could generate TACs and PM<sub>2.5</sub> emissions which could substantially contribute to the existing poor air quality and expose sensitive receptors to substantial pollutant concentrations. However, Mitigation Measures AIR-3a and AIR-3b would reduce the impact to a less than significant level.<sup>20</sup> Mitigation Measure AIR-3a specifically applies to projects located in an area defined as needing “Best Practices” or “Further Study” on the BAAQMD’s Planning Healthy Places Map, and Mitigation Measure AIR-3b establishes regulations for emergency generators. The proposed modified project site is not located in an area identified as needing “Best Practices” or “Further Study” on the Planning Healthy Places Map, and is not anticipated to include installation of emergency generators; therefore, the proposed modified project would not be subject to Housing Element EIR Mitigation Measures AIR-3a and AIR-3b.

This discussion addresses whether the proposed modified project would expose sensitive receptors to construction-generated fugitive dust (PM<sub>10</sub>), naturally occurring asbestos (NOA), construction-generated diesel particulate matter (DPM), or operational related TACs. According to the California Air Resources Board (CARB), some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest sensitive receptors to the proposed modified project site include the single-family residences located to the south, across Country Hills Drive, and the single-family residences that are currently under construction northwest of the site, across Laurel Road.

#### Construction Emissions

During construction associated with the proposed modified project, the potential exists for emissions of fugitive dust, NOA, and DPM to be released. Each TAC is discussed separately below.

##### *Fugitive Dust*

Fugitive dust would be generated from site grading and other earth-moving activities. Most of this fugitive dust would remain localized and would be deposited near the proposed modified project site. However, the potential for impacts from fugitive dust exists unless control measures are implemented to reduce the emissions from the proposed modified project site. However, all projects within the jurisdiction of the BAAQMD are required to implement all of the BAAQMD’s Basic Construction Mitigation Measures (BCMMs).<sup>21</sup> The proposed modified project’s required implementation of the BAAQMD’s BCMMs, as well

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<sup>20</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.C-21 to 23.

<sup>21</sup> BAAQMD. 2023a. Current Rules. <https://www.baaqmd.gov/rules-and-compliance/current-rules>. Accessed July 6, 2023.



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as compliance with BAAQMD Regulation 6, Particulate Matter and Visible Emissions, would minimize construction-related fugitive dust emissions.

#### *Naturally Occurring Asbestos*

Construction in areas of rock formations that contain NOA could release asbestos to the air and pose a health hazard. BAAQMD enforces CARB's air toxic control measures at sites that contain ultramafic rock. The Air Toxic Control Measures for Construction, Grading, Quarrying and Surface Mining Operations were signed into state law on July 22, 2002, and became effective in November 2002. The purpose of this regulation is to reduce public exposure to NOA. A review of the map with areas more likely to have rock formations containing NOA in California indicates that there is no asbestos in the immediate proposed modified project area.<sup>22</sup> Therefore, construction of the proposed modified project would not expose sensitive receptors to NOA.

#### *Diesel Particulate Matter*

Exposure to DPM from diesel vehicles and off-road construction equipment can result in health risks to nearby sensitive receptors. While the proposed modified project would involve the use of diesel fueled vehicles and off-road equipment, construction would be temporary. In addition, the proposed modified project site falls far below the BAAQMD construction screening thresholds for criteria pollutant emissions, which includes particulate matter. According to CARB, DPM emissions have also been shown to be highly dispersive in the atmosphere with the DPM concentration decreasing with distance from the source.<sup>23</sup> Therefore, the concentration of DPM at the nearest receptors would be substantially reduced, and construction of the proposed modified project would not result in a health risk exposure from DPM.

#### **Operational Emissions**

The greatest potential for exposure to TACs during long-term operations is from the use of heavy-duty diesel trucks and stationary generators that use diesel fuel. The proposed modified project is a 216-unit residential development. Once operational, the majority of vehicle trips to the proposed modified project site would be from residents and, as a result, the proposed modified project would attract very few diesel truck trips. Additionally, the proposed modified project would not include any stationary generators onsite. For these reasons, once operational, the proposed modified project would not be expected to expose nearby sensitive receptors to substantial amounts of TACs.

Once operational, the proposed modified project would be considered a sensitive receptor location and future residents could be exposed to TAC emissions from nearby mobile and stationary sources. In the California Building Industry Association v. Bay Area Air Quality Management District (62 Cal.4th 369 [2015] [Case No. S213478]), the California Supreme Court held that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or

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<sup>22</sup> USGS. 2011. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California. <https://pubs.usgs.gov/of/2011/1188/>. Accessed July 1, 2023.

<sup>23</sup> CARB. 2005. Air Quality and Land Use Handbook: A Community Health Perspective. <http://forms.cupertino.org/inc/pdf/SR85/Exhibit%20G%20-%20CARB%20Air%20Quality%20and%20Land%20Use%20Handbook%202005.pdf>. Accessed July 1, 2023.



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residents. When a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions.” Although the Court ruled that impacts from the existing environment on projects are not required to be addressed under CEQA, land uses such as gasoline stations, dry cleaners, distribution centers, freeways, and auto body shops can expose residents to high levels of TAC emissions if they are in proximity of the project site.

The CARB Air Quality and Land Use Handbook contains recommendations that will “help keep California’s children and other vulnerable populations out of harm’s way with respect to nearby sources of air pollution”, including recommendations for distances between sensitive receptors and certain land uses.<sup>24</sup> The CARB Handbook recommends avoiding siting new sensitive land uses within 500 feet of urban roads with greater than 100,000 vehicles per day. The proposed modified project site is located within 500 feet of Highway 4. However, based on data from the California Department of Transportation (Caltrans) from 2019, which reflects pre-pandemic traffic patterns, traffic volumes along Highway 4 south of Laurel Road average 90,600 vehicle trips per day.<sup>25</sup> Other sources of pollution, including gas stations, distribution centers, dry cleaners, rail yards, and refineries are not located within the immediate proposed modified project vicinity. Therefore, the proposed modified project site is not located within the CARB’s identified screening distances for any of the land uses that are considered major sources of TACs. In addition, the proposed modified project would include the installation of a two- to 10-foot-tall concrete block retaining wall along the eastern site boundary, which would partially reduce the amount of PM from Highway 4 that reaches the proposed modified project site. Furthermore, the site was not identified as a location with elevated air pollution levels, pursuant to BAAQMD’s Planning Healthy Places Map.<sup>26</sup> Finally, pursuant to the 2022 California Building Standards Code, all proposed residential units would be required to install MERV 13 filters or better. According to the USEPA, MERV 13 filters have an efficiency rating of 50 percent for particles 0.30 to 1.0 microns, 80 percent for particles 1.0 to 3.0 microns, and 90 percent for particles 3.0 to 10.0 microns.<sup>27</sup> Therefore, the required installation of MERV filters would ensure that indoor concentrations of PM would be significantly reduced. Thus, future residents of the proposed modified project would not be exposed to substantial pollution concentrations.

## Conclusion

The proposed modified project would not expose sensitive receptors to substantial pollutant concentrations and, therefore, the impact would be less than significant. The proposed modified project would not result in any new or more severe impacts beyond what was evaluated in the Housing Element

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<sup>24</sup> CARB. 2005. Air Quality and Land Use Handbook: A Community Health Perspective.

<http://forms.cupertino.org/inc/pdf/SR85/Exhibit%20G%20-%20CARB%20Air%20Quality%20and%20Land%20Use%20Handbook%202005.pdf>. Accessed July 1, 2023.

<sup>25</sup> Caltrans. 2023. Traffic Census Program. <https://dot.ca.gov/programs/traffic-operations/census>. Accessed July 19, 2023.

<sup>26</sup> BAAQMD. 2023. Planning Health Places. <https://www.baaqmd.gov/plans-and-climate/planning-healthy-places>. Accessed July 6, 2023.

<sup>27</sup> USEPA. 2023. What is a MERV rating? <https://www.epa.gov/indoor-air-quality-iaq/what-merv-rating>. Accessed July 19, 2023.

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EIR, and the impact finding would remain unchanged. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

The Housing Element EIR, under Air Quality Criterion 4, determined that residential developments are not expected to generate significant odors and, therefore, no impact would occur related to odors and other emissions.<sup>28</sup>

While offensive odors rarely cause any physical harm, they can still be unpleasant, leading to distress among the public and often generating citizen complaints to local governments and BAAQMD. The occurrence and severity of odor impacts depends on numerous factors, including nature, frequency, and intensity of the source, the wind speed and direction, and the sensitivity of the receptor. The nearest receptors to the proposed modified project site include the single-family residences located to the south, across Country Hills Drive, and the single-family residences that are currently under construction northwest of the site, across Laurel Road.

Construction activities associated with the proposed modified project could result in short-term odorous emissions from diesel exhaust associated with diesel-fueled equipment. However, these emissions would be intermittent and would dissipate rapidly from the source. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. Compliance with the aforementioned regulations would help to minimize emissions, including emissions leading to odors.

Land uses typically considered as associated with the production of odors during operations include wastewater treatment facilities, waste disposal facilities, and agricultural operations. The proposed modified project does not include any land uses that are typically associated with emitting objectionable odors. It is noted that the Randall Bold Water Treatment Plan is located approximately 2,000 feet northeast of the proposed modified project site. However, the prevailing wind direction in the proposed modified project area is most often from the southwest and, as a result, odors from the water treatment ponds would be blown away from the proposed modified project site.<sup>29</sup>

Finally, BAAQMD regulates objectionable odors through Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain

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<sup>28</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.C-23.

<sup>29</sup> Iowa State University. 2023. Wind Roses: Windrose Plot for [CCR] Concord/Buchanan Obs Between: 31 Dec 1972 05:00 PM – 22 Mar 2023 11:53 PM America/Los\_Angeles. [https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=CCR&network=CA\\_ASOS](https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=CCR&network=CA_ASOS). Accessed July 6, 2023.

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effective until such time that citizen complaints have not been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period.<sup>30</sup> Thus, although not anticipated, if odor complaints are made after the proposed modified project is developed, the BAAQMD would ensure that such odors are addressed, and any potential odor effects are minimized or eliminated.

The proposed modified project would not result in other emissions, such as those leading to odors, affecting a substantial number of people. Therefore, the impact would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

### Conclusion

Based on an examination of the analysis, findings, and conclusions of the Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to air quality from what has been identified in the Housing Element EIR. No new mitigation measures would be warranted. Furthermore, the proposed modified project's impacts related to air quality are within the scope of impacts identified in the Housing Element EIR.

## 6.4 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 Wildlife or U.S. Fish and Wildlife Service?**

The Housing Element EIR identified that numerous special-status plant and animal species are known or suspected to occur in the project area; however, these special-status species are typically no longer found in urbanized areas, which characterizes most of the project area and parcels identified in the Housing Element's Sites Inventory. The Housing Element EIR identified that while the potential for adverse impacts on special-status species is relatively low, there remains a varying potential for loss or disruption to special-status species remaining in the project area due to conversion of areas of natural habitat, removal of trees and other vegetation, increases in light and noise, and other modifications and disturbance associated with future development that could occur as a result of the previous project. However, with implementation of General Plan policies intended to protect biological resources, the Housing Element EIR determined that impacts would be less than significant.

As identified in Figures IV.H-2 and IV.H-3 of the Housing Element EIR, the project site is not identified as located in an area with occurrences of special-status plants and animal species as identified by the

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<sup>30</sup> BAAQMD. 2023a. Current Rules. <https://www.baaqmd.gov/rules-and-compliance/current-rules>. Accessed July 6, 2023.

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CNDDDB inventory<sup>31</sup>. Additionally, the proposed modified project is located within a highly urbanized area of the City, is surrounded by existing developments, roadways, and freeways, and is currently being utilized for construction material storage. The project site does not abut and is not located in the vicinity of open space lands or water resources where special-status species are more likely to remain. General Plan Policy 10.3.2(e) requires proposed development project containing significant natural resources to prepare Resource Management Plans (RMP); however, as the project site is not identified as containing significant natural resources, preparation of an RMP is not required. If sensitive habitats are identified as being present within the project site, the proposed modified project would comply with General Plan Policy 10.4.2(d) which requires new development projects to protect sensitive habitat areas through the project approval and environmental review process. Therefore, as the occurrence of special-status plant and animal species at the project site is unlikely and the proposed modified project would comply with General Plan policies intended to protect biological resources, the proposed modified project would not have a substantial adverse effect on special-status species and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

- 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 Wildlife or U.S. Fish and Wildlife Service?**
- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**(b, c)** The Housing Element EIR identified that most of the parcels included in the Housing Sites Inventory have been disturbed by past grading and development and the potential for sensitive natural communities is generally very remote. The Housing Element EIR identified that with implementation of General Plan policies that would serve to ensure that occurrences of sensitive natural communities are identified, avoided, or adequately mitigated and calls for compliance with federal policy related to wetland and riparian habitat protection, impacts to riparian habitat, other sensitive natural communities, and wetlands would be less than significant.

As stated under Impact a), the project site is located in a highly urbanized area and is surrounded by existing developments, roadways, and highways. Additionally, the project site currently being utilized for construction material storage. A review of the project site on Google Earth indicated that there are no riparian habitat, wetland, or other sensitive natural community located within the site. Therefore, the proposed modified project would not result in adverse effects on any riparian habitat, wetlands, or other sensitive natural community and there would be no impact. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional

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<sup>31</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.H-11 to IV.H-12.

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mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

**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?**

The Housing Element EIR identified that development and land use activities associated with implementation of the previous project would generally be in urbanized areas with few wildlife corridors or locations where wildlife is already acclimated to human activity. The Housing Element EIR determined that with implementation of General Plan policies applicable to biological resources, the potential impacts to wildlife movement opportunities would be less than significant.

As stated under Impact a), the project site is located in a highly urbanized area and is surrounded by existing developments, roadways, and highways. Additionally, the project site is currently being utilized for construction material storage. The project site is unlikely to be utilized as a migratory wildlife corridor or native wildlife nursery sites as the existing surrounding developments would limit the use and access of the site. Additionally, the project site does not abut and is not located in the vicinity of open space lands or water resources. Therefore, the proposed modified project would not interfere with the movement of wildlife or impede the use of native wildlife nursery sites and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

**e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The Housing Element EIR identified that future development would be subject to the provisions of the City's Tree Preservation Ordinance and compliance with the ordinance would ensure no conflicts with local policies or ordinances would occur and impacts would be less than significant.

There are no existing trees identified within the site, but existing street trees are along the project site frontage on Country Hills Drive. However, none of the trees identified are planned for removal. Therefore, the proposed modified project would not conflict with the City's Tree Preservation Ordinance and would not conflict with any local policies or ordinances protecting biological resources. As such, there would be no impact. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

**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?**

The Housing Element EIR identified that this criterion is not applicable to the previous project because there are no adopted habitat conservation plans or natural community conservation plans within the City. Therefore, the proposed modified project would have no impact related to a conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan. The proposed modified project

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would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### Conclusion

In relation to the construction and operational impacts as stated in the Housing Element EIR, the proposed modified project's potential impacts to biological resources would remain less than significant, and no new mitigation measures would be warranted. Implementation of the proposed modified project would not result in any new significant impacts to biological resources, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Housing Element EIR. Furthermore, the proposed modified project's impacts to biological resources are within the scope of impacts identified in the Housing Element EIR.

## 6.5 CULTURAL AND TRIBAL RESOURCES

Would the Project:

- a) **Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?**
- b) **Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5?**
- c) **Disturb any human remains, including those interred outside of dedicated cemeteries?**

**(a-c)** The Housing Element EIR identified that none of the proposed development sites identified as part of the Housing Inventory Sites are listed as significant historical resources. Additionally, only one development site is known to overlap with sensitive archaeological areas or areas that could be sensitive for human remains. The Housing Element EIR identified that with implementation of General Plan policies related to the preservation of historic, archaeological, and cultural resources, impacts from implementation of the previous project would be less than significant.

Based on the results of a record search of the California Historical Resources Information System database (completed July 14, 2023) and a desktop review, there are no known historical or archaeological resources within the proposed project area (Appendix B). Therefore, there will be no changes to the significance of a historical or archaeological resource. However, subsurface construction activities associated with the proposed modified project could potentially damage or destroy previously undiscovered unique archaeological resources. The proposed modified project would be required to implement General Plan Policy 10.9.2 in the event previously undiscovered subsurface unique archaeological or historical resources are found at the project site. Adherence to this policy would ensure that future development and implementation of the proposed modified project would result in less than significant impacts related to historical and archeological resources. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional

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mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

- d) 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?**

The Housing Element EIR identified that based on information provided in consultation with tribes, no known tribal cultural resources would be affected. However, the Housing Element EIR determined that as there would be potential for discovery of previously unknown tribal cultural resources during construction, adherence with state and local policies related to tribal cultural resources would ensure that impacts from development would be less than significant.

A search performed by the Native American Heritage Commission (NAHC) of their Sacred Lands Files on July 6, 2023, indicated there are no known tribal cultural properties within the project area. However, this does not eliminate the potential for the discovery of previously unknown tribal cultural resources during individual project construction. Such a discovery would be subject to applicable General Plan Policy 10.9.2 related to preservation of cultural resources, which requires new development to analyze and mitigate any potential impacts related to archaeological, paleontological, and historic resources. Adherence to this policy would ensure that future development and implementation of the proposed modified project would result in less than significant impacts related to tribal cultural resources. Furthermore, in the event that future development projects encounter human remains, in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the NAHC by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods. Adherence with these State and local policies would ensure that impacts related to tribal resources would remain less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

## Conclusion

In relation to the construction and operational impacts as stated in the Housing Element EIR, the proposed modified project's potential impacts to cultural and tribal cultural resources would remain less

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than significant, and no new mitigation measures would be warranted. Implementation of the proposed modified project would not result in any new significant impacts to cultural and tribal cultural resources, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Housing Element EIR. Furthermore, the proposed modified project's impacts to cultural and tribal cultural are within the scope of impacts identified in the Housing Element EIR.

## 6.6 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?**

The Housing Element EIR, under Energy Criterion 1, determined that a less than significant impact would occur related to the efficient use of energy.<sup>32</sup>

The energy requirements for the proposed modified project were determined using the construction and operational estimates generated from the calculation worksheets for energy consumption (Appendix A). This impact addresses the energy consumption from both short-term construction and long-term operations, and they are discussed separately below.

### Construction Energy Demand

During construction of the proposed modified project, energy resources would be consumed in the form of diesel and gasoline fuel from the use of off-road equipment (i.e., tractors, excavators, cranes) and on-road vehicles (i.e., construction employee commutes, haul trucks). Construction is not anticipated to require electricity or natural gas. Construction was assumed to occur over approximately 26 months, starting in October 2023 and ending in December 2025.

#### *Off-Road Equipment*

Construction activities associated with the proposed modified project, including site preparation, grading, building construction, and paving, were estimated to consume 69,803 gallons of diesel fuel from the use of off-road equipment.

#### *On-Road Vehicles*

On-road vehicles for construction workers, vendors, and haulers would require fuel for travel to and from the site during construction. Table 6.6-1 provides an estimate of the total on-road vehicle fuel usage during construction.

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<sup>32</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.E-8.



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**Table 6.6-1: Construction On-Road Equipment Fuel Consumption**

Project Component	Average Fuel Economy (miles/gallon)	Total VMT	Total Fuel Consumption (gallons)
Worker Trips	26.23	1,112,740	42,422
Vendor Trips	9.38	165,816	17,683
Haul Trips	5.78	198,000	34,247
<b>Total Construction On-Road Trips</b>		<b>1,476,556</b>	<b>94,352</b>

Notes:

Calculations use unrounded numbers; totals may not appear to sum exactly due to rounding.

VMT = vehicle miles traveled

Source: Appendix A.

As shown in the table, construction of the proposed modified project was estimated to consume 94,352 gallons of fuel from on-road vehicles.

### *Conclusion*

Overall, construction activities associated with the proposed modified project would result in the consumption of petroleum-based fuels. However, there are no unusual project characteristics that would necessitate the use of construction equipment or vehicles that would be less energy efficient than at comparable construction sites in other parts of the state. Therefore, it is expected that construction fuel consumption associated with the proposed modified project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

### **Operational Energy Demand**

During operations of the proposed modified project, energy would be required to power the proposed residential buildings and to fuel the vehicles travelling to and from the site.

#### *Building Energy*

The proposed residential buildings and parking areas would require energy for normal operations, such as lighting and temperature controls. The proposed modified project would not consume any natural gas. Over the course of a year, operational electricity consumption would total 1,472,399 kWh. It is noted that the proposed buildings would be constructed in compliance with the energy efficiency standards set forth in the 2022 California Building Standards Code. Therefore, the proposed modified project's total energy consumption and would not result in the inefficient, wasteful, or unnecessary use of energy.

#### *Transportation Energy*

Future residents of the proposed modified project would travel to and from the site during normal operations. Table 6.6-2 provides an estimate of the daily and annual fuel consumed by vehicles traveling to and from the proposed modified project site. These estimates were derived using the same assumptions used in the operational GHG analysis for the proposed modified project.

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**Table 6.6-2: Long-Term Operational Vehicle Fuel Consumption**

Vehicle Type	Percent of Vehicle Trips	Daily VMT	Annual VMT	Average Fuel Economy (miles/gallon)	Total Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	50.79	7,937	2,896,898	31.45	252.4	92,122
Light Trucks and Medium Duty Vehicles (LDT1, LDT2, MDV)	41.02	6,411	2,340,069	24.04	266.7	97,334
Light-Heavy to Heavy-Heavy Diesel Trucks (LHD1, LHD2, MHDT, HHDT)	5.24	818	298,678	9.63	85.0	31,013
Motorcycles (MCY)	2.45	383	139,893	41.67	9.2	3,357
Other (OBUS, UBUS, SBUS, MH)	0.50	78	28,578	7.03	11.1	4,062
<b>Total</b>	<b>100</b>	<b>15,628</b>	<b>5,704,115</b>	<b>--</b>	<b>624.4</b>	<b>227,888</b>

Notes:

VMT = vehicle miles traveled

Percent of Vehicle Trips and Daily VMT provided by CalEEMod.

"Other" consists of buses and motor homes.

Source: Appendix A.

As shown in the table, annual vehicular fuel consumption is estimated to be 227,888 gallons of a combination of gasoline and diesel fuel. The proposed modified project would not be any more inefficient, wasteful, or unnecessary than other vehicle uses in the region.

### Conclusion

Based on the analysis above, the proposed modified project would not result in a potential significant environmental impact due to the wasteful, inefficient, or unnecessary consumption of energy resources; therefore, the impact would be less than significant. Therefore, the proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The Housing Element EIR, under Energy Criterion 2, determined that a less than significant impact would occur related to consistency with plans for renewable energy and energy efficiency.<sup>33</sup>

The proposed modified project would comply with federal, state, and local regulations aimed at reducing energy consumption. Local regulations have been developed in accordance with federal and state energy

<sup>33</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.E-8.

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regulations, such as the California Building Energy Efficiency Standards (California Code of Regulations [CCR] Title 24, Part 6), the California Green Building Standards Code (CALGreen) Code (CCR Title 24, Part 11), and SB 743, which are also aimed at reducing energy consumption.

The proposed modified project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency; therefore, the impact would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

### Conclusion

Based on an examination of the analysis, findings, and conclusions of the Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to energy from what has been identified in the Housing Element EIR. No new mitigation measures would be warranted. Furthermore, the proposed modified project's impacts related to energy are within the scope of impacts identified in the Housing Element EIR.

## 6.7 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.**

The Housing Element EIR identified that the City does not contain any active faults or faults mapped as subject to surface rupture under the Alquist-Priolo Earthquake Fault Zoning Act and therefore, would be anticipated to have less than significant impacts related to surface rupture<sup>34</sup>. The proposed modified project is located within the City boundaries and there are no active faults that run through or near the project site. Additionally, the site is not located within an Alquist-Priolo Fault Zone. Therefore, the proposed modified project is not at risk of a rupture of a known earthquake fault and there would be no impacts. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

- ii. **Strong seismic ground shaking?**

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<sup>34</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.I-22 to IV.I-23.

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#### iii. Seismic-related ground failure, including liquefaction?

(a.ii, a.iii) The Housing Element EIR identified that development under the previous project would result in intensification of land uses in the City which would increase the number of people and structures that could be directly or indirectly affected by seismic ground shaking and ground failure hazards<sup>35</sup>. The Housing Element EIR identified that risks from seismic ground shaking and seismic related ground failure can be reduced through adherence to the design and materials standards set forth in the California Building Code (CBC) and recommendations in site-specific geotechnical reports. The Housing Element EIR determined that development under the previous project in accordance with implementation of recommendations from site-specific geotechnical investigations that would be prepared as required by the CBC, Seismic Hazards Mapping Act, and the City's General Plan and Municipal Code; and implementation of other applicable General Plan policies would ensure that potential hazards related to seismic ground shaking and seismic related ground failure would be reduced to a less than significant level.

The Bay Area is a highly seismically active region and the proposed modified project is anticipated to experience ground shaking from potential earthquakes during the lifetime of the project. A Design Level Geotechnical Investigation was prepared on August 8, 2019, by Berlogar Stevens & Associates (Appendix C)<sup>36</sup> which completed geotechnical investigation for the adjoining Laurel Ranch Subdivision Project, located directly northwest of the project site across Laurel Road. The investigation included the northern portion of the project site identified as APN 053-060-063. The southern portions of the project site (APNs 053-060-057, 053-060-056, and 053-060-055) were not investigated in the 2019 geotechnical report. The 2019 geotechnical report identified that the site is located outside of areas of required investigation for liquefaction and based on the shallow bedrock encountered during the boring and test pits conducted for the 2019 geotechnical report, the potential for liquefaction at the site is considered low. A Geotechnical Feasibility Evaluation was prepared for the proposed modified project on September 27, 2022, by Quantum Geotechnical Inc (Appendix C)<sup>37</sup>. The Geotechnical Feasibility Evaluation reviewed the 2019 geotechnical report and performed a site reconnaissance at the project site to evaluate geotechnical conditions and provide a preliminary feasibility evaluation. The Geotechnical Feasibility Evaluation identified that the southern portion of the project site is underlain by highly expansive near surface clay soil and variable bedrock of variable expansion potential on the northern portion of the site. Therefore, there is potential for strong seismic ground shaking and seismic-related ground failure at the site.

The Housing Element EIR identified that the risk to structures and improvements from seismic ground shaking and seismic-related ground failure can be reduced through adherence to the design and materials standards set forth in the CBC and implementation of recommendations in site-specific geotechnical reports. Site-specific geotechnical reports are required by the CBC for all structures except

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<sup>35</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.I-23 to IV.I-25.

<sup>36</sup> Berlogar Stevens & Associates. 2019. Design Level Geotechnical Investigation Laurel Ranch – Subdivision 8741 Antioch, California for Richland Communities, August 8, 2019. PDF

<sup>37</sup> Quantum Geotechnical Inc. 2022. Geotechnical Feasibility Evaluation, September 27, 2022. PDF

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those that are less than or equal to 4,000 square feet and are one-story, wood-frame, or light-steel frame buildings that are located outside of the Alquist-Priolo Earthquake Fault Zones. The site-specific geotechnical evaluation of seismic hazards must include recommendations to mitigate the seismic hazards. Additionally, preliminary soils reports are required by the Antioch Municipal Code Section 9-4.513 for any subdivision, except when the requirements are waived by the City Engineer. Section 9-4.515 of the Antioch Municipal Code indicates that the City Engineer shall approve the soil investigation if they determine that the recommended corrective action is likely to prevent structural damage to each dwelling to be constructed on each lot in the subdivision, and the building permit shall be conditioned upon the incorporation of the approved recommended corrective action in the construction of each dwelling. Implementation of General Plan policies is also identified to reduce potential impacts related to seismic ground shaking and seismic-related ground failure. The proposed modified project would be required to comply with General Plan Policy 11.4.2 (a) which requires geologic and soils reports to be prepared for any proposed development sites, incorporating the findings and recommendations of these studies into project development requirements, and site-specific ground shaking assessment for proposed developments when required by the City's Building Division. In accordance with City and CBC requirements, the proposed modified project would be required to prepare all required site-specific geotechnical investigation reports and site-specific soils reports to ensure potential impacts would be reduced. The proposed modified project would implement all recommendations included in the prepared reports and the proposed modified project would be designed and constructed in accordance with CBC and City requirements and guidelines. With adherence to CBC design guidelines and standards, compliance with CBC and City requirements, and implementation of recommendations included in the site-specific geotechnical reports, the proposed modified project would not result in substantial adverse effects related to seismic ground shaking and seismic-related ground failure. Impacts from development of the proposed modified project would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **iv. Landslides?**

The Housing Element EIR identified that for development of areas susceptible to landslides, implementation of recommendations from site-specific geotechnical investigations and compliance with General Plan policies would ensure that potential impacts related to landslides would be less than significant<sup>38</sup>.

The Housing Element EIR did not identify the project site as being within a landslide hazard zone and the 2019 geotechnical report prepared for the adjacent Laurel Ranch Subdivision Project, which included the northern portion of the project site, did not observe evidence of existing landslides at the site and regional landslide maps do not show any landslides onsite<sup>39</sup>. Therefore, the proposed modified project would not

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<sup>38</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.I-25 to IV.I-26.

<sup>39</sup> Berlogar Stevens & Associates. 2019. Design Level Geotechnical Investigation Laurel Ranch – Subdivision 8741 Antioch, California for Richland Communities, August 8, 2019. PDF. Pages 2 and 5.

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result in substantial adverse effects related to landslides and there would be no impact. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **b) Result in substantial soil erosion or the loss of topsoil?**

The Housing Element EIR identified that soil erosion could occur during grading and construction of developments under the previous project as well as during operation of developments. As described in the Housing Element EIR, compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit, including the preparation and implementation of Stormwater Pollution Prevention Plans (SWPPP), would ensure that developments that would disturb 1-acre or more of land would result in less than significant impacts related to erosion or loss of topsoil during construction. Additionally, implementation of General Plan policies and compliance with Antioch Municipal Code requirements was determined to ensure potential impacts related to erosion or loss of topsoil during construction and erosion are less than significant<sup>40</sup>.

The proposed modified project would require earth moving activities such as excavation and grading activities during construction that could result in substantial soil erosion. As identified in the Housing Element EIR, the proposed modified project would be required to obtain a Construction General Permit and would be required to prepare and implement a SWPPP with best management practices (BMPs) to minimize erosion and sedimentation impacts. Additionally, the proposed modified project would implement General Plan Policy 8.7.2 (e), which requires new developments to provide erosion and sedimentation control measures, and General Plan Policy 10.7.2 (g), which requires development projects to be in compliance with applicable NPDES permit requirements and requires the implementation of BMPs to minimize erosion and sedimentation. The proposed modified project would also comply with Section 9-4.516 of the Antioch Municipal Code which requires that approval of final subdivision maps be conditioned on compliance with City requirements for grading and erosion control, including the prevention of sedimentation or damages to offsite property.

During operation of the proposed modified project, the site would be covered with buildings, pavement surfaces, and landscaping, which would minimize the potential for post-development erosion. Additionally, the proposed modified project would include post-construction stormwater treatment measures to ensure there would be no impacts from operation of the proposed modified project. The proposed modified project would include the construction of bioretention treatment areas throughout the site what would collect and treat runoff from the site before discharging into the City's storm drain lines. Treatment of surface runoff prior to discharging into the City's storm drain system would ensure that there would be no erosion impacts related to operation of the proposed modified project.

Therefore, with compliance with Construction General Permit, preparation of a SWPPP with BMPs, implementation of the City's General Plan policies and Municipal Code, and implementation of post-

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<sup>40</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.I-26 to IV.I-27.

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construction storm water treatment measures, the proposed modified project would not result in substantial soil erosion or loss of topsoil during construction or operation and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

**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?**

The Housing Element EIR identified that development under the Housing Element in accordance with recommendations from site-specific geotechnical investigations that would be prepared as required by the CBC, Seismic Hazards Mapping Act, and the City's General Plan and Municipal Code; and implementation of General Plan policies would ensure that potential impacts related to unstable soil, subsidence, and collapse would be less than significant.

As discussed above under Impact a.ii), a.iii), and a.iv), project site is not located in an area identified as having potential liquefaction or landside hazards. The proposed modified project is not anticipated to be located on a geological unit or soil that is unstable or that would become unstable as a result of development. As identified above, the proposed modified project would be designed and constructed in accordance with CBC standards and would adhere to the CBC and City requirements for the preparation of site-specific geotechnical reports/soils reports and implementation of recommendations included in the reports. Adherence to CBC and City standards and requirements would ensure that the proposed modified project is not located on a geologic unit or soil that is unstable or that would become unstable and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

**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 on life or property?**

The Housing Element EIR identified that expansive soils may be present in areas of the City where the clay content of soil is high and development under the previous project could include construction of structure in areas of expansive soils<sup>41</sup>. The Housing Element EIR identified that development under the previous project, in accordance with recommendations from site-specific geotechnical investigations that would be prepared as required by the CBC, Seismic Hazards Mapping Act, and the City's General Plan and Municipal Code; and implementation of other General Plan policies, would reduce potential impacts related to expansive soils to be less than significant.

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<sup>41</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.I-29.



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As previously identified, a Geotechnical Feasibility Evaluation was prepared for the proposed modified project on September 27, 2022, by Quantum Geotechnical Inc<sup>42</sup>. The Geotechnical Feasibility Evaluation identified that the southern portion of the project site is underlain by highly expansive near surface clay soil and variable bedrock of variable expansion potential on the northern portion of the site. As previously discussed, the proposed modified project would be designed and constructed in accordance with standards set forth in the CBC. Additionally, as required by the CBC, General Plan Policy 11.4.2 (a), and Antioch Municipal Code Section 9-4.513, the proposed modified project would prepare site-specific geotechnical reports and soils reports. The proposed modified project would implement recommendations included in the site-specific reports which would ensure that potential impacts related to expansive soils are mitigated.

In addition to the requirements outlined above, Section 9-4.514 of the Antioch Municipal Code requires that if the preliminary soil report indicates the presence of critically expansive soils which, if not corrected, would lead to structural defects, a soil investigation of each lot in a subdivision must be prepared by a civil engineer who is registered by the state. The soil investigation report must be filed with the City Engineer and recommend corrective action to prevent structural damage. Section 9-4.515 of the Antioch Municipal Code indicates that the City Engineer shall approve the soil investigation if they determine that the recommended corrective action is likely to prevent structural damage to each dwelling to be constructed on each lot in the subdivision, and the building permit shall be conditioned upon the incorporation of the approved recommended corrective action in the construction of each dwelling. Implementation of General Plan Policy 11.4.2 (k) requires specialized soils reports in areas suspected of having problems with expansion, and implementation of the recommendations of these reports into the project development such that structures designed for human occupancy are not in danger of significant structural damage.

In accordance with City and CBC requirements, the proposed modified project would be required to prepare all required site-specific geotechnical investigation reports and site-specific soils reports to ensure potential impacts would be reduced. With adherence to CBC design guidelines and standards, compliance with CBC and City requirements, and implementation of recommendations included in the site-specific geotechnical reports and soils reports, impacts related to expansive soils would be reduced. Impacts from development of the proposed modified project would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **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?**

The Housing Element EIR identified that development under the previous project would occur in areas where all developments would be able to tie into existing wastewater infrastructure and none of the developments would require the use of septic or other alternative wastewater disposal systems<sup>43</sup>.

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<sup>42</sup> Quantum Geotechnical Inc. 2022. Geotechnical Feasibility Evaluation, September 27, 2022. PDF

<sup>43</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.I-29.

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Therefore, the Hosing Element EIR identified that there would be no impacts related to use of septic systems or alternative wastewater disposal systems.

The proposed modified project would connect to the City's wastewater systems and would not require the use of septic tanks or alternative waste disposal systems. Therefore, there would be no impact. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

The Housing Element EIR identified that unique geologic features have not been identified in the City and therefore, development under the Housing Element would not impact any unique geologic features<sup>44</sup>. However, numerous fossils have been collected in the City and development would involve construction activities that could adversely affect paleontological resources. The Housing Element EIR identified that with adherence to relevant General Plan policies, development under the previous project would have a less than significant impact on paleontological resources.

The proposed modified project would require construction activities including excavation which could adversely affect and destroy undiscovered paleontological resources if they are encountered during construction. The proposed modified project would be required to implement General Plan Policy 10.9.2 (a), which requires surveys for projects having the potential to impact paleontological resources, and mitigation if significant resources are found to be present; General Plan Policy 10.9.2 (c), which requires that when a site proposed for development may contain paleontological resources, a paleontologist shall monitor site grading activities and document any paleontological resources found during site grading; and General Plan Policy 10.9.2 (d), which requires that if unanticipated paleontological resources are encountered during grading, alteration of earth materials in the vicinity of the find must be halted until a qualified expert has evaluated the find and recorded the identified resources. Implementation of General Plan policies would ensure that development of the proposed modified project would not directly or indirectly destroy a unique paleontological resource or site and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **Conclusion**

In relation to the construction and operational impacts as stated in the Housing Element EIR, the proposed modified project's potential impacts to geology and soils would remain less than significant with adherence to CBC design guidelines and standards, compliance with CBC and City requirements, and implementation of applicable General Plan policies, and no new mitigation measures would be warranted.

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<sup>44</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.I-30.

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Implementation of the proposed modified project would not result in any new significant impacts to geology and soils, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Housing Element EIR. Furthermore, the proposed modified project's impacts to geology and soils are within the scope of impacts identified in the Housing Element EIR.

## 6.8 GREENHOUSE GAS EMISSIONS

Would the Project:

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

The Housing Element EIR, under Greenhouse Gas Emissions Criterion 1, determined that implementation of the Housing Element would comply with the BAAQMD's recommended plan-level thresholds of significance, and the impact would be less than significant.<sup>45</sup>

For land use projects, the BAAQMD considers a project to have a less-than-significant impact related to GHG emissions if it either (1) meets certain project design elements, or (2) is consistent with a local GHG reductions strategy that meets the requirements of CEQA Guidelines Section 15183.5(b).<sup>46</sup> The City of Antioch does not have a qualifying GHG reduction strategy. As a result, this analysis relies on the proposed modified project's consistency with the BAAQMD's project design elements for determining the significance of potential impacts. Although the BAAQMD's applicable thresholds for the significance of GHG emissions are qualitative, the following GHG emissions inventories are provided for informational purposes. The California Emissions Estimator Model (CalEEMod) Version 2022.1.1.14 was used to estimate construction and operational GHG impacts of the Project. CalEEMod output modeling files are provided in Appendix A.

### **Construction Emission Inventory**

Construction GHGs would be emitted by the off-road construction equipment and vehicle travel by workers and material deliveries to the proposed modified project site. The estimated construction GHG emissions are shown in Table 6.8-1.

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<sup>45</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.D-16 to 17.

<sup>46</sup> BAAQMD. 2023c. California Environmental Quality Act: Air Quality Guidelines. <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>. Accessed July 6, 2023.

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**Table 6.8-1: Construction Greenhouse Gas Emissions**

Construction Year	Emissions (MTCO <sub>2</sub> e)
2023	371
2024	781
2025	550
<b>Total</b>	<b>1,702</b>

Source: Appendix A.

### Operational Emission Inventory

Operational, or long-term, emissions occur over the life of the proposed modified project. Operational activities of the proposed modified project would generate GHG emissions primarily from mobile sources. Operational GHG emissions are shown in Table 6.8-2.

**Table 6.8-2: Operational Greenhouse Gas Emissions**

Source	Emissions (MTCO <sub>2</sub> e per year)
Mobile	1,964.00
Area	7.65
Energy	138.00
Water	111.00
Waste	49.80
Refrigerants	0.39
<b>Total</b>	<b>2,270.84</b>

Note: Totals may not sum due to rounding.

Source: Appendix A.

### Consistency with BAAQMD's Project Design Elements

According to the BAAQMD's guidance, in order to find a less than significant GHG impact, projects must include certain project design elements. The proposed modified project is evaluated in relation to each design element in Table 6.8-3.

**Table 6.8-3: Project Consistency with BAAQMD's Project Design Elements**

Measure	Consistency Determination
<b>Buildings a)</b> The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).	<b>Consistent.</b> The proposed modified project would include all electric appliances and plumbing and, therefore, would not include natural gas appliances or natural gas plumbing.

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Measure	Consistency Determination
<p><b>Buildings b)</b> The project will not result in any wasteful, inefficient, or unnecessary energy use as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines</p>	<p><b>Consistent.</b> As discussed in further detail in Section 6.6, Energy, the proposed modified project would comply with all applicable federal, state, and local regulations regarding energy use during both construction and operations. Therefore, the proposed modified project would not result in any wasteful, inefficient, or unnecessary energy use.</p>
<p><b>Transportation a)</b> The project will achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target that reflects the recommendations provided in the Governor’s Office of Planning and Research’s Technical Advisory on Evaluating Transportation Impacts in CEQA:</p> <ul style="list-style-type: none"> <li>i. Residential projects: 15 percent below the existing VMT per capita;</li> <li>ii. Office projects: 15 percent below the existing VMT per employee;</li> <li>iii. Retail projects: no net increase in existing VMT.</li> </ul>	<p><b>Inconsistent.</b> As discussed in further detail in Section 6.17, Transportation, the proposed modified project would not achieve a 15 percent reduction in VMT per capita compared to the regional average (see Table 6.17-5). Therefore, the proposed modified project would not comply with this measure.</p>
<p><b>Transportation b)</b> The project will achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.</p>	<p><b>Consistent.</b> The proposed modified project would include one EV charger per each unit, for a project-wide total of 216 EV charging spaces. Pursuant to the Tier 2 CALGreen Code requirements, multi-family residential projects with more than 20 dwelling units must include EV charging stations for at least 15 percent of the total parking spaces. The proposed number of EV charging stations would exceed the required number of spaces and, therefore, the proposed modified project would comply with the residential Tier 2 CALGreen standards.</p>

Source: BAAQMD. 2023. California Environmental Quality Act: Air Quality Guidelines. <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>. Accessed July 6, 2023.

Based on the analysis included above, the proposed modified project would comply with the BAAQMD’s project design elements Buildings a), Buildings b), and Transportation b). However, the proposed modified project would not be consistent with BAAQMD project design element Transportation a) because the proposed modified project would not achieve a 15 percent reduction in VMT per capita compared to the regional average. However, the Housing Element EIR concluded that the VMT impact would be significant and unavoidable. As a result, when certifying the Housing Element EIR, the City adopted a Statement of Overriding Considerations, which determined that the significant and unavoidable impacts associated with implementation of the Housing Element are considered acceptable to the City given the overriding benefits. Thus, the proposed modified project’s inconsistency with BAAQMD project design element Transportation a) has already been considered by the City, and the proposed modified project would not result in any more severe impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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

The Housing Element EIR, under Greenhouse Gas Emissions Criterion 2, determined that the Housing Element would be consistent with the applicable Scoping Plan, and a less than significant impact would occur.<sup>47</sup>

The proposed modified project would include construction of 216 residential units on a vacant lot. The structures would include all electric buildings with solar paneling to generate renewable electricity onsite. In addition, the proposed modified project will be required to adhere to Title 24 and the latest California Building Standards.

A project would have a significant impact with respect to GHG emissions and global climate change if it would substantially conflict with the provisions of Section 15064.4(b) of the CEQA Guidelines. Pursuant to Appendix G of the CEQA Guidelines, a significant GHG impact is identified if the project could conflict with applicable GHG reduction plans, policies, or regulations. The proposed modified project would be subject to complying with SB 32. SB 32 is a statewide reduction goal aimed at reducing emissions to 40 percent below 1990 levels by 2030. The CARB's 2022 Scoping Plan sets a framework for California to meet the reduction targets of SB 32.<sup>48</sup> Proposed modified project consistency with the 2022 Scoping Plan is evaluated below.

#### Consistency with the 2022 Scoping Plan

CARB approved the 2022 Scoping Plan in December 2022. The 2022 Scoping Plan builds upon previous iterations of state scoping plans to achieve carbon neutrality and reduce anthropogenic GHG emissions below 85 percent below 1990 no later than 2045, as directed by Assembly Bill (AB) 1279. Table 6.8-4 identifies the Scoping Plan policies that are applicable to the proposed modified project.

**Table 6.8-4: Project Consistency with 2022 Scoping Plan Greenhouse Gas Reduction Strategies**

Measure	Consistency Determination
Deploy Zero Emission Vehicles (ZEVs) and reduce driving demand	<b>Consistent.</b> While the proposed modified project itself would not deploy ZEVs, the proposed modified project would provide EV charging stations to support the use of ZEVs.
Coordinate supply of liquid fossil fuels with declining CA fuel demand	<b>Not Applicable.</b> This measure is aimed at petroleum refineries and fossil fuel extraction operations. The proposed modified project would not interfere with this goal.
Generate clean electricity	<b>Consistent.</b> Consistent with the 2022 CALGreen Code, the proposed modified project would include rooftop solar panels to generate clean electricity.

<sup>47</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.D-17.

<sup>48</sup> CARB. 2022. 2022 Scoping Plan. [https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp\\_1.pdf](https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf). Accessed March 29, 2023.

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Measure	Consistency Determination
Decarbonize Buildings	<b>Consistent.</b> The proposed modified project would construct all electric buildings without natural gas infrastructure. All buildings constructed on the site will be consistent with the 2022 California Green Building Standards.
Decarbonize Industrial Energy Supply	<b>Not Applicable.</b> The proposed modified project is a residential land use and would not affect industrial energy supply.
Reduce non-combustion emissions (Methane)	<b>Consistent.</b> The proposed modified project would not include any land uses that generate significant levels of methane, such as landfills or dairy farms.
Reduce non-combustion emissions (Hydrofluorocarbons [HFCs])	<b>Consistent.</b> The proposed modified project will comply with all state regulations governing SLCPs, including HFCs.
Compensate for remaining emissions	<b>Not Applicable.</b> This measure is aimed at the state government to reduce statewide emissions to meet AB 1279 goals.

Source: CARB. 2022. 2022 Scoping Plan. [https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp\\_1.pdf](https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf). Accessed March 29, 2023.

This analysis finds the proposed modified project would be consistent with all feasible and applicable strategies recommended in the 2022 Scoping Plan Update. The proposed modified project would not conflict with an applicable plan adopted for the purpose of reducing GHG emissions; therefore, impacts would be considered less than significant. Therefore, the proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

### Conclusion

Based on an examination of the analysis, findings, and conclusions of the Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to GHG emissions from what has been identified in the Housing Element EIR. No new mitigation measures would be warranted. Furthermore, the proposed modified project's impacts related to GHG emissions are within the scope of impacts identified in the Housing Element EIR.

## 6.9 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?**



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

**(a, b)** The Housing Element EIR identified that hazardous materials would be routinely transported, used, and disposed of during construction of developments under the previous project with potential risk of accidental release of hazardous materials and therefore, would be required to manage soil and hazardous materials during construction activities in accordance with the requirements of the Construction General Permit as well as other existing City requirements. The Housing Element EIR identified that the public and/or the environment could be affected by the release of hazardous materials into the environment if: 1) hazardous building materials (e.g., lead paint and asbestos) were disturbed and released into the environment during demolition or renovation activities under the Housing Element; 2) leakage, spills, or improper disposal of hazardous materials would occur during construction or operation of developments under the Housing Element; or 3) development under the Housing Element would expose construction workers, the public, future occupants of developments, or the environment to potentially contaminated soil, groundwater, or landfill waste/gases during construction or operation of the project. However, with compliance with existing regulations and applicable General Plan policies, potential impacts would be reduced. The Housing Element EIR identified that compliance with existing regulations would ensure that new developments would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials by ensuring that these materials are properly handled during construction and operation of developments and ensure that the potential accidental release of hazardous materials would be reduced. The Housing Element EIR identified that impacts would be less than significant.

The proposed modified project would include the construction of a new multifamily residential development and would not include construction of new hazardous materials facilities. Construction of the proposed modified project would require the use of hazardous materials typical to construction such as solvents, paints, and diesel fuels. The proposed modified project would disturb more than an acre of land and therefore, would be required to manage soil and hazardous materials during construction activities in accordance with the requirements of the Construction General Permit, which requires preparation and implementation of a SWPPP that includes hazardous materials storage requirements and requirements to reduce the risk of spills or leaks from reaching the environment, including procedures to address minor spills of hazardous materials. Additionally, Section 6-9.09 of the Antioch Municipal Code requires all construction to conform to the requirements of the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for Construction. The CASQA Stormwater BMP Handbook for Construction includes guidelines to prevent the release of hazardous materials during construction activities including hazardous materials/waste management, spill prevention and control, and practices to control site runoff.

The project site is vacant and construction would not require demolition of structures that could contain hazardous building materials such as lead based paints and asbestos containing materials. A Phase I Environmental Site Assessment (ESA) was prepared for the proposed modified project on July 18, 2022,

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by Apex Companies, LLC (Appendix D)<sup>49</sup>. The Phase I ESA identified that based on historical sources and aerial photographs, several structures and agricultural land were previously developed on the project site. However, agricultural activities had ceased by 2005 and by 2010, all structures had been demolished. The Phase I ESA collected soil samples from the site previously utilized for agricultural purposes and various pesticides were detected in onsite soils. However, all concentrations detected were far below the San Francisco Regional Water Quality Control Board Tier 1 Environmental Screening Level, the United States Environmental Protection Agency Regional Screening Levels, the Department of Toxic Substances Control (DTSC) Screening Levels, and the Total Threshold Limit Concentration. The Phase I ESA determined that there is no evidence of recognized environmental conditions, controlled recognized environmental conditions historical recognized environmental conditions, or de minimis conditions in connection with the project site and no further action is necessary. Therefore, with implementation of the requirements of the Construction General Permit requiring preparation and implementation of a SWPPP and compliance with Antioch Municipal Code Section 6-9.09, construction of the proposed modified project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the release of hazardous materials into the environment and impacts would be less than significant.

During operation of the proposed modified project, limited amounts of hazardous materials would be utilized. Hazardous materials used during operation would be limited to typical household, maintenance, and landscaping materials such as cleaning products and pesticides. The use of these materials would not pose a significant risk to people or the environment and as such, this impact would be less than significant.

The proposed modified project would be constructed and operated in accordance with all applicable policies and safety requirements related to the handling of hazardous materials, and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

The Housing Element EIR determined that compliance with the existing federal, State, regional, and local regulations; and compliance with the Municipal Code and General Plan policies would ensure that potential impacts of development related to hazardous emissions within a quarter-mile of schools would be less than significant.

There are no schools located within one-quarter mile of the project site. The closest school is the Carmen Dragon Elementary School, located approximately 0.85 mile southwest of the proposed modified project site. As there are no schools within one-quarter mile of the project site, there would be no impact. The proposed modified project would not result in greater or worse impacts than those evaluated in the

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<sup>49</sup> Apex Companies, LLC. 2022. Phase I Environmental Site Assessment and Limited Subsurface Investigation Conducted on Laurel Ranch, July 18, 2022. PDF.

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Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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

The Housing Element EIR identified that there are numerous parcels identified in the Housing Sites Inventory that are located in relatively close proximity to hazardous materials release sites in the city and two of the parcels identified in the Housing Sites Inventory are identified as hazardous materials release sites. However, the Housing Element EIR identified that compliance with General Plan policies would ensure if development occurred on properties included on the list of hazardous materials release site, potential impacts related to past hazardous materials releases would be less than significant.

The Housing Element EIR did not identify any sites included on a list of hazardous materials sites as being located within the project site or within its vicinity. A review of the DTSC's EnviroStor database<sup>50</sup> and State Water Resources Control Board's GeoTracker database<sup>51</sup> confirmed that the project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the proposed modified project would not be located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and there would be no impact. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

**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, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**

The Housing Element EIR identified that the City is located approximately 9.5 miles northwest of Byron Airport and 10.5 miles east of Buchanan Field Airport and the City is not located within the Airport Influence Area of Byron Airport or Buchanan Field Airport<sup>52</sup>. Therefore, the Housing Element EIR determined that no impacts related to aviation hazards would occur.

The project site is located within the City boundaries, is not located within an Airport Influence Area for any nearby airport, or within two miles of a public airport. Therefore, the proposed modified project would have no impacts related to safety hazards or excessive noise from nearby airports. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing

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<sup>50</sup> Department of Toxic Substances. 2023. EnviroStor Database. <https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=laurel+road%2C+antioch%2C+ca>. Accessed July 2023.

<sup>51</sup> State Water Resources Control Board. 2023. GeoTracker Database. <https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=laurel+road%2C+antioch%2C+ca>. Accessed July 2023.

<sup>52</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.J-37.

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Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The Housing Element EIR identified that construction activities for development under the previous project would be required to obtain traffic permits from the City and prepare a traffic control plan to maintain emergency response and evacuation access through appropriate traffic control measures. With compliance with City requirements and implementation of applicable General Plan policies, the Housing Element EIR determined that development would result in a less than significant impact related to emergency response and evacuation plans.

Construction of the proposed modified project could require temporary lane and roadway closures and therefore, would be required to obtain required traffic permits and prepare and implement a traffic control plan to ensure construction would not impair or interfere with emergency response. The proposed modified project would not include improvements to adjacent roadways and would not result in changes to the streets or sidewalks that could impair emergency response and access. The proposed modified project would design and construct all internal streets and driveways into the site in accordance with City requirements to allow for proper ingress and egress for fire apparatus and emergency vehicle access to the site which would ensure the proposed modified project does not impair emergency response to the site. The proposed driveways would have a width of 24 feet to ensure adequate EVAE, and all internal streets would have a minimum width of 20 feet EVAE. Therefore, the proposed modified project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?**

The Housing Element EIR identified that all impacts related to wildfire hazards would be less than significant as the City is not located within or near a very high fire hazard severity zone for either State or local responsibility areas.

The California Department of Forestry and Fire Protection (CAL FIRE) publishes maps identifying State Responsibility Area (SRA) Fire Hazard Severity Zones. The latest maps were published by CAL FIRE on June 15, 2023, and according to the Contra Costa County map, the project site is not located within an SRA, nor a very high fire hazard severity zone<sup>53</sup>. Additionally, USFS's Wildfire Hazard Potential Map

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<sup>53</sup> CAL FIRE. 2023. State Responsibility Area Fire Hazard Severity Zones – Contra Costa County, published June 15, 2023. [https://osfm.fire.ca.gov/media/3kxgzdz0/fhsz\\_county\\_sra\\_11x17\\_2022\\_contracosta\\_2.pdf](https://osfm.fire.ca.gov/media/3kxgzdz0/fhsz_county_sra_11x17_2022_contracosta_2.pdf).

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identified a majority of the project site as non-burnable with a small portion of the northern area of the project site as having low wildfire hazard potential<sup>54</sup>.

The proposed modified project would be required to be reviewed for consistency with applicable State Building and Fire Codes and would be designed to include fire safety measures such as sprinklers and alarms which would reduce potential impacts. The inclusion of fire safety measures would ensure that the proposed modified project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

### Conclusion

In relation to the construction and operational impacts as stated in the Housing Element EIR, the proposed modified project's potential impacts to hazards and hazardous materials would remain less than significant, and no new mitigation measures would be warranted. Implementation of the proposed modified project would not result in any new significant impacts to hazards and hazardous materials, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Housing Element EIR, which were determined to be less than significant. Furthermore, the proposed modified project's impacts to hazards and hazardous materials are within the scope of impacts identified in the Housing Element EIR.

## 6.10 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?**

The Housing Element EIR identified that construction activities would increase the potential for erosion and sedimentation from stormwater runoff and could result in polluted runoff from the construction site resulting in a degradation of water quality. Additionally, development under the previous project was identified to increase the amount and density of residential land uses in the City which would increase impervious surfaces and create additional sources of potentially polluted runoff. However, compliance with State, regional, and local regulations and implementation of General Plan policies regarding stormwater during construction and operation was determined to protect receiving water quality and

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<sup>54</sup> USFS. 2023. Wildfire Hazard Potential.

<https://usfs.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=55226e8547f84aae8965210a9801c357>.

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impacts related to water quality during construction and operation associated with development under the previous project would be less than significant<sup>55</sup>.

The proposed modified project would require construction activities including excavation and grading which would increase the potential for erosion and sedimentation and polluted runoff from the site. Construction activities would be completed in accordance with all applicable water quality requirements. The proposed modified project would comply with the requirements of the NPDES Construction General Permit and would develop and implement a SWPPP that would identify all potential pollutants and their sources, including a list of BMPs to reduce discharges of construction-related stormwater pollutants, would include a detailed description of controls to reduce pollutants, and would also define proper building material staging areas, paint and concrete wash areas, proper equipment/vehicle fueling and maintenance practices, controls for equipment/vehicle washing, and would include a spill prevention and response plan. Additionally, construction would be required to comply with Antioch Municipal Code Section 6-9.09 which requires construction to conform to the requirements of the CASQA Stormwater Best Management Practices Handbook for Construction Activities and New Development and Redevelopment, the Association of Bay Area Governments (ABAG) Manual of Standards for Erosion & Sediment Control Measures, the City's grading and erosion control ordinance and other generally accepted engineering practices for erosion control. Compliance with these existing regulations described above would ensure that construction of the proposed modified project would not result in a degradation of water quality and impacts would be less than significant.

The proposed modified project would increase impervious surfaces at the site and operation of the proposed modified project would result in increased runoff from the site, including polluted runoff. New developments that create or replace 10,000 square feet or more of impervious surfaces are required to comply with NPDES Municipal Regional Permit Provision C.3 requires for Low Impact Development (LID) source control, site design, and stormwater treatment. Compliance with NPDES permit requirements is also required by General Plan Policy 10.7.2(g) which requires public and private development projects to be in compliance with applicable NPDES permit requirements and require the implementation of BMPs to minimize erosion and sedimentation resulting from new development. Additionally, General Plan Policy 8.7.2(e) requires new developments to provide erosion and sedimentation control measures to maintain the capacity of area storm drains and protect water quality. The proposed modified project would be required to comply with General Plan Policies 8.7.2, 10.7.2, and 11.5.2 which address potential impacts to water quality related to potential increase in runoff and potential pollutants in runoff from new development.

In accordance with the existing regulations described above, the proposed modified project would construct a new stormwater system onsite for the proposed modified project that would consist of storm drain lines and bioretention basins. Runoff from the project site would be collected by the storm drain system and directed to bioretention facilities constructed in accordance with the criteria outlined in the Contra Costa Cleanwater Program C.3 Guidebook. The site would incorporate three bioretention

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<sup>55</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.K-27 to IV.K-31.

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treatment areas totaling approximately 37,260 square feet which would treat onsite runoff before being conveyed to the City's existing storm drainage system in the area. Treatment of onsite runoff prior to discharging into the City's system would ensure that increased runoff and polluted runoff from the new development would not result in water quality impacts. Additionally, the proposed modified project would prepare and implement a Stormwater Control Plan that would outline the project's LID design strategies, drainage design, source control measures, and stormwater facility maintenance requirements. Compliance with existing regulations and applicable General Plan policies would ensure that operation of the proposed modified project would not result in a degradation of water quality and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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

The Housing Element EIR identified that as the City does not use groundwater for municipal water supply, increases in the City's water use that would occur from future development under the previous project would not affect groundwater supplies. Additionally, as much of the City has poor groundwater recharge, the Housing Element EIR identified that potential significant impacts to groundwater recharge would not be expected due to increase in impervious surfaces from development<sup>56</sup>.

The proposed modified project would connect to the City's municipal water supply system and would not utilize groundwater. Therefore, the proposed modified project would have no impact on groundwater supplies. Development of the proposed modified project would increase impervious surfaces at the site which could result in decreased potential for groundwater recharge. However, as identified above and in the Housing Element EIR, the City has poor groundwater recharge potential. Additionally, the proposed modified project would be designed and constructed in accordance with Provision C.3 of the Municipal Regional Permit which requires implementation of LID source control, site design, and stormwater treatment would ensure that development would include stormwater control measures that would promote infiltration of stormwater runoff. The proposed modified project's stormwater system would include measures to promote infiltration of stormwater runoff by incorporating landscaped areas and a self-treating hydro seed slope area. Paved walkways within the development would slope towards landscaped areas when feasible, and roof leaders would discharge to landscaped areas and self-treating hydro seed slope area of approximately four acres would be provided along the eastern boundary of the project site. Therefore, development of the proposed modified project would not substantially decrease groundwater supplies or interfere with groundwater recharge such that it would impede groundwater management of the basin and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation

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<sup>56</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.K-32 to IV.K-33.



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measures would be required. As such, the impact finding would remain unchanged from the previous project.

- 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 a 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; or**
  - iv. Impede or redirect flood flows?**

The Housing Element EIR identified that with compliance with existing State and local regulations, Antioch Municipal Code requirements, and General Plan policies, development under the previous project would have a less than significant impact related erosion and polluted runoff, increased rate and amount of runoff, local stormwater system drainage capacity, and flooding<sup>57</sup>.

As described under Impact a), construction activities required for the proposed modified project would include excavation and grading activities which would expose soil to potential erosion. As described above, compliance with the NPDES Construction General Permit and Antioch Municipal Code Section 6-9.09 would ensure impacts related to erosion and polluted runoff during construction would be less than significant.

Operation of the proposed modified project would include the construction of a stormwater drainage system onsite which would alter the existing drainage pattern of the site and would increase impervious surfaces at the site. Operation of the proposed modified project could result in increased erosion and polluted runoff, and increase the rate and amount of surface runoff. As identified above under Impact a), the proposed modified project would be required to comply with Provision C.3 of the Municipal Regional Permit and General Plan Policy 10.7.2(g) which require the implementation of BMPs to minimize erosion and sedimentation resulting from new development and requires for LID source control, site design, and stormwater treatment onsite. Additionally, the proposed modified project would comply with General Plan Policy 8.7.2(e) which requires new developments to provide erosion and sedimentation control measures to maintain the capacity of area storm drains and protect water quality and with General Plan Policies 8.7.2, 10.7.2, and 11.5.2 which address potential impacts to water quality related to potential increase in runoff and potential pollutants in runoff from new development.

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<sup>57</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.K-33 to IV.K-36.

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As described previously, the proposed modified project would construct a new stormwater system onsite in accordance with the criteria outlined in the Contra Costa Cleanwater Program C.3 Guidebook. The site would incorporate three bioretention treatment areas which would treat onsite runoff before being conveyed to the City's existing storm drainage system in the area. Detention and treatment of onsite runoff prior to discharging into the City's system would ensure that increased runoff and polluted runoff from the new development would not result in impacts related to erosion, polluted runoff, increased runoff volumes, and capacity of stormwater drainage systems. In addition, the proposed modified project would prepare and implement a Stormwater Control Plan that would outline the project's LID design strategies, drainage design, source control measures, and stormwater facility maintenance requirements.

Additionally, the proposed modified project is not located within areas identified by the General Plan EIR as flood hazard zones<sup>58</sup> and therefore, the development of the proposed modified project and its' anticipated changes to the existing drainage patterns at the site would not impede or redirect flood flows and there would be no impact.

Compliance with existing regulations and applicable General Plan policies would ensure that construction and operation of the proposed modified project would not result in substantial alteration to the existing drainage pattern at the site in a manner that would result in substantial erosion or polluted runoff, increase the rate or amount of runoff resulting in flooding, contribute runoff that would exceed the capacity of storm drainage systems, or impede or redirect flood flows and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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

The Housing Element EIR identified that the potential for the release of pollutants from flooding of residential properties is low as residential properties typically do not store significant quantities of hazardous materials and therefore, development of parcels identified in the Housing Element's Sites Inventory would have a less than significant impact related to the release of pollutants due project inundation.

The project site is not located within areas identified by the General Plan EIR as flood hazard zones<sup>59</sup>. There are no enclosed water bodies in the City that would be affected by seiches and tsunamis would not be expected to affect the City based on its distance from the Pacific Ocean and the San Francisco Bay<sup>60</sup>. The project site is not located within areas identified by the General Plan EIR as dam failure inundation

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<sup>58</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.K-4.

<sup>59</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.K-4.

<sup>60</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.K-9.

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areas<sup>61</sup>. Additionally, as the proposed modified project would develop residential uses, the risk of release of pollutants due to project inundation is considered low. The proposed modified project is not located in a flood hazard, tsunami, or seiche zones and would have no impact related to the risk of release of pollutants due to project inundation. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**

The Housing Element EIR identified that with compliance with NPDES permit requirements to protect water quality including the Construction General Permit and Municipal Regional Permit, as well as General Plan policies and Antioch Municipal Code requirements described under Impact a), development under the previous project would not conflict with water quality objectives of the Central Valley Regional Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin, the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, or the East Contra Costa (ECC) Subbasin Groundwater Sustainability Plan (GSP).

As described above under Impact a) and Impact c), the proposed modified project would comply with all NPDES permit requirements including the Construction General Permit and the Municipal Regional Permit. Additionally, the proposed modified project would comply with all applicable General Plan policies and Antioch Municipal Code requirements. As the proposed modified project is not anticipated to result in impacts to groundwater quality as described above under Impact b) and would not impact groundwater quality or recharge, the proposed modified project would not conflict with the ECC Subbasin GSP. Therefore, the proposed modified project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **Conclusion**

In relation to the construction and operational impacts as stated in the Housing Element EIR, the proposed modified project's potential impacts to hydrology and water quality would remain less than significant, and no new mitigation measures would be warranted. Implementation of the proposed modified project would not result in any new significant impacts to hydrology or water quality, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Housing Element EIR. Furthermore, the proposed modified project's impacts to hydrology and water quality are within the scope of impacts identified in the Housing Element EIR.

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<sup>61</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.K-6.

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### 6.11 LAND USE AND PLANNING

Would the Project:

**a) Physically divide an established community?**

The Housing Element EIR identified that implementation of the previous project would not physically divide an established community or neighborhoods as majority of future development sites identified in the Housing Element are located within existing urbanized areas.

The project site is located within a highly urbanized area and is surrounded by existing residential developments. The proposed modified project would construct multi-family homes and would be consistent with the urbanization and uses of the surrounding area. The proposed modified project would not include changes to the existing circulation system in the area or result in development that would physically divide an established community. Therefore, implementation of the proposed modified project would not physically divide an established community and there would be no impacts. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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

The Housing Element EIR identified that the previous project would be consistent with the City's General Plan, Plan Bay Area 2050, and the RHNA and would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigation and environmental effect.

The current General Plan designation for the project site is the East Lone Tree Specific Plan Focus Area. Within the East Lone Tree Specific Plan, the project site is designated CN and the East Lone Tree Specific Plan allows for alternative uses of the CN designated sites, including RH. The Specific Plan encourages RH as an alternative use for CN sites. As a result, use of the CN sites for residential development consistent with RH controls would conform to the Specific Plan and would not necessitate a change in designation<sup>62</sup>. The proposed modified project does not propose to change the General Plan land use designation of the project site. Currently, the project site is zoned S-P and the proposed modified project is not proposing to change the zoning designation of the project site. Therefore, the proposed modified project would not conflict with the General Plan designation or zoning of the site.

The Housing Element Draft EIR identified three of the four project site parcels (APNs 053-060-057, 053-060-056, and 053-060-055) as suitable sites for residential development to meet the City's RHNA allocation<sup>63</sup>. The proposed modified project would be consistent with the City's General Plan as it would

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<sup>62</sup> City of Antioch. 1996. East Lone Tree Specific Plan. Volume 1, Adopted May 1996.

<https://www.antiochca.gov/fc/community-development/planning/East-Lone-Tree-Specific-Plan.pdf>. Page 3-5.

<sup>63</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Table III-4, Page III-18.

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develop the site with residential uses as identified in the General Plan's most recent Housing Element Update. Additionally, the proposed modified project would comply with all applicable policies related to the protection of environmental resources of the General Plan as outlined in this Addendum.

Development of the proposed modified project would also help the City in meeting its RHNA allocation and would be consistent with the growth projects contained in Plan Bay Area 2050.

Therefore, the proposed would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigation and environmental effect and there would be no impact. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

### Conclusion

In relation to the land use impacts as stated in the Housing Element EIR, the proposed modified project's potential impacts to land use would remain less than significant, and no new mitigation measures would be warranted. Implementation of the proposed modified project would not result in any new significant impacts to land use, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Housing Element EIR, which were determined to be less than significant with the incorporation of mitigation measures. Furthermore, the proposed modified project's impacts to land use are within the scope of impacts identified in the Housing Element EIR.

## 6.12 MINERAL RESOURCES

Would the Project:

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

**(a, b)** The Housing Element EIR identified that there are no known existing significant mineral resources in the project area and therefore, implementation of the previous project would not require quarrying, mining, dredging, or extraction of locally important mineral resources onsite nor would it deplete any known mineral resources that would be of value to the region and the residents of the State. Therefore, the Housing Element EIR would have no significant impacts related to mineral resources<sup>64</sup>. The proposed modified project would develop the site with residential uses and would not require any mineral extraction activities. The project site is not located in an area with known mineral resources and is not a locally important mineral resource recovery site. Therefore, development of the proposed modified project would not result in the loss of availability of a known mineral resource that would be of value to the region and

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<sup>64</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page V-1.

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residents of the State and would not result in the loss of availability of a locally important mineral resource recovery site. The proposed modified project would result in no impacts to mineral resources. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### Conclusion

Based on Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to mineral resources from what has been identified in the Housing Element EIR. Impacts related to mineral resources resulting from the proposed modified project would be less than significant and no new mitigation measures are warranted. Furthermore, the proposed modified project's impacts related to mineral resources are within the scope of impacts identified in the Housing Element EIR.

## 6.13 NOISE

Would the Project:

- 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?**

#### Construction Phase

Section L "Noise" in the Housing Element EIR identified the construction of future residential developments as a temporary impact. Noise sources relating to construction include the operation of heavy construction equipment as well as the increased traffic flow from the transport of workers, equipment, and materials to the construction site.

The Housing Element EIR notes the Antioch Municipal Code limits the days and hours of construction equipment operation to avoid generating noise when it would be most objectionable to neighboring receptors. This requirement prevents the disturbance of nighttime sleep for nearby residences. Antioch General Plan Policy 11.6.2 requires development adjacent to occupied noise sensitive land uses to implement a construction-related noise mitigation plan and requires that all construction equipment utilize noise reduction features.

During construction of future developments under the previous project, the increased traffic volume from the transport of workers, equipment, and materials to and from the construction site can incrementally increase noise levels on local roads. General Plan Policy 11.6.2(m) requires the construction-related noise mitigation plan to limit haul truck deliveries to the same hours specified for construction equipment, devote haul routes that do not pass sensitive land uses or residential dwellings to the extent possible, and incorporate any other restrictions imposed by the City.

The Housing Element EIR concluded that the implementation of the Antioch Municipal Code and General Plan policies would ensure the construction of individual residential developments under the approved

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Project would not result in a substantial temporary or permanent increase in ambient noise levels, and this impact would be less than significant.

With respect to the proposed modified project, construction noise would be similar to what was already evaluated in the Housing Element EIR. Therefore, the implementation of the Antioch Municipal Code and General Plan policies would ensure the construction of the proposed modified project would not result in a substantial temporary or permanent increase in ambient noise levels and this impact would be less than significant. No additional mitigation measures would be required.

#### **Operational Phase**

The Housing Element EIR identified the introduction of new stationary noise sources, such as air conditioning units, exhaust fans, and emergency backup generators, and increased vehicular traffic on roadways as long-term noise impacts on the neighboring communities.

Noise generated from stationary sources would be subject to the Antioch Municipal Code Section 9-5.1901(A), which requires uses adjacent to outdoor living areas and parks to not cause an increase in background ambient noise which will exceed 60 Community Noise Equivalent Level (CNEL). For developments in areas exceeding the noise levels identified in the General Plan noise objectives, or where the development of proposed uses could result in a significant increase in noise, General Plan Policy 11.6.2(d) requires a detailed noise attenuation study to be prepared by a qualified acoustical engineer to determine appropriate mitigation and ways to incorporate such mitigation into project design and implementation. Therefore, compliance with Antioch Municipal Code Section 9-5.1901(A) and General Plan Policy 11.6.2(d) would ensure future development under the previous project would not result in a substantial temporary or permanent increase in ambient noise levels from stationary sources, and this impact would be less than significant.

With regards to increased vehicular traffic on roads, General Plan Policy 11.6.2(e) requires the implementation of appropriate noise mitigation for new development that cause a new exceedance of the General Plan noise objectives, or an audible (3.0 A-weighted decibel [dBA]) increase in noise in areas where the General Plan noise objectives are already exceeded as the result of existing development. The Housing Element EIR concluded the maximum daily vehicle trips that would be generated by a proposed residential development under the previous project would not be expected to generate traffic that would produce an audible (3.0 dBA) increase in noise in areas exposed to traffic noise exceeding 60 dBA CNEL. In addition, General Plan Policy 11.6.2(g) requires the use of noise barriers to reduce significant noise impacts where feasible. Therefore, compliance with General Plan Policies 11.6.2(e) and 11.6.2(g) would ensure that future development under the previous project would not result in a substantial temporary or permanent increase in ambient noise levels from traffic, and this impact would be less than significant.

With respect to the proposed modified project, noise generated by all new stationary noise sources would be governed by the restrictions listed in the Antioch Municipal Code Section 9-5.1901(A) and General Plan Policy 11.6.2(e). Therefore, all new stationary noise sources would not result in a substantial temporary or permanent increase in ambient noise levels and this impact would be less than significant. No additional mitigation measures would be required.



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The CBC specifies interior noise levels attributable to exterior noise sources for residential uses during operation. Specifically, it specifies that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA in any habitable room. The City's General Plan identifies Highway 4, which is located to the east of the project site, as a major noise source within the City. The proposed modified project would be set back from the highway to provide a buffer between the residential development and reduce potential impacts. General Plan Policy 11.6.2(d) requires a detailed noise attenuation study to be prepared by a qualified acoustical engineer to determine appropriate mitigation and ways to incorporate such mitigation into project design and implementation. With implementation of General Plan Policy 11.6.2(d), it would ensure the proposed modified project include appropriate designs resulting in acceptable interior noise levels.

Compliance with the City of Antioch General Plan Policies 11.6.2 and preparation of an acoustic study as required by General Plan Policy 11.6.2(d) would ensure the proposed modified project would not result in a substantial temporary or permanent increase in ambient noise levels from traffic, and this impact would be less than significant. No additional mitigation measures would be required. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **b) Generation of excessive groundborne vibration or groundborne noise levels?**

The Housing Element EIR determined that construction activities could generate groundborne vibration levels which exceed the criteria established by the FTA at vibration-sensitive receptors. As a result, the updated General Plan Environmental Hazards Element includes Policy 11.8.2(k) to address vibration impacts from future housing developments. The Policy requires a screening level vibration analysis for City review in for new development in areas adjacent to any vibration-sensitive land uses or adjacent to vibration-sensitive activities. If the screening level analysis shows that construction has the potential to result in damage to structures or substantially interfere with normal operations, a detailed vibration impact assessment must be prepared by a structural engineer or other appropriate professional to determine appropriate design means and methods of construction to avoid the potential damage, if feasible.

The Housing Element EIR concluded that with the implementation of updated Environmental Hazards Element Policy 11.8.2(k), construction of future residential developments under the previous project would not generate excessive groundborne vibration or groundborne noise levels, and this impact would be less than significant.

With respect to the proposed modified project, vibration generated from the construction would be similar to what was already evaluated in the Housing Element EIR. Therefore, the implementation of updated Environmental Hazards Element Policy 11.8.2(k) would ensure the construction of the proposed modified project would not generate excessive groundborne vibration or groundborne noise levels and this impact would be less than significant. No additional mitigation measures would be required. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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- 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?**

The Housing Element EIR identified that the City is located approximately 9.5 miles northwest of Byron Airport and 10.5 miles east of Buchanan Field Airport and the City is not located within the Airport Influence Area of Byron Airport or Buchanan Field Airport. Because the previous project is not located within a public airport land use plan, within 2 miles of any other public use airport, or within the vicinity of a private airstrip, the previous project would have no impact related to the exposure of people to excess noise levels from public use airports.

Therefore, the proposed modified project would also have no impact related to the exposure of people to excess noise levels from airports or private airstrips and no new mitigation measures would be required to decrease this impact. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

### Conclusion

In relation to the construction and operational impacts as stated in the Housing Element EIR for the previous project, the proposed modified project's potential impacts related to noise and vibration would remain less than significant with the implementation of the City of Antioch General Plan Policies and the Code of Ordinance restrictions. Implementation of the proposed modified project would not result in any new significant impacts related to noise and vibration, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Housing Element EIR, which were determined to be less than significant. Furthermore, the proposed modified project's impacts related to noise and vibration are within the scope of impacts identified in the Housing Element EIR.

## 6.14 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)?**

The Housing Element EIR identified that development under the previous project would result in a development of 4,575 new housing units and would increase the population in the City by approximately 14,732 people using an average household size of 3.22 persons per household<sup>65</sup>. The Housing Element EIR identified that the population growth anticipated by the creation of up to 4,575 new housing units

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<sup>65</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.M-15 to IV.M-16.

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under the previous project is specifically being planned for, with suitable sites for development identified and evaluated and would be consistent with Plan Bay Area 2050, a regional plan intended to guide regional population growth by 2050. Therefore, the Housing Element EIR identified that the previous project would not induce substantial unplanned population growth and impacts would be less than significant.

The Housing Element Draft EIR identified three of the four project site parcels (APNs 053-060-057, 053-060-056, and 053-060-055) as suitable sites for residential development to meet the City's RHNA allocation<sup>66</sup>. Conservative assumptions led to a realistic capacity estimation of 286 residential units for these parcels in the Housing Element Draft EIR<sup>67</sup>. Thus, the analysis in the Housing Element Draft EIR considered the potential impacts of developing these three sites with 286 residential units. Using the average household size of 3.22 persons per household, development of the sites with 286 residential units as envisioned by the previous project would have resulted in a population of 921 residents.

In accordance with the previous project, the proposed modified project would develop new residential uses on the identified sites. The proposed modified project involves the development of a total of 216 new housing units on the project site. The proposed modified project's 216 housing units would be within the capacity estimation of 286 residential units as identified by the previous project. Therefore, the proposed modified project would not result in unplanned housing growth at the site. Using the average household size of 3.22 persons per household identified in the Housing Element EIR, the proposed modified project would result in a population of approximately 696 people. The proposed modified project's anticipated population of 696 people would represent approximately 4.7 percent of total anticipated population growth analyzed in the Housing Element EIR. Additionally, development of the site with 216 residential units (696 residents) in comparison to the 286 residential units (921 residents) envisioned by the previous project would result in a decrease of 24 percent in the anticipated population growth at the site. Therefore, the proposed modified project would be within the City's planned growth as identified in the Housing Element EIR. The development of the proposed modified project would not result in unplanned population growth and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

The Housing Element EIR identified that though development of nonvacant parcels identified as a Housing Site would result in displacement of existing people or housing, implementation of the previous

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<sup>66</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Table III-4, Page III-18.

<sup>67</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Table III-4, Page III-18.

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project would result in a net increase in housing and there would be no need to construct replacement housing to accommodate displaced residents and impacts would be less than significant.

The project site is undeveloped and is currently being utilized as a temporary storage yard of general construction materials. Therefore, the proposed modified project would not displace existing people or housing and there would be no impacts. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

### Conclusion

Based on Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to population and housing from what has been identified in the Housing Element EIR. Impacts related to population and housing resulting from the proposed modified project would be less than significant and no new mitigation measures are warranted. Furthermore, the proposed modified project's impacts to population and housing are within the scope of impacts identified in the Housing Element EIR.

## 6.15 PUBLIC SERVICES

Would the Project:

- a) **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

i. **Fire Protection?**

The Housing Element EIR identified that buildout of the previous project would result in a population increase of approximately 14,732 new residents in the City resulting in increased demand for fire protection and emergency medical response services. Additionally, for the project site specifically, development of the project site under the previous project would have resulted in an anticipated population growth of 921 residents at the site. However, as all future residential projects in the City under the previous project would be required to meet all City and State Fire Code requirements, comply with General Plan policies related to Contra Costa County Fire Protection District (CCCFFPD), and would be required to pay a Fire Protection Fee, impacts would be less than significant<sup>68</sup>.

Development of the proposed modified project would result in increased demand for fire protection services at the site. However, when compared to the previous project, it would result in less demand as

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<sup>68</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.N-17.

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the project site would be developed with less residential units than envisioned by the previous project resulting in a smaller population increase. The proposed modified project would be required to be designed and constructed in accordance with all applicable City and State Fire Code requirements for sprinkler systems, alarms, fire flow, access, and fire hydrant spacing, in accordance with relevant fire regulations. Additionally, the proposed modified project would comply with General Plan Policy 3.5.2.2 which requires written verification from the CCCFPD that a five minute response time can be maintained for 80 percent of emergency fire, medical, and hazardous materials call on a citywide response area basis prior to the approval of discretionary development projects. Additionally, the proposed modified project would comply with General Plan Policy 8.10.2 which requires that future development projects be referred to CCCFPD for review and comment. The proposed modified project would also comply with Antioch Municipal Code Title 3, Chapter 7, Fire Protection Facilities Fees. Funds generated from the Fire Protection Facilities Fees would be directed to fire services and would alleviate impacts to fire protection facilities from new development. Therefore, with compliance with City and State Fire Code requirements, applicable General Plan policies, and payment of all required fees, the proposed modified project would not result in impacts related to fire protection and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### ii. Police Protection?

The Housing Element EIR identified that currently Antioch Police Department (APD) response times fall outside of targeted response times and additional facilities would be required to accommodate the growth in APD's services. However, the Housing Element EIR determined that new staff, equipment, and facilities necessary to provide additional law enforcement services would be funded by development impact fees with would be required to be paid by all proposed new developments in the City. Furthermore, through the implementation of the City's Objective Design Standards, future projects would be required to incorporate design measures aimed to heighten safety (through lighting, access, and visibility). Thus, with the payment of required fees and implementation of City design standards, the Housing Element EIR determined that impacts on police protection would be less than significant<sup>69</sup>.

Development of the proposed modified project would result in increased demand for police protection services at the site. However, when compared to the previous project, it would result in less demand as the project site would be developed with less residential units than envisioned by the previous project resulting in a smaller population increase. In accordance with Antioch Municipal Code Title 9, Chapter 3, Development Impact Fees, the proposed modified project would pay required development impact fees which would be used to fund new police protection facilities and would reduce the increased demand for police protection resulting from development of the proposed modified project. Additionally, the proposed modified project complies with General Plan Policy 8.11.2 and would be designed and constructed in accordance with all City design standards related to safety and would involve the APD in the proposed

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<sup>69</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.N-18.

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modified project's development review process. Therefore, with applicable General Plan policies and payment of all required fees, the proposed modified project would not result in impacts related to police protection and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### iii. Schools?

The Housing Element EIR identified that approximately 14 percent of the City's population are students in Antioch Unified School District (AUSD) schools and applying the 14 percent estimation to the projected 14,372 new residents projected by the previous project would yield an estimated 2,007 students<sup>70</sup>. Therefore, the previous project would result in increased enrollment and potential for additional facilities, with the payment of required fees and compliance with General Plan policies, impacts related to schools under the previous project would be less than significant.

As identified in Section 6.14, Population and Housing, the proposed modified project is anticipated to generate approximately 696 residents. Applying the 14 percent estimation identified in the Housing Element EIR, the proposed modified project would yield approximately 97 students. The 97 students would represent approximately 4.8 percent of the total estimated 2,007 new students resulting from implementation of the previous project. Additionally, the previous project envisioned development of 286 residential units at the site with a resulting population of 921 residents. With the 14 percent estimation, the previous project would have resulted in generation of approximately 129 students at the site. Therefore, development of the proposed modified project would result in approximately 32 less students at the site and the demand on schools would be reduced when compared to the previous project. The proposed modified project would be required to comply with General Plan Policy 3.5.8.2, which requires development projects to provide necessary funding and/or capital improvements to mitigate projected impacts on school facilities. Additionally, the proposed modified project would comply with General Plan Policy 8.8.2, which requires developers to pay all established fees. Antioch Municipal Code Title 8, Chapter 12, School Impact Fees outlines that no building permit shall be issued for the construction of new residential projects until evidence from the AUSD that its requirements for school impact mitigation have been satisfied. Compliance with applicable General Plan policies and payment of required fees would reduce potential impacts to school facilities from development of the proposed modified project and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### iv. Parks?

The Housing Element EIR identified that under the City ratio of 5 acres of parkland per 1,000 residents, the approximately addition of 14,732 residents under the previous project would yield an increased

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<sup>70</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.N-19.

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demand of approximately 73,66 acres of parkland in the City<sup>71</sup>. Though implementation of the previous project would increase demand for parks, the Housing Element EIR identified that future residential development projects as a result of the previous project would be expected to pay for Parks and Recreation impact fee. Additionally, as required by the Antioch Municipal Code, residential projects are required to provide private and group-usable open space which would reduce the overall demand on local parks. Therefore, with the payment of fees and adherence with applicable open space regulations, the Housing Element EIR identified that implementation of the previous project would result in a less than significant impact to parks.

As identified in Section 6.14, Population and Housing, implementation of the proposed modified project would result in approximately 696 residents. The previous project envisioned development of 286 residential units at the site with a resulting population of 921 residents and therefore, development of the proposed modified project would result in less population growth at the site when compared to the previous project and would result in less demand to parks from what was identified for the previous project. Using the City standard of 5 acres per 1,000 residents, the proposed modified project would yield an increased demand of approximately 3.5 acres of parkland in the City. The proposed modified project would provide both private and common open space onsite which would reduce the demand to nearby parks. The proposed modified project would provide a total of 88,291 square feet of open space, with 44,195 square feet designated as common usable open space and 44,096 square feet as private open space. The common open space would feature amenities such as a dog park, turf park and lawn areas, children's playground, recreation center, and pool area. In addition to providing onsite open space, the proposed modified project would comply with Antioch Municipal Code Title 9, Chapter 3, Development Impact Fees which includes a park and recreation facilities fee. Payment of required fees and providing onsite open space would reduce the demand to City parkland generated from the proposed modified project and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **v. Other public facilities?**

The Housing Element EIR identified additional public facilities located within the City as the Contra Costa library facilities. However, the Housing Element EIR did not analyze potential impacts to other public facilities.

The proposed modified project would increase demand for other public facilities in the City but is not anticipated to result in significant impacts as the projected growth anticipated from implementation of the proposed modified project is within the planned growth of the City. Additionally, the project site would be developed with less residential units than envisioned by the previous project and the increase in demand from development of the proposed modified project would be less than compared to the previous project.

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<sup>71</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.N-19 to IV.N-20.



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The proposed modified project would be required to comply with Antioch Municipal Code Title 9, Chapter 3, Development Impact Fees. Funds collected from the development impact fee would be used to fund public facilities in the City. Payment of required fees would reduce the demand to other public facilities generated from the proposed modified project and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### Conclusion

Based on Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to public services from what has been identified in the Housing Element EIR. Impacts related to public services resulting from the proposed modified project would be less than significant and no new mitigation measures are warranted. Furthermore, the proposed modified project's impacts to public services are within the scope of impacts identified in the Housing Element EIR.

## 6.16 RECREATION

Would the Project:

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

(a, b) As identified under Section 6.15, Impact a.iv), the Housing Element EIR identified that under the City ratio of 5 acres of parkland per 1,000 residents, the approximately addition of 14,732 residents under the previous project would yield an increased demand of approximately 73,66 acres of parkland in the City. Therefore, implementation of the previous project was identified to increase demand to existing park and recreational facilities. Though implementation of the previous project would increase demand for parks and recreation facilities, the Housing Element EIR identified that future residential development projects as a result of the previous project would be expected to pay a parks and recreation impact fee. Additionally, as required by the Antioch Municipal Code, residential projects are required to provide private and group-usable open space which would reduce the overall demand on local parks. Therefore, with the payment of fees and adherence with applicable open space regulations, the Housing Element EIR identified that implementation of the previous project would result in a less than significant impact to parks.

As identified in Section 6.14, Population and Housing, implementation of the proposed modified project would result in approximately 696 residents. The previous project envisioned development of 286 residential units at the site with a resulting population of 921 residents and therefore, development of the proposed modified project would result in less population growth at the site when compared to the

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previous project and would result in less demand to park and recreation facilities from what was identified for the previous project. Using the City standard of 5 acres per 1,000 residents, the proposed modified project would yield an increased demand of approximately 3.5 acres of parkland in the City. The proposed modified project would provide both private and common open space onsite which would reduce the demand to nearby parks and recreation facilities. The proposed modified project would provide a total of 88,291 square feet of open space, with 44,195 square feet designated as common usable open space and 44,096 square feet as private open space. The common open space would feature amenities such as a dog park, turf park and lawn areas, children's playground, recreation center, and pool area. Additionally, the proposed modified project would be required to comply with Antioch Municipal Code Title 9, Chapter 3, Development Impact Fees which includes a park and recreation facilities fee. Payment of required fees and providing onsite open space would reduce the demand to City parks and recreation facilities generated from the proposed modified project and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

### Conclusion

Based on Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to recreation from what has been identified in the Housing Element EIR. Impacts related to recreation resulting from the proposed modified project would be less than significant and no new mitigation measures are warranted. Furthermore, the proposed modified project's impacts to recreation are within the scope of impacts identified in the Housing Element EIR.

## 6.17 TRANSPORTATION

Would the Project:

### **a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

The proposed modified project does not conflict with the City of Antioch General Plan Circulation Element or any other program plan, ordinance or policy addressing the circulation system. Country Hills Drive is classified in the General Plan as a Major Collector and Laurel Road is classified as an Arterial<sup>72</sup>. Vehicle access to the project site would be provided through two new driveways situated off Country Hills Drive. No driveways onto Laurel Road would be provided. Country Hills Drive and Laurel Road are both currently constructed consistent with their General Plan designations. The proposed modified project does not propose to amend or adjust roadway classifications, the roadway network, transit routes, or the bicycle network as identified in the General Plan.

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<sup>72</sup> City of Antioch. 2003. City of Antioch General Plan, November 2003. [https://www.antiochca.gov/fc/community-development/planning/Antioch\\_Adopted\\_General\\_Plan.pdf](https://www.antiochca.gov/fc/community-development/planning/Antioch_Adopted_General_Plan.pdf). Figure 7.1

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Pedestrian movement would be facilitated by providing pedestrian access from Country Hills Drive along the project frontage in accordance with City requirements. This would provide connections to nearby amenities and public transit as envisioned by the General Plan. Pedestrian amenities to be constructed by the proposed modified project include ADA accessibility and an internal network of sidewalks which connect to public facilities offsite.

Site access improvements would be constructed in accordance with City standards and would not conflict with other improvements planned for the area. The proposed modified project would include amenities and site improvements for bicyclists and pedestrians such as 12 onsite bicycle parking spaces and sidewalks along internal streets. By complying with City standards, the proposed modified project would not create hazards or barriers for pedestrians, bicyclists, or local transit service.

Class II bicycle lanes are provided on Country Hills Drive and Laurel Road adjacent to the project site. Tri Delta Transit route 380 provides public transit service to stops along Canada Valley Road (at Canada Hills Drive) and along Laurel Road (at Kushner Way) located approximately 0.75 miles from the project site. During construction, activities would be confined to the project site and no road closures or detours are anticipated. Therefore, the proposed modified project would not modify or interfere with the bicycle and bus facilities adjacent to the project site during construction or operation.

The Housing Element EIR states that the project site has development potential for up to 286 dwelling units. As shown in Table 6.17-1, the proposed modified project would generate approximately 1,456 daily trips while the site as previously evaluated in the Housing Element EIR would generate up to 1,928 daily trips. Therefore, the proposed modified project would result in fewer added vehicles to surrounding roadways. Due to the lack of increase in trips generated by the proposed modified project, there would be no significant change to forecasted traffic volumes in the area that would adversely affect the circulation system. Additionally, the proposed modified project is preparing a traffic study in accordance with General Plan goals and policies related to roadway operational conditions.

**Table 6.17-1: Modified Project Trip Generation**

Scenario	Quantity	Gross Daily Trips
Previous Project	286 dwelling units (Multifamily [Low-Rise] Residential)	1,928
Modified Project	216 dwelling units (Multifamily [Low-Rise] Residential)	1,456

Notes: Trip generation based on average trip generation rate of 6.74 trips per dwelling unit for Multifamily (Low-rise) Residential (ITE Trip Generation Manual, 11<sup>th</sup> Edition (2021)).

The proposed modified project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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

In accordance with SB 743, the CEQA Guidelines section 15064.3(b) was adopted in December 2018 by the California Natural Resources Agency. The stated purpose of SB 743 and the associated vehicle miles traveled (VMT) methodology for CEQA analysis is to facilitate denser infill development to reduce reliance on single-occupancy vehicles for the purpose of helping to achieve the State's GHG reduction goals. The CEQA Guidelines criteria for determining the significance of transportation impacts shifts the focus from driver delay to reduction of GHG emissions, creation of multimodal networks, and promotion of a mix of land uses.

The Housing Element EIR concluded that a VMT impact would be significant and unavoidable, but also stipulated that quantitative VMT analyses are to be prepared for each individual project (such as the proposed modified project) to be developed in accordance with the Housing Element<sup>73</sup>. Travel demand management (TDM) measures and physical measures to reduce VMT are also required for the proposed modified project in accordance with Housing Element EIR mitigation measures.

The proposed modified project includes characteristics that would reduce VMT. Additionally, the proposed modified project is subject to the applicable VMT reducing mitigation measures included in the Housing Element EIR. Specifically, the Housing Element EIR Mitigation Measure TRANS-1 identifies the following potential VMT reduction measures:

- Unbundle parking costs (i.e., sell or lease parking separately from the housing unit). Effectiveness: up to 15.7 percent reduction in GHG from VMT per the CAPCOA Handbook.
- Provide car-sharing, bike sharing, or scooter sharing programs. Effectiveness: 0.15 to 0.18 percent reduction in GHG from VMT for car share, 0.02 to 0.06 percent for bike share, and 0.07 percent for scooter share, per the CAPCOA Handbook. The higher car share and bike share values are for electric car and electric bike share programs.
- Subsidize transit passes for residents of affordable housing. Effectiveness: up to 5.5 percent reduction in GHG from VMT per the CAPCOA Handbook.

VMT reductions outlined by CAPCOA Handbook Measures T-16 (Unbundle Residential Parking Costs from Property Cost) and T-22-B (Implement Electric Bikeshare Carshare Program) are consistent with the Housing Element EIR Mitigation Measure TRANS-1 shown above, and are applicable to the proposed modified project. Additionally, CAPCOA Handbook TDM Measure T-1 (Increase Residential Density) is also applicable to the proposed modified project. These VMT reducing measures are described below.

The Housing Element EIR mitigation to subsidize transit passes for affordable housing residents would not be applicable to the proposed modified project since the proposed modified project does not include affordable housing. In regard to car-sharing, bike sharing, or scooter sharing, there are currently no car

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<sup>73</sup> Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Page IV.B-25 to IV.B-30.

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sharing programs in use within the City. Given the size of the proposed modified project, a car-sharing program would not be feasible to implement at the individual project level, however the proposed modified project could implement a bike sharing program for use by residents. Scooter sharing would have limited utility given the proposed modified project's location and lack of destinations within a scooter-rideable distance.

**T-1: Increase Residential Density.** CAPCOA describes that designing a project with increased density reduces VMT, and thereby GHG emissions associated with travel. Density is generally measured in terms of persons, jobs, or dwellings per unit area. Increasing project density affects the distance people travel and provide greater options to choose for the mode of travel. The proposed modified project provides a density of 11.7 dwelling units per acre (216 dwelling units ÷ 18.5 acres = 11.7). Most residential development in the City of Antioch is comprised of medium-low density residential<sup>74</sup> with a maximum density of 6 dwelling units per acre<sup>75</sup>. The average density of residential development is 9.1 dwelling units per acre<sup>76</sup>. Since the proposed modified project has a higher density than typical residential developments, methodology in the CAPCOA Handbook indicates that the proposed modified project's VMT would be approximately 6.3 percent lower than average as shown in Table 6.17-2.

**Table 6.17-2: VMT Reduction Based on T-1 – Increase Residential Density**

<p><b>Mitigation Method:</b></p> $A = (B - C) \div C \times D \text{ [not to exceed 30\%]}$ <p>where A = Percent reduction in VMT from vehicle travel in plan/community B = Residential density of project development = 216 du ÷ 18.5 acre = 11.7 du/acre C = Residential density of a typical development = 9.1 du/acre D = Elasticity of VMT with respect to residential density = -0.22</p> $\% \text{ VMT Reduction} = (11.7 - 9.1) \div 9.1 \times -0.22 = -6.3\%$ <p>Source: CAPCOA</p>
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**T-16: Unbundle Residential Parking Costs from Property Cost.** The CAPCOA Handbook describes that separating the cost of parking from the property cost results in lower rates of vehicle ownership, which leads to a reduction in VMT. The project is providing one to two attached parking spaces with each unit, but all surface parking in excess of the required number of guest parking spaces will be unbundled from the rental cost and made available to residents for an additional cost. To calculate the estimated VMT reductions from this measure, the CAPCOA Handbook's quantification methodology was utilized. This measure would result in a project VMT reduction of approximately 1.9 percent as shown in Table 6.17-3.

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<sup>74</sup> City of Antioch. 2003. City of Antioch General Plan, November 2003. [https://www.antiochca.gov/fc/community-development/planning/Antioch\\_Adopted\\_General\\_Plan.pdf](https://www.antiochca.gov/fc/community-development/planning/Antioch_Adopted_General_Plan.pdf). Table 4.B, Page 4-15.

<sup>75</sup> Ibid, Page 4-19.

<sup>76</sup> Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, California Air Pollution Control Officers Association, December 2021, Page 71.

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**Table 6.17-3: VMT Reduction Based on T-16 – Unbundle Residential Parking Costs from Property Cost**

<p><b>Mitigation Method:</b></p> $A = B \div C \times D \times E \text{ [not to exceed 15.7\%]}$ <p>where A = Percent reduction in VMT from project VMT in study area            B = Annual parking cost per space = \$36 (Typical monthly cost for suburban surface parking) X 12 = \$432            C = Average annual vehicle cost = \$9,282            D = Elasticity of vehicle ownership with respect to total vehicle cost = -0.4            E = Adjustment factor from vehicle ownership to VMT = 1.01</p> $\% \text{ VMT Reduction} = 432 \div 9,282 \times -0.4 \times 1.01 = -1.9\%$ <p>Source: CAPCOA</p>
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**T-22-B: Implement Electric Bikeshare Program.** Given the proposed modified project’s location, an electric bike (ebike) bikeshare program would provide residents an alternative to using a vehicle for short trips to nearby destinations. The CAPCOA Handbook describes that electric bikeshare programs provide users with on-demand access to electric pedal assist bikes for short-term rentals. This encourages a mode shift from vehicles to electric bicycles, displacing VMT and reducing GHG emissions. To calculate the estimated VMT reductions from this measure, the CAPCOA Handbook’s quantification methodology was utilized. This measure would result in a project VMT reduction of approximately 0.05 percent as shown in Table 6.17-4.

**Table 6.17-4: VMT Reduction Based on T-22-B – Implement Electric Bikeshare Program**

<p><b>Mitigation Method:</b></p> $A = -1 \times ((C-B) \times D \times E \times F) \div (G \times H)$ <p>where A = Percent reduction in GHG emissions (and VMT) from vehicle travel in plan/community            B = Percent of residences in plan/community with access to electric bikeshare system without measure = 0%            C = Percent of residences in plan/community with access to electric bikeshare system with measure= 100%            D = Daily electric bikeshare trips per person = 0.021 trips per day per person            E = Vehicle to electric bikeshare substitution rate = 35 percent            F = Electric bikeshare average one-way trip length = 2.1 miles per trip            G = Daily vehicle trips per person = 2.7 trips per day per person            H = Regional average one-way vehicle trip length = 12.4</p> $\% \text{ VMT Reduction} = -1 \times ((100\%-0\%) \times 0.021 \times 35\% \times 2.1) \div (2.7 \times 12.4) = -0.05\%$ <p>Source: CAPCOA</p>
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The CAPCOA Handbook recommends not combining TDM measures of different scales. While measures T-1 and T-16 are both on the Project/Site scale, T-21-A is on the Plan/Community scale. The total VMT percent reduction achieved through the Project/Site scale is -8.2 percent (-6.3 + -1.9), while the total

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reduction achieved through the Plan/Community scale is only -0.05 percent. Therefore, only the reductions achieved through the Project/Site scale (-8.2 percent) are included in the VMT calculations presented below.

The Contra Costa Transportation Authority (CCTA) travel demand model is commonly used to estimate VMT within the City of Antioch and the surrounding communities. Therefore, VMT data was obtained from the CCTA model at the traffic analysis zone (TAZ) level to determine the VMT generated by the proposed modified project.

The home-based VMT per capita for the project TAZ is 31.6. The CCTA VMT screening threshold for a residential development is 15 percent below the County average. As shown in Table 6.17-5, the County average is 17.3 home-based VMT per capita and 15 percent below the average results in a significance threshold of 14.7 HB VMT per capita. The approximately 8.2 percent VMT reduction due to the project features and the applicable Housing Element EIR mitigation measures results in a project VMT of 29.0 VMT per capita.

**Table 6.17-5: VMT Analysis Summary**

Description	Residential Home-Based VMT per Capita
<b>Project</b>	
Zonal Home-Based VMT per Capita (2020) for project TAZ	31.6 VMT per capita
% VMT reduction due to project components & Housing Element mitigation	-8.2%
Project VMT	29.0 VMT per capita
<b>Threshold</b>	
County average baseline Home-Based VMT per capita (2020)	17.3 VMT per capita
Threshold of Significance (15% reduction from baseline)	14.7 VMT per capita
Difference (project minus Threshold of Significance)	14.3 VMT per capita
Is project above or below Threshold of Significance	Above
<b>Significant Transportation Impact</b>	<b>Yes</b>

Source: Contra Costa Travel Demand Model 2021

Since the project VMT of 29.0 home-based VMT per capita with the Housing Element mitigation measures is greater than the significance threshold of 14.7 HB VMT per capita, additional VMT reducing mitigation measures were considered, however none were determined to be feasible. The following VMT reducing measures were considered and rejected as not feasible for the modified project:

- Provide Transit-Oriented Development (the project site is not located in a high-quality transit area)
- Integrate Affordable and Below Market Rate Housing (the proposed modified project consists of market rate housing)



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- Implement Subsidized or Discounted Transit Program (the project site is not within 0.5-mile of local transit service or within 1-mile of high-quality transit service)
- Limit Residential Parking Supply (the proposed modified project includes more parking than required by City code)

With the implementation of the applicable Housing Element EIR mitigation measures, and while accounting for the proposed modified project's increase in density in comparison to the typical average, the proposed modified project would still result in a significant and unavoidable impact. Feasible VMT reducing mitigation measures are discussed in Section 6.17.1. Additional VMT reducing mitigation measures were considered and determined as not feasible. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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

The proposed modified project does not increase hazards due to a geometric design feature or incompatible uses. Development of the project site and site access improvements requires compliance with City development guidelines and code, which follow the General Plan policies and actions that encourage the safe design of streets. The two project driveways will provide access from Country Hills Drive to the private onsite roadways and alleys servicing the residential units. Vehicles would enter and exit the project site from these locations.

During construction, traffic management plans will be implemented to ensure the safety of roadway users accessing Country Hills Drive. During construction, the proposed modified project would generate traffic through the transport of workers, equipment, and materials to and from the project site. The use of roadways by heavy construction equipment can increase the risk to drivers and cyclists in the vicinity of the project site; however, construction equipment and materials would be stored onsite. Construction activities are anticipated to be confined to the project site, and no road closures or detours are anticipated; therefore, there would be no substantial increase in hazards. The proposed modified project would comply with the City of Antioch's traffic control plan requirements for work area traffic control for work performed in the City's right-of-way. Also, there would be no incompatible uses introduced to the project area which could cause vehicle conflicts (e.g., farm equipment). The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **d) Result in inadequate emergency access?**

Vehicle access to the project site would be facilitated through two new driveways situated off Country Hills Drive. These driveways would have a width of 24 feet to ensure adequate EVAE, and all internal streets would have a minimum width of 20 feet EVAE. The project driveways are designed to comply with turning radius requirements for emergency vehicles and will not cause hazardous driving conditions. The

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proposed modified project's detailed design would be completed in compliance with California Fire Code requirements and not impair emergency vehicle access in the vicinity of the proposed modified project during construction and in ongoing operation. Compliance with the California Fire and Building Codes will be mandated through the plan check and approval process. This process would also ensure that adequate access for emergency services is provided, and the City's emergency response plan will be upheld during construction.

Some key site design requirements of the California Fire Code, which would be implemented by the proposed modified project to ensure adequate emergency access, include provision of access roads to all facilities onsite with all-weather driving surfaces. Access roads would be present and maintained prior to and during combustible construction. Appropriate signage and red curbs would be installed to ensure emergency access remains clear. As such, the proposed modified project would not result in inadequate emergency access. Development of the project site would not alter or impede emergency response routes or plans set in place by the City. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **6.17.1 Mitigation Measures**

The following mitigation measures from the Housing Element EIR are applicable to the proposed modified project:

##### **Mitigation Measure TR-1: Implement VMT Reduction Measures**

- (1) Unbundle parking costs (i.e., sell or lease parking separately from the housing unit).
- (2) Provide electric bike sharing program for residents.

#### **Conclusion**

In relation to the construction and operational impacts as stated in the Housing Element EIR for the previous project, the proposed modified project's potential impacts related to transportation would remain unchanged. Implementation of the proposed modified project would not result in any new significant impacts related to transportation, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Housing Element EIR, all of which were determined to be less than significant except for VMT, which was concluded as significant and unavoidable in the Housing Element EIR.

With the implementation of the measure listed above, the proposed modified project would have implemented all reasonable VMT reducing measures consistent with the Housing Element EIR Mitigation Measure TRANS-1; however, VMT impacts may not be fully mitigated for this location as previously disclosed in the City's Housing Element EIR. The proposed modified project would not result in new or substantially more severe impacts than identified in the Housing Element EIR and the criteria for requiring further CEQA review are not met. Therefore, the proposed modified project's impacts related to transportation are within the scope of impacts identified in the Housing Element EIR.

## LAUREL RANCH TOWNHOMES PROJECT

Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

### 6.18 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?**

#### **Water Distribution Facilities**

The Housing Element EIR identified that the Contra Costa Water District (CCWD) currently does not have plans or a need to expand its existing water infrastructure specifically for Antioch. In addition, existing water capacities are projected to be sufficient for anticipated growth within CCWD's service area, which includes the City. Per the Urban Water Management Plan (UWMP), additional raw water provided by the Brackish Desalination facility is expected to supply all new developments with adequate domestic water. However, the distribution system for domestic water will require improvements to the City distribution mainlines at several project sites. The Housing Element EIR identified that although the improvements required increase the financial cost of the developments, it does not pose an adverse environmental hazard and therefore, implementation of the previous project was determined to have a less than significant impact on water facilities.

The project site is identified by the Housing Element EIR as requiring additional water mainline installation<sup>77</sup>. The proposed modified project would be connected to the existing water system in the area. The proposed modified project would include the construction of 8-inch water main lines throughout the site off of the existing 12-inch water main located along Country Hills Drive. The connection of the new 8-inch water main lines to the existing 12-inch line would be connected via a 6-inch water meter and backflow preventor and the 8-inch line would drop down to a smaller capacity line for connection to individual buildings. This would fulfill the additional water mainline installation identified in the Housing Element EIR and would ensure the proposed modified project would have adequate water system improvements. Additionally, to promote water conservation, the proposed modified project would incorporate the use of water-efficient, drought-tolerant plant materials, as well as water-efficient irrigation and xeriscaping. The residential units would also be equipped with water-efficient appliances, including washing machines and dishwashers. The proposed modified project would be required to comply with General Plan Policy 8.4.2, which ensures that adequate water infrastructure is in place prior to the occupancy of a new development. Therefore, with implementation of applicable General Plan policies and construction of onsite water system improvements, the proposed modified project would not require or result in the relocation or construction of new or expanded water facilities, and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those

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<sup>77</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.Q-13 to IV.Q-14.

## LAUREL RANCH TOWNHOMES PROJECT

### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### **Wastewater Treatment Facilities**

The Housing Element EIR identified that buildout of the residential sites identified within the Housing Site Inventory may result in the need for upgrades to existing infrastructure depending on the size and location of the developments<sup>78</sup>. However, the Housing Element EIR identified that the 2014 Wastewater Collection System Master Plan (WCSMP) confirms the existing City infrastructure and the Delta Diablo Wastewater Treatment Plant (WWTP) has capacity to treat additional sewage flows from new developments. The WCSMP identifies areas where sanitary sewer flows are at or above their designed capacity. The WCSMP does not identify the project area as areas that are currently impacted. Additionally, the Housing Element EIR identified that with implementation of applicable General Plan policies regarding wastewater and review of the project by Delta Diablo and relevant City departments, impacts to wastewater facilities would be less than significant.

The proposed modified project would involve the construction of new sanitary sewer lines throughout the site which would connect to an existing 12-inch sanitary sewer main and manhole located onsite, following City standards. The proposed modified project's wastewater system would be designed and constructed in accordance with City standards. The estimated wastewater generation for the proposed modified project is approximately 36,720 gallons per day. As identified in the Housing Element EIR, the Delta Diablo WWTP has a treatment capacity of 19.5 million gallons per day and currently treats an average of 13.6 million gallons per day. The proposed modified project's anticipated wastewater generation of 36,720 gallons per day would represent approximately 0.2 percent of the Delta Diablo WWTP's total daily capacity and would represent a 0.3 percent increase from current daily average treatment level. Therefore, the Delta Diablo WWTP would have sufficient capacity to serve the proposed modified project. Furthermore, future residential projects are required to meet all applicable General Plan policies regarding wastewater, including General Plan Policy 8.5.2, which ensures that adequate wastewater infrastructure is in place prior to the occupancy of a new development. Delta Diablo and relevant City departments would review the environmental documentation and plans and specifications to ensure sewer service can be provided and to ensure compliance with Delta Diablo Code and Municipal Code relating to construction standards, including permit and capital facilities capacity charges. Therefore, as Delta Diablo WWTP would have sufficient capacity to serve the proposed modified project, and with implementation of applicable General Plan policies and compliance with City standards, the proposed modified project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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<sup>78</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.Q-12 to IV.Q-13.

## LAUREL RANCH TOWNHOMES PROJECT

### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

#### Stormwater Facilities

The Housing Element EIR identified that several development areas would require expansions to the City storm drain system beyond typical lateral connections, including potential sites along and Laurel Road. The Housing Element EIR identified that future residential projects that would occur under the previous project would be required to meet all applicable stormwater standards and ensure adequate infrastructure is in place during the permitting process, as described General Plan Policy 8.7.2. As specific projects are proposed, the City would review the environmental documentation, plans, and specifications to ensure projects meet applicable city stormwater engineering standards. While the identified constraints were identified to increase capital costs for individual projects, none of the constraints was determined to pose severe barriers to the development nor pose increased risk to overall city utility treatment or supply capacities<sup>79</sup>. Therefore, the Housing Element EIR identified that impact on stormwater would be less than significant.

The proposed modified project would include construction of new onsite stormwater system that would consist of storm drain lines and bioretention basins. Runoff from the project site would be collected by the storm drain system and directed to bioretention facilities constructed according to the criteria outlined in the Contra Costa Cleanwater Program C.3 Guidebook. The site would incorporate three bioretention treatment areas totaling approximately 37,260 square feet and storm drain lines throughout the project site would guide onsite runoff to these bioretention treatment areas. Paved walkways within the development would slope towards landscaped areas when feasible, and roof leaders would discharge to landscaped areas. Runoff from the buildings would be directed to the streets, collected by drain inlets, and ultimately discharged into the bioretention basins. Once treated in the bioretention treatment areas, the stormwater runoff would be conveyed to existing 24 and 36-inch storm drain lines located onsite. The proposed modified project would comply with General Plan Policy 8.7.2 by providing retention basins, which would alleviate the increased demand and runoff to nearby storm drain lines by controlling the volume and rate of runoff. Furthermore, self-treating hydro seed slope area of approximately four acres would be provided along the eastern boundary of the project site. The proposed onsite stormwater system would be designed and constructed in accordance with City standards and would be reviewed by the City to ensure it meets applicable City stormwater engineering standards. With adherence to City design standards and implementation of applicable General Plan policies, the proposed modified project would not require or result in the relocation or construction of new or expanded stormwater facilities, and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### Other Facilities

The Housing Element EIR did not indicate that any other service facilities, including electric power, natural gas or telecommunications would require expansion or relocation in a manner that could create a

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<sup>79</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.Q-14 to IV.Q-15.

## LAUREL RANCH TOWNHOMES PROJECT

### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

new impact as a result of the previous project. The proposed modified project would be 100 percent electric and would not require the use of natural gas facilities. Electricity and telecommunication services for the proposed modified project would be provided by PG&E and Comcast. Active solar technology would also be utilized which would reduce the demand for electricity. Therefore, the proposed modified project would not require or result in the relocation or construction of new or expanded natural gas, electric, or telecommunication facilities, and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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

The Housing Element EIR identified that per the UWMP, additional raw water provided by the Brackish Desalination facility is expected to supply all new developments with adequate domestic water and the City would have adequate water supply to serve new developments under the previous project. Therefore, the Housing Element EIR determined that implementation would have a less than significant impact related to water supply.

The City's UWMP determined that the City would have adequate water supplies available to meet the City's demands with excess supplies available during normal, dry, and multiple dry years. The estimated water demand for the proposed modified project is approximately 151,200 gallons per day. Additionally, the proposed modified project's pool would demand 294 gallons per day. Therefore, the proposed modified project is anticipated to demand approximately 151,494 gallons per day of water. The City's UWMP identified that in 2020, the City's demands for potable and raw water were 5,091 million gallons per year or 13.9 million gallons per day<sup>80</sup>. The proposed modified project's anticipated water demand of 151,494 gallons per day would represent a 1.1 percent increase from the 2020 demand and therefore, the proposed modified project would not result in a substantial increase in water demand. As the UWMP identified that there were sufficient supplies available to meet the City's demand with excess supplies available during normal, dry, and multiple dry years, the proposed modified project is not anticipated to result in an increase in demand in such a way that the City would not have adequate supplies available to serve the proposed modified project. Additionally, the proposed modified project would incorporate the use of water-efficient, drought-tolerant plant materials, as well as water-efficient irrigation and xeriscaping to promote water conservation and the residential units would be equipped with water-efficient appliances, including washing machines and dishwashers. Therefore, there would be sufficient supplies available to serve the proposed modified project and reasonably foreseeable future development during normal, dry, and multiple dry years and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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<sup>80</sup> City of Antioch. 2021. 2020 Urban Water Management Plan. <https://www.antiochca.gov/fc/environment/UWMP.pdf>. Page 4-1.

## LAUREL RANCH TOWNHOMES PROJECT

### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

**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?**

As described under Impact a), the Housing Element EIR identified that the 2014 WCSMP confirms the existing City infrastructure and the Delta Diablo WWTP has capacity to treat additional sewage flows from new developments. Additionally, the Housing Element EIR identified that with implementation of applicable General Plan policies regarding wastewater and review of the project by Delta Diablo and relevant City departments, impacts to wastewater facilities would be less than significant.

As described under Impact a), the estimated wastewater generation for the proposed modified project is approximately 36,720 gallons per day. As identified in the Housing Element EIR, the Delta Diablo WWTP has a treatment capacity of 19.5 million gallons per day and currently treats an average of 13.6 million gallons per day. The proposed modified project's anticipated wastewater generation of 36,720 gallons per day would represent approximately 0.2 percent of the Delta Diablo WWTP's total daily capacity and would represent a 0.3 percent increase from current daily average treatment level. Therefore, the Delta Diablo WWTP would have sufficient capacity to serve the proposed modified project. Furthermore, Delta Diablo and relevant City departments would review the environmental documentation and plans and specifications to ensure sewer service can be provided for the proposed modified project. Additionally, as the proposed modified project would develop the site with 216 residential units compared to the previous project's envisioned development of 286 residential units, the proposed modified project would result in less demand at the site when compared to the previous project. The proposed modified project would not result in a determination by the wastewater treatment provider that it does not have adequate capacity to serve the proposed modified project's projected demands and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

**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?**

**(d, e)** Using the 2020 solid waste disposal rate of .77 tons per resident per year (equivalent to 4.2 pounds per day), the Housing Element EIR identified that implementation of the Housing Element would generate approximately 11,343 tons of waste per year (equivalent to 61,872 pounds per day). According to the Housing Element EIR and California Department of Resources Recycling and Recovery (CalRecycle), Keller Canyon Landfill, a 244-acre landfill in Pittsburg has a maximum capacity of 75,018,280 CY of solid waste with an estimated closure date of 2050. Currently, there is approximately 63,408,410 CY of remaining capacity, for which the previous project's contribution would not be significant. Furthermore, the 2050 closure date of the Keller Landfill extends past the previous project's horizon of 2031. Therefore, the Housing Element EIR determined that solid waste services would have the capacity to process solid waste generated from implementation of the previous project and impacts on solid waste would be less than significant.



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### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

The proposed modified project would result in approximately 696 residents and using the solid waste disposal rate identified in the Housing Element EIR, the proposed modified project would result in a generation of approximately 2,923 pounds of solid waste per day. As identified above, the Keller Canyon Landfill would have sufficient capacity to process solid waste generated by the proposed modified project. Additionally, the Keller Canyon Landfill has a maximum permitted throughput of 3,500 tons per day<sup>81</sup>. The proposed modified project's 2,923 pounds of solid waste per day would represent approximately 0.04 percent of the facility's daily permitted throughput. Additionally, the proposed modified project would comply with federal, State, and local statutes and regulations related to solid waste. Therefore, the proposed modified project would not generate solid waste in excess of standards or in excess of the capacity of local infrastructure, and would comply with existing statutes and regulations related to solid waste and impacts would be less than significant. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

#### Conclusion

Based on Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to utilities and service systems from what has been identified in the Housing Element EIR. Impacts related to utilities and service systems resulting from the proposed modified project would be less than significant and no new mitigation measures are warranted. Furthermore, the proposed modified project's impacts to utilities and services systems are within the scope of impacts identified in the Housing Element EIR.

## 6.19 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 of 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?**

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<sup>81</sup> California Department of Resources Recycling and Recovery (CalRecycle). 2023. SWIS Facility/Site Activity Details – Keller Canyon Landfill (07-AA-0032). <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228>. Accessed July 2023.

## LAUREL RANCH TOWNHOMES PROJECT

### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

#### **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?**

**(a-d)** The Housing Element EIR identified that all impacts related to wildfire hazards would be less than significant with implementation of the previous project. The Housing Element EIR identified that implementation of the previous project would not impair an adopted emergency plan or evacuation plan, exacerbate fire risks thereby exposing project occupants to pollutant concentrations from a wildfire or result in impacts to the environment, and would not expose people or structures to significant risk as a result of runoff, post-fire instability, or drainage changes<sup>82</sup>.

CAL FIRE publishes maps identifying SRA Fire Hazard Severity Zones. The latest maps were published by CAL FIRE on June 15, 2023, and according to the Contra Costa County map, the project site is not located within an SRA, nor a very high fire hazard severity zone<sup>83</sup>. Additionally, USFS's Wildfire Hazard Potential Map identified a majority of the project site as non-burnable with a small portion of the northern area of the project site as having low wildfire hazard potential<sup>84</sup>.

The proposed modified project would be required to be reviewed for consistency with applicable State Building and Fire Codes and would be designed to include fire safety measures such as sprinklers and alarms which would reduce potential impacts. Additionally, the proposed modified project would be designed to allow for proper ingress and egress for fire apparatus and emergency vehicle access to the site which would ensure the proposed modified project does not impair emergency response to the site. The proposed modified project would be required to be reviewed by the CCCFPD for consistency with General Plan Policy 3.5.2 which requires the fire department to verify that individual development projects would not prohibit the department from maintaining its response time. The inclusion of fire safety measures and consistency with the General Plan policies would ensure that the proposed modified project would not exacerbate wildfire risk thereby exposing project occupants to pollutant concentrations from wildfires or the uncontrolled spread of a wildfire. Development of the proposed modified project would require installation of associated new infrastructure; however, it would not exacerbate fire risk as installation and improvement of all associated infrastructure would be completed in accordance with City standards and requirements. Additionally, the project site is relatively flat and contains no risk from slopes for flooding, landslides, or post-fire slope instability and/or drainage changes. The proposed modified project would result in less than significant impacts related to wildfire. The proposed modified project would not result in greater or worse impacts than those evaluated in the Housing Element EIR, and no additional mitigation measures would be required. As such, the impact finding would remain unchanged from the previous project.

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<sup>82</sup> City of Antioch. 2022. Antioch Housing, Environmental Hazards, and Environmental Justice (EJ) Elements, Draft Environmental Impact Report (SCH 2021110146), September 2022. [https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR\\_22\\_0902.pdf](https://www.antiochca.gov/fc/community-development/planning/housing-element/DHEEIR-DEIR_22_0902.pdf). Pages IV.P-10 to IV.P-13.

<sup>83</sup> CAL FIRE. 2023. State Responsibility Area Fire Hazard Severity Zones – Contra Costa County, published June 15, 2023. [https://osfm.fire.ca.gov/media/3kxqzdz0/fhsz\\_county\\_sra\\_11x17\\_2022\\_conracosta\\_2.pdf](https://osfm.fire.ca.gov/media/3kxqzdz0/fhsz_county_sra_11x17_2022_conracosta_2.pdf).

<sup>84</sup> USFS. 2023. Wildfire Hazard Potential.

<https://usfs.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=55226e8547f84aae8965210a9801c357>.

## **LAUREL RANCH TOWNHOMES PROJECT**

### Comparative Analysis of Impacts: Proposed Modified Project and Certified EIR

#### **Conclusion**

Based on Housing Element EIR, implementation of the proposed modified project would not result in new significant or substantially greater impacts related to wildfire hazards from what has been identified in the Housing Element EIR. Impacts related to wildfire hazards resulting from the proposed modified project would be less than significant and no new mitigation measures are warranted. Furthermore, the proposed modified project's impacts related to wildfire are within the scope of impacts identified in the Housing Element EIR.

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List of Preparers

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# Laurel Ranch Townhomes Detailed Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Laurel Ranch Townhomes
Construction Start Date	10/3/2023
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	20.6
Location	37.97651641031828, -121.74441727248795
County	Contra Costa
City	Antioch
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1395
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.14

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Condo/Townhouse	216	Dwelling Unit	17.8	328,171	382,460	—	624	—
Enclosed Parking Structure	372	Space	0.00	148,800	0.00	—	—	—
Parking Lot	74.0	Space	0.67	0.00	0.00	—	—	—

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-15	Require All-Electric Development

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	—	5,659	5,659	0.21	0.28	11.7	5,761
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	—	18,955	18,955	1.26	1.99	0.70	19,582
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	—	4,615	4,615	0.22	0.31	3.71	4,717
Annual (Max)	—	—	—	—	—	—	—
Unmit.	—	764	764	0.04	0.05	0.61	781

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—

2024	—	5,659	5,659	0.21	0.28	11.7	5,761
2025	—	5,600	5,600	0.20	0.27	11.0	5,698
Daily - Winter (Max)	—	—	—	—	—	—	—
2023	—	18,955	18,955	1.26	1.99	0.70	19,582
2024	—	18,765	18,765	1.26	1.99	0.69	19,391
2025	—	5,437	5,437	0.22	0.28	0.29	5,526
Average Daily	—	—	—	—	—	—	—
2023	—	2,184	2,184	0.13	0.18	1.07	2,243
2024	—	4,615	4,615	0.22	0.31	3.71	4,717
2025	—	3,264	3,264	0.13	0.17	2.87	3,320
Annual	—	—	—	—	—	—	—
2023	—	362	362	0.02	0.03	0.18	371
2024	—	764	764	0.04	0.05	0.61	781
2025	—	540	540	0.02	0.03	0.47	550

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—
2024	—	5,659	5,659	0.21	0.28	11.7	5,761
2025	—	5,600	5,600	0.20	0.27	11.0	5,698
Daily - Winter (Max)	—	—	—	—	—	—	—
2023	—	18,955	18,955	1.26	1.99	0.70	19,582
2024	—	18,765	18,765	1.26	1.99	0.69	19,391
2025	—	5,437	5,437	0.22	0.28	0.29	5,526
Average Daily	—	—	—	—	—	—	—
2023	—	2,184	2,184	0.13	0.18	1.07	2,243



2024	—	4,615	4,615	0.22	0.31	3.71	4,717
2025	—	3,264	3,264	0.13	0.17	2.87	3,320
Annual	—	—	—	—	—	—	—
2023	—	362	362	0.02	0.03	0.18	371
2024	—	764	764	0.04	0.05	0.61	781
2025	—	540	540	0.02	0.03	0.47	550

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	192	17,683	17,875	20.4	0.83	51.9	18,683
Mit.	192	15,661	15,853	20.3	0.82	51.9	16,656
% Reduced	—	11%	11%	1%	< 0.5%	—	11%
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	192	16,673	16,865	20.5	0.88	3.63	17,644
Mit.	192	14,652	14,843	20.3	0.88	3.63	15,617
% Reduced	—	12%	12%	1%	< 0.5%	—	11%
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	192	14,788	14,980	20.3	0.79	21.5	15,743
Mit.	192	12,766	12,958	20.1	0.78	21.5	13,716
% Reduced	—	14%	13%	1%	< 0.5%	—	13%
Annual (Max)	—	—	—	—	—	—	—
Unmit.	31.7	2,448	2,480	3.36	0.13	3.56	2,606
Mit.	31.7	2,114	2,145	3.33	0.13	3.56	2,271
% Reduced	—	14%	13%	1%	< 0.5%	—	13%

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Mobile	—	13,888	13,888	0.54	0.53	49.5	14,109
Area	0.00	736	736	0.11	0.01	—	742
Energy	—	2,844	2,844	0.31	0.02	—	2,858
Water	106	215	321	10.9	0.26	—	671
Waste	86.0	0.00	86.0	8.59	0.00	—	301
Refrig.	—	—	—	—	—	2.35	2.35
Total	192	17,683	17,875	20.4	0.83	51.9	18,683
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	—	12,937	12,937	0.62	0.59	1.28	13,129
Area	0.00	676	676	0.11	0.01	—	683
Energy	—	2,844	2,844	0.31	0.02	—	2,858
Water	106	215	321	10.9	0.26	—	671
Waste	86.0	0.00	86.0	8.59	0.00	—	301
Refrig.	—	—	—	—	—	2.35	2.35
Total	192	16,673	16,865	20.5	0.88	3.63	17,644
Average Daily	—	—	—	—	—	—	—
Mobile	—	11,683	11,683	0.52	0.50	19.1	11,865
Area	0.00	46.0	46.0	< 0.005	< 0.005	—	46.2
Energy	—	2,844	2,844	0.31	0.02	—	2,858
Water	106	215	321	10.9	0.26	—	671
Waste	86.0	0.00	86.0	8.59	0.00	—	301
Refrig.	—	—	—	—	—	2.35	2.35
Total	192	14,788	14,980	20.3	0.79	21.5	15,743

Annual	—	—	—	—	—	—	—
Mobile	—	1,934	1,934	0.09	0.08	3.17	1,964
Area	0.00	7.61	7.61	< 0.005	< 0.005	—	7.65
Energy	—	471	471	0.05	< 0.005	—	473
Water	17.5	35.6	53.1	1.80	0.04	—	111
Waste	14.2	0.00	14.2	1.42	0.00	—	49.8
Refrig.	—	—	—	—	—	0.39	0.39
Total	31.7	2,448	2,480	3.36	0.13	3.56	2,606

## 2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Mobile	—	13,888	13,888	0.54	0.53	49.5	14,109
Area	0.00	736	736	0.11	0.01	—	742
Energy	—	823	823	0.13	0.02	—	831
Water	106	215	321	10.9	0.26	—	671
Waste	86.0	0.00	86.0	8.59	0.00	—	301
Refrig.	—	—	—	—	—	2.35	2.35
Total	192	15,661	15,853	20.3	0.82	51.9	16,656
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	—	12,937	12,937	0.62	0.59	1.28	13,129
Area	0.00	676	676	0.11	0.01	—	683
Energy	—	823	823	0.13	0.02	—	831
Water	106	215	321	10.9	0.26	—	671
Waste	86.0	0.00	86.0	8.59	0.00	—	301
Refrig.	—	—	—	—	—	2.35	2.35

Total	192	14,652	14,843	20.3	0.88	3.63	15,617
Average Daily	—	—	—	—	—	—	—
Mobile	—	11,683	11,683	0.52	0.50	19.1	11,865
Area	0.00	46.0	46.0	< 0.005	< 0.005	—	46.2
Energy	—	823	823	0.13	0.02	—	831
Water	106	215	321	10.9	0.26	—	671
Waste	86.0	0.00	86.0	8.59	0.00	—	301
Refrig.	—	—	—	—	—	2.35	2.35
Total	192	12,766	12,958	20.1	0.78	21.5	13,716
Annual	—	—	—	—	—	—	—
Mobile	—	1,934	1,934	0.09	0.08	3.17	1,964
Area	0.00	7.61	7.61	< 0.005	< 0.005	—	7.65
Energy	—	136	136	0.02	< 0.005	—	138
Water	17.5	35.6	53.1	1.80	0.04	—	111
Waste	14.2	0.00	14.2	1.42	0.00	—	49.8
Refrig.	—	—	—	—	—	0.39	0.39
Total	31.7	2,114	2,145	3.33	0.13	3.56	2,271

### 3. Construction Emissions Details

#### 3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	464	464	0.02	< 0.005	—	466
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	76.9	76.9	< 0.005	< 0.005	—	77.1
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	147	147	< 0.005	0.01	0.02	149
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	13.0	13.0	< 0.005	< 0.005	0.03	13.2
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	2.15	2.15	< 0.005	< 0.005	< 0.005	2.18
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.2. Site Preparation (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	464	464	0.02	< 0.005	—	466
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	76.9	76.9	< 0.005	< 0.005	—	77.1
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	147	147	< 0.005	0.01	0.02	149
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	13.0	13.0	< 0.005	< 0.005	0.03	13.2

Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	2.15	2.15	< 0.005	< 0.005	< 0.005	2.18
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	594	594	0.02	< 0.005	—	596
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	98.3	98.3	< 0.005	< 0.005	—	98.7
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	168	168	< 0.005	0.01	0.02	170
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	12,189	12,189	0.99	1.93	0.67	12,791
Average Daily	—	—	—	—	—	—	—
Worker	—	15.3	15.3	< 0.005	< 0.005	0.03	15.5
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	1,097	1,097	0.09	0.17	1.01	1,152
Annual	—	—	—	—	—	—	—
Worker	—	2.53	2.53	< 0.005	< 0.005	0.01	2.56
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	182	182	0.01	0.03	0.17	191

### 3.4. Grading (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	594	594	0.02	< 0.005	—	596
Dust From Material Movement	—	—	—	—	—	—	—



Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	98.3	98.3	< 0.005	< 0.005	—	98.7
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	168	168	< 0.005	0.01	0.02	170
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	12,189	12,189	0.99	1.93	0.67	12,791
Average Daily	—	—	—	—	—	—	—
Worker	—	15.3	15.3	< 0.005	< 0.005	0.03	15.5
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	1,097	1,097	0.09	0.17	1.01	1,152
Annual	—	—	—	—	—	—	—
Worker	—	2.53	2.53	< 0.005	< 0.005	0.01	2.56
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	182	182	0.01	0.03	0.17	191

### 3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—

Off-Road Equipment	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	491	491	0.02	< 0.005	—	492
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	81.2	81.2	< 0.005	< 0.005	—	81.5
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	164	164	< 0.005	0.01	0.02	167
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	12,002	12,002	0.99	1.93	0.67	12,604
Average Daily	—	—	—	—	—	—	—
Worker	—	12.4	12.4	< 0.005	< 0.005	0.02	12.5
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	892	892	0.07	0.14	0.83	938
Annual	—	—	—	—	—	—	—
Worker	—	2.05	2.05	< 0.005	< 0.005	< 0.005	2.08
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	148	148	0.01	0.02	0.14	155

### 3.6. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	491	491	0.02	< 0.005	—	492
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	81.2	81.2	< 0.005	< 0.005	—	81.5
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	164	164	< 0.005	0.01	0.02	167
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	12,002	12,002	0.99	1.93	0.67	12,604
Average Daily	—	—	—	—	—	—	—
Worker	—	12.4	12.4	< 0.005	< 0.005	0.02	12.5

Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	892	892	0.07	0.14	0.83	938
Annual	—	—	—	—	—	—	—
Worker	—	2.05	2.05	< 0.005	< 0.005	< 0.005	2.08
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	148	148	0.01	0.02	0.14	155

### 3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	1,342	1,342	0.05	0.01	—	1,347
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	222	222	0.01	< 0.005	—	223
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	1,960	1,960	0.04	0.07	8.28	1,991
Vendor	—	1,301	1,301	0.07	0.19	3.42	1,364

Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	1,793	1,793	0.05	0.08	0.22	1,817
Vendor	—	1,302	1,302	0.07	0.19	0.09	1,361
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	1,014	1,014	0.03	0.04	2.01	1,030
Vendor	—	729	729	0.04	0.11	0.82	763
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	168	168	< 0.005	0.01	0.33	170
Vendor	—	121	121	0.01	0.02	0.14	126
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.8. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	1,342	1,342	0.05	0.01	—	1,347
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	222	222	0.01	< 0.005	—	223
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	1,960	1,960	0.04	0.07	8.28	1,991
Vendor	—	1,301	1,301	0.07	0.19	3.42	1,364
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	1,793	1,793	0.05	0.08	0.22	1,817
Vendor	—	1,302	1,302	0.07	0.19	0.09	1,361
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	1,014	1,014	0.03	0.04	2.01	1,030
Vendor	—	729	729	0.04	0.11	0.82	763
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	168	168	< 0.005	0.01	0.33	170
Vendor	—	121	121	0.01	0.02	0.14	126
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	2,398	2,398	0.10	0.02	—	2,406

Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	1,417	1,417	0.06	0.01	—	1,422
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	235	235	0.01	< 0.005	—	235
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	1,922	1,922	0.03	0.07	7.62	1,951
Vendor	—	1,281	1,281	0.07	0.18	3.39	1,341
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	1,758	1,758	0.05	0.08	0.20	1,782
Vendor	—	1,281	1,281	0.07	0.18	0.09	1,338
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	1,050	1,050	0.03	0.04	1.94	1,066
Vendor	—	757	757	0.04	0.11	0.87	791
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	174	174	< 0.005	0.01	0.32	176
Vendor	—	125	125	0.01	0.02	0.14	131
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.10. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	1,417	1,417	0.06	0.01	—	1,422
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	235	235	0.01	< 0.005	—	235
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	1,922	1,922	0.03	0.07	7.62	1,951
Vendor	—	1,281	1,281	0.07	0.18	3.39	1,341
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	1,758	1,758	0.05	0.08	0.20	1,782
Vendor	—	1,281	1,281	0.07	0.18	0.09	1,338
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	1,050	1,050	0.03	0.04	1.94	1,066



Vendor	—	757	757	0.04	0.11	0.87	791
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	174	174	< 0.005	0.01	0.32	176
Vendor	—	125	125	0.01	0.02	0.14	131
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	124	124	0.01	< 0.005	—	125
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	20.6	20.6	< 0.005	< 0.005	—	20.6
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—

Worker	—	123	123	< 0.005	0.01	0.01	125
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	10.2	10.2	< 0.005	< 0.005	0.02	10.4
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	1.70	1.70	< 0.005	< 0.005	< 0.005	1.72
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.12. Paving (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	124	124	0.01	< 0.005	—	125
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	20.6	20.6	< 0.005	< 0.005	—	20.6

Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	123	123	< 0.005	0.01	0.01	125
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	10.2	10.2	< 0.005	< 0.005	0.02	10.4
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	1.70	1.70	< 0.005	< 0.005	< 0.005	1.72
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—

Off-Road Equipment	—	11.0	11.0	< 0.005	< 0.005	—	11.0
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	1.82	1.82	< 0.005	< 0.005	—	1.82
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	352	352	0.01	0.02	0.04	356
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	29.2	29.2	< 0.005	< 0.005	0.05	29.7
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	4.84	4.84	< 0.005	< 0.005	0.01	4.91
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.14. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	11.0	11.0	< 0.005	< 0.005	—	11.0
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	1.82	1.82	< 0.005	< 0.005	—	1.82
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	352	352	0.01	0.02	0.04	356
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	29.2	29.2	< 0.005	< 0.005	0.05	29.7
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	4.84	4.84	< 0.005	< 0.005	0.01	4.91
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

# 4. Operations Emissions Details

## 4.1. Mobile Emissions by Land Use

### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	13,888	13,888	0.54	0.53	49.5	14,109
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	13,888	13,888	0.54	0.53	49.5	14,109
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	12,937	12,937	0.62	0.59	1.28	13,129
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	12,937	12,937	0.62	0.59	1.28	13,129
Annual	—	—	—	—	—	—	—
Condo/Townhouse	—	1,934	1,934	0.09	0.08	3.17	1,964
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	1,934	1,934	0.09	0.08	3.17	1,964

### 4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	13,888	13,888	0.54	0.53	49.5	14,109
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	13,888	13,888	0.54	0.53	49.5	14,109
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	12,937	12,937	0.62	0.59	1.28	13,129
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	12,937	12,937	0.62	0.59	1.28	13,129
Annual	—	—	—	—	—	—	—
Condo/Townhouse	—	1,934	1,934	0.09	0.08	3.17	1,964
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	1,934	1,934	0.09	0.08	3.17	1,964

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	516	516	0.08	0.01	—	521
Enclosed Parking Structure	—	291	291	0.05	0.01	—	294

Parking Lot	—	14.2	14.2	< 0.005	< 0.005	—	14.3
Total	—	821	821	0.13	0.02	—	829
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	516	516	0.08	0.01	—	521
Enclosed Parking Structure	—	291	291	0.05	0.01	—	294
Parking Lot	—	14.2	14.2	< 0.005	< 0.005	—	14.3
Total	—	821	821	0.13	0.02	—	829
Annual	—	—	—	—	—	—	—
Condo/Townhouse	—	85.4	85.4	0.01	< 0.005	—	86.3
Enclosed Parking Structure	—	48.2	48.2	0.01	< 0.005	—	48.7
Parking Lot	—	2.35	2.35	< 0.005	< 0.005	—	2.37
Total	—	136	136	0.02	< 0.005	—	137

#### 4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	517	517	0.08	0.01	—	523
Enclosed Parking Structure	—	291	291	0.05	0.01	—	294
Parking Lot	—	14.2	14.2	< 0.005	< 0.005	—	14.3
Total	—	823	823	0.13	0.02	—	831
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	517	517	0.08	0.01	—	523
Enclosed Parking Structure	—	291	291	0.05	0.01	—	294
Parking Lot	—	14.2	14.2	< 0.005	< 0.005	—	14.3



Total	—	823	823	0.13	0.02	—	831
Annual	—	—	—	—	—	—	—
Condo/Townhouse	—	85.7	85.7	0.01	< 0.005	—	86.5
Enclosed Parking Structure	—	48.2	48.2	0.01	< 0.005	—	48.7
Parking Lot	—	2.35	2.35	< 0.005	< 0.005	—	2.37
Total	—	136	136	0.02	< 0.005	—	138

#### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	2,023	2,023	0.18	< 0.005	—	2,029
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	2,023	2,023	0.18	< 0.005	—	2,029
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	2,023	2,023	0.18	< 0.005	—	2,029
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	2,023	2,023	0.18	< 0.005	—	2,029
Annual	—	—	—	—	—	—	—
Condo/Townhouse	—	335	335	0.03	< 0.005	—	336
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	335	335	0.03	< 0.005	—	336

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—
Condo/Townhouse	—	0.00	0.00	0.00	0.00	—	0.00
Enclosed Parking Structure	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—

Hearths	0.00	676	676	0.11	0.01	—	683
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Landscape Equipment	—	59.4	59.4	< 0.005	< 0.005	—	59.6
Total	0.00	736	736	0.11	0.01	—	742
Daily, Winter (Max)	—	—	—	—	—	—	—
Hearths	0.00	676	676	0.11	0.01	—	683
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Total	0.00	676	676	0.11	0.01	—	683
Annual	—	—	—	—	—	—	—
Hearths	0.00	2.76	2.76	< 0.005	< 0.005	—	2.79
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Landscape Equipment	—	4.85	4.85	< 0.005	< 0.005	—	4.87
Total	0.00	7.61	7.61	< 0.005	< 0.005	—	7.65

#### 4.3.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Hearths	0.00	676	676	0.11	0.01	—	683
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Landscape Equipment	—	59.4	59.4	< 0.005	< 0.005	—	59.6
Total	0.00	736	736	0.11	0.01	—	742
Daily, Winter (Max)	—	—	—	—	—	—	—

Hearths	0.00	676	676	0.11	0.01	—	683
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Total	0.00	676	676	0.11	0.01	—	683
Annual	—	—	—	—	—	—	—
Hearths	0.00	2.76	2.76	< 0.005	< 0.005	—	2.79
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Landscape Equipment	—	4.85	4.85	< 0.005	< 0.005	—	4.87
Total	0.00	7.61	7.61	< 0.005	< 0.005	—	7.65

#### 4.4. Water Emissions by Land Use

##### 4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	106	215	321	10.9	0.26	—	671
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	106	215	321	10.9	0.26	—	671
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	106	215	321	10.9	0.26	—	671
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	106	215	321	10.9	0.26	—	671

Annual	—	—	—	—	—	—	—
Condo/Townhouse	17.5	35.6	53.1	1.80	0.04	—	111
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	17.5	35.6	53.1	1.80	0.04	—	111

#### 4.4.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	106	215	321	10.9	0.26	—	671
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	106	215	321	10.9	0.26	—	671
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	106	215	321	10.9	0.26	—	671
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	106	215	321	10.9	0.26	—	671
Annual	—	—	—	—	—	—	—
Condo/Townhouse	17.5	35.6	53.1	1.80	0.04	—	111
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	17.5	35.6	53.1	1.80	0.04	—	111

## 4.5. Waste Emissions by Land Use

### 4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	86.0	0.00	86.0	8.59	0.00	—	301
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	86.0	0.00	86.0	8.59	0.00	—	301
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	86.0	0.00	86.0	8.59	0.00	—	301
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	86.0	0.00	86.0	8.59	0.00	—	301
Annual	—	—	—	—	—	—	—
Condo/Townhouse	14.2	0.00	14.2	1.42	0.00	—	49.8
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	14.2	0.00	14.2	1.42	0.00	—	49.8

### 4.5.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—

Condo/Townhouse	86.0	0.00	86.0	8.59	0.00	—	301
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	86.0	0.00	86.0	8.59	0.00	—	301
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	86.0	0.00	86.0	8.59	0.00	—	301
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	86.0	0.00	86.0	8.59	0.00	—	301
Annual	—	—	—	—	—	—	—
Condo/Townhouse	14.2	0.00	14.2	1.42	0.00	—	49.8
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	14.2	0.00	14.2	1.42	0.00	—	49.8

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	2.35	2.35
Total	—	—	—	—	—	2.35	2.35
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	2.35	2.35
Total	—	—	—	—	—	2.35	2.35

Annual	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	0.39	0.39
Total	—	—	—	—	—	0.39	0.39

#### 4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	2.35	2.35
Total	—	—	—	—	—	2.35	2.35
Daily, Winter (Max)	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	2.35	2.35
Total	—	—	—	—	—	2.35	2.35
Annual	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	0.39	0.39
Total	—	—	—	—	—	0.39	0.39

#### 4.7. Offroad Emissions By Equipment Type

##### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—



Total	—	—	—	—	—	—	—
-------	---	---	---	---	---	---	---

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

### 4.9. User Defined Emissions By Equipment Type

#### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

#### 4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—
-------	---	---	---	---	---	---	---

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
---------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

## 5. Activity Data

### 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	10/3/2023	11/15/2023	5.00	32.0	—
Grading	Grading	11/16/2023	2/7/2024	5.00	60.0	—
Building Construction	Building Construction	3/21/2024	10/29/2025	5.00	420	—
Paving	Paving	2/8/2024	3/20/2024	5.00	30.0	—

Architectural Coating	Architectural Coating	10/30/2025	12/10/2025	5.00	30.0	—
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### 5.2. Off-Road Equipment

#### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

#### 5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT



Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	165	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	218	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	47.5	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	43.6	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

### 5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT

Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	165	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	218	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	47.5	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	43.6	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	664,546	221,515	0.00	0.00	1,741

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	48.0	0.00	—
Grading	79,000	—	180	0.00	—
Paving	0.00	0.00	0.00	0.00	0.67

### 5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

## 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%
Enclosed Parking Structure	0.00	100%
Parking Lot	0.67	100%

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005

2025	0.00	204	0.03	< 0.005
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### 5.9. Operational Mobile Sources

#### 5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	1,581	1,758	1,356	574,631	15,695	17,453	13,465	5,704,115
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

#### 5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	1,581	1,758	1,356	574,631	15,695	17,453	13,465	5,704,115
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 5.10. Operational Area Sources

#### 5.10.1. Hearths

##### 5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0

Electric Fireplaces	110
No Fireplaces	106
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	110
No Fireplaces	106
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
664546.275	221,515	0.00	0.00	1,741

5.10.3. Landscape Equipment

Season	Unit	Value
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Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	923,290	204	0.0330	0.0040	6,312,511
Enclosed Parking Structure	521,013	204	0.0330	0.0040	0.00
Parking Lot	25,414	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	925,972	204	0.0330	0.0040	0.00
Enclosed Parking Structure	521,013	204	0.0330	0.0040	0.00
Parking Lot	25,414	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	55,188,000	5,579,097
Enclosed Parking Structure	0.00	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	55,188,000	5,579,097
Enclosed Parking Structure	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	160	—
Enclosed Parking Structure	0.00	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	160	—
Enclosed Parking Structure	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

### 5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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### 5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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## 6. Climate Risk Detailed Report

### 6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	19.3	annual days of extreme heat
Extreme Precipitation	2.10	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	8.54	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

### 6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

### 6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

## 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	35.2
AQ-PM	31.6
AQ-DPM	37.2
Drinking Water	10.6
Lead Risk Housing	27.2
Pesticides	45.0
Toxic Releases	33.6
Traffic	66.3
Effect Indicators	—
CleanUp Sites	41.8
Groundwater	0.00
Haz Waste Facilities/Generators	61.6
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	90.9
Cardio-vascular	71.5

Low Birth Weights	79.7
Socioeconomic Factor Indicators	—
Education	58.1
Housing	63.3
Linguistic	56.3
Poverty	45.1
Unemployment	52.5

### 7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	46.95239317
Employed	51.27678686
Median HI	82.83074554
Education	—
Bachelor's or higher	52.44450148
High school enrollment	100
Preschool enrollment	20.18478121
Transportation	—
Auto Access	90.86359553
Active commuting	66.20043629
Social	—
2-parent households	23.3029642
Voting	64.94289747
Neighborhood	—
Alcohol availability	76.92801232

Park access	37.30270756
Retail density	43.73155396
Supermarket access	51.04581034
Tree canopy	29.15436931
Housing	—
Homeownership	48.06877967
Housing habitability	53.72770435
Low-inc homeowner severe housing cost burden	29.26985756
Low-inc renter severe housing cost burden	33.31194662
Uncrowded housing	83.16437829
Health Outcomes	—
Insured adults	77.62094187
Arthritis	59.3
Asthma ER Admissions	5.6
High Blood Pressure	42.5
Cancer (excluding skin)	68.9
Asthma	25.7
Coronary Heart Disease	81.5
Chronic Obstructive Pulmonary Disease	53.7
Diagnosed Diabetes	57.0
Life Expectancy at Birth	41.2
Cognitively Disabled	36.6
Physically Disabled	87.9
Heart Attack ER Admissions	14.7
Mental Health Not Good	39.8
Chronic Kidney Disease	73.0
Obesity	20.3

Pedestrian Injuries	19.6
Physical Health Not Good	49.1
Stroke	64.5
Health Risk Behaviors	—
Binge Drinking	58.7
Current Smoker	39.2
No Leisure Time for Physical Activity	46.8
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	19.0
Elderly	90.0
English Speaking	67.8
Foreign-born	51.6
Outdoor Workers	35.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	50.5
Traffic Density	24.5
Traffic Access	23.0
Other Indices	—
Hardship	37.7
Other Decision Support	—
2016 Voting	40.2

### 7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	52.0

Healthy Places Index Score for Project Location (b)	63.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

## 7.4. Health & Equity Measures

No Health & Equity Measures selected.

## 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

# 8. User Changes to Default Data

Screen	Justification
Land Use	Lot acreages adjusted to reflect total disturbance area (18.5 ac total). Building square footage based on max unit size of 1,504 sf X 216 units, plus 3,307-sf community building. Landscape area pulled from the Preliminary Landscape Plan dated June 1, 2023. Enclosed Parking Structure reflects parking spaces within condo garages, Parking Lot reflects guest parking spaces.
Construction: Construction Phases	Demolition not required. Building construction phase extended to more closely match the anticipated 26-month construction timeline.
Operations: Water and Waste Water	Water demand adjusted per project-specific information.
Operations: Hearths	No natural gas appliance would be installed.



## **Laurel Ranch Townhomes Project—Energy Consumption Summary**

Date of Last Revision: July 19, 2023

### **Summary of Energy Use During Construction (2023-2025)**

(Annually)

Construction vehicle fuel

94,352 gallons (gasoline, diesel)

Construction equipment fuel

69,803 gallons (diesel)

### **Summary of Energy Use During Proposed Operations (2026)**

(Annually)

Operational vehicle fuel consumption

227,888 gallons (gasoline, diesel)

Operational electricity consumption

1,472,399 kilowatt hours

**Construction Vehicle Fuel Calculations (Page 1 of 2)**

California Air Resource Board (CARB). 2023. EMFAC2021 Web Database. Website: <https://arb.ca.gov/emfac/emissions-inventory/>. Accessed July 5, 2023.

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: County

Region: Contra Costa

Calendar Year: 2023

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

VMT = Vehicle Miles Traveled

FE = Fuel Economy

Given					Calculations					
Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT (mi/day)	Fuel Consumption (1000 gallons/day)	FE (mi/gallon)	VMT*FE
Contra Costa	2023	HHDT	Aggregate	Aggregate	Gasoline	0.93030991	50.360943	0.012994029	3.87569893	195.1839
Contra Costa	2023	HHDT	Aggregate	Aggregate	Diesel	4942.55536	589482.46	101.9570264	5.78167573	3408196
Contra Costa	2023	LDA	Aggregate	Aggregate	Gasoline	339848.959	12783779	433.2349523	29.5077276	3.77E+08
Contra Costa	2023	LDA	Aggregate	Aggregate	Diesel	1457.68621	43468.168	1.014509436	42.8464897	1862458
Contra Costa	2023	LDT1	Aggregate	Aggregate	Gasoline	33659.3305	1179551.1	47.53835775	24.8126171	29267749
Contra Costa	2023	LDT1	Aggregate	Aggregate	Diesel	18.539943	234.18188	0.00959385	24.4095828	5716.282
Contra Costa	2023	LDT2	Aggregate	Aggregate	Gasoline	154436.758	6246459.6	262.0252258	23.8391538	1.49E+08
Contra Costa	2023	LDT2	Aggregate	Aggregate	Diesel	633.678897	26711.661	0.845542661	31.5911456	843852
Contra Costa	2023	LHDT1	Aggregate	Aggregate	Gasoline	12655.9886	475389.28	50.45098161	9.42279548	4479496
Contra Costa	2023	LHDT1	Aggregate	Aggregate	Diesel	8519.36338	324282.15	20.56247885	15.7705769	5114117
Contra Costa	2023	LHDT2	Aggregate	Aggregate	Gasoline	1464.1238	54160.162	6.440933891	8.40874364	455418.9
Contra Costa	2023	LHDT2	Aggregate	Aggregate	Diesel	3253.07745	128992.08	9.900338363	13.0290581	1680645
Contra Costa	2023	MDV	Aggregate	Aggregate	Gasoline	101543.979	3817544.2	196.6448772	19.4133928	74111486
Contra Costa	2023	MDV	Aggregate	Aggregate	Diesel	1630.41664	65604.49	2.720317988	24.1164786	1582149
Contra Costa	2023	MHDT	Aggregate	Aggregate	Gasoline	750.265129	37968.846	8.08396006	4.69681264	178332.6
Contra Costa	2023	MHDT	Aggregate	Aggregate	Diesel	5453.02586	229950.97	27.25182838	8.43800149	1940327

**Worker**

Sum of VMT\*FE (Column BI) **6.34E+08**

Total VMT **24163352**

Weighted Average Fuel Economy **26.22997**

**Vendor**

Sum of VMT\*FE (Column BI) **17256728**

Total VMT **1840276**

Weighted Average Fuel Economy **9.377248**

**Haul**

Sum of VMT\*FE (Column BI) **3408392**

Total VMT **589532.8**

Weighted Average Fuel Economy **5.781513**

**Construction Vehicle Fuel Calculations (Page 2 of 2)**

**Construction Schedule**

Source: CalEEMod Output

Laurel Ranch Townhomes Project

CalEEMod Phase Type	Phase Name	Start Date	End Date	Num Days	Num
				Week	Days
Site Preparation	Site Preparation	10/3/2023	11/15/2023	5	32
Grading	Grading	11/16/2023	2/7/2024	5	60
Building Construction	Building Constructio	3/21/2024	10/29/2025	5	420
Paving	Paving	2/8/2024	3/20/2024	5	30
Architectural Coating	Architectural Coatin	10/30/2025	12/10/2025	5	30

**Construction Trips and VMT**

Phase Name	Trips per Day			Construction Trip Length in Miles			Number of Days per Phase	Trips per Phase			VMT per Phase			Fuel Consumption (gallons)		
	Worker Trip Number	Vendor Trip Number*	Hauling Trip Number*	Worker Trip Length	Vendor Trip Length	Hauling Trip Length		Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trips	Vendor Trips	Hauling Trips	Worker Trips	Vendor Trips	Hauling Trips
Site Preparation	18	0	0	11.7	8.4	20	32	576	0	0	6,739	0	0	256.93	0.00	0.00
Grading	20	0	165	11.7	8.4	20	60	1,200	0	9,900	14,040	0	198,000	535.27	0.00	34,247.09
Building Construction	218	47	0	11.7	8.4	20	420	91,560	19,740	0	1,071,252	165,816	0	40,840.76	17,682.80	0.00
Paving	15	0	0	11.7	8.4	20	30	450	0	0	5,265	0	0	200.72	0.00	0.00
Architectural Coating	44	0	0	11.7	8.4	20	30	1,320	0	0	15,444	0	0	588.79	0.00	0.00
											1,112,740	165,816	198,000	42,422	17,683	34,247

Total Project Construction VMT (miles)  
**1,476,556**

Total Project Fuel Consumption (gallons)  
**94,352**

**Construction Equipment Fuel Calculation**

Laurel Ranch Townhomes Project  
**Construction Schedule**

CalEEMod Phase Type	Phase Name	Start Date	End Date	Num Days/	
				Week	Num Days
Site Preparation	Site Preparation	10/3/2023	11/15/2023	5	32
Grading	Grading	11/16/2023	2/7/2024	5	60
Building Construction	Building Construction	3/21/2024	10/29/2025	5	420
Paving	Paving	2/8/2024	3/20/2024	5	30
Architectural Coating	Architectural Coating	10/30/2025	12/10/2025	5	30

**Construction Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of Days	HP Hours	HP Bin	Equipment Type + HP	Fuel (gallons/HP-hour)	Diesel Fuel Usage
Site Preparation	Rubber Tired Dozers	3	8	367	0.4	32	112,742.40	600	Rubber Tired Dozers 600	0.05044493	5,687.28
Site Preparation	Tractors/Loaders/Backhoes	4	8	84	0.37	32	31,825.92	100	Tractors/Loaders/Backhoes 100	0.05608047	1,784.81
Grading	Excavators	2	8	36	0.38	60	13,132.80	50	Excavators 50	0.05608047	736.49
Grading	Graders	1	8	148	0.41	60	29,126.40	175	Graders 175	0.05044493	1,469.28
Grading	Rubber Tired Dozers	1	8	367	0.4	60	70,464.00	600	Rubber Tired Dozers 600	0.05044493	3,554.55
Grading	Scrapers	2	8	423	0.48	60	194,918.40	600	Scrapers 600	0.05044493	9,832.64
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37	60	29,836.80	100	Tractors/Loaders/Backhoes 100	0.05608047	1,673.26
Building Construction	Cranes	1	7	367	0.29	420	312,904.20	600	Cranes 600	0.05044493	15,784.43
Building Construction	Forklifts	3	8	82	0.2	420	165,312.00	100	Forklifts 100	0.05608047	9,270.77
Building Construction	Generator Sets	1	8	14	0.74	420	34,809.60	15	Generator Sets 15	0.01739529	605.52
Building Construction	Tractors/Loaders/Backhoes	3	7	84	0.37	420	274,125.60	100	Tractors/Loaders/Backhoes 100	0.05608047	15,373.09
Building Construction	Welders	1	8	46	0.45	420	69,552.00	50	Welders 50	0.02582434	1,796.13
Paving	Pavers	2	8	81	0.42	30	16,329.60	100	Pavers 100	0.05608047	915.77
Paving	Paving Equipment	2	8	89	0.36	30	15,379.20	100	Paving Equipment 100	0.05608047	862.47
Paving	Rollers	2	8	36	0.38	30	6,566.40	50	Rollers 50	0.05608047	368.25
Architectural Coating	Air Compressors	1	6	37	0.48	30	3,196.80	50	Air Compressors 50	0.02758243	88.18
											<b>69,802.94</b>

Notes:  
 Equipment assumptions are provided in the CalEEMod output files.  
 Source of usage estimates: California Air Resource Board (CARB). 2023. OFFROAD2021 (v1.0.4) Emissions Inventory  
 Website: <https://arb.ca.gov/emfac/emissions-inventory/>. Accessed July 5, 2023.

Model Output: OFFROAD2021 (v1.0.5) Emissions Inventory

Region Type: County

Region: Contra Costa

Calendar Year: 2023

Scenario: All Adopted Rules - Exhaust

Vehicle Classification: OFFROAD2021 Equipment Types

Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hour

Region	CalYr	Vehicle Class + HP Bin	Model Year	Fuel
Contra Cos	2023	Bore/Drill Rigs 100	Aggregate	Diesel
Contra Cos	2023	Bore/Drill Rigs 175	Aggregate	Diesel
Contra Cos	2023	Bore/Drill Rigs 300	Aggregate	Diesel
Contra Cos	2023	Bore/Drill Rigs 50	Aggregate	Diesel
Contra Cos	2023	Bore/Drill Rigs 600	Aggregate	Diesel
Contra Cos	2023	Bore/Drill Rigs 75	Aggregate	Diesel
Contra Cos	2023	Cranes 100	Aggregate	Diesel
Contra Cos	2023	Cranes 175	Aggregate	Diesel
Contra Cos	2023	Cranes 25	Aggregate	Diesel
Contra Cos	2023	Cranes 300	Aggregate	Diesel
Contra Cos	2023	Cranes 50	Aggregate	Diesel
Contra Cos	2023	Cranes 600	Aggregate	Diesel
Contra Cos	2023	Cranes 75	Aggregate	Diesel
Contra Cos	2023	Crawler Tractors 100	Aggregate	Diesel
Contra Cos	2023	Crawler Tractors 175	Aggregate	Diesel
Contra Cos	2023	Crawler Tractors 300	Aggregate	Diesel
Contra Cos	2023	Crawler Tractors 50	Aggregate	Diesel
Contra Cos	2023	Crawler Tractors 600	Aggregate	Diesel
Contra Cos	2023	Crawler Tractors 75	Aggregate	Diesel
Contra Cos	2023	Excavators 100	Aggregate	Diesel
Contra Cos	2023	Excavators 175	Aggregate	Diesel
Contra Cos	2023	Excavators 25	Aggregate	Diesel
Contra Cos	2023	Excavators 300	Aggregate	Diesel
Contra Cos	2023	Excavators 50	Aggregate	Diesel
Contra Cos	2023	Excavators 600	Aggregate	Diesel
Contra Cos	2023	Excavators 75	Aggregate	Diesel
Contra Cos	2023	Graders 100	Aggregate	Diesel
Contra Cos	2023	Graders 175	Aggregate	Diesel
Contra Cos	2023	Graders 300	Aggregate	Diesel
Contra Cos	2023	Graders 50	Aggregate	Diesel
Contra Cos	2023	Graders 600	Aggregate	Diesel
Contra Cos	2023	Graders 75	Aggregate	Diesel
Contra Cos	2023	Misc - Bore/Drill Rigs 25	Aggregate	Diesel
Contra Cos	2023	Misc - Cement And Mortar Mixers 25	Aggregate	Diesel
Contra Cos	2023	Misc - Concrete/Industrial Saws 25	Aggregate	Diesel
Contra Cos	2023	Misc - Concrete/Industrial Saws 50	Aggregate	Diesel
Contra Cos	2023	Misc - Dumpers/Tenders 25	Aggregate	Diesel

Contra Cos	2023 Misc - Excavators 25	Aggregate	Diesel
Contra Cos	2023 Misc - Other 25	Aggregate	Diesel
Contra Cos	2023 Misc - Pavers 25	Aggregate	Diesel
Contra Cos	2023 Misc - Paving Equipment 25	Aggregate	Diesel
Contra Cos	2023 Misc - Rollers 25	Aggregate	Diesel
Contra Cos	2023 Misc - Rubber Tired Loaders 25	Aggregate	Diesel
Contra Cos	2023 Misc - Signal Boards 50	Aggregate	Diesel
Contra Cos	2023 Misc - Skid Steer Loaders 25	Aggregate	Diesel
Contra Cos	2023 Misc - Tractors/Loaders/Backhoes 25	Aggregate	Diesel
Contra Cos	2023 Misc - Trenchers 25	Aggregate	Diesel
Contra Cos	2023 Off-Highway Tractors 100	Aggregate	Diesel
Contra Cos	2023 Off-Highway Tractors 175	Aggregate	Diesel
Contra Cos	2023 Off-Highway Tractors 300	Aggregate	Diesel
Contra Cos	2023 Off-Highway Tractors 50	Aggregate	Diesel
Contra Cos	2023 Off-Highway Tractors 600	Aggregate	Diesel
Contra Cos	2023 Off-Highway Tractors 75	Aggregate	Diesel
Contra Cos	2023 Off-Highway Trucks 100	Aggregate	Diesel
Contra Cos	2023 Off-Highway Trucks 175	Aggregate	Diesel
Contra Cos	2023 Off-Highway Trucks 300	Aggregate	Diesel
Contra Cos	2023 Off-Highway Trucks 50	Aggregate	Diesel
Contra Cos	2023 Off-Highway Trucks 600	Aggregate	Diesel
Contra Cos	2023 Off-Highway Trucks 75	Aggregate	Diesel
Contra Cos	2023 Pavers 100	Aggregate	Diesel
Contra Cos	2023 Pavers 175	Aggregate	Diesel
Contra Cos	2023 Pavers 300	Aggregate	Diesel
Contra Cos	2023 Pavers 50	Aggregate	Diesel
Contra Cos	2023 Pavers 600	Aggregate	Diesel
Contra Cos	2023 Pavers 75	Aggregate	Diesel
Contra Cos	2023 Paving Equipment 100	Aggregate	Diesel
Contra Cos	2023 Paving Equipment 175	Aggregate	Diesel
Contra Cos	2023 Paving Equipment 300	Aggregate	Diesel
Contra Cos	2023 Paving Equipment 50	Aggregate	Diesel
Contra Cos	2023 Paving Equipment 600	Aggregate	Diesel
Contra Cos	2023 Paving Equipment 75	Aggregate	Diesel
Contra Cos	2023 Rollers 100	Aggregate	Diesel
Contra Cos	2023 Rollers 175	Aggregate	Diesel
Contra Cos	2023 Rollers 300	Aggregate	Diesel
Contra Cos	2023 Rollers 50	Aggregate	Diesel
Contra Cos	2023 Rollers 600	Aggregate	Diesel
Contra Cos	2023 Rollers 75	Aggregate	Diesel
Contra Cos	2023 Rough Terrain Forklifts 100	Aggregate	Diesel
Contra Cos	2023 Rough Terrain Forklifts 175	Aggregate	Diesel
Contra Cos	2023 Rough Terrain Forklifts 300	Aggregate	Diesel
Contra Cos	2023 Rough Terrain Forklifts 50	Aggregate	Diesel
Contra Cos	2023 Rough Terrain Forklifts 600	Aggregate	Diesel
Contra Cos	2023 Rough Terrain Forklifts 75	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Dozers 100	Aggregate	Diesel

Contra Cos	2023 Rubber Tired Dozers 175	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Dozers 300	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Dozers 50	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Dozers 600	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Dozers 75	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Loaders 100	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Loaders 175	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Loaders 300	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Loaders 50	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Loaders 600	Aggregate	Diesel
Contra Cos	2023 Rubber Tired Loaders 75	Aggregate	Diesel
Contra Cos	2023 Scrapers 100	Aggregate	Diesel
Contra Cos	2023 Scrapers 175	Aggregate	Diesel
Contra Cos	2023 Scrapers 300	Aggregate	Diesel
Contra Cos	2023 Scrapers 50	Aggregate	Diesel
Contra Cos	2023 Scrapers 600	Aggregate	Diesel
Contra Cos	2023 Scrapers 75	Aggregate	Diesel
Contra Cos	2023 Skid Steer Loaders 100	Aggregate	Diesel
Contra Cos	2023 Skid Steer Loaders 175	Aggregate	Diesel
Contra Cos	2023 Skid Steer Loaders 300	Aggregate	Diesel
Contra Cos	2023 Skid Steer Loaders 50	Aggregate	Diesel
Contra Cos	2023 Skid Steer Loaders 600	Aggregate	Diesel
Contra Cos	2023 Skid Steer Loaders 75	Aggregate	Diesel
Contra Cos	2023 Surfacing Equipment 100	Aggregate	Diesel
Contra Cos	2023 Surfacing Equipment 175	Aggregate	Diesel
Contra Cos	2023 Surfacing Equipment 300	Aggregate	Diesel
Contra Cos	2023 Surfacing Equipment 50	Aggregate	Diesel
Contra Cos	2023 Surfacing Equipment 600	Aggregate	Diesel
Contra Cos	2023 Surfacing Equipment 75	Aggregate	Diesel
Contra Cos	2023 Tractors/Loaders/Backhoes 100	Aggregate	Diesel
Contra Cos	2023 Tractors/Loaders/Backhoes 175	Aggregate	Diesel
Contra Cos	2023 Tractors/Loaders/Backhoes 25	Aggregate	Diesel
Contra Cos	2023 Tractors/Loaders/Backhoes 300	Aggregate	Diesel
Contra Cos	2023 Tractors/Loaders/Backhoes 50	Aggregate	Diesel
Contra Cos	2023 Tractors/Loaders/Backhoes 600	Aggregate	Diesel
Contra Cos	2023 Tractors/Loaders/Backhoes 75	Aggregate	Diesel
Contra Cos	2023 Trenchers 100	Aggregate	Diesel
Contra Cos	2023 Trenchers 175	Aggregate	Diesel
Contra Cos	2023 Trenchers 300	Aggregate	Diesel
Contra Cos	2023 Trenchers 50	Aggregate	Diesel
Contra Cos	2023 Trenchers 600	Aggregate	Diesel
Contra Cos	2023 Trenchers 75	Aggregate	Diesel
Contra Cos	2023 Forklifts 100	Aggregate	Diesel
Contra Cos	2023 Forklifts 25	Aggregate	Diesel
Contra Cos	2023 Forklifts 50	Aggregate	Diesel
Contra Cos	2023 Air Compressors 25	Aggregate	Diesel
Contra Cos	2023 Air Compressors 50	Aggregate	Diesel

Contra Cos	2023 Generator Sets 100	Aggregate	Diesel
Contra Cos	2023 Generator Sets 50	Aggregate	Diesel
Contra Cos	2023 Welders 50	Aggregate	Diesel



gallons/year for Horsepower-hours

Fuel Consumption (gallons/year)	Horsepower Hours (HP- hours/year)	Fuel (gallons/HP- hour)
3919.322877	69887.48847	0.056080465
28347.85236	561956.4396	0.050444928
33512.33251	664335.0197	0.050444928
1339.1874	23879.74834	0.056080465
48806.5091	967520.6336	0.050444928
5151.794582	91864.33366	0.056080465
1233.876379	22001.89265	0.056080465
11535.13315	228667.8465	0.050444928
3.842208687	68.51242516	0.056080465
41619.34625	825045.204	0.050444928
100.0279685	1783.650827	0.056080465
59418.58077	1177890.08	0.050444928
420.8116634	7503.712043	0.056080465
19540.0231	348428.3336	0.056080465
73414.9537	1455348.556	0.050444928
90351.41545	1791090.171	0.050444928
678.6863469	12102.0099	0.056080465
162650.1107	3224310.467	0.050444928
4915.225517	87645.94739	0.056080465
51042.09835	910158.2524	0.056080465
289163.8569	5732268.16	0.050444928
2.27910764	40.63995591	0.056080465
308203.1683	6109695.821	0.050444928
83546.52906	1489761.694	0.056080465
357894.8777	7094764.31	0.050444928
66291.12832	1182071.652	0.056080465
1898.203463	33847.85505	0.056080465
30815.35063	610871.1341	0.050444928
110208.5999	2184731.021	0.050444928
230.8799619	4116.940906	0.056080465
27096.80638	537156.2065	0.050444928
724.7834572	12923.99149	0.056080465
21.23195804	0	0
6.214777849	0	0
4.236603359	0	0
1481.9	35291.85	0.041989865
3.055475676	0	0

21.85038387	0	0
11.36945577	0	0
5.758884475	0	0
9.765776328	0	0
68.36216091	0	0
3.839930254	0	0
657	14450.35	0.045466027
1132.21449	0	0
104.3593356	0	0
101.5414043	0	0
11605.31252	206940.3747	0.056080465
63559.79621	1259983.872	0.050444928
28384.55514	562684.0207	0.050444928
13475.88452	240295.5188	0.056080465
76519.13815	1516884.662	0.050444928
11730.43092	209171.4262	0.056080465
311.0710065	5546.869208	0.056080465
16133.91245	319832.2004	0.050444928
37434.34401	742083.4005	0.050444928
594.0972995	10593.65852	0.056080465
282078.1302	5591803.56	0.050444928
602.7739132	10748.37574	0.056080465
7032.547691	125401.0223	0.056080465
23869.80855	473185.4976	0.050444928
29040.68094	575690.7951	0.050444928
1258.736752	22445.19092	0.056080465
5160.332979	102296.3684	0.050444928
6465.626338	115291.9523	0.056080465
3773.811275	67292.79527	0.056080465
26509.23579	525508.443	0.050444928
11887.35963	235650.243	0.050444928
3297.002146	58790.56324	0.056080465
28615.8887	567269.8843	0.050444928
2414.398437	43052.3966	0.056080465
19126.67088	341057.6349	0.056080465
114230.0152	2264449.943	0.050444928
9475.977864	187847.9792	0.050444928
31181.00353	556004.7215	0.056080465
8077.601314	160127.1242	0.050444928
12737.78684	227134.1145	0.056080465
27534.18208	490976.348	0.056080465
183722.3694	3642038.461	0.050444928
1517.436001	30081.04181	0.050444928
1032.378415	18408.87747	0.056080465
437.3614255	8670.077238	0.050444928
40962.6851	730426.9826	0.056080465
1312.962863	23412.12496	0.056080465

4285.842561	84960.82155	0.050444928
5318.030922	105422.5091	0.050444928
177.9667841	3173.418462	0.056080465
31217.78205	618848.773	0.050444928
579.5599326	10334.43515	0.056080465
23986.65947	427718.6238	0.056080465
186305.3806	3693243.037	0.050444928
352820.7798	6994177.432	0.050444928
1845.842884	32914.18628	0.056080465
273716.2467	5426040.939	0.050444928
14755.97404	263121.4621	0.056080465
656.2245602	11701.48207	0.056080465
5581.141383	110638.3052	0.050444928
81941.52978	1624375.975	0.050444928
39.84082055	710.4224313	0.056080465
315135.6302	6247122.161	0.050444928
548.5973056	9782.324415	0.056080465
113479.5814	2023513.548	0.056080465
33676.4616	667588.6489	0.050444928
2733.194171	54181.74349	0.050444928
30686.63851	547189.4413	0.056080465
1913.887579	37940.13867	0.050444928
224473.9516	4002711.999	0.056080465
665.8116752	11872.43492	0.056080465
3003.35353	59537.27412	0.050444928
3469.54945	68778.95478	0.050444928
305.2335292	5442.778108	0.056080465
20355.34195	403516.1232	0.050444928
543.5926144	9693.083158	0.056080465
339367.9498	6051446.748	0.056080465
364455.5162	7224819.774	0.050444928
7.579517866	135.1543326	0.056080465
154342.6625	3059626.951	0.050444928
30451.05698	542988.6642	0.056080465
117508.6567	2329444.415	0.050444928
144054.5821	2568712.317	0.056080465
3636.034141	64836.01941	0.056080465
6031.182119	119559.732	0.050444928
3667.363288	72700.33685	0.050444928
9707.229709	173094.6711	0.056080465
6182.032978	122550.1388	0.050444928
3021.918328	53885.40035	0.056080465
27777.03938	495306.8631	0.056080465
0.078027169	1.3913431	0.056080465
4126.215882	73576.70546	0.056080465
1811.264722	0	0
25739.8	933195.5	0.02758243

159858.4722	10216402.61	0.015647237
1094.425316	62915.02491	0.017395293
118157.8	4575442.9	0.025824342

**Operational Fuel Calculation—Project-Generated Operational Trips (Page 1 of 2)**

California Air Resource Board (CARB). 2023. EMFAC2021 Web Database. Website: <https://arb.ca.gov/emfac/emissions-inventory/>. Accessed July 5, 2023.

Source: EMFAC2021 (v1.0.2) Emissions Inventory  
 Region Type: County  
 Region: Contra Costa  
 Calendar Year: 2026  
 Season: Annual  
 Vehicle Classification: EMFAC2007 Categories

VMT = Vehicle Miles Traveled  
 FE = Fuel Economy

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Given					Calculations					
Region	Calendar Year	Vehicle Class	Model Year	Speed	Fuel	Population	VMT	Fuel Consumption	FE	VMT*FE
Contra Costa	2026	LDA	Aggregate	Aggregate	Gasoline	334860.9435	12770520.73	406.5160733	31.41455299	401180200
Contra Costa	2026	LDA	Aggregate	Aggregate	Diesel	1149.868273	32644.45144	0.743549831	43.90351535	1433206.175
									<b>Sum of VMT*FE</b>	<b>402613406.2</b>
									<b>Total VMT</b>	<b>12803165.18</b>
									<b>Weighted Average Fuel Economy</b>	<b>31.44639631</b>
Contra Costa	2026	LDT1	Aggregate	Aggregate	Gasoline	30656.92607	1083584.827	41.52694945	26.09353304	28274556.49
Contra Costa	2026	LDT1	Aggregate	Aggregate	Diesel	12.35312266	144.6395408	0.00588009	24.59818435	3557.870089
Contra Costa	2026	LDT2	Aggregate	Aggregate	Gasoline	160048.2093	6530086.941	25.52608095	25.58201924	167052809.8
Contra Costa	2026	LDT2	Aggregate	Aggregate	Diesel	663.6488987	27392.93295	0.822171139	33.31779923	912672.2401
Contra Costa	2026	MDV	Aggregate	Aggregate	Gasoline	101043.7076	3853108.692	185.4931877	20.77223827	80037691.84
Contra Costa	2026	MDV	Aggregate	Aggregate	Diesel	1602.334049	61603.50495	2.459261833	25.04959176	1543142.65
									<b>Sum of VMT*FE</b>	<b>277824430.8</b>
									<b>Total VMT</b>	<b>11555921.54</b>
									<b>Weighted Average Fuel Economy</b>	<b>24.04173739</b>
Contra Costa	2026	LHDT1	Aggregate	Aggregate	Gasoline	12329.76124	474311.795	47.87907994	9.906451745	4698746.909
Contra Costa	2026	LHDT1	Aggregate	Aggregate	Diesel	8397.60334	321446.6706	20.14807547	15.95421216	5128428.379
Contra Costa	2026	LHDT2	Aggregate	Aggregate	Gasoline	1437.656924	54206.99699	6.152329998	8.810807776	477607.4305
Contra Costa	2026	LHDT2	Aggregate	Aggregate	Diesel	3390.709747	133361.695	10.00383026	13.33106336	1777853.206
Contra Costa	2026	MHDT	Aggregate	Aggregate	Gasoline	724.6846983	39664.31548	8.09658671	4.898893435	194311.2547
Contra Costa	2026	MHDT	Aggregate	Aggregate	Diesel	5665.890568	232435.2536	27.1729189	8.553930272	1988234.952
Contra Costa	2026	HHDT	Aggregate	Aggregate	Gasoline	0.506783941	68.83501712	0.015711742	4.381119383	301.5744277
Contra Costa	2026	HHDT	Aggregate	Aggregate	Diesel	5322.99641	604356.319	100.1733335	6.033105799	3646145.613
									<b>Sum of VMT*FE</b>	<b>17911629.32</b>
									<b>Total VMT</b>	<b>1859851.881</b>
									<b>Weighted Average Fuel Economy</b>	<b>9.630675166</b>
Contra Costa	2026	MCY	Aggregate	Aggregate	Gasoline	17905.18759	102897.9639	2.469139555	41.67361204	4288129.827
									<b>Weighted Average Fuel Economy</b>	<b>41.67361204</b>
Contra Costa	2026	MH	Aggregate	Aggregate	Gasoline	1605.558774	15111.21786	3.419011281	4.419762504	66787.99409
Contra Costa	2026	MH	Aggregate	Aggregate	Diesel	777.6049343	7388.10548	0.786505119	9.393588549	69400.82303
Contra Costa	2026	OBUS	Aggregate	Aggregate	Gasoline	236.7334579	10687.03927	2.18355108	4.894339028	52305.99339
Contra Costa	2026	OBUS	Aggregate	Aggregate	Diesel	141.5871149	9333.617046	1.30964064	7.126853551	66519.32179
Contra Costa	2026	SBUS	Aggregate	Aggregate	Gasoline	82.14318454	4536.364705	0.437264659	10.37441424	47062.12658
Contra Costa	2026	SBUS	Aggregate	Aggregate	Diesel	436.032665	9951.848404	1.203619243	8.268269609	82284.56571
Contra Costa	2026	UBUS	Aggregate	Aggregate	Gasoline	103.0116006	5622.007735	0.892706495	6.297711251	35405.78136
Contra Costa	2026	UBUS	Aggregate	Aggregate	Diesel	212.4771373	21961.00754	2.751271045	7.982131598	175295.6522
									<b>Sum of VMT*FE</b>	<b>595062.2582</b>
									<b>Total VMT</b>	<b>84591.20804</b>
									<b>Weighted Average Fuel Economy</b>	<b>7.034563898</b>

**Operational Fuel Calculation—Project-Generated Operational Trips (Page 2 of 2)**

**Total Operational VMT**

Laurel Ranch Townhomes Project

Land Use	Average Daily Trip Rate	Annual VMT
Condo-Townhouse		5,704,114.74

**Fleet Mix**

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
50.786114	4.224533	22.407441	14.392248	2.865407	0.668067	0.895789	0.806914	0.052307	0.047973	2.452487	0.074300	0.326424	100.000

	Fraction of 1	Annual VMT	Daily VMT	Average Fuel Economy (miles/gallon)	Total Daily Fuel Consumption (gallons)	Total Annual Fuel Consumption (gallons)
Passenger Cars (LDA)	0.5079	2,896,898	7,937	31.45	252.4	92,122
Light Trucks and Medium Vehicles (LDT1, LDT2, and MDV)	0.4102	2,340,069	6,411	24.04	266.7	97,334
Light-Heavy to Heavy-Heavy Diesel Trucks	0.0524	298,678	818	9.63	85.0	31,013
Motorcycles	0.0245	139,893	383	41.67	9.2	3,357
Other	0.0050	28,578	78	7.03	11.1	4,062
<b>Total</b>	<b>1.0000</b>	<b>5704115</b>	<b>15,628</b>		<b>624.4</b>	<b>227,888</b>

**Project Operations Electricity Use**

Source: CalEEMod Output

Laurel Ranch Townhomes Project - Buildout Year Operations

kWh/yr = kilowatt hours per year

	Electricity Use (kWh/yr)	
Condo/Townhouse	925,972	
Enclosed Parking Structure	521013	
Parking Lot	25,414	
<b>Total</b>	<b>1,472,399</b>	<b>kWh/yr</b>

**Appendix B**  
**Cultural Resources**  
**Memorandum**



To: Zoe Meredith, Senior Planner  
City Of Antioch  
Community Development, Planning  
Division

From: Jenna Santy, Archaeologist  
1383 N. McDowell Blvd  
Petaluma CA 94954

Project/File: 2042666600

Date: July 19, 2023

---

**Reference: Laurel Ranch Addendum Cultural Resources Technical Memo**

**INTRODUCTION**

This document serves as a technical memorandum evaluating the impact of the Laurel Ranch Townhomes Project impact to cultural resources. The findings of this memo will contribute to an Addendum to the Antioch Housing, Environmental Hazards, and Environmental Justice Elements Environmental Impact Report (Housing Element EIR), which was previously certified by the City of Antioch in January 2023 for the City of Antioch 2023-2031 Housing Element Update, State Clearinghouse No. 2021110146.

This memo report focuses on the analysis of an 18.5-acre site, consisting of four parcels with Assessor's Parcel Numbers (APNs) 053-060-063, 053-060-057, 053-060-056, and 053-060-055. These parcels are located within the East Lone Tree Specific Plan Area and are zoned as Specific Plan with a land use designation of Community Retail (CN). The East Lone Tree Specific Plan allows for multi-family residential use and Medium High Density Residential (RH) as an alternative use for the CN-designated sites . Therefore, residential development on the entire 18.5-acre site is permitted under the Specific Plan without requiring an amendment. The purpose of the Addendum is to analyze the environmental impacts of the proposed modified project, determine if any new significant impacts would occur or if previously identified impacts would become substantially more severe due to the changes, and conclude whether subsequent environmental review is necessary.

Stantec reviewed previous documentation, in addition to the Lone Tree Specific Plan EIR. This included a review of historical USGS topographic maps, historical aerial imagery, databases of historical resources, and a records search of existing cultural resources from the Northwest Information Center (NWIC) at Sonoma State, and a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search.

**Project Location**

The proposed modified project is situated in Antioch, Contra Costa County, California (Attachment). Specifically, it is located within the City's East Lone Tree Specific Plan area at the southeast corner of the intersection of Laurel Road and Country Hills Drive. The project site spans 18.5 acres and comprises four parcels identified as APNs 053-060-063, 053-060-057, 053-060-056, and 053-060-055.

Reference: Laurel Ranch Addendum Technical Memo

## Project Overview

The 18.5-acre proposed modified project involves a change from the previous project to develop the site with a new multi-family residential development consisting of 216 for-rent residential units. These residential units would be accommodated within a series of 4-, 5-, and 6-plex buildings. Each residential unit would comprise two to three bedrooms and two to 2.5 bathrooms, along with a one or two-car private garage with direct access. Additionally, the proposed modified project would feature shared onsite amenities, including a pool, leasing center, restrooms, fire lounge, and indoor community room.

## BACKGROUND

See the *Antioch Housing, Environmental Hazards, and Environmental and Environmental Justice Elements Draft Environmental Impact Report (2022)* for an up to date and thorough discussion of the cultural and historical background of Antioch area.

## DESKTOP REVIEW

Stantec reviewed historical aerial imagery, topographic maps, and National Register of Historic Places listings within the API.

Additionally, at the request of Stantec, staff of the Northwest Information Center at Sonoma State performed a search of the California Historic Resource Information System cultural resources database on July 13, 2023, for resources located within the API, and within a 0.25-mile radius of the project API. The following lists and databases were also reviewed:

- California Inventory of Historic Resources
- California Historical Landmarks
- Points of Historical Interest

## Historical Topographic Maps and Aerial Imagery

The earliest available topographic maps show the API as undeveloped hills<sup>1</sup>. By 1954, a structure appears within or adjacent to the API<sup>2</sup>. No development is depicted otherwise.

Aerial imagery from 1949 shows the beginnings of an orchard in the southern portion of the API<sup>3</sup>; from 1957- 2002, the area remained an orchard, which included a house and outbuildings. By 2009, the orchard, house, and outbuildings had been removed. Between 2002 and 2009, Highway 4 was completed. The Laurel Drive overpass was completed by 2009, as was the Highway 4 ramp forming the western border of the API. Between 2021 and 2022, Laurel Road was completed, forming the northern border of the API, as was Country Hills Road, to the east of the API. The area is in a similar configuration today.

---

<sup>1</sup> United States Geological Service, 1914 Brentwood 7.5' Quad Map

<sup>2</sup> United States Geological Service, 1954 Brentwood 7.5' Quad Map

<sup>3</sup> Nationwide Environmental Title Research, 2023. <https://www.historicaerials.com/viewer>

Reference: Laurel Ranch Addendum Technical Memo

## National Register of Historic Places

A search of the NRHP and CRHR indicate no listed properties within the API.

## Previous Studies

Thirty-three studies were identified within the API, twenty-three of which are regional overviews and not listed here (Table 1).

**Table 1. Previous Studies Within or Adjacent to the Project API**

Study Number	Author	Date	Title
S-010040	Allan Bramlette, Mary Praetzellis, Adrian Praetzellis, and David A. Fredrickson	1988	Archaeological and Historical Resources Within the Los Vaqueros/Kellogg Study Area, Contra Costa and Alameda Counties, California
S-010040a	"Allan G. Bramlette, Mary Praetzellis, Adrian Praetzellis, Katherine M. Dowdall, Patrick Brunmeier, and David A. Frederickson	1991	Archaeological Resources Inventory for Los Vaqueros Water Conveyance Alignments, Contra Costa County, California
S-010509	Peter M. Jensen, Alfred Farber, and Neal Neuenschwander	1986	Class III Intensive Archaeological Field Reconnaissance of the Kellogg Reformulation Unit, Highline Canal Alternative, Contra Costa and Alameda Counties
S-011826	Dorothea J. Theodoratus, Mary Pyle Peters, Clinton M. Blount, Pamela J. McGuire, Richard D. Ambro,	1980	Montezuma I and II Cultural Resources
S-016917	Carolyn Rice, Ann Samuelson, and William Self	1994	Archaeological Survey Report, Future Urban Area 2, Antioch, Contra Costa County, California
S-018187	Jack Meyer and David A. Fredrickson	1996	Results of a Subsurface Archaeological Survey of the Proposed Los Vaqueros and Transfer Pipeline Routes, Los Vaqueros Project, Contra Costa County, California
S-018250	Anthropological Studies Center, Sonoma State University; Jones & Stokes Associates, Inc.; Woodward-Clyde Consultants	1992	Evaluation, Request for Determination of Eligibility, and Effect for the Los Vaqueros Project, Alameda and Contra Costa Counties, California
S-018250a	Steade R. Craigo	1992	BUR910227A2; Request for Determination of Eligibility and Effect for the Los Vaqueros Project, Contra Costa County (Cultural Resources)
S-030587	Colin I. Busby	2004	Cultural Resources Assessment, Laurel Ranch, 3941 Neroly Road (APN 053-060-015-4), Antioch, Contra Costa County, California (letter report)
S-039379	Archaeo-Tec	1992	Cultural Resources Evaluation of the Proposed Delta Expressway Project, Contra Costa County, California

## Previously Recorded Cultural Resources

The records search conducted at the NWIC identified no cultural resources located within the project API. One resource was located within 0.25-mile of the API (Table 2). This resource was recorded during field study for the 1995 EIR and is included in that document but is not within the Laurel Ranch API. No impact to the listed resource is anticipated.

Reference: Laurel Ranch Addendum Technical Memo

**Table 2. Previously Recorded Cultural Resources within 0.25-mi of API**

P-Number	Trinomial	Description	Previous NRHP/CRHR Recommendations
P-07-000014	CA-CCO-691H	Collapsed residential structure and homestead features, c. 1911	6Z (Unevaluated)

### **Native American Heritage Commission Sacred Lands File Search**

On July 6 2023, at Stantec's request, the NAHC performed a search of its Sacred Land Files to see if any resources had been added since the 2022 HE EIR. The search came back negative for tribal cultural properties in the project area, but did include a list of tribal contacts who may have more information.

### **CONCLUSIONS**

The purpose of the Addendum is to analyze the environmental impacts of the proposed modified project, determine if any new significant impacts would occur or if previously identified impacts would become substantially more severe due to the changes, and conclude whether subsequent environmental review is necessary. The desktop review, comprising a review of historic imagery and cultural resources databases, indicates that there are no known cultural or historical resources within the API. Historical development of the API included use as an orchard and farmstead, but both were removed prior to 2009. This represents a changed condition from the 1995 Lone Tree Specific Plan EIR, at which point the farm and orchard were still present on site. However, as those elements were not recorded or documented as historical resources, the finding of no significant impact remains unchanged. This memo report is intended to document present conditions of the API and does not offer recommendations or evaluations of any potentially unrecorded resources within the API.

Please don't hesitate to contact me at 707-815-9939 or via email at [jenna.santy@stantec.com](mailto:jenna.santy@stantec.com) with further questions.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**



**Jenna Santy** Ph.D., RPA  
Archaeologist  
Phone: 707-815-9939  
[jenna.santy@stantec.com](mailto:jenna.santy@stantec.com)

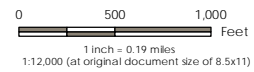
Attachment: Project Area Map





API (18.74 acres)

**Location**  
 USGS 7.5-minute Topo Quad: Brentwood  
 T. 2N R. 2E S. 35



Project Location  
 Solano County, CA

Prepared by PG on 2023-07-21  
 Technical Review by JS on 2023-07-21

Client/Project  
 City of Antioch  
 Laurel Ranch Townhomes Project

Figure No.

Title  
 Area of Potential Impact (API)

Notes:  
 1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet  
 2. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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**Appendix C**  
**Geotechnical Investigation**  
**Reports**

DESIGN LEVEL GEOTECHNICAL INVESTIGATION  
LAUREL RANCH - SUBDIVISION 8741  
ANTIOCH, CALIFORNIA

For

RICHLAND COMMUNITIES

August 8, 2019

Job No. 4021.100

DESIGN LEVEL GEOTECHNICAL INVESTIGATION  
LAUREL RANCH  
ANTIOCH, CALIFORNIA

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- Plate 1 – Vicinity Map
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- Plate 4 – Bench Key Detail

**APPENDICES**

- Appendix A – Boring Logs
- Appendix B – Test Pit Logs

**Via E-Mail**

August 8, 2019  
Job No. 4021.100

**BERLOGAR  
STEVENS &  
ASSOCIATES**

Mr. Kyle Masters  
Richland Communities  
3161 Michelson Drive, Suite 425  
Irvine, California 92612

Subject: Design Level Geotechnical Investigation  
Laurel Ranch  
Antioch, California

Dear Mr. Masters:

Berlogar Stevens & Associates (BSA) is pleased to submit this report documenting our Design Level Geotechnical Investigation for the Laurel Ranch Residential Development in Antioch, California. The scope of this investigation, our geotechnical engineering conclusions regarding the soils, groundwater and geologic conditions at the site, and our recommendations related to site grading, underground utilities, and pavements are presented below. The site is located as shown on Plate 1, Vicinity Map.

## **1. PROJECT UNDERSTANDING**

The proposed project consists of 91 single-family detached residences. Proposed grading includes a large fill in the valley at the center of the site and extends to the northeast in the area of the Highway 4 By-Pass. Max fill depths are up to about 40 feet. The majority of the fill will be generated from the large cut (up to about 70 feet) on the southern portion of the site in the future Commercial Area. North of the residential portion (south of the Diablo Water District water tanks) there is an approximately 90-foot high 3 Horizontal to 1 Vertical (3H:1V) cut slope. An approximately 45-foot tall fill slope with gradients ranging between 2H:1V to 3H:1V is located on the northeastern portion of the project adjacent to the Highway 4 By-Pass. Two temporary 3H:1V cut slopes are located on the Park Ridge property located south of this project. The temporary cut slopes are up to approximately 30 and 40 feet high. Proposed retaining walls range in height from 2 to 12 ½ feet.

## **2. PURPOSE AND SCOPE OF SERVICES**

The purpose of this investigation was to explore and evaluate site soil and groundwater conditions, geologic hazards, and to develop geotechnical design and construction recommendations for use in the design and construction of the rough grading of the site, and the foundation, retaining wall and pavement aspects of the residential portion of the project.

The scope of services performed was in general accordance with our proposal of July 18, 2018, and included the following tasks:

- Review of readily available published geologic maps relating to the site and vicinity,
- Review of the following documents for the proposed development:
  - Final Development Plan Vesting Tentative Map titled “Laurel Ranch” by dk Consulting, Inc., dated June 2015.
  - Geotechnical Investigation report for Laurel Ranch by Terrasearch, Inc., dated June 24, 2004.
  - Remedial Grading Recommendations for Laurel Ranch by Terrasearch, Inc., dated September 14, 2006
- Site reconnaissance by a member of our engineering staff and an Engineering Geologist,
- Subsurface exploration,
- Geotechnical laboratory testing to assess the physical properties of selected soil samples,
- Engineering analysis of the geotechnical data, and
- Preparation of this report.

### 3. GEOLOGY

#### 3.1. GEOLOGIC SETTING

The site is situated in the Coast Range geomorphic province of California and is seismically dominated by the presence of the active San Andreas fault system. The San Andreas fault system is the general boundary between the northward moving Pacific Plate and the southward moving North American Plate. In the San Francisco Bay Area, relative plate movement is distributed across a complex system of generally strike-slip, right lateral parallel and sub-parallel faults, which include the San Andreas, Hayward and Calaveras faults, among others.

Regional geologic mapping by Graymer et al. (1994), Brabb et al. (1971), and Ham (1952) shows the vicinity of the site to be underlain by Tertiary age nonmarine and marine sedimentary deposits. Brabb et al. (1971) mapped most of the bedrock underlying the site as the Pliocene age (1.6 to 5.3 million years before present) Wolfskill Formation, which is composed of nonmarine sandstone, shale, conglomerate and minor tuff deposits. The southwestern corner of the site is mapped as the Miocene age (5.3 to 23.7 million years before present) Neroly Sandstone, which is composed of marine and nonmarine sandstone, with minor amounts of shale, siltstone and tuff. Bedrock structure mapped by Brabb, in general, dips to the northeast from 10 to 23 degrees. Regional landslide maps do not show any landslides on-site (Nilsen, 1972).

## **4. SITE INVESTIGATION**

### **4.1. FIELD EXPLORATION**

Field exploration for this investigation consisted of Subsurface exploration consisted of drilling an exploratory boring and excavating eleven exploratory test pits with an excavator. A drilling permit was obtained from Contra Costa County Environmental Health Department prior to the start of drilling.

The boring was drilled at the proposed deep cut on April 4, 2019 to a depth of 80 feet using a truck mounted Failing 1500 rotary-wash drill rig. Sampling consisted of using Modified-California (Mod-Cal) and Standard Penetration (SPT) samplers driven by a 140 pound weight with 30 inch fall (automatic hammer). The surficial soils encountered in the boring were visually classified in accordance with the Unified Soil Classification System (USCS) and a log was recorded. The boring hole was grouted upon completion.

On April 17, 2019, eleven exploratory test pits were excavated to depths of between 2 and 10 feet below the ground surface using an excavator. The surface and near-surface soils exposed in the test pits were classified in accordance with the USCS by a State of California Certified Engineering Geologist (CEG) and logs were recorded. Where geologic contacts were exposed in the test pits, the strike and dip of the feature were recorded.

The Boring Log is presented in Appendix A and the Test Pit Logs are presented in Appendix B.

## **5. SITE CONDITIONS**

### **5.1. SURFACE CONDITIONS**

Topography at the site includes two knobs on the southern portion of the site, slopes from a former knob that was graded for water tanks (Diablo Water District) and a valley in the center of the site. Existing ground surface ranges from about 100 feet above mean sea level (MSL) to 240 feet above MSL. Natural slope gradients typically range from approximately 3 horizontal to 1 vertical (3H:1V) to 8H:1V. The site is vegetated with trees in the valley and grasses on the remainder of the site.

### **5.2. SUBSURFACE CONDITIONS**

Materials encountered in our boring consisted of about 3 feet of stiff silty clay overlying bedrock deposits. The silty clay was underlain by beds of claystone, siltstone and sandstone to the depth explored of 80 feet. The bedrock encountered was generally friable and highly weathered.

The surficial soils encountered in the test pits generally consisted of about 3 to 5 feet of stiff silty and sandy clays. The clays were underlain by highly weathered and highly friable bedrock. The predominant bedrock encountered was sandstone. Claystone was encountered in test pits TP-2,

TP-5 and TP-6 at depths of about 4 ½, 4 ½ and 3 feet, respectively. We encountered about 5 feet of stiff to very stiff silty clay fill underlain by colluvial deposits consisting of medium stiff to stiff sandy clay to medium dense clayey sand to the depth explored of 14 feet in Test Pit TP-7. Silty clay, with carbonate nodules present below a depth of about 7 feet, was present to the depth exposed of 10 feet at Test Pit TP-8. Bedrock consisting of sandstone to siltstone was present beginning at the ground surface at Test Pit TP-9. The materials were found to be highly weathered.

Groundwater was not encountered in our boring or test pits. The boring was drilled using rotary-wash (also referred to as mud-rotary) drilling which precluded determination of the presence or absence of groundwater in the boring. The California Geological Survey (CGS) Seismic Hazard Zone Report for the Brentwood Quadrangle identifies site historic high groundwater level at depths exceeding 40 feet in the low-lying portion of the site.

### **5.3. LABORATORY TESTING**

Laboratory testing consisted of performing single point consolidation tests on remolded samples collected during our field exploration. The tests were conducted by molding the samples to the specified compaction and moisture requirements, loading to the specified load, inundating the sample and recording the change in volume. The test results are presented in the table below:

<b>Sample #</b>	<b>Percent Relative Compaction</b>	<b>Moisture Content Above Optimum Moisture Content</b>	<b>Load</b>	<b>Percent Consolidation</b>
1	87	5	1,250 psf	0.78
2	90	5	2,500 psf	1.43
3	95	3	3,750 psf	2.71

## **6. GEOLOGIC HAZARDS**

### **6.1. SURFACE FAULT GROUND RUPTURE**

We have reviewed the Alquist-Priolo Earthquake Fault Zone maps issued by the California Geological Survey (formerly the California Division of Mines and Geology). These maps were issued in response to the Alquist-Priolo Act. The site is not located within a designated State of California Alquist-Priolo Earthquake Fault Zone for active faults. According to the California Geological Survey (CGS), no known fault traces cross the site.

The closest fault included in an Alquist-Priolo Earthquake Fault Zone is the Concord–Green Valley fault, located at a distance of about 14.1 miles to the southwest. It is our opinion that the potential for fault rupture at the site appears to be very low.

## **6.2. SEISMICITY AND SEISMIC GROUND SHAKING**

The site is located at approximately 37.9781 degrees north latitude and 121.7483 degrees west longitude. Based on current practices, the peak ground acceleration – geometric mean (PGAM), obtained using an on-line tool provided by the Structural Engineers Association of California (SEAOC) and the Office of Statewide Health Planning and Development (OSHPD) (<https://seismicmaps.org/> link available on the U.S. Geological Survey Earthquake Hazards Program website) is 0.5 g.

## **6.3. SEISMIC HAZARDS**

Seismic Hazard Zone Maps are produced by the California Geologic Survey. The site is located outside of areas of required investigation for liquefaction and seismically induced landsliding. Based on the shallow bedrock encountered in our boring and test pits, it is our opinion that the potential for liquefaction is low at the site. We did not observe evidence of existing landslides at the site.

## **7. CONCLUSIONS AND RECOMMENDATIONS**

### **7.1. GENERAL**

Based on the information collected during this investigation and the results of our analyses, it is our opinion that proposed development is feasible from a geotechnical engineering perspective, provided that the recommendations in this geotechnical investigation are incorporated into the project design and construction.

### **7.2. SITE PREPARATION AND GRADING**

1. Areas to be graded should be cleared and stripped of all vegetation. Strippings should be stockpiled and reused as topsoil. Alternatively, strippings may be placed within engineered fill if it is blended at a ratio of no more than 1 part stripping to 10 parts clean soil. Existing structures including building foundations and septic systems should be removed. Any wells should be properly abandoned according to Contra Costa County guidelines.
2. The portion of the loose test pit backfill not removed by design cut should be overexcavated and replaced with engineered fill.
3. In the swale areas to receive fill, the upper 2 to 3 feet of colluvium along the centerline (about 20 feet wide) of the swale should be removed. Where colluvial soils underlie major fill slopes and the existing ground surface is 7H:1V or steeper, the upper about 3 to 4 feet of colluvial soils should be removed by benching to firm soils as determined in the field by the soil engineer.

4. Along cut/fill transition lines, the residual soils and colluvium should be removed to at least 10 feet below finished grade, and replaced with engineered fill.
5. Zones of soft or saturated soils may be encountered during excavation and compaction; therefore, deeper excavation may be required to expose firm soil. This need for deeper excavation in localized areas should be determined in the field by the soil engineer.
6. The exposed surface in fill areas should be scarified to a minimum depth of 12 inches. The scarified materials should be properly moisture-conditioned and recompacted as follows:

Within 20 feet of finished grade	85 to 90 percent relative compaction at not less than 5 percent above optimum moisture content
Greater than 20 feet below finished grade	At least 90 percent relative compaction at not less than 5 percent above optimum moisture content

Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same soil as determined by the ASTM D1557 compaction test method. Optimum moisture is the water content (percentage by dry weight) corresponding to the maximum dry density.

7. The on-site earth materials are generally suitable for engineered fill and trench backfill, provided significant surface vegetation, debris and deleterious materials are removed.
8. All fill and backfill materials should be subject to evaluation by the soil engineer before use.
9. Fill should be placed in thin lifts (normally 8 to 12 inches thick), uniformly moisture conditioned and compacted in accordance with the criteria presented in the table below. To avoid over-compaction of on-site expansive materials, care should be taken during grading to minimize placement of thin lifts of expansive materials (less than about 8 inches). Modification of actual acceptable lift thicknesses should be based on demonstrated compaction performance during grading, which will depend on actual compaction equipment and methods used.

Within 20 feet of finished grade	85 to 90 percent relative compaction at not less than 5 percent above optimum moisture content
Greater than 20 feet below finished grade	At least 90 percent relative compaction at not less than 5 percent above optimum moisture content

Oversize material, fragments over about 8 inches in size should be placed at least 10 feet below finish grade and at least 2 feet below any future utilities or excavations, whichever is greater. Oversize material should be placed in a manner to prevent nesting and to allow for proper compaction.

10. Fill slopes should be overbuilt horizontally at least 5 foot horizontally and then cutback to design grade or track-walked to design grade to expose a firm and compacted surface.

11. Observations and soil density tests in fill should be performed during grading to assist the contractor in obtaining the required degree of compaction and proper moisture content. Where compaction and moisture content are outside our recommended ranges, additional compactive effort should be made with adjustment of the moisture content as necessary until the recommended requirements are obtained.
  
12. The soil engineer should be notified at least 48 hours prior to any grading operation. The procedures and methods of grading may then be discussed between the developer, contractor, and soil engineer. This can facilitate the performance of grading operations and minimize possible construction delays.

### **7.3. CUT SLOPES**

We recommend that cut slopes generally be constructed at slope gradients no steeper than 3H:1V. The stability of cut slopes in bedrock materials is largely dependent on the planned cut location and the orientation of the cut slope with respect to bedrock structure or other planes of geologic weakness. There is a potential for adverse bedding exposure in the cut slopes in the vicinity of Lots 26, 27, 30, 31, 33 and 34. We recommend that all cut slope exposures be carefully examined by an engineering geologist during grading for adverse bedding. Where adverse bedrock structure or other zones of geologic weakness are encountered in cut slopes during grading, we anticipate that remedial measures such as flattening the slope or construction of a slope buttress will be needed. For planning purposes, we recommend that a slope buttress be constructed with a keyway width of 20 feet and founded no less than 2 feet into competent bedrock as determined in the field by the soil engineer. The top of the buttress should have a minimum width of 20 feet.

### **7.4. FILL SLOPES**

The proposed fill slope on the northeastern portion of the site has slope gradients ranging between 3H:1V to 2H:1V. Where the slope is greater than 20 feet in height, there is a planned 8 foot wide bench and v-ditch. This slope can be built as planned provided it is constructed with select sandstone and sandy siltstone materials.

### **7.5. EXCAVATION CHARACTERISTICS**

Subsurface conditions encountered at the test pit and boring location as well as our experience in the area suggest that the on-site earth materials can generally be excavated to planned grades using conventional earth moving equipment. It is possible that isolated zones of hard bedrock may be encountered and oversized rock fragments may be generated from these areas.



## **7.6. CUT LOTS**

Cut lots exposing claystone beds will require remedial treatment to reduce the potential for differential swell. The claystone where present should be overexcavated 10 feet below pad grade and backfilled with engineered fill. Placement location of overexcavated claystone should be reviewed by the Geotechnical Engineer prior to placement.

## **7.7. CUT/FILL TRANSITION**

Where cut/fill transitions are situated across lots, the cut side of the lot should be overexcavated a depth of 3 feet and backfilled with engineered fill. The overexcavation should extend at least 5 feet beyond the building footprint.

## **7.8. EROSION PROTECTION**

All cut and fill slopes should be planted with deep-rooted, fast growing vegetation before the first winter to reduce erosion. On a preliminary basis, some irrigation of slopes could be performed; however, specific details regarding irrigation systems, locations and discharge should be reviewed by this office.

## **7.9. UTILITY TRENCH LOCATION AND CONSTRUCTION**

### **7.9.1. Trenches Adjacent to Building Foundations**

To maintain the desired support for foundations, utility trenches running parallel or near-parallel to building foundations should be located away from the foundation such that the base of the trench excavation is located above an imaginary plane having an inclination of 1-1/2 horizontal to 1 vertical (1.5H:1V), extending downward from the bottom edge of the foundation toward the trench location. Where trench locations are restricted and must be in close proximity to foundations, footings or slab edges located adjacent to utility trenches should be deepened during the design of the project as necessary so that their bearing surfaces are below an imaginary plane having an inclination of 1.5H:1V, extending upward from the bottom edge of the adjacent utility trench. As an option to the use of a deepened foundation, the trench can be backfilled with controlled low strength material (CLSM) (sand-cement slurry).

### **7.9.2. Excavation**

All excavations should conform to applicable State and Federal industrial safety requirements. Safety in and around utility trenches is the responsibility of the general and underground contractors. Where necessary, trench excavations should be shored in accordance with current CAL-OSHA requirements.

The walls of trenches extending into the clayey soils will likely stand in vertical cuts in the upper 4 to 5 feet with appropriate shoring, provided proper moisture content in the soils is maintained and that the trench walls are not subjected to vibration or surcharge loads above the excavation. Where weaker soils or granular soils are encountered in the upper 4 to 5 feet of the site or trenches will extend deeper than 5 feet, trench sidewalls should be shored or should be sloped no steeper than 1H:1V in stiff cohesive soil, no steeper than 1.5H:1V in moist granular soils and no steeper than 2H:1V in dry granular soils. Flatter trench slopes may be required if seepage is encountered during construction or if exposed soil conditions differ from those encountered in our borings. Heavy construction equipment, building materials, excavated soil, and vehicular traffic should not be allowed within 5 feet of the top (edge) of the excavation.

### **7.9.3. Backfill**

Materials type and placement procedures and relative compaction for utility bedding and shading materials should meet local agency and/or other applicable utility providers' requirements. Where not otherwise precluded by the local agency or utility company that will be responsible for the trenches after project completion, from a geotechnical perspective, utility trench backfill above the bedding and shading materials may consist of on-site soils that have been processed to remove rock fragments over 4 inches in largest dimension, rubbish, vegetation and other undesirable substances.

Backfill materials should be placed in level lifts about 4 to 12 inches in loose thickness, moisture conditioned and mechanically compacted. Lift thickness will be a function of the type of compaction equipment in use. Thinner lifts (4- to 6-inch lifts) will be required for manually operated equipment, such as wackers or vibratory plates, and thicker lifts possible where a sheepsfoot wheel is used on the stick of an excavator. Jetting should not be used for densification of backfill on this project.

Trench backfill consisting of on-site or imported fine-grained soil (clays and silts) should be moisture conditioned to between 3 and 5 percent (percentage points) above the optimum moisture content and compacted to at least 90 percent relative compaction. Where sand or granular material is used as backfill, it should be moisture conditioned to slightly above the optimum moisture content and compacted to at least 93 percent relative compaction. The upper 12 inches of trench backfill for trenches located in pavement areas should be compacted to at least 95 percent relative compaction.

### **7.10. POST-TENSIONED SLAB FOUNDATIONS**

Due to the proposed grading with large cuts and fills and the presence of expansive soils, Post-Tensioned (PT) slab foundation recommendations should be provided for the proposed homes after completion of grading. Samples in the upper 10 feet of building pads should be collected and Atterberg Limits testing and hydrometers should be performed to develop design criteria.

Based on our experience in the area, we anticipate the PT slab foundations will be approximately 11 to 12 inches thick.

**7.11. SEISMIC DESIGN PARAMETERS**

We are providing the following 2016 California Building Code seismic design criteria for the site using the SEAOC/OSHPD Seismic Design Maps Tool:

2016 California Building Code	
Latitude (Degrees North)	37.9781
Longitude (Degrees West)	-121.7483
Risk Category	I/II/III
Peak Ground Acceleration (PGA)	0.5
Mapped Spectral Acceleration for Short Periods, S <sub>s</sub>	1.5
Mapped Spectral Acceleration for 1-Second Period, S <sub>1</sub>	0.527
Site Class	C
Site Coefficient F <sub>a</sub> (for Site Class C)	1.0
Site Coefficient F <sub>v</sub> (for Site Class C)	1.3
Acceleration Parameter S <sub>MS</sub> (adjusted for Site Class C)	1.5
Acceleration Parameter, S <sub>M1</sub> (adjusted for Site Class C)	0.685
Acceleration Parameter, S <sub>DS</sub> (adjusted for Site Class C)	1.0
Acceleration Parameter, S <sub>D1</sub> (adjusted for Site Class C)	0.457
Seismic Design Category	D

**7.12. RETAINING WALLS**

**7.12.1. Retaining Wall Foundations**

Structures can be supported on shallow strip and isolated column foundations. The following are recommendations for shallow foundations.

<b>TABLE 1 Shallow Foundation Design Parameters</b>	
Allowable Bearing Capacity (DL + LL) (may be increased by one-third for seismic and wind loads at the discretion of the structural engineer)	2,000 psf
Allowable Passive Equivalent Fluid Pressure (neglect the upper foot)	350 pcf
Allowable Base Friction Coefficient *	0.3
Minimum Footing Depth of Embedment	2 feet

Footing excavations should be excavated into competent material. Footing excavations should be free of sidewall sloughing, loose soil and debris. It is recommended that the footing excavations be observed by the Geotechnical Engineer prior to placement of reinforcing steel in the footings. The footing bottom conditions can be evaluated at that time.

### 7.12.2. Retaining Walls

The following active lateral earth pressures should be used in the design of retaining walls provided that the retaining walls are backfilled with material having a PI of 20 or less:

Active Lateral Earth Pressure (drained condition)	
Level backfill	50 pcf
3H:1V backfill	60 pcf
2H:1V backfill	80 pcf
Seismic Lateral Earth Pressure (walls retaining more than 6 feet)	15 pcf (in addition to active earth pressure)

### 7.13. CONCRETE FLATWORK

It is our opinion that, from a geotechnical engineering standpoint, exterior concrete slabs-on-grade, such as sidewalks, can be placed directly on the prepared subgrade. Deep, scored joints spaced no more than 6 feet apart should be considered to control shrinkage cracking. Where exterior concrete slabs-on-grade are planned, we generally recommended that all exterior slabs-on-grade (i.e. sidewalks) be cast free from adjacent footings or other edge restraint. Using a strip of ½-inch thick asphalt impregnated felt or other commercially available expansion joint material between the slab edges and the adjacent structure may accomplish this. Where there is a concern that a trip hazard could develop due to differential movement between the exterior slab-on-grade, curbs, or exterior slab on grade at doorways, tying the slab on grade to the curbs or foundations with rebar dowels is recommended.

### 7.14. PAVEMENT RECOMMENDATIONS

#### 7.14.1. Flexible Pavement – Asphalt Concrete

The following are recommended structural pavement sections. The pavement analyses are based upon an assumed R-value of 5 for the subgrade soil, the Caltrans Design Method for Flexible Pavement, and traffic indices (TI), which are indications of load frequency and intensity.

Traffic Index	AC (in)	Class 2 AB (in)	Total (in)
4.5	3	8	11
5	3	10	13
6	4	12	16
7	4	15	19

To achieve proper compaction of asphalt concrete placed against concrete gutters and valley gutters, as well as the interface at the truck dock apron and trailer dolly pads, and to reduce the potential that poorly compacted asphalt concrete pavement will drop below the concrete surface as the asphalt concrete is further compacted under the effects of vehicle traffic, the asphalt concrete should be placed such that the compacted surface is approximately 1/8-inch above the concrete

surface where the surface runoff will travel from the asphalt concrete pavement onto the concrete. If the paving machine screed is allowed to ride on the concrete valley gutter during asphalt concrete placement and the roller operator has the roller on the concrete during the compaction process, the asphalt concrete surface will appear to be compacted but will settle over time. This will result in water entering into the pavement structure, which can lead to accelerated pavement failure along the valley gutter.

#### **7.14.2. Pavement Area Subgrade And Aggregate Base**

Prior to subgrade preparation, utility trench backfill in the pavement areas should be properly placed and compacted as previously recommended. The top 12 inches of soils for pavement subgrade should be scarified, moisture conditioned and compacted to at least 95 percent relative compaction to provide a smooth, unyielding surface. The compacted subgrade should be non-yielding when proof-rolled with a loaded ten-wheel truck, such as a water truck or dump truck, prior to pavement construction. Subgrade soils should be maintained in a moist and compacted condition until covered with the complete pavement section.

Class 2 Aggregate Base should conform to the requirements found in Caltrans Standard Specifications Section 26. The aggregate base should be placed in thin lifts in a manner to prevent segregation, uniformly moisture conditioned, and compacted to at least 95 percent relative compaction to provide a smooth, unyielding surface.

#### **7.14.3. Pavement Edge Drains**

Pavement edge drains should be installed on the downhill side of cross-sloped and along both sides of crowned public streets. Recommendations for pavement edge drain locations for private streets should be provided after reviewing the project improvement plans. Pavement edge drains should be constructed under the curb and gutter as shown on Plate 4, Pavement Edge Drains.

### **7.15. CORROSION TESTING**

Due to the proposed grading with large cuts and fills, corrosion testing was not performed. Corrosion testing should be performed near completion of grading.

### **7.16. SURFACE DRAINAGE**

Surface water should not be allowed to collect on or adjacent to the structure or pavements. Final site grading should provide surface drainage away from structure, pavements and slabs-on-grade to reduce the percolation of water into the underlying soils adjacent to the foundation.

#### **7.17. BIORETENTION AREAS**

Bioretention swales and basins should be located at least 5 feet away from foundations, roadways and exterior concrete flatwork. Bioretention swales and basins in close proximity to foundations have the potential to undermine the foundation or cause a reduction in the soil bearing capacity. Bioretention swales and basins located in close proximity to roadways, parking lots and exterior concrete flatwork can result in settlement and/or cracking of these structures. Bioretention areas located within 5 feet of foundations, pavements or concrete flatwork should be constructed with structural side walls capable of withstanding the loads from the adjacent improvements. Precast units may be an expedient method of installing bioretention facilities that are capable of supporting roadways and parking lots. In addition, bioretention areas located within 5 feet of foundations should not be designed for infiltration; they should be fully lined.

### **8. ADDITIONAL GEOTECHNICAL ENGINEERING SERVICES**

Prior to construction, our firm should be provided the opportunity to review the grading and foundation plans and specifications to determine if the recommendations of this report have been implemented in those documents. We would appreciate the opportunity to meet with the contractors prior to the start of site grading, underground utility installation and pavement construction to discuss the procedures and methods of construction. This can facilitate the performance of the construction operation and minimize possible misunderstanding and construction delays.

To a degree, the performance of the proposed project is dependent on the procedures and quality of the construction. Therefore, we should provide observations of the contractor's procedures and the exposed soil conditions, and field and laboratory testing during site preparation and grading, placement and compaction of fill, retaining wall backfilling, underground utility backfill, and foundation and pavement construction. These observations will allow us to check the contractor's work for conformance with the intent of our recommendations and to observe any unanticipated soil conditions that could require modification of our recommendations.

The following additional work should be performed”

- Corrosion testing should be performed near or after completion of grading.
- Upper 10 feet of building pads should be sampled and laboratory testing performed to develop PT slab foundation design criteria.
- A Design Level Geotechnical Investigation should be performed for the Commercial Area.

## 9. LIMITATIONS

The conclusions and recommendations presented in this report are based upon the project information provided to us, information obtained from published geologic reports, subsurface conditions encountered at the boring and test pit locations and professional judgment. Site conditions described in this report are those existing at the times of our field explorations and are not necessarily representative of such conditions at other locations or times. The boring and test pit logs show subsurface conditions at the locations and on the dates indicated. It is not warranted that they are representative of such conditions elsewhere or at other times. The locations of the field explorations were estimated by pacing from existing surface features at the site; they should be considered approximate only.


The information provided herein was developed for use by Richland Communities for the project as described herein. In the event that changes in the nature, design or location of the proposed project are planned, if subsurface conditions differ from those described in this report, or revisions are made to the Building Code that are related to Geotechnical Engineering, the conclusions and recommendations in this report shall be considered invalid, unless the changes are reviewed and the conclusions and recommendations are confirmed or modified in writing by BSA. In light of this, there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that two years from the date of this report be considered a reasonable time for the usefulness of this report.

This geotechnical investigation has been conducted, and the opinions, conclusions and recommendations presented in this report were developed, in accordance with accepted geotechnical engineering practices that exist in the project area at the time this report was prepared. No warranty, expressed or implied, is offered, inferred or made, by or through our performance of professional services.

We trust that this report provides the information that you require at this time. If you have any questions, please contact the undersigned at (925) 484-0220.  
Respectfully submitted,

### BERLOGAR STEVENS & ASSOCIATES

*N Cardanini*  
Nicholas Cardanini  
Project Engineer  
C88765



*Frank Berlogar*  
Frank Berlogar  
RCE 20383



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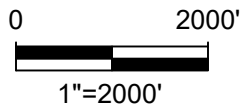
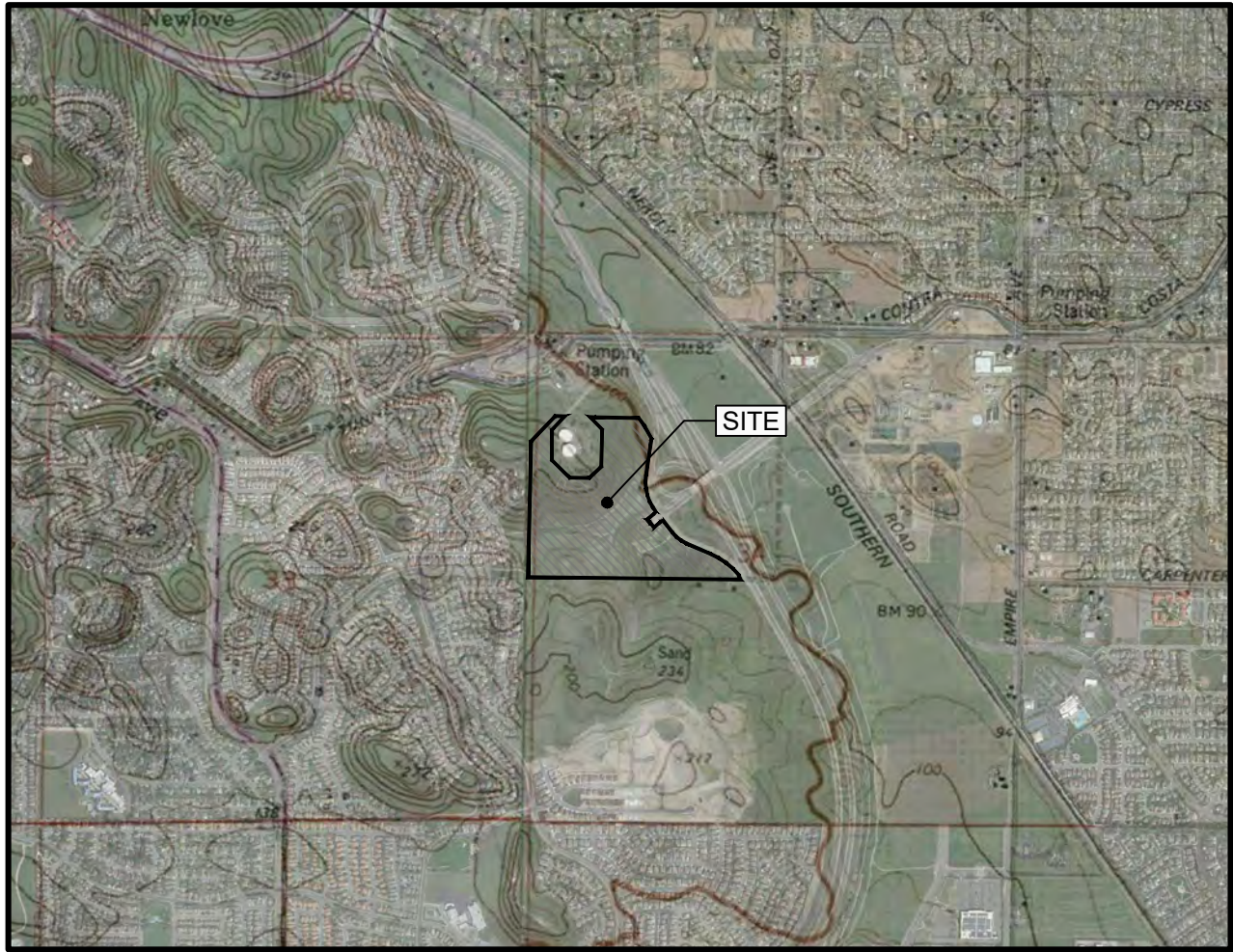
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# PLATES

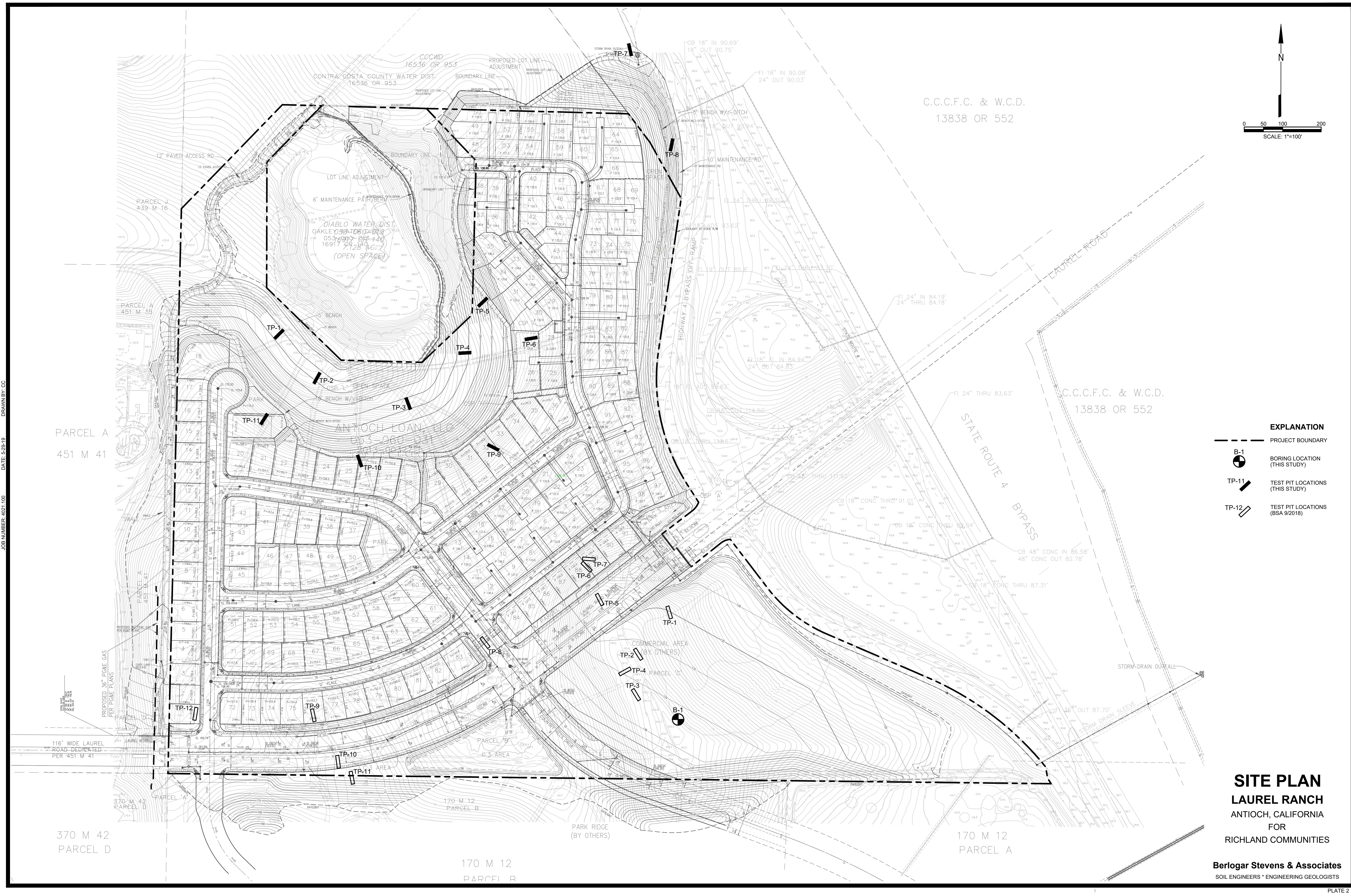
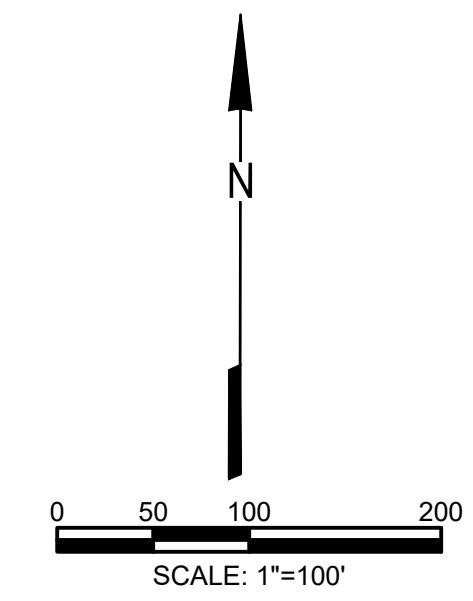




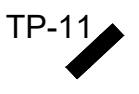
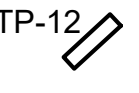
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**VICINITY MAP**  
**LAUREL RANCH**  
ANTIOCH, CALIFORNIA  
FOR  
RICHLAND COMMUNITIES





- EXPLANATION**
-  PROJECT BOUNDARY
  -  BORING LOCATION (THIS STUDY)
  -  TEST PIT LOCATIONS (THIS STUDY)
  -  TEST PIT LOCATIONS (BSA 9/2018)

**SITE PLAN**  
**LAUREL RANCH**  
ANTIOCH, CALIFORNIA  
FOR  
RICHLAND COMMUNITIES

**Berlogar Stevens & Associates**  
SOIL ENGINEERS \* ENGINEERING GEOLOGISTS

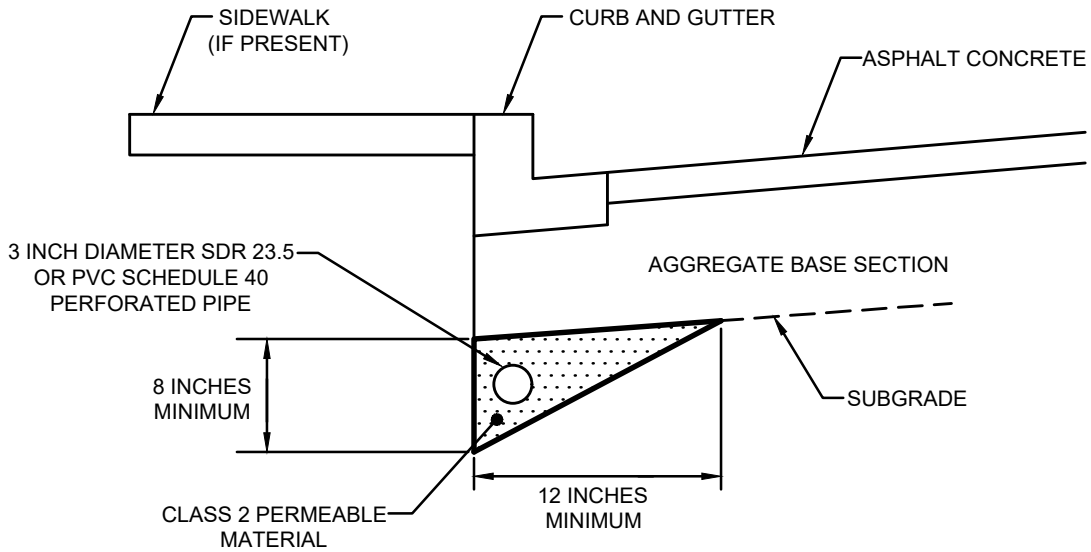
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370 M 42  
PARCEL D

170 M 12  
PARCEL B

170 M 12  
PARCEL A





**NOTES:**

1. PERFORATED PIPE TO BE SURROUNDED BY AT LEAST 2 INCHES OF CLASS 2 PERMEABLE MATERIAL.
2. PERFORATED PIPE TO DISCHARGE INTO CATCH BASIN/DRAIN INLET.
3. FOR CROWNED STREETS, PAVEMENT EDGE DRAIN TO BE INSTALLED ON BOTH SIDES OF STREET. FOR FIXED CROSS SLOPE STREETS, PAVEMENT EDGE DRAIN TO BE INSTALLED ON LOW SIDE OF STREET.

**SCALE N.T.S.**

**PAVEMENT EDGE DRAIN**

# **APPENDIX A**

Boring Logs

**Berlogar Stevens & Associates**  
**5587 Sunol Boulevard**  
**Pleasanton, CA 94566**

**BORING NUMBER B-1**

PAGE 1 OF 4

CLIENT Richland Communities PROJECT NAME Laurel Ranch  
 PROJECT NUMBER 4021.100 PROJECT LOCATION Antioch, CA  
 DATE STARTED 4/4/19 COMPLETED 4/4/19 GROUND ELEVATION 200 ft LOGGED BY ROV  
 DRILLING CONTRACTOR Pitcher Drilling GROUNDWATER: **No Groundwater Encountered**  
 DRILLING EQUIPMENT Failing 1500 Rotary Wash  
 HAMMER Drive Weight 140 (lb) Height of Fall 30 (In.) Automatic  
 NOTES \_\_\_\_\_



Modified California Sampler



Standard Penetration Test

USCS	MATERIAL DESCRIPTION	ELEVATION (ft)	DEPTH (ft)	SAMPLER	BLOW COUNT	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTICITY INDEX	FINES CONTENT PASSING #200
CL	SILTY CLAY, gray-brown, moist, stiff, trace fine-grained sand	200	0							
					37					
	SANDY SILTSTONE, light gray-brown, friable, highly weathered, fine-grained sand, caliche stains									
		195	5		60-6					
	SILTY CLAYSTONE, light gray-brown, friable, highly weathered, trace fine-grained sand									
		190	10		77					
	SILTY SANDSTONE, light gray-brown, friable, highly weathered, fine-grained sand									
	CLAYEY SANDSTONE, light to medium gray-brown, friable, highly weathered, fine-to medium-grained sand, trace silt between 13 and 14-1/2 feet, harder sandstone									
		185	15		50-6					
	SANDY SILTSTONE, light gray-brown, friable, highly weathered, fine-grained sand									
	CLAYSTONE, light gray-brown, friable, highly weathered									
		180	20							

\*\*BERLOGAR NO GROUNDWATER (2018) - GINT STD US.GDT - 6/11/19 15:29 - S:\PROJECTS\4021.100\BORINGS 4021.100.GPJ

(Continued Next Page)

**Berlogar Stevens & Associates**  
**5587 Sunol Boulevard**  
**Pleasanton, CA 94566**

**BORING NUMBER B-1**

PAGE 2 OF 4

CLIENT Richland Communities

PROJECT NAME Laurel Ranch

PROJECT NUMBER 4021.100






PROJECT LOCATION Antioch, CA

USCS	MATERIAL DESCRIPTION	ELEVATION	DEPTH	SAMPLER	BLOW COUNT	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTICITY INDEX	FINES CONTENT PASSING #200
		(ft)	(ft)							
	CLAYSTONE, light gray-brown, friable, highly weathered <i>(continued)</i>	180	20		50-6					
	SILTY SANDSTONE, light gray-brown, friable, highly weathered, fine-grained sand									
	SILTSTONE, light to medium gray-brown, friable, highly weathered, trace fine-grained sand	175	25		50-6					
	CLAYSTONE, light gray-brown, friable, highly weathered									
	SANDSTONE, medium to dark gray-brown, friable, moderately weathered, fine-to medium-grained sand some loss of water below 28 feet, much harder drilling	170	30		50-90					
	SILTY SANDSTONE, light gray-brown, friable, highly weathered, fine-grained sand, trace clay	165	35		61					
	CLAYEY SILTSTONE, light gray-brown, friable, highly weathered, trace fine-grained sand	160	40		71					

\*\*BERLOGAR NO GROUNDWATER (2018) - GINT STD US.GDT - 6/11/19 15:29 - S:\PROJECTS\4021.100\BORINGS 4021.100.GPJ

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CLIENT Richland Communities PROJECT NAME Laurel Ranch  
 PROJECT NUMBER 4021.100 PROJECT LOCATION Antioch, CA

USCS	MATERIAL DESCRIPTION	ELEVATION (ft)	DEPTH (ft)	SAMPLER	BLOW COUNT	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTICITY INDEX	FINES CONTENT PASSING #200
	CLAYEY SILTSTONE, light gray-brown, friable, highly weathered, trace fine-grained sand <i>(continued)</i>	155	45		66-6					
	SILTY SANDSTONE, light to medium gray-brown, friable, moderately weathered	150	50		50-6					
	SILTY SANDSTONE, light to medium gray-brown, friable, highly weathered, fine-grained sand, trace clay	145	55		60-6					
	SILTY SANDSTONE, light to medium gray-brown, friable, highly weathered, fine-grained sand, trace clay	140	60		50-6					
		135	65		60-6					




\*\*BERLOGAR NO GROUNDWATER (2018) - GINT STD US.GDT - 6/11/19 15:29 - S:\PROJECTS\4021.100\BORINGS 4021.100.GPJ

CLIENT Richland Communities

PROJECT NAME Laurel Ranch

PROJECT NUMBER 4021.100

PROJECT LOCATION Antioch, CA

USCS	MATERIAL DESCRIPTION	ELEVATION (ft)	DEPTH (ft)	SAMPLER	BLOW COUNT	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTICITY INDEX	FINES CONTENT PASSING #200
	SILTY SANDSTONE, light to medium gray-brown, friable, highly weathered, fine-grained sand, trace clay <i>(continued)</i>	130	70							
	SANDSTONE, light to medium gray-brown, friable, highly weathered, fine-grained sand, trace silt				98					
	SANDSTONE, light to medium gray-brown, friable, highly weathered, fine-grained sand, trace silt	125	75							
	SANDSTONE, light to medium gray-brown, friable, highly weathered, fine-grained sand, trace silt				50-6					
	SILTY SANDSTONE, light to medium gray-brown, friable, highly weathered, fine-grained sand				72-6					
		120	80							

Bottom of borehole at 80.0 feet.

\*\*BERLOGAR NO GROUNDWATER (2018) - GINT STD US.GDT - 6/11/19 15:29 - S:\PROJECTS\4021.100\BORINGS 4021.100.GPJ



# **APPENDIX B**

Test Pit Logs

Test Pit Logs 4/17/19

TP-1

- 0.0' – 2.0' Sandy Clay, dark yellow-brown, moist, medium stiff, fine-grained sand
- 2.0' – 6.0' Sandstone, fine-grained, light gray, highly weathered, weak, highly fractured,  
carbonate coated joints,  
Bedding N40W 28N

TP-2

- 0.0' – 3.0' Sandy Clay, dark yellow-brown, moist, medium stiff, fine-grained sand
- 3.0' – 4.5' Sandstone, fine-grained, light olive-gray, highly weathered, weak, highly  
fractured  
Bedding N50W 24N
- 4.5' – 6.0' Claystone, olive, highly weathered, friable, crushed

TP-3

- 0.0' – 1.5' Sandy Clay, yellow-brown, moist, medium stiff, fine-grained sand
- 1.5' – 5.0' Sandstone, fine-grained, light gray, highly fractured with carbonate coated joints

TP-4

- 0.0' – 5.0' Sandy clay, dark yellow-brown, moist, medium stiff to stiff, fine-grained sand
- 5.0' – 8.0' Silty Clay, tan-brown to yellow-brown, moist, stiff, trace carbonate modules
- 8.0' – 10.0' Siltstone, tan to olive-brown, highly weathered, weak, crushed

TP-5

- 0.0' – 4.5' Silty Clay, dark brown, moist, stiff
- 4.5' – 7.0' Claystone, olive-gray, highly weathered, friable, crushed

TP-6

0.0' – 3.0' Silty Clay, dark brown, moist, stiff  
3.0' – 5.0' Claystone, olive-gray, highly weathered, friable, crushed  
5.0' – 8.0' Sandstone, fine-grained, orange-brown, highly weathered, weak  
Bedding N60W 25N

TP-7

0.0' – 5.0' Silty Clay, brown, tan and black, moist, stiff to very stiff, 6-10" layers (FILL)  
5.0' – 14.0' Sandy Clay/Clayey Sand, medium stiff to stiff (medium dense), moist, fine-grained sand (Qal)

TP-8

0.0' – 4.5' Silty Clay, dark yellow-brown, moist, stiff  
4.5' – 10.0' Silty Clay, tan-brown, moist, stiff to very stiff, carbonate modules below 7 feet

TP-9

0.0' – 0.5' Sandstone, fine-grained, gray, highly weathered, strong  
0.5' – 2.0' Siltstone, olive-brown, highly weathered, weak, highly fractured  
Bedding N60W 28N

# QUANTUM GEOTECHNICAL INC.

Project No. J053.G  
September 27, 2022

Mr. Charles McKeag  
Seven West Capital  
812 Pollard Road, Suite 7  
Los Gatos, CA 95032

**Subject:** Proposed Residential Development  
Laurel Ranch  
Country Hills Drive  
Antioch, California  
**GEOTECHNICAL FEASIBILITY EVALUATION**

References: see attached

Dear Mr. McKeag,

At your request, we have reviewed the referenced materials and performed a site reconnaissance at the subject site to evaluate geotechnical conditions and provide a preliminary feasibility evaluation. The purpose of this evaluation is to identify any geotechnical concerns as part of your due diligence process.

## **PROJECT DESCRIPTION**

It is our understanding that the proposed project consists of developing the site for the construction of multi-family residential townhome development. The project layout is still conceptual, however, based on a review of an Earthwork Exhibit, the project consists of 41 townhome buildings, a clubhouse, associated interior roads, parking areas and four bio-retention basins. Planned grading is anticipated to consist of cuts and fills of the order of 8 to 10 feet.

It is our understanding that the majority of the subject site was graded as part of the Park Ridge Phase 3 (PRP3) project, including the construction of Country Hill Drive, with the north western part graded as part of the Laurel Ranch development across the north west side of Laurel Road.

## **SITE DESCRIPTION**

The site is located in the south eastern part of Antioch, California. The site forms a triangle shaped area of approximately 18 acres that is bounded by Highway 4 to the east, the Laurel Road interchange to the north and Country Hills Drive to the southwest. The site is divided into two parcels, the northern parcel will be referred to as the Richland site, and the southern parcel will be referred to as the Delizia Ranch site.

Topographically, the site has a moderate slope to the north east, and then slopes down at approximately 3:1 (horizontal to vertical) for a distance before it flattens out to a moderate slope to the edge of Highway 4. The site is vacant, however, the north western part of the site is currently being used as a construction staging area. The surface of the site has areas of bare ground and areas of short to medium height dried weeds. In many areas, ground shrinkage cracks were observed. There are some previously installed stormwater and erosion control products on parts of the site.

## **GEOLOGIC SETTING**

The site is located in the tectonically active Coast Ranges geomorphic province of California and is seismically dominated by faults of the San Andreas System. The San Andreas fault system forms the boundary between the northward moving Pacific Plate and the southward moving North American Plate. In the San Francisco Bay Area tectonic stresses are accommodated by a complex system of related parallel and subparallel faults displaying strike slip, right lateral and oblique motions. These faults include the San Andreas, Hayward, Rodgers Creek, and Calaveras faults. The project site is located 2.4 km east of the Antioch Fault, 23 km northeast of the Concord-Green Valley Fault, 43 km northeast of the Hayward Fault, 65 km southeast of the Rodgers Creek Fault, and 73 km northeast of the San Andreas Fault.

According to regional Geologic Mapping by Graymer and others (1994) the site vicinity is underlain by Pleistocene-age Tulare Formation (Ttu), while earlier maps by Brabb and others (1971), and Ham (1952) show Pliocene-age Wolfskill Formation. The Pliocene-age formation consists of non-marine sandstone, shale, conglomerate and minor tuff deposits. The Pleistocene-age Tulare Formation consists of younger, relatively unconsolidated deposits of clay, silt, sand and gravel. According to Brabb the bedrock structure generally dips to the northeast from 10 to 23

degrees. Berlogar Stevens and Associates (BSA) (2019) geotechnical report for the adjoining Laurel Ranch Subdivision concluded bedrock underlies the site that would correspond to the Wolfskill Formation. They also reviewed landslide maps, including Nilsen (1994) and determined there were no mapped landslides crossing the site.

### **SITE GRADING HISTORY**

The site has undergone extensive grading activities, related to the construction of the Parl Ridge Phase 3 (PRP3) project on the southwest side of Country Hills Drive and the Laurel Ranch project north of the site. As part of the PRP3 development, construction of Country Hills Drive and associated improvements was performed. Based on a review of the BSA Geotechnical Observations and Testing Report dated April 21, 2020, the included As-built Keyway and Subdrain Plan, and the Grading Plan for Country Hills Drive by dk Engineering, dated 6/14/19, a summary of the grading work performed on site is as follows. It is noted that construction of Country Hills Drive extended beyond the subject site further to the southeast. The summary discussion below relates to the extent of work performed on the subject site.

- 1) *Grading included cuts and fills up to 12 feet deep on the Delizia Ranch site. It appears the entire Richland site consisted of cuts of up to 20 feet on the Richland site. No records of fill are known or provided.*
- 2) *A keyway for the fill slope along the north eastern slope within the Delizia Ranch site was constructed at the slope cut/fill line. The keyway extended at least 6 feet into competent materials and was 30 feet wide. Subdrains were constructed within the keyways. The depiction of keyways and subdrains are shown on the attached As Built Keyway and Subdrain Plan by BSA.*
- 3) *BSA provided observation and testing during the fill placement and confirmed that all fill deeper than 20 feet in thickness were compacted to at least 90% relative compaction at no less than 5% of optimum moisture content, and for fills shallower than 20 feet were compacted to between 85 to 90% relative compaction at not less than 5% over optimum moisture content. The fill material was generally a highly expansive clay soil.*
- 4) *The grading plan indicates cut/fill lines at final pad grade. There was no mention if the cut/fill line was remediated or not.*

- 5) *The elevations of tests in the BSA report did not match up with the elevations of the grading plans. There are no notes as to what datum was used by BSA, and therefore it is unknown at what elevation the final lift of testing was performed relative to the current grade. Discussions with Mr. Frank Berlogar of BSA, did not provide any additional clarification to comments other than it was his expectation that the grading was performed to the grades indicated on the dk Engineering plans.*
- 6) *Site survey was performed on the Richland parcel in May 2022, and for the Delizia Ranch parcel in September 2022. The survey work confirmed that the Richland parcel underwent cut, and the Delizia parcel has remained essentially the same grade since the completion of grading in late 2019, with what appears to be some minor cutting to create a earth ditch along the top of slope, and the cut soil mounded on the south west side of the ditch.*

## **SUBSURFACE CONDITIONS**

### Previous Geotechnical Investigation

BSA (2019) geotechnical investigation report was performed for Richland Communities and included the north parcel and the land north and west of Laurel Road. Development overlapped the current project site. In their report they identified a knob of hill on the northern parcel where the existing ground surface ranged from about 100 feet near Highway 4 to about 210 feet on top of the knob located about 350 feet east of the current intersection of Laurel Road and Country Hills Drive. The southern portion of the existing site (Delizia Ranch) was not investigated by BSA, but a soils boring was completed on the northern portion of the site, Boring B-1. This boring identified three feet of silty clay soils overlying highly weathered and friable sedimentary rocks consisting of siltstone, claystone and sandstone with predominantly moderately weathered sandstone encountered deeper than about 48.5 feet that continued to the bottom explored depth of approximately 80 feet (elev. +120 ft). In addition, test pits excavated off the current north parcel, identified relatively shallow soils consisting of typically 2 to 10 feet of silty and sandy clay overlying sandstone, siltstone and claystone striking at 40 to 60 degrees westerly with a shallow northerly dip between about 24 to 28 degrees to the north.

## PRELIMINARY GEOTECHNICAL FEASIBILITY EVALUATION

Based on our research, review of available data, and site reconnaissance, development of the site appears feasible from a geotechnical viewpoint.

A summary of the main geotechnical features and planned design improvements of the site are as follows;

1. Grading of the Delizia Ranch site performed as part of the construction of Country Hills Drive, where fills have been placed are documented (BSA 2020) to have been performed in accordance with the standard geotechnical recommendations.
2. Based on our review, the extent of grading on the Richland parcel consisted of cuts up to 20 feet deep initially for the construction of Country Hills Drive and then additional cuts of up to 60 feet during construction of the Laurel Ranch project, with a small portion of the north east side ungraded.
3. Based on a review of the Earthwork Exhibit (2022) and the Conceptual Site Plan (2022), the planned grading will require approximately 80,000 cubic yards of fill to grade the site to design elevations. The grading will consist of essentially up to 14 feet of fill and some local areas of minor cut.
4. Currently, the site is underlain by highly expansive near surface clay soil within the Delizia Ranch site and variable bedrock of variable expansion potential on the Richland site. The expansive soil material is prone to heave and shrink movements with changes in moisture content and must be carefully considered in the design and construction of foundations and drainage. A post-tensioned slab foundation system is the most appropriate system for the planned development. The design thickness of the slabs will be determined based on the soil properties of the import fill material.
5. The previous grading had variable cuts and fills across the site including the likelihood of cut/fill lines, and possible excessive differential fill thicknesses that will cause differential settlements. The dk Engineering plan shows cut/fill lines within the Delizia Ranch site. The proposed fill grading presented on the Earthwork Exhibit, will mitigate the majority of the previous cut/fill areas, however two buildings will require subexcavation to a depth of 5 feet to mitigate differential fill thickness to an acceptable level. Along the south western side of the Richland parcel, the proposed grading will create a cut/fill line through seven buildings.



Mitigation in this area would generally consist of subexcavation of 2 feet in the cut area, ripping and recompacting the exposed subexcavated subgrade and then placing engineered fill of uniform soil type across the upper 2 feet of the pad. The Conceptual Site plan showing areas of subexcavation is attached.

6. On the Richland site, variable bedrock conditions may be present at current pad grade. This will create variable foundation performance across buildings and if present, will need to be mitigated. The planned grading will mitigate this condition.
7. Construction of bio-basins near the top of a slope is not desirable due to potential seepage and stability issues. We understand that the bio-basins will be constructed using retaining walls along the perimeter, and will contain a subdrain to discharge filtered water. This is acceptable, and the foundation depth of these walls adjacent the slope will need to be deepened depending on the actual condition. This will be evaluated during final design. We recommend that the base of the basins be lined with an impermeable liner to mitigate the possibility of water infiltrating into the underlying bedrock and seeping onto the slope to the east.

In addition, we recommend that a geotechnical investigation be performed to evaluate potential differential fill settlements, drainage, foundation design, and other pertinent geotechnical criteria for other planned improvements. The investigation work will consist of a combination of backhoe test pits and borings.

We trust these comments are sufficient for your purposes. Should you have any questions or require additional information, please contact our office at your convenience.

Sincerely,  
**Quantum Geotechnical, Inc.**



Simon Makdessi, P.E., G.E.  
President



Attachments: As Built Keyway and Subdrain Plan by BSA  
Conceptual Site Plan Showing Areas of Subexcavation

## REFERENCES

dk Engineering (2019), Improvement Plans, Country Hills Drive, From Sta 84+50 to Laurel Road, City of Antioch, California, Sheets, C1.00, C3.01, C4.00, C4.01, C4.02, June 14, 2019.

Berlogar Stevens & Associates (2019), Design Level Geotechnical Investigation, Laurel Ranch – Subdivision 8741, Antioch, California, Project No. 4021.100, August 8, 2019.

Berlogar Stevens & Associates (2020), Geotechnical Observation & Testing During Site Grading, Park Ridge Phase III (Subdivision 9517) Antioch, California, Project No. 2643.306, April 21, 2020.

Wood Rodgers (2022), Earthwork Exhibit, Laurel Road & Country Hills Development, Antioch, California, June 2022.

Wood Rodgers (2022), Conceptual Site Plan, Laurel Road & Country Hills Development, Antioch, California, June 2022.



EXPLANATION	
	PROJECT BOUNDARY
	PHASE III BOUNDARY
	AS-BUILT KEYWAY LOCATION
	AS-BUILT SUBDRAIN LOCATION WITH ELEVATIONS

# AS-BUILT KEYWAY AND SUBDRAIN PLAN

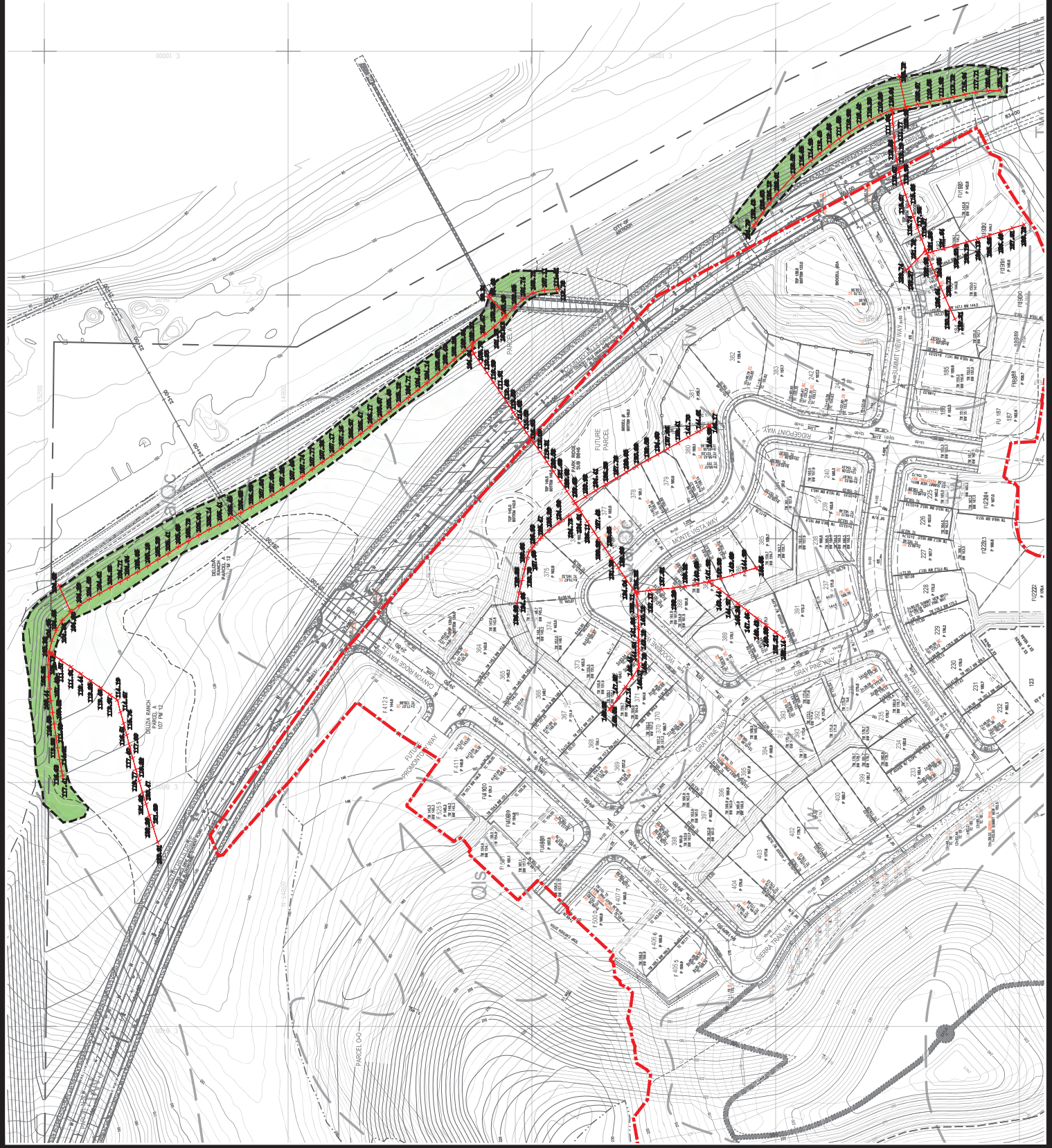
## PARK RIDGE PHASE III

### SUBDIVISION 9517

ANTIOCH, CALIFORNIA

FOR  
DAVIDON HOMES

**Berloger Stevens & Associates**  
SOIL ENGINEERS • ENGINEERING GEOLOGISTS





# CONCEPTUAL SITE PLAN

## LAUREL RD & COUNTRY HILLS DR DEVELOPMENT

ANTIOCH, CALIFORNIA

JUNE 2022

### SITE SUMMARY

BUILDINGS	TOTAL UNITS	TOTAL SQ. FT.	TOTAL BPD
6-PLEX (4 BPD + 2 BPD)	32	163	64
5-PLEX (5 BPD)	2	35	25
4-PLEX (4 BPD)	4	35	16
<b>TOTAL UNITS</b>	<b>233</b>	<b>64</b>	<b>109</b>

DENSITY  
 TOTAL UNITS 233  
 TOTAL SITE AREA 18.7 +/-  
 NET SITE AREA 14.1 +/-  
 NET DENSITY 16.5 DU  
 GROSS DENSITY 12.5 DU

\*NETS MEASUREMENT IS ON SLOPE AS SHOWN BY CONCEPTUAL GRADING ANALYSIS

### PARKING SUMMARY

PARKING REQUIREMENT PER CITY OF ANTIOCH ZONING CODE SECTION 9.5.108.1 OFF-STREET PARKING REQUIREMENTS  
 1. MINIMUM PER UNIT (ONE COVERED)  
 2. 1.5 SPACES/UNIT (ONE COVERED)  
 3. 2 SPACES/UNIT (ONE COVERED)  
 GUEST PARKING: 0.2 SPACES/UNIT  
**TOTAL PARKING REQUIRED UNDER ZONING CODE 480.6**

**PARKING PROVIDED**  
 2BD - 1 SPACE/UNIT (ONE COVERED) 64  
 3BD - 2 SPACES/UNIT (TWO COVERED) 338  
 GUEST PARKING 67  
**TOTAL PARKING PROVIDED 469**

PLAN TYPE	SF ±	COUNT
PLAN 1 (2 BED/2 BATH, 1 CAR GARAGE)	976	64
PLAN 2 (3 BED/2.5 BATH, 2-CAR GARAGE)	1,325	87
PLAN 3 (3 BED/2.5 BATH, 2-CAR GARAGE)	1,482	82
<b>TOTAL UNITS</b>		<b>233</b>

**OPEN SPACE SUMMARY**  
 OPEN SPACE REQUIREMENT PER CITY OF ANTIOCH ZONING CODE SECTION 9.5.706 USABLE OPEN SPACE, TABLE 9.5.706  
 REQUIRED USABLE OPEN SPACE  
 CATEGORY TOTAL SF  
 A. TOTAL MINIMUM USABLE OPEN SPACE/UNIT 200 46,600  
 B. MINIMUM PRIVATE OPEN SPACE/UNIT 60 13,980  
 C. TOTAL OPEN SPACE REQUIRED (A+B) 60,580  
 OPEN SPACE PROVIDED  
 6-PEX-PRIVATE OPEN SPACE/BDG 702 22,454  
 5-PEX-PRIVATE OPEN SPACE/BDG 672 3,360  
 4-PEX-PRIVATE OPEN SPACE/BDG 542 7,166  
 D. TOTAL PRIVATE OPEN SPACE 27,980  
 E. USABLE OPEN SPACE (COMMON) 32,750  
**F. TOTAL OPEN SPACE PROVIDED (D + E)\*\* 60,730**

\*\*TOTAL OPEN SPACE INCLUDES ONLY PRIVATE OPEN SPACE WITH A MINIMUM DENSITY OF 40% COMMON USABLE SPACES WITH A MINIMUM DENSITY OF 40%. OTHER LANDSCAPE AREAS ARE NOT QUANTIFIED. COMMON USABLE OPEN SPACES ARE NOTED ON THE PLAN.



*These two pads sub-ex 5' of cut area*

*Survey not clear in this area. Extent of sub-ex if any is not known.*

### LEGEND

*Approx areas of sub-ex in cut bedrock*

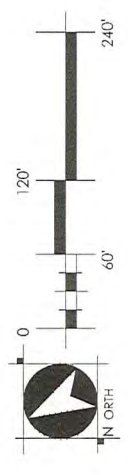
**WALL HEIGHTS LEGEND:**

<span style="border-bottom: 1px solid red; width: 20px; display: inline-block;"></span>	0'-2' RETAINING WALL
<span style="border-bottom: 1px solid orange; width: 20px; display: inline-block;"></span>	2'-4' RETAINING WALL
<span style="border-bottom: 1px solid yellow; width: 20px; display: inline-block;"></span>	4'-6' RETAINING WALL
<span style="border-bottom: 1px solid green; width: 20px; display: inline-block;"></span>	6'-8' RETAINING WALL
<span style="border-bottom: 1px solid blue; width: 20px; display: inline-block;"></span>	8'-10' RETAINING WALL

NOTE: PRIVATE STREETS/DRIVE AISLES ARE 24' WIDE TYPICAL

*Sub-ex 2 feet below pad grade. Exposed excavated subgrade, must be ripped, cross ripped moisture conditioned and compacted in place*

*The upper 2 feet of pad is to consist of uniform fill material. Sub-ex is to extend 5 feet beyond building perimeter.*



*9/27/22*  
**revision 1**



**Appendix D**  
**Phase I Environmental**  
**Site Assessment**



## **PHASE I ENVIRONMENTAL SITE ASSESSMENT AND LIMITED SUBSURFACE INVESTIGATION**

conducted on

Laurel Ranch  
Laurel Road and Country Hills Road  
Antioch, California 94531

Apex Project No. RES012-0313063-22007688

July 18, 2022

### **Prepared for:**

Resmark Equity Partners  
12396 World Trade Drive, Suite 308  
San Diego, California 92128

### **Prepared by:**

Apex Companies, LLC  
1962 Freeman Avenue  
Signal Hill, CA 90755

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Regulatory Database Report

Analytical Results

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## EXECUTIVE SUMMARY

Apex Companies, LLC (Apex) prepared a Phase I Environmental Site Assessment (Phase I ESA) and Limited Subsurface Investigation (LSI) of the Laurel Ranch property located at Laurel Road and Country Hills Road in Antioch, Contra Costa County, California (subject property). This assessment was completed in accordance with Apex Proposal No. 9176103227 to Resmark Equity Partners dated June 13, 2022. The scope of services was to prepare a Phase I ESA in a manner consistent with the ASTM International (ASTM) Standard Designation: E1527-21 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process;" the U.S. Environmental Protection Agency's Standards and Practices for All Appropriate Inquiries (AAI), 40 Code of Federal Regulations (CFR), Part 312; and, any exceptions, deletions, or non-scope considerations identified in the proposal.

The approximately 18.55 acre subject property is in a residential setting. The subject property is currently undeveloped land that is being utilized for construction storage. Construction storage materials are located in the northeast portion of the property and generally include concrete and PVC piping, utility boxes, excavators/backhoes, locked storage containers, and piles of gravel. Miscellaneous household debris (e.g., plastics, paper, etc.) was observed scattered throughout the subject property. The southern portion of the property consists of overgrown grasses. Access can be gained from Laurel Road to the northeast.

Based on historical sources, a small structure was depicted on the subject property in the 1914 topographic map. A residence with several outbuildings and agricultural land were developed on the subject property by the 1939 aerial photograph. Additional outbuildings were developed onsite circa 1958 and by 1968 the southernmost outbuildings were demolished. Agricultural activities had ceased circa 2005. By 2010, the buildings onsite were demolished. The south portion of the subject property was graded by 2020; however, no structures have been developed.

The northeast and south adjoining properties were developed agriculturally from at least 1939. The northwest adjoining property was undeveloped at that time. Agricultural activities had ceased circa 2005. By 2010, a freeway and onramp were developed on the northeast adjoining property and the south adjoining residences were developed between 2020-2022. The northwest adjoining property is currently under development.

On June 23, 2022, Apex collected six soil samples from areas previously utilized for agricultural purposes. Various pesticides (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected above the laboratory detection limits in S-1, S-2, and S-3. All concentrations detected were far below the SFRWQCB Tier 1 ESL, the USEPA RSLs, the DTSC SLs, and the TTLC.

This assessment has revealed no evidence of recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs), historical recognized environmental conditions (HRECs), or *de minimis* conditions in connection with the subject property, as follows:

Type of Concern	Conclusions
Recognized Environmental Condition (REC)	Apex did not identify RECs associated with the subject property.

Type of Concern	Conclusions
Controlled Recognized Environmental Condition (CREC)	Apex did not identify CRECs associated with the subject property.
Institutional Controls (ICs) and/or Engineering Controls (ECs)	Apex did not identify ICs/ECs associated with the subject property.
Historical Recognized Environmental Conditions (HRECs)	Apex did not identify HRECs associated with the subject property.
<i>De Minimis</i> Conditions	Apex did not identify de minimis conditions associated with the subject property.
Vapor Encroachment Condition (VEC)	Apex did not identify a vapor encroachment condition associated with the subject property.
Business Environmental Risk (BER)	Apex did not identify BERs associated with the subject property.
Non-ASTM Considerations	Non-ASTM considerations were not included in this assessment's scope of services.
Recommendations	Based on the results of this Assessment, no further action is necessary.

## **1.0 INTRODUCTION**

### **1.1 Purpose**

Apex Companies, LLC (Apex) has prepared this Phase I Environmental Site Assessment (Phase I ESA) and Limited Subsurface Investigation (LSI) of the Laurel Ranch property located at Laurel Road and Country Hills Road, Antioch, California (subject property) at the request of Resmark Equity Partners. The purpose of this Phase I ESA is to perform all appropriate inquiries into the previous ownership and uses of the Site consistent with good commercial or customary practices for a possible property transaction involving the subject property and to permit Resmark Equity Partners (User) to qualify for one of the landowner liability protections as identified by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

### **1.2 Scope of Services**

This project was completed in accordance with Apex Proposal No. 9176103227 to Resmark Equity Partners dated June 13, 2022. The scope of services was to prepare a Phase I ESA in a manner generally consistent with the ASTM International (ASTM) Standard Designation: E1527-21 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," and the U.S. Environmental Protection Agency's Standards and Practices for All Appropriate Inquiries (AAI), 40 Code of Federal Regulations (CFR), Part 312.

The scope of services comprising this Phase I ESA was conducted to identify recognized environmental conditions (RECs). As defined by ASTM E1527-21 Section 3.2.73:

*"recognized environmental conditions", n - (1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.*

The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment, and that generally would not be the subject of an enforcement action if brought to the attention of the appropriate government agencies. Any controlled RECs (CRECs) or historical RECs (HRECs) as defined by ASTM E1527-21 that were identified during the assessment are discussed in this report, as applicable.

Apex completed a Tier 1 Vapor Encroachment Screening in accordance with ASTM E2600-15 in order to identify potential presence of hazardous vapors in the subsurface of the subject property caused by contaminated soil or groundwater on or near the Site.

As a part of the approved scope of services, Resmark Equity Partners requested that Apex perform an environmental lien and AUL search on its behalf.

The approved scope of services did not include any non-ASTM considerations.

### 1.3 Significant Assumptions

Apex has completed historical and environmental record searches in accordance with current ASTM standards and industry practices. The data, findings, and conclusions presented in this Phase I ESA are based upon a detailed search, review, and analysis of documents obtained, interviews performed, and observations made during the reconnaissance.

Phase I ESAs, such as the one performed at the subject property, are of limited scope, are non-invasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the subject property beyond what is identified by the limited scope of this Phase I ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No Phase I ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the subject property or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

### 1.4 Limitations and Exceptions

This report was prepared as a result of a contractual agreement that defined the approach and scope of services to be employed during the course of the investigation. The opinions and conclusions expressed in this study have been based strictly on the results of these contracted services. The scope of this Phase I ESA is intended to aid in the evaluation of RECs. The services provided by Apex should not be construed as a warranty or guarantee that no RECs exist at the subject property or that all RECs have been uncovered. No conclusions are stated or implied concerning the suitability of the subject property for its eventual use. This document is not intended for purposes other than those expressly set forth herein or for use by parties other than for whom it has been prepared.

As limited by the ASTM Standard for Phase I ESAs and the scope of work provided by Apex, aside from the sampling and testing of suspect asbestos-containing materials (ACMs), if applicable, this project was non-intrusive in nature and did not include any sampling or testing of soils, groundwater, surface water, or other materials. Additionally, unless specifically described in this report, the scope of work completed by Apex explicitly excluded issues that are outside the scope of ASTM E1527-21 and may constitute a business environmental risk as defined by ASTM.

ASTM Standard Practice E1527-21 recognizes inherent limitations for Phase I ESAs, including, but not limited to:

- *Uncertainty Not Eliminated* - No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a Site. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs, and this practice recognizes reasonable limits of time and cost.

- *Not Exhaustive* - All Appropriate Inquiry does not mean an exhaustive assessment of a property. There is a point at which the cost of information obtained, or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions.
- *Level of Inquiry Is Variable* - Not every property will warrant the same level of assessment. Consistent with good commercial or customary practice, the appropriate level of environmental site assessment will be guided by the type of property, the expertise and risk tolerance of the User, and the information developed in the course of the inquiry.
- *Comparison with Subsequent Inquiry* - It should not be concluded or assumed that an inquiry was not All Appropriate Inquiries merely because the inquiry did not identify RECs in connection with a property. Phase I ESAs must be evaluated based on the reasonableness of judgments made at the time and under the circumstances in which they were made. Subsequent Phase I ESAs should not be considered valid standards to judge the appropriateness of any prior assessment based on hindsight, new information, use of developing technology or analytical techniques, or other factors.
- *Point in Time* - The Phase I ESA is based upon conditions at the time of completion of the individual Phase I ESA elements: User's Responsibilities, Physical Setting Resources, Government Records, Historical Records, Site Reconnaissance, Owner/Operator/Occupant Interviews, Local Government Officials Interviews, and Evaluation/Reporting.

### **1.5 User Reliance**

This report documents the Phase I ESA of the subject property performed by Apex at the explicit request and direction of Resmark Equity Partners and **TBD JV Entities** and in accordance with ASTM E1527-21 and the US EPA Standards and Practices for All Appropriate Inquiries, 40 CFR 312. The findings, opinions, and conclusions of this Phase I ESA are for the confidential and exclusive use of Resmark Equity Partners, its affiliates, employees, agents, successors, and assigns. Reliance on this report for any use or by parties other than specifically stated is prohibited without the expressed written consent of Apex and Resmark Equity Partners, and such use is at the sole risk of the user.

Continued viability of this report is subject to ASTM E1527-21 Section 4.6 and Section 4.8. If the Phase I ESA will be used by a different user (third party) than the user for whom the Phase I ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-21.

### **1.6 Critical Dates**

A Phase I ESA meeting or exceeding this practice and completed less than 180 days prior to the date of acquisition of the property or (for transactions not involving an acquisition) the date of the intended transaction, is presumed to be valid. A Phase I ESA meeting or exceeding this practice and for which the information was collected or updated within one year prior to the date of the intended transaction may be used provided that the following components of the ESA were conducted or updated within 180 days of the date of purchase or the date of the intended transaction:

- Interviews with owners, operators, and occupants;

- Searches for recorded environmental cleanup liens;
- Reviews of federal, tribal, state, and local government records;
- Visual inspections of the property and of adjoining properties; and,
- The declaration by the Environmental Professional responsible for the assessment or update.

*The date of this report generally may not represent the date the individual components of All Appropriate Inquiries were completed and should not be used when evaluating compliance with the 180-day or 1-year all appropriate inquiries requirements.*

**Critical Dates**

Item	Date
<u>Earliest</u> date of interviews with owners, operators, and/or occupants	June 28, 2022
Searches for recorded environmental cleanup liens	July 14, 2022
Reviews of federal, tribal, state, and local government records	June 16, 2022
Visual inspections of the property and of adjoining properties	June 23, 2022
The declaration by the Environmental Professional responsible for the Phase I ESA or update	July 18, 2022
<p><i>The effective date of this report (earliest of the above-listed dates) is June 16, 2022; therefore, per ASTM E1527-21 the expiration date of this report is December 13, 2022 (effective date plus 180 calendar days).</i></p>	

## 2.0 SUBJECT PROPERTY DESCRIPTION AND ADJOINING PROPERTIES

### 2.1 Subject Property Description

A summary of the subject property and nearby properties is included in the following table. A Site Location Map is provided as **Figure 1** and a Site and Vicinity Plan is included as **Figure 2**. Photographs of the subject property and adjoining properties are included in the [Photographs](#) Appendix.

<b>Property Summary</b>	
<b>Subject Property Address:</b>	Laurel Road and Country Hills Road, Antioch, California 94531
<b>Building Construction Date:</b>	Not Applicable
<b>Building Square Footage (Approximate):</b>	Not Applicable
<b>Current Property Use:</b>	Undeveloped, currently utilized for construction storage
<b>Subject Property Improvements:</b>	The subject property is currently undeveloped land that is being utilized for construction storage. Construction storage materials are located in the northeast portion of the property and generally include concrete and PVC piping, utility boxes, excavators/backhoes, locked storage containers, and piles of gravel. Miscellaneous household debris (e.g., plastics, paper, etc.) was observed scattered throughout the subject property. The southern portion of the property consists of overgrown grasses. Access can be gained from Laurel Road to the northeast.
<b>Subject Property Operations:</b>	Not Applicable
<b>Subject Property Contacts:</b>	Charles McKeag, Principal Executive with Seven West Capital
<b>Subject Property Acreage:</b>	18.55 acres
<b>Number of Parcels:</b>	Four
<b>Tax ID/Parcel Number(s):</b>	053-060-063, 053-060-057, 053-060-056, and 053-060-055



<b>Property Summary</b>	
<b>Current Property Owner(s):</b>	Strack Farms Land LLC and WSI Land Holdings, LLC own the 053-060-063 parcel. The remaining parcels are owned by Delizia Ranch LLC.

**2.2 Current Uses of Adjoining/ Nearby Properties**

The area surrounding the subject property consists of residential development and undeveloped land. Adjoining and nearby properties were observed (from the subject property or from public access areas) for evidence of potential *recognized environmental conditions* and their potential to pose an environmental concern to the subject property and are depicted on the [Site and Vicinity Plan](#) in the Appendices. The uses and features of adjoining properties are described below (by relative compass direction and across adjoining roadways):

<b>Direction</b>	<b>Site Name/Address</b>
Northeast	Highway 4 and Onramp (Unaddressed Parcel)
Northwest	Under Development (Unaddressed Parcel)
South	Single-Family Residences (Country Hills Drive and Canyon Ridge Way)

Apex's review of adjoining properties did not identify uses that are considered to be a recognized environmental condition with respect to the subject property.

### 3.0 USER PROVIDED INFORMATION

ASTM E1527-21 Section 3.2.94 defines “User” as the party seeking to use Practice E1527-21 to complete a Phase I ESA of a property. Apex understands that Resmark Equity Partners is the User as defined by ASTM E1527-21. ASTM E1527-21 specifies that certain tasks associated with identifying potential RECs at the Site should be performed by the User and provided to the Environmental Professional (i.e., User Responsibilities). Accordingly, Apex provided a User Questionnaire to Resmark Equity Partners requesting the above information.

Resmark Equity Partners returned the User questionnaire along with the signed proposal. A copy of the questionnaire is included in the User Questionnaire Appendix.

Based on Apex's review of the User provided information, the following information was found:

User Provided Information	Issue Identified	Comments
Title Records	No	No information was provided.
Environmental Liens or Activity and Use Limitations	No	The User indicated they do not have any commonly known or reasonably ascertainable information regarding the subject property.
Commonly Known or Reasonably Ascertainable Information	No	The User indicated they do not have any commonly known or reasonably ascertainable information regarding the subject property.
Valuation Reduction for Environmental Issues	No	The User was not aware of any valuation reduction as a result of environmental issues.
Previous Reports	No	No previous reports were available for review.

#### 4.0 SITE RECONNAISSANCE

The reconnaissance was conducted on June 23, 2022 by Apex representative Dan Hisey and consisted of a walk through of interior and exterior areas of the subject property, as applicable. Apex was unaccompanied during the site reconnaissance.

Apex was provided access to all areas of the subject property.

The following site conditions were observed:

Observation	Observed	Comments
<b>Petroleum and Hazardous Substance Storage</b>		
Hazardous Substances and/or Petroleum Products	Yes	One 55-gallon drum of lubricant was observed onsite. No secondary containment was provided; however, the drum was observed in good condition with no evidence of leaks or staining.
Hazardous Waste Storage/Disposal	No	Apex did not observe any hazardous waste disposal areas.
Aboveground Storage Tanks (ASTs)	No	Apex did not observe any obvious indications of ASTs during the course of this Phase I ESA.
Underground Storage Tanks (USTs)	No	Apex did not observe any obvious indications of USTs during the course of this Phase I ESA.
Leaks, Spills, or Releases around ASTs, USTs, and/or Chemical Storage Areas	No	Apex did not observe any significant leaks, spills, or releases.
Drums, Totes, and Intermediate Bulk Containers	Yes	One 55-gallon drum of lubricant was observed onsite. No secondary containment was provided; however, the drum was observed in good condition with no evidence of leaks or staining.
Polychlorinated Biphenyls (PCBs)	No	Apex did not observe any potential sources of PCBs.  It should be noted that ASTM E1527-21 excludes consideration of fluorescent light ballasts.

Observation	Observed	Comments
Transformers	No	Apex did not observe any pad-mounted, pole-mounted, or dry-type transformers.
Hydraulic Equipment	No	Apex did not observe any hydraulic equipment.
<b>Water/Wastewater</b>		
Wastewater Treatment, Septic Systems, and/or Cesspools	No	Apex did not observe any wastewater treatment or septic systems.
Floor Drains or Sumps	No	Apex did not observe any floor drains or sumps.
Oil-Water Separators (OWS) or Grease Traps	No	Apex did not observe any oil-water separators (OWS) or grease traps.
Pits, Ponds, or Lagoons	No	Apex did not observe any pits, ponds, or lagoons other than those associated with storm water conveyance.
Catch Basins and Stormwater Drainage	Yes	Storm water currently percolates naturally into the ground or flows via natural grade toward Highway 4 to the north.
Wells (including dry wells, irrigation wells, injection wells, monitoring wells, abandoned wells, or other wells)	No	Apex did not observe any wells.
Standing Surface Water	No	Apex did not observe any standing water or other liquids.
<b>Other Observations</b>		
Stressed Vegetation or Stained Soil/Pavement	No	Apex did not observe any stressed vegetation or stained soil.
Stains or Corrosion on Floors, Walls, or Ceilings	No	Apex did not observe any significantly stained or corroded floors, walls, or drains.
Strong, Pungent, or Noxious Odors	No	Apex did not observe any unusual odors.

Observation	Observed	Comments
Pipes of Unknown Origin or Use	No	Apex did not observe any pipes of unknown origin or use.
Fill Material	No	Apex did not observe any fill material.
<b>REC Summary</b>		
Based on the site reconnaissance, Apex did not identify any items of environmental concern indicative of RECs, CREC, HRECs, or <i>de minimis</i> conditions at the subject property.		

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## 5.0 PHYSICAL RECORDS REVIEW

Sources consulted to characterize the physical setting of the subject property are referenced in the following table.

Data Type	Data Source	Comments
Topography/ Slope	ERIS Physical Setting Report (PSR)	According to the Antioch South-Brentwood, CA USGS topographic map dated 2015, the subject property is situated at an elevation of approximately 140.77 feet above mean sea level and the topography at the subject property is relatively level. Regional topography slopes gently to the southeast.
Presumed Groundwater Flow Direction	<a href="http://www.geotracker.waterboards.ca.gov">www.geotracker.waterboards.ca.gov</a>	North-northeast.
Estimated Depth to Groundwater	<a href="http://www.geotracker.waterboards.ca.gov">www.geotracker.waterboards.ca.gov</a>	Groundwater is anticipated to be between approximately 32 and 41 feet below ground surface (bgs) in the vicinity of the subject property.
Soils	ERIS Physical Setting Report (PSR)	Diablo clay, 9 to 30 percent slopes, which is well drained and has moderately high runoff potential.
Geology	ERIS Physical Setting Report (PSR)	Plio-Pleistocene and Pliocene loosely consolidated deposits.

## **6.0 HISTORICAL REVIEW**

Apex retained ERIS - Environmental Risk Information Services to provide readily available historical sources including aerial photographs, fire insurance maps, topographic maps, and city directories for the subject property, adjoining, and surrounding properties. Copies of these historical sources are provided in the appendices and are further discussed in the tables below.

ASTM E1527-21 Section 8.3.1 requires the Environmental Professional to evaluate historical property information and developing a history of the previous uses of the subject property, adjoining properties, and surrounding area is to help identify the likelihood of past uses having led to RECs in connection with the subject property. Further, ASTM requires that all obvious uses of the subject property shall be identified from the present, back to the subject property's first developed use, or back to 1940, whichever is earlier. The term "developed use" includes agricultural uses and placement of fill dirt, and other uses that may not involve structures.

### **6.1 Summary of Historical Review**

The historical research presented in this Assessment has established the *obvious* uses of the subject property since 1896. A chronological summary of the historic use of the subject and adjoining/surrounding properties is presented below. Please refer to the Data Gaps Section for a summary of significant data gaps (if any).

Based on historical sources, a small structure was depicted on the subject property in the 1914 topographic map. A residence with several outbuildings and agricultural land were developed on the subject property by the 1939 aerial photograph. Additional outbuildings were developed onsite circa 1958 and by 1968 the southernmost outbuildings were demolished. Agricultural activities had ceased circa 2005. By 2010, the buildings onsite were demolished. The south portion of the subject property was graded by 2020; however, no structures have been developed.

The northeast and south adjoining properties were developed agriculturally from at least 1939. The northwest adjoining property was undeveloped at that time. Agricultural activities had ceased circa 2005. By 2010, a freeway and onramp were developed on the northeast adjoining property and the south adjoining residences were developed between 2020-2022. The northwest adjoining property is currently under development.

### **6.2 Aerial Photographs**

Aerial photographs, including the subject, adjoining, and surrounding properties, were obtained from ERIS - Environmental Risk Information Services for the years 1939 to 2020. Copies of aerial photographs are included in the [Aerial Photographs](#) Appendices. Aerial photographs are summarized as follows:

Date	Comments
1939 1949	A residence and several outbuildings were developed in the center of the subject property. The east portions of the subject, northeast, and south adjoining properties were developed agriculturally.
1958	There were no significant changes from the 1949 photograph, except that additional outbuildings were developed on the subject property.
1968 1974 1982 1988 1993	There were no significant changes from the 1958 photograph, except that the southernmost outbuildings on the subject property were demolished.
2005	There were no significant changes from the 1993 photograph, except that agricultural activities had ceased on the subject and adjoining properties.
2010 2012 2014 2016 2018	All structures on the subject property were demolished. A freeway and onramp were developed on the northeast adjoining property. No further changes were noted.
2020	There were no significant changes from the 2018 photograph, except that the south portion of the subject property and the south adjoining property were graded.

### 6.3 Topographic Maps

Topographic maps, including the subject, adjoining, and surrounding properties, were obtained from ERIS - Environmental Risk Information Services for the years 1896 to 2021. Copies of topographic maps are included in the [Topographic Maps](#) Appendices. Topographic maps are summarized as follows:

Date	Comments
1896 1898	The subject and adjoining properties were not depicted on the map.
1914 1916 1940 1943 1953	One small structure was depicted in the center of the subject property. No further structures or improvements were depicted on the adjoining properties. A railroad track was depicted to the northeast of the subject property.



Date	Comments
1954 1968 1973 1978 1980	There were no significant changes from the 1953 map, except that agricultural land was depicted on the east portion of the subject property, the northeast adjoining property, and the south adjoining property. The surrounding area was predominantly depicted as agricultural land.
2015 2018 2021	Individual structures and agricultural land were no longer depicted on the map. Highway 4 was depicted on the northeast adjoining property. No further changes were noted.

#### 6.4 Fire Insurance Maps

Sanborn fire insurance maps were not available for the area of the subject property, according to ERIS. A copy of the "No Coverage" letter is included in the [Fire Insurance Maps](#) Appendices.

#### 6.5 City Directories

City directories covering the subject property and adjoining properties were obtained from ERIS - Environmental Risk Information Services for the period between 1931 and 2020. Copies of city directories are included in the [City Directory](#) Appendices. The subject and adjoining properties were not listed in the city directories reviewed.

#### 6.6 Agency Contacts

Per ASTM E1527-21, if the subject property or any of the adjoining properties are identified on one or more of the standard environmental record sources then reasonably ascertainable pertinent regulatory files and/or records associated with the listing should be reviewed in order to obtain sufficient information to assist in determining if a REC, CREC, HREC, or de minimis condition exists in connection with the subject property. If, in the Environmental Professional's opinion, such a review is not warranted, the justification for not conducting the regulatory file review must be provided. As an alternative, information from other sources (for example, online regulatory databases, onsite records, User provided records, records from local government agencies, interviews with regulatory officials, or interviews with other individuals knowledgeable about the subject property may be reviewed).

Apex contacted agencies as summarized in the table below for public information requests including open records and Freedom of Information Act (FOIA). Copies of pertinent open record and FOIA responses and records of communication are provided in the [Agency Documents](#) Appendix.

Permits and records on file for the subject property are summarized as follows:

Agency Name	Date Responded	Records Available	Comments
Antioch City Clerk			Apex has not received a response as of the date of this report.
Bay Area Air Quality Management District	06/20/22	No	No records were on file for the subject property.
Department of Toxic Substances Control	06/29/22	No	No records were on file for the subject property.
Contra Costa Environmental Health Department	07/08/22	No	No records were on file for the subject property.
Regional Water Quality Control Board	06/30/22	No	No records were on file for the subject property.

#### 6.7 Previous Environmental Reports or Other Documents

Apex made requests to the client and the current property owner/site contact regarding the presence of previous environmental reports or other relevant documents for the subject property (e.g., previous Phase I or Phase II ESA, geotechnical report, MSDS, etc.). Copies of any previous reports or relevant documents are included in the [Previous Reports](#) Appendices.

No previous environmental reports or other relevant documents were available for review during this Assessment.

## **7.0 STANDARD ENVIRONMENTAL RECORDS SOURCES: FEDERAL, STATE, AND TRIBAL**

### **7.1 Environmental Records**

Consistent with ASTM E1527-21, customary and usual practices, specific scope of work terms and conditions (see **Section 1.2**), and contractual terms and conditions, Apex obtained and reviewed environmental databases and records to characterize the obvious and apparent uses of the subject property and nearby properties. Apex retained ERIS - Environmental Risk Information Services to provide a database and record search report, provided in the [Regulatory Database Report](#) Appendix. Apex has reviewed the listings pertaining to the subject property and nearby properties and evaluated whether these listings should be considered RECs, CRECs, HRECs, vapor conditions, and/or *de minimis* conditions. RECs, CRECs, HRECs, vapor conditions, and/or *de minimis* conditions are also specifically listed in the [Executive Summary](#) and **Section 11.0**.

Based on the Environmental Professional's review of the databases and resulting opinion, adjoining significant or nearby relevant database and record search findings that may represent a REC were not identified.

#### **7.1.1 Subject Property Listings**

The Subject Property was not listed on any significant or relevant databases.

#### **7.1.2 Adjoining/Surrounding Properties Listings**

Several properties surrounding the subject property were identified in the databases reviewed. Apex has reviewed the listings to evaluate their potential to impact the subject property and has determined that none of the listings represent a REC to the subject property.

#### **Orphan Facilities**

Orphan facilities are those facilities that could not be mapped due to incomplete or incorrect address/geocoding information.

The environmental database report identified one orphan facility. This facility was reviewed and determined to not be within the vicinity of the subject property.

### **7.2 Environmental Liens and Activity and Use Limitations Search**

Environmental liens and Activity and Use Limitations (AULs) can commonly be found within recorded land title records (e.g., County Recorder/Registry of Deeds). The types of title reports that may disclose environmental liens and AULs include Preliminary Title Reports, Title Commitments, Condition of Title, and Title Abstracts. Chain-of-title reports will not normally disclose environmental liens or AULs that are imposed by judicial authorities may be recorded or filed in judicial records only.

Reviewing land title records for AULs and environmental liens (or judicial records where applicable) is a user responsibility and includes engineering and institutional controls. Apex notes the following:

Were the results of the User's search for environmental liens and AULs received?	No
Were environmental liens and AULs noted in the User-provided search results?	N/A
Was Apex contracted to order an environmental lien/ AUL search? If yes, were environmental liens or AULs identified?	As a part of the approved scope of services, Resmark Equity Partners requested that Apex perform an environmental lien and AUL search on its behalf. The lien search did not identify any environmental liens or AULs.

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## **8.0 TIER 1 VAPOR ENCROACHMENT SCREEN (VES)**

Apex conducted a Tier 1 VES during the Phase I ESA. The VES was conducted in accordance with ASTM E2600-15, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*. The methods and terms are as defined in the ASTM standard.

The goal of a VES is to identify a vapor encroachment condition (VEC) at a subject property. A VEC is defined as the presence or likely presence of chemicals of concern (COC) vapors in the subsurface of a subject property caused by the release of vapors from contaminated soil or groundwater either on or near the subject property.

Information was obtained with respect to the following: planned additional structures; and significant natural or man-made “preferential pathways” of potential vapor migration. This information is summarized below:

- No information was provided on plans for the construction of additional buildings. The planned use for the subject property is residential development.
- The subject property is not connected to utilities.
- Based on available information soil was found to be Diablo clay, 9 to 30 percent slopes, and groundwater was found to be between approximately 31 and 42 feet bgs.

### **8.1 Tier 1 Screen Evaluation**

An evaluation of that information includes two tests: 1) a search distance test to evaluate the proximity of the target property to known or suspected “contaminated properties”, and 2) a chemicals of concern test to determine the likely presence of COCs at the subject or properties within the area of concern (AOC). In evaluating the data, the distance and proximity to potentially contaminated offsite properties must be evaluated, including whether they are up-, cross-, or down-gradient relative to the subject property.

### **8.2 Tier 1 Screening Findings**

The *vapor encroachment screen* process has been completed in accordance with the Standard. Based on Apex’s evaluation a VEC does not exist at the subject property.

## 9.0 INTERVIEWS

Apex interviewed selected individuals associated with the subject property. The purpose of the interview(s) was to obtain additional information related to 1) the current and past operations at the subject and/or adjoining properties that may result in *recognized environmental conditions*, and 2) the presence of *Proceedings Involving the Property* (e.g., litigation, regulatory agency rulings, violations, etc.).

### 9.1 Interview with Owner or Manager

Mr. Mike Byer, Senior Vice President with Richland, completed an owner-manager questionnaire on June 28, 2022. Mr. Byer has been associated with the subject property for approximately eight years and provided general information regarding historic and current operations at the subject property. Mr. Byer is unaware of environmental issues of concern associated with the subject property, and stated that he was unaware of USTs or ASTs historically or currently located on the subject property.

Mr. Byer was asked if he was aware of any of the following:

Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property.	No
Any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property.	No
Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.	No

### 9.2 Interviews with Others

Previous owners were not interviewed during this assessment, because adequate information was obtained from other sources during this assessment.

## **10.0 LIMITED SUBSURFACE INVESTIGATION**

### **10.1 Soil Sampling**

On June 23, 2022, Apex collected six near surface soil samples in areas of prior agricultural use. The boring locations are illustrated on Figure 3.

Soil samples were collected at a depth of 0.5 to one foot below ground surface (bgs) using handheld equipment. Equipment was decontaminated after each use with tap water. Soil sample containers were labeled with identifying information and stored in a chilled ice-chest until they were transported to the laboratory. The samples data were recorded onto a chain-of-custody document.

### **10.2 Chemical Analysis**

A total of six discrete soil samples were transferred under formal chain-of-custody protocol to American Scientific Laboratories in Los Angeles, California, a United States Environmental Protection Agency (USEPA) accredited laboratory. Chain-of-custody records were completed and accompanied the sample shipments to the laboratory. The soil samples were individually analyzed for the following constituents as noted using USEPA-approved method:

- Organochlorine Pesticides using USEPA Method 8081A.

### **10.3 Soil Analytical Results**

The following is a summary of analytical results:

- Various pesticides (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected above the laboratory detection limits in S-1, S-2, and S-3. All concentrations detected were far below the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Tier 1 Environmental Screening Level (ESL), the United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs), the Department of Toxic Substances Control Screening Levels (DTSC SLs), and the Total Threshold Limit Concentration (TTLC).
- Organochlorine pesticides were not identified in the remaining soil samples analyzed above the laboratory detection limits.

Copies of the laboratory analytical reports and an analytical summary table are presented in the Appendices.

## 11.0 DATA GAPS

The ASTM Standard requires that the report identify the following: 1) obvious uses of the Site since 1940 or first development, whichever is earlier; and 2) significant “data gaps” which affect the ability of the Environmental Professional to identify RECs. A data gap by itself is not inherently significant. Apex identified the following data gaps in this assessment:

Data Gaps	Significance
Available historical information did not enable Apex to identify the first developed use of the Site and/or at approximate 5-year intervals to the present. Apex interprets this as a data gap. Based on the current and/or historical use of the subject property and findings of this report, Apex does not consider this a significant data gap.	Not Significant
Apex has not received a response back from all government agencies and considers this a data gap. Based on the current and/or historical use of the Site and findings of this report, Apex does not consider this a significant data gap.	Not Significant



## 12.0 FINDINGS, OPINIONS, CONCLUSIONS AND RECOMMENDATIONS

Apex has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-21 of the Laurel Ranch property located at Laurel Road and Country Hills Road in Antioch, California (the “subject property”). Any exceptions to, or deletions from, this practice are described in [Section 1.4](#) of this report. This section presents a summary of available information on known or suspected recognized environmental conditions, historical recognized environmental conditions and de minimis conditions (if any) at the subject property. It also includes Apex's opinion and rationale for concluding that a condition is, or is not, currently a recognized environmental condition. Based on a review of the information presented in this Assessment, Apex presents the following relevant findings and opinions:

- **Former Agricultural Use** - Based on the review of historical aerial photographs, the subject property was observed in agricultural use historically. Given this usage, it is possible that pesticides and/or herbicides were once used onsite and residual amounts may remain. On June 23, 2022, Apex collected six soil samples from areas previously utilized for agricultural purposes. Various pesticides (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected above the laboratory detection limits in S-1, S-2, and S-3. All concentrations detected were far below the SFRWQCB Tier 1 ESL, the USEPA RSLs, the DTSC SLs, and the TTLC. Based on this evaluation, it is Apex's opinion that the potential past use of pesticides and/or fertilizers does not present a *recognized environmental condition* to the subject property.
- **Tier 1 Vapor Encroachment Screen** – Apex has conducted a Tier 1 Vapor Encroachment Screen, in accordance with ASTM Standard E2600-15. Based on Apex's review of available information, a *vapor encroachment condition* at the subject property does not exist.

This assessment has revealed no evidence of recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs), historical recognized environmental conditions (HRECs), or *de minimis* conditions in connection with the subject property, as follows:

Type of Concern	Conclusions
Recognized Environmental Condition (REC)	Apex did not identify RECs associated with the subject property.
Controlled Recognized Environmental Condition (CREC)	Apex did not identify CRECs associated with the subject property.
Institutional Controls (ICs) and/or Engineering Controls (ECs)	Apex did not identify ICs/ECs associated with the subject property.
Historical Recognized Environmental Conditions (HRECs)	Apex did not identify HRECs associated with the subject property.

<b>Type of Concern</b>	<b>Conclusions</b>
<i>De Minimis</i> Conditions	Apex did not identify de minimis conditions associated with the subject property.
Vapor Encroachment Condition (VEC)	Apex did not identify a vapor encroachment condition associated with the subject property.
Business Environmental Risk (BER)	Apex did not identify BERs associated with the subject property.
Non-ASTM Considerations	Non-ASTM considerations were not included in this assessment's scope of services.
Recommendations	Based on the results of this Assessment, no further action is necessary.

### **13.0 SIGNATURES**

This report was prepared, under the responsible charge of the Environmental Professional noted below:

Signature for Jennifer Woods  
Jennifer Woods  
Assistant Project Manager  
Health, Safety and Environmental Services  
Signal Hill Regional Office  
Apex Companies, LLC

#### **Environmental Professional's Certification:**

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Signature for Shannon Gillespie  
Shannon Gillespie  
Program Manager  
Health, Safety and Environmental Services  
Signal Hill Regional Office  
Apex Companies, LLC

July 18, 2022  
**Phase I Environmental Site Assessment**  
Laurel Ranch  
Laurel Road and Country Hills Road  
Antioch, California  
Project No. RES012-0313063-22007688

## 14.0 SOURCES AND REFERENCES

### Documents & Previous Reports Reviewed

ASTM International, "Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transaction," ASTM Designation E2600-15
ASTM International, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," ASTM Designation E1527-21
Radius Map Report, ERIS, Inc. and Physical Setting Report
City Directories, obtained from ERIS: 1931 through 2020
Aerial photographs, obtained from ERIS: 1939 through 2020
Historic topographic maps, obtained from ERIS: 1896 through 2021
Fire insurance maps, not available from ERIS
<a href="http://www.geotracker.waterboards.ca.gov">www.geotracker.waterboards.ca.gov</a>

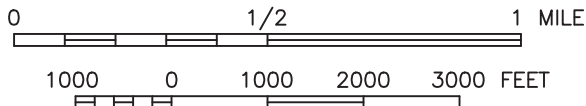
# Site Plan

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QUADRANGLE LOCATION

Scale 1:24000



SOURCE OF MAP IS US TOPO 7.5 MINUTE QUADRANGLE MAP, BRENTWOOD (2021), CALIFORNIA: U.S. GEOLOGICAL SURVEY

SITE LOCATION/BOUNDARIES APPROXIMATED



CHECK BY	JW
DRAWN BY	JL
DATE	6/28/2022
SCALE	AS SHOWN
CAD NO.	RES22.7688A
PRJ NO.	RES012-0313063-22007688

**SITE LOCATION MAP**  
  
 LAUREL RANCH  
 LAUREL ROAD & COUNTRY HILLS DRIVE  
 ANTIOCH, CALIFORNIA



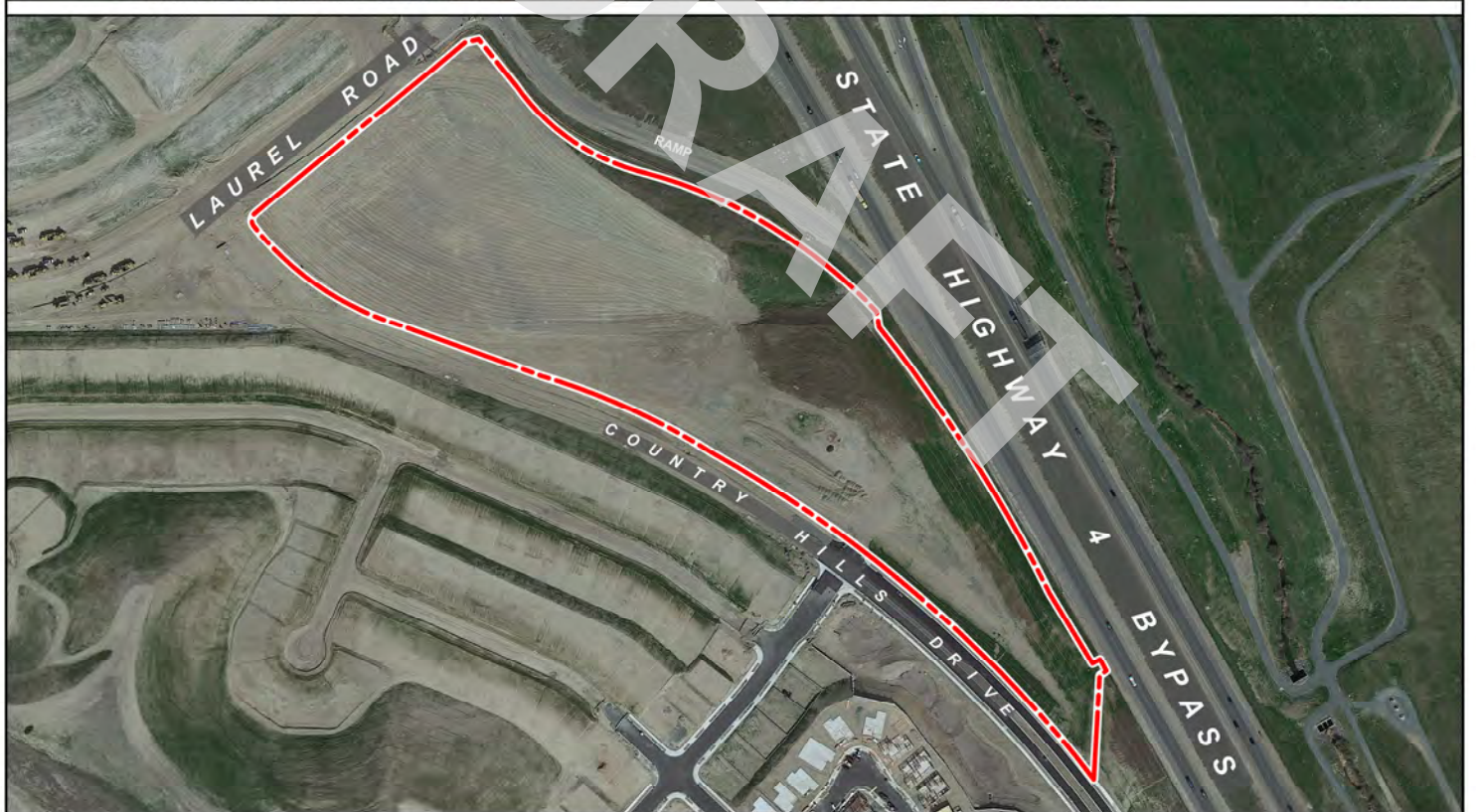
FIGURE

1

# **Site and Vicinity Plan**

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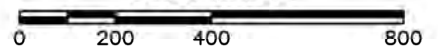


LEGEND

 SUBJECT PROPERTY BOUNDARY

TOP INSET MAP SCALE: 1" = 1,000'

SCALE IN FEET



MAP DATA ©2022 GOOGLE

CHECK BY	JW
DRAWN BY	JL
DATE	6/28/2022
SCALE	AS SHOWN
CAD NO.	RES22.7688b
PRJ NO.	RES012-0313063-22007688

SITE VICINITY MAP  
 LAUREL RANCH  
 LAUREL ROAD & COUNTRY HILLS DRIVE  
 ANTIOCH, CALIFORNIA



FIGURE

2





# Sampling Locations

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LEGEND	
	SUBJECT PROPERTY BOUNDARY
	SOIL SAMPLE LOCATION

CHK BY	JW
DWN BY	JL
DATE	6/28/2022
SCALE	AS SHOWN
CAD NO.	RES22.7688b
PRJ NO.	RES012-0313063-22007688

SOIL SAMPLE LOCATIONS

LAUREL RANCH  
 LAUREL ROAD & COUNTRY HILLS DRIVE  
 ANTIOCH, CALIFORNIA



FIGURE

3



# **Soil Analytical Results**

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**TABLE 1**  
**Soil Analytical Results**  
**Laurel Ranch**

Laurel Road and Country Hills Road, Antioch, California  
Project No. RES012-0313063-22007688

Boring Identification		S-1	S-2	S-3	S-4	S-5	S-6	USEPA RSL Residential (µg/kg)	SFRWQCB ESLs Residential (µg/kg)	DTSC-SLs Residential (µg/kg)	TTLC (µg/kg)
Sample Depth (feet bgs)		1'	1'	1'	1'	1'	1'				
Sample Date		6/23/2022	6/23/2022	6/23/2022	6/23/2022	6/23/2022	6/23/2022				
Organochlorine Pesticides (µg/kg)	Aldrin	ND	ND	ND	ND	ND	ND	41	2.4	39	1,400
	alpha-Hexachlorocyclohexane (Alpha-BHC)	ND	ND	ND	ND	ND	ND	110	-	86	-
	Beta-Hexachlorocyclohexane (Beta-BHC)	ND	ND	ND	ND	ND	ND	390	-	300	-
	Gamma-Chlordane	ND	ND	ND	ND	ND	ND	39,000	-	1,700	2,500
	alpha-Chlordane	ND	ND	ND	ND	ND	ND	39,000	-	1,700	2,500
	Chlordane, total	ND	ND	ND	ND	ND	ND	2,000	8.5	1,700	2,500
	4,4'-DDD	ND	ND	<b>0.17</b>	ND	ND	ND	2,900	2,700	2,300	1,000
	4,4'-DDE	<b>1.4</b>	<b>0.17</b>	<b>2.3</b>	ND	ND	ND	2,000	330	2,000	1,000
	4,4'-DDT	<b>0.37</b>	ND	<b>0.48</b>	ND	ND	ND	2,000	1.10	1,900	1,000
	delta-Hexachlorocyclohexane (Delta-BHC)	ND	ND	ND	ND	ND	ND	-	-	-	-
	Dieldrin	ND	ND	ND	ND	ND	ND	43	0.46	34	8,000
	Endosulfan I	ND	ND	ND	ND	ND	ND	470,000	9.8	450,000**	-
	Endosulfan II	ND	ND	ND	ND	ND	ND	-	-	-	-
	Endosulfan sulfate	ND	ND	ND	ND	ND	ND	470,000	-	-	-
	Endrin	ND	ND	ND	ND	ND	ND	23,000	1.1	19,000**	200
	Endrin aldehyde	ND	ND	ND	ND	ND	ND	-	-	-	-
	Endrin ketone	ND	ND	ND	ND	ND	ND	-	-	-	-
	gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	ND	ND	ND	ND	ND	ND	630	7.4	570	4,000
	Heptachlor	ND	ND	ND	ND	ND	ND	150	120	130	4,700
Heptachlor epoxide	ND	ND	ND	ND	ND	ND	76	0.18	70	-	
Methoxychlor	ND	ND	ND	ND	ND	ND	390,000	13	320,000**	100,000	
Toxaphene	ND	ND	ND	ND	ND	ND	630	510	450	5,000	

**Notes:**  
Organochlorine Pesticides analyzed by USEPA Method 8081A  
Organochlorine Pesticides results reported in micrograms per kilogram (µg/kg)  
DTSC-SLs = California Department of Toxic Substances Control-Modified Screening Levels (Table 1, DTSC-Recommended Screening Levels for Soil, June 2020) for Residential and Commercial/Industrial Cancer Endpoint  
SFRWQCB ESLs - San Francisco Bay Regional Water Quality Control Board Tier 1 Environmental Screening Levels for Residential Soil (Interim Workbook, Rev. 2, 2019)  
USEPA RSLs = United States Environmental Protection Agency, Regional Screening Levels with Target Hazard Quotients (THQ) of 1.0, November 2021  
TTLC = Total Threshold Limit Concentration from California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3  
\*\* refers to DTSC-SLs for Residential and Commercial/Industrial Noncancer Endpoint  
- = Not established for this compound and/or not analyzed  
ND = Not Detected Above Laboratory Reporting Limit  
NA = Not Analyzed  
Bold = Detected Above Laboratory Reporting Limit  
Bold and Highlighted = Detected Above the Regulatory Limit

# Photographs

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1 - Northwestern corner of Site looking east. Entrance into the construction storage area.



2 - Northwestern end of Site.



3 - Construction materials stored on Site.



4 - Concrete piping stored on Site.





5 - View of the site from the northwest looking southeast.



6 - Vacant land under development beyond Laurel Road to the northwest of the Site.





7 - Construction materials located at the northern corner of the Site.



8 - Additional construction materials on the northeastern portion of the Site adjacent to the Route 4 on ramp.



9 - Northeastern portion of the Site looking southeast along the Route 4 on ramp.



10 - Route 4 to the northeast of the Site.





11 - Construction materials located in the central portion of the Site.



12 - Excavator stored on the Site.



13 - 55-gallon drum of a lubricant located in the northeastern portion of the Site.



14 - Another view of construction materials located in the center of the Site.





15 - View looking southeast from the northeast.



16 - Refuse and debris located in the center of the Site.



17 - Overgrown area located on the eastern portion of the Site.



18 - Another view of an overgrown area of the Site on the eastern portion along Route 4.





19 - View from the center of the Site facing northwest.



20 - View from the center of the Site looking southeast.



21 - Residential buildings located to the southwest of the Site.



22 - Another view of the residential buildings to the southwest of the Site.





23 - Southeastern end of the Site.



24 - View of the southeastern portion of the Site looking southeast.



25 - View of the Site from the southeast looking northwest.



26 - Vacant land located to the southeast of the Site.



27 - View for the Site from the southeast end looking northwest.

# Resumes

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**Daniel Hisey**  
**Project Manager**

Mr. Hisey is a Project Manager in the Due Diligence Group for Apex's Rockville, Maryland office. He has over 12-years relevant environmental assessment experience and has conducted numerous environmental site assessments (ESAs) and All Appropriate Inquiry assessments for commercial and industrial properties. Mr. Hisey also conducts comprehensive building evaluations for asbestos-containing building materials (ACBMs), mold, and hazardous materials, and manages asbestos abatement projects. He also has performed numerous Phase II investigations for the collection of soil, groundwater, sub-slab vapor and soil gas vapor samples.

**EDUCATION**

B.S., Env. Science/Chemical Studies, Juniata College, PA. 2002

**PROFESSIONAL REGISTRATIONS/ CERTIFICATION/ TRAINING**

- Environmental Professional as defined in § 312.10 of 40 CFR Part 312
- ASTM Training: Property Condition Assessments
- 40-Hour OSHA HAZWOPER Training, # HAZW-APEX-2014-074
- 3-Day EPA AHERA Inspector Training, # MD-114467
- Virginia Asbestos Inspector License, # 3303 002924
- Maryland Asbestos Inspector License
- Tennessee Asbestos Inspector Accreditation # A-I-55255-35111
- Attended Environmental Data Resources, Inc. Due Diligence at Dawn Events - 2005, 2006, 2008, 2011, 2013

**GENERAL EXPERIENCE**

**2002 – Present      Project Manager/Environmental Scientist, Apex Companies, LLC, Rockville, Maryland.**

Conduct environmental site assessments, prepare Phase I and Phase II reports, conduct asbestos surveys and mold inspections, manage asbestos abatement projects, conduct initial insurance claim investigations, prepare Phase I, asbestos survey, and asbestos abatement proposals, and sample and monitor remediation systems.

**PROJECT EXPERIENCE**

**Phase I Environmental Site Assessment (Phase I ESA) –** Conducted Phase I ESAs of multiple shopping center properties in Maryland, the District of Columbia, Virginia, and Pennsylvania for a Real Estate Investment Trust in support of a refinancing transaction. The scope of work was consistent with the ASTM Standard Practice for ESAs as well as ING Protocols. Issues evaluated included the impact of current and/or historic onsite dry cleaning activities, underground storage tank issues, and the existence and applicability of state Voluntary Cleanup Programs.

Conducted Phase I ESAs in accordance with the ASTM Standard Practice for ESAs of multiple shopping center properties in Florida in support of property transactions. Issues evaluated included the impact of current and/or historic onsite dry cleaning activities, the impact of former onsite service stations and automobile repair facilities, and underground storage tank issues.

Performed and managed numerous Phase I ESAs of commercial office buildings and shopping centers in support of real estate financing and redevelopment. Assessment activities include a review of historic and regulation records, site inspections, environmental database review, and report preparation. Project experience includes sites in the District of Columbia, Pennsylvania, Maryland, Virginia, Delaware, Georgia, Florida, Tennessee, and New York.

**Phase I Environmental Site Assessment, Underground Storage Tank Compliance review, and Asbestos Survey** – Conducted a Phase I Environmental Site Assessment, Underground Storage Tank Compliance review, and asbestos survey of office buildings, retail promenade, two parking garages, and luxury hotel totaling 885,174 square feet in Washington DC. Activities included a review of prior documentation, historic review, regulatory review, and site reconnaissance.

**Phase II Subsurface Investigations** – Apartment Building in Washington, DC. Conducted a subsurface investigation of a residential apartment building in Washington, DC. Utilized hydraulic direct-push methods to collect soil samples and set temporary 1" polyvinyl chloride wells for groundwater sampling. Groundwater samples were collected using a peristaltic pump with dedicated tubing. Soil and groundwater samples were analyzed for total petroleum hydrocarbons.

**Commercial Dry Cleaners** – Assisted on subsurface investigations of active and inactive dry cleaners in shopping centers in Maryland, Virginia, and Georgia. Utilized a truck-mounted direct-push method to collect soil samples and set temporary 1" polyvinyl chloride wells for groundwater sampling. The wells were developed using dedicated disposable bailers. Groundwater samples were collected using dedicated polyethylene tubing and a peristaltic pump. Collected soil gas samples from 3/8" sub-slab polyethylene tubing connected to stainless steel Summa canisters. Soil and groundwater samples are typically analyzed for volatile organic compounds. Numerous projects have been conducted to meet application submittal requirements for the Maryland and Virginia Voluntary Cleanup Programs.

**Restaurant and Retail Site in Washington, DC** – Assisted on a subsurface investigation of a restaurant and retail property in Washington, DC. Utilized manual and hydraulic direct-push methods to collect interior and exterior soil and groundwater samples that were analyzed for volatile organic compounds.

**Former Commercial Site in Arlington, VA** – Conducted a subsurface investigation of a former commercial site in Arlington, VA. Utilized hydraulic direct-push methods to collect soil samples and set temporary 1" polyvinyl chloride wells for groundwater sampling. Groundwater samples were collected using a peristaltic pump with dedicated tubing. Soil and groundwater samples were analyzed for total petroleum hydrocarbons and volatile organic compounds.

**Phase I Environmental Site Assessments (ESA), National Environmental Policy Act (NEPA) Screenings, and State Historic Preservation Organization (SHPO) submittals** – Types of sites evaluated have included raw land sites, rooftop co-location sites, and co-location of telecommunications antennae on existing towers/structures. SHPO submittals have included surveys of historic properties within a prescribed area of potential effect surrounding the proposed site, weather balloon tests and crane tests to determine visibility of a proposed tower from historic resources within the area of potential effect, photograph simulations, archeological surveys, and architectural surveys.

Conducted Phase I Environmental Site Assessment of a nine-story office building in Maryland. The site was identified on the State of Maryland Oil Control Program case database due to soil contamination from a heating oil underground storage tank. Recommended and performed a subsurface investigation where soil samples were collected using direct-push sampling methodology. Groundwater samples were collected through temporarily installed polyvinyl chloride well screened points. The samples were obtained by using dedicated polyethylene tubing and a peristaltic pump. The soil and groundwater samples were analyzed for total petroleum hydrocarbons - diesel range organics.

**Phase I ESA and Hazardous Materials (HazMat) Surveys** – Conducted Phase I ESAs and hazmat surveys of commercial buildings, retail shopping centers, and county government buildings in Maryland and Virginia. Activities included a review of prior documentation, historic review, regulatory review, and site reconnaissance, as well as conducting an asbestos survey, and inspecting light fixtures, ballasts, switches, and other onsite hazardous materials. Also provided cost estimates for removal of onsite hazardous materials following completion of the surveys.

**Mold Inspections** – Performed mold inspections of newly developed homes and office buildings in the District of Columbia, Maryland, Virginia, and Delaware.

**Asbestos and Lead-based Paint Surveys** – Performed an asbestos-containing materials (ACM) data review and limited sampling survey of four buildings totaling 417,300 square feet located on a 22-acre site in Garden City, New York. Activities included review of a previous asbestos and hazardous materials report, conducting a site inspection of all safely accessible areas of the subject property buildings for suspect ACM, comparing the existing asbestos survey to current site conditions, and evaluating the

condition and the quantities of ACM and other hazardous materials identified in the previous report.

Managed and performed limited asbestos surveys of shopping centers in Delaware, Georgia, Florida, and Colorado.

Performed and assisted on comprehensive asbestos and lead-based paint surveys of numerous residential and commercial properties in the District of Columbia, Illinois, Delaware, Georgia, North Carolina, South Carolina, Maryland, and Virginia.

**Asbestos Abatements** – Managed asbestos abatement projects of commercial retail shopping center tenant spaces in Maryland and Virginia. Managed an asbestos abatement project of a former Safeway store located in Upper Marlboro, Maryland. Managed an asbestos and hazardous materials abatement project of a former Super Fresh grocery store in Maryland.

**Initial Insurance Claim Investigations** – Performed initial insurance claim investigations of suspected releases from services stations in Delaware, Maryland, and New Jersey.

**Large Scale Development Project, Arlington, VA** – Operated and maintained an activated carbon water-treatment system capable of treating up to 200 gallons per minute during construction dewatering activities. Field-screened potentially petroleum contaminated soils for proper disposal during massive excavation in Arlington, VA.

**Carbon Water-treatment System** – Operated and maintained an activated carbon water-treatment system capable of treating up to 1,000 gallons per minute during construction dewatering activities. Field-screened potentially petroleum contaminated soils for proper disposal during massive excavation in Washington, DC.

# Jennifer Woods

CONSULTANT III



Ms. Woods conducts Phase I Environmental Site Assessments (ESAs) for various financial, real estate, industrial, and commercial clients. Using American Society for Testing Materials (ASTM) standard practices as a guideline, Ms. Woods has conducted Phase I ESAs of industrial sites, commercial buildings, and undeveloped land throughout California, Arizona, Washington, Oregon, Nevada, Idaho, Montana, Colorado, Hawaii, and Texas. These have included performing historical research, interviewing owners, occupants, and local government officials, and generating reports. Ms. Woods also has participated in all phases of asbestos and lead projects. In addition, to assessing potential environmental conditions, Ms. Woods participates in Phase II investigative activities, including soil sampling, groundwater sampling, and soil vapor sampling.

## Education

BS, Environmental Science, University of California, San Diego (2015)

## Professional Registrations/Certification/Training

- Asbestos Hazard Emergency Response Act (AHERA) Building Inspector (6N10515)
- Asbestos Contractor/Supervisor (5N12392)
- Asbestos Certified Site Surveillance Technician (17-6101)
- Certified Lead Sampling Technician (28050)
- 40-Hour OSHA Hazwoper Trained

## General Experience

2019 – Present    Consultant III • Apex Companies, LLC

2015 – 2019        Consultant III • Bureau Veritas North America, Inc.

## Project Experience

### Phase I Environmental Site Assessment (ESAs)

Ms. Woods has conducted various Phase I ESAs throughout California, Arizona, Nevada, Oregon, Washington, Colorado, Hawaii, and Texas to satisfy due diligence investigations for real estate transactions, banks, real estate investment companies, developers, and property owners. Ms. Woods has conducted site inspections and investigated surrounding property usage; reviewed relevant regulatory files for investigations at the site or in the immediate area; and surveyed past site and surrounding property uses using aerial photographs, city directories, fire insurance maps, and government records.

### Phase II Subsurface Investigations

Ms. Woods has conducted a variety of activities associated with Phase II Subsurface Investigations including field soil, groundwater, and soil vapor sample collection and lithology description, data quality control, and generating reports.

### Asbestos and Lead Surveys

Ms. Woods has conducted a variety of asbestos and lead related services. Asbestos services include demolition to limited surveys of suspect asbestos-containing materials and air monitoring/oversight for asbestos abatement. Lead services include surveys for suspect lead paints by paint chip collection and XRF analyzer for direct readings of lead content.



# Jennifer Woods

Consultant III



## **National Environmental Policy Act (NEPA)**

Ms. Woods has conducted environmental assessments in Southern California in compliance with the National Environmental Protection Act (NEPA) for national telecommunication clients. Ms. Woods' research includes consultation with several bureaus within the United States Department of Interior such as National Park Services (NPS), United States Fish & Wildlife Services and Bureau of Land Management (BLM). In addition, Ms. Woods contacts state and local agencies, federally and non-federally recognized Native American Tribes concerning religious areas, and the California Historic Preservation Office. Ms. Woods has investigated potential wildlife and wilderness preserves, wetlands, endangered or threatened species and habitats and Native American religious areas. Ms. Woods has knowledge of the Federal Communications Commission's (FCC) Nationwide Programmatic Agreement (NPA).

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# Shannon Gillespie

PROGRAM MANAGER



Ms. Gillespie has over 30 years of technical experience in conducting environmental assessments and currently works on a national basis to maintain quality and consistency between offices. Ms. Gillespie supervises staff responsible for conducting Phase I Environmental Assessments and subsequent subsurface investigations and has final review of project deliverables. She interacts with clients and is responsible for assuring report timeliness and maintaining project budgets. She prepares Phase I and subsurface investigation proposals and conducts business development.

Ms. Gillespie has coordinated, managed, and conducted Phase I Environmental Assessments of residential, commercial, and industrial properties as part of real estate transactions for due diligence investigations. The Phase I assessments include site visits to inspect current site and vicinity usage, review of relevant regulatory files for investigations at the site or in the area, personnel interviews, reviews of hazardous material and waste handling practices, identifying potential sources of contamination and asbestos-containing materials, and surveys of past site and vicinity usage.

Ms. Gillespie also reviews environmental assessment reports for financial institutions to assess business risk and assists clients in the preparation of Hazardous Materials Business Plans. Additionally, she conducts Phase II and Phase III assessments to locate and determine the extent of soil and groundwater contamination. Her responsibilities include soil boring installation, developing site-specific work plans and health and safety plans, interpreting analytical results, estimating volumes of impacted soil and groundwater, estimating remediation costs and report preparation.

## Education

BS, Chemistry, Arizona State University (1986)

## Professional Registrations/Certification/Training

- California Registered Environmental Assessor (REA-03582)
- Certified Environmental Specialist (13564)
- OSHA 40-Hour Hazwoper

## General Experience

### 2019 – Present Project Manager • Apex Companies, LLC

1989 – 2019	Program Manager • Bureau Veritas North America, Inc.
1988-1989	Rollins Chempak, Inc.
1987-1988	Disposal Control Service
1987	Maricopa County Landfill Department
1985	Salt River Project

## Project Experience

### CERCLA Preliminary Assessment – State of California Real Estate Division

Ms. Gillespie prepared a CERCLA preliminary assessment for a 1,300-acre Department of Defense and California Army National Guard installation (Los Alamitos Armed Forces Reserve Center). The assessment included: a review of available files, personnel interviews, onsite and offsite reconnaissance, historical aerial photograph review and survey of potential sources of past and current contamination and contaminant sources. The preliminary assessment indicated that past and present operations at the installation had involved in use, storage, treatment, spillage, leakage, and disposal of materials



# Shannon Gillespie

Program Manager



and/or wastes that are now considered hazardous. These materials and wastes were used in a variety of aircraft and vehicle maintenance, fuel storage, landfilling, aircraft-washing, and other facility activities and operations. Based on this information, potential areas of concern at the installation requiring site investigation activities were identified. The Preliminary Assessment was conducted using guidelines developed by the U.S. Environmental Protection Agency (EPA), Waste Management Division, Region IX and California Department of Toxic Substances (DTSC).

The SI included twelve potential areas of concern identified in the Preliminary Assessment. The areas included two landfills, a flight line area, revetments, fuel tank farms, former rifle ranges, clarifiers, munitions bunkers, agricultural areas and a wastewater treatment plant. Investigation included the collection of air, surface water, groundwater, soil and soil vapor samples to assess the presence of various contaminants that were identified in the previous assessments. Ms. Gillespie was an integral member of the team in the evaluation of data collected during the SI and generation of the remedial investigation work plan, health and safety plan, quality assurance project plan, and field sampling plan.

## **Phase I Environmental Site Assessment (ESAs) – Lending Institute**

Ms. Gillespie supervised the completion of a 45-site portfolio for a major lending institute to satisfy due diligence. The sites were located in California, Texas, and Arizona and required the coordination of staff from three other offices. All field work and written reports had to be completed within a four week period of time and within a tight budget. Ms. Gillespie solely maintained client contact and reviewed all deliverables prior to submittal to client. Some of the projects required subsequent Phase II investigations based on findings during the Phase I.

## **Phase I Environmental Site Assessment (ESAs) – Auto Manufacturing Company**

Ms. Gillespie conducting a Phase I ESA of a previously industrial buildings and adjacent agricultural field prior to the client purchasing properties. Based on the findings of the site inspection, a subsurface investigation was conducted simultaneous to the completion of the Phase I. The subsurface investigation had to be completed within five days and included 34 boreholes using direct push methods and over 160 samples. One report was submitted to the client that included both the Phase I and subsurface investigation.

## **Phase I Environmental Site Assessment (ESAs) – National Cellular Communications Company**

Ms. Gillespie managed the completion of over 1,000 assessments for a cellular communications company since 2001 to satisfy due diligence. Completion of the projects, which included Phase I ESAs, Phase 2 assessments, asbestos and lead sampling and NEPA work, required the coordination of staff from five other offices. All fieldwork and written reports had to be completed within a quick turnaround and within a tight budget. Ms. Gillespie solely maintained client contact and reviewed all deliverables prior to submittal to client.

## **Phase I Environmental Site Assessment (ESAs) – National Storage Facility Company**

Ms. Gillespie managed the completion of over 300 assessments for a storage facility company since 2018 to satisfy due diligence. Completion of the projects, which included Phase I ESAs, Phase 2 assessments, and asbestos and lead sampling, required the coordination of staff from many other offices across the nation. Work has also included a 50-site portfolio completed within a 3-week turnaround. All work is conducted through either internal or external counsel. All fieldwork and written reports had to be completed within a quick turnaround and within a tight budget. Ms. Gillespie solely maintained client contact and reviewed all deliverables prior to submittal to client.

# Shannon Gillespie

DUE DILIGENCE PROGRAM MANAGER



Ms. Gillespie has over 30 years of technical experience in conducting environmental assessments and currently works on a national basis to maintain quality and consistency between offices. Ms. Gillespie supervises staff responsible for conducting Phase I Environmental Site Assessments (ESAs) and subsequent subsurface investigations, as well as asbestos and lead assessments, and has final review of project deliverables. She interacts with clients and is responsible for assuring report timeliness and maintaining project budgets. She prepares Phase I and subsurface investigation proposals and conducts business development.

She has coordinated, managed, and conducted Phase I Environmental Assessments of residential, commercial, and industrial properties as part of real estate transactions for due diligence investigations. Ms. Gillespie also reviews environmental assessment reports for many diverse clients to assess business risk and assists clients in the preparation of Materials Management Plans. Additionally, she conducts Phase II and Phase III assessments to locate and determine the extent of soil and groundwater contamination. Her responsibilities include soil boring installation, developing site-specific work plans and health and safety plans, interpreting analytical results, estimating volumes of impacted soil and groundwater, estimating remediation costs and report preparation.

## Project Experience

### **Due Diligence Work • Self Storage Facility Company • Nationwide Locations**

Managed the completion of hundreds of assessments, including large portfolios, for a national self-storage facility company since 2019 to satisfy due diligence. Completion of the project, which included Phase I ESAs, subsurface investigations, No Action Determinations, and asbestos and lead surveys, required the coordination of staff from Apex offices across the nation. All fieldwork and written reports had to be completed within a quick turnaround and within a tight budget. She solely maintained client contact and reviewed all deliverables prior to submittal to client.

### **CERCLA Preliminary Assessment – State of California Real Estate Division • Los Alamitos, CA**

Prepared a CERCLA preliminary assessment for a 1,300-acre Department of Defense and California Army National Guard installation (Los Alamitos Armed Forces Reserve Center). The assessment included: a review of available files, personnel interviews, onsite and offsite reconnaissance, historical aerial photograph review and survey of potential sources of past and current contamination and contaminant sources. The preliminary assessment indicated that past and present operations at the installation had involved in use, storage, treatment, spillage, leakage, and disposal of materials and/or wastes that are now considered hazardous. These materials and wastes were used in a variety of aircraft and vehicle maintenance, fuel storage, landfilling, aircraft-washing, and other facility activities and operations. Based on this information, potential areas of concern at the installation requiring site investigation activities were identified. The Preliminary Assessment was conducted using guidelines developed by the U.S. Environmental Protection Agency (EPA), Waste Management Division, Region IX and California Department of Toxic Substances (DTSC).

# Shannon Gillespie

DUE DILIGENCE PROGRAM MANAGER



The Site Investigation included twelve potential areas of concern identified in the Preliminary Assessment. The areas included two landfills, a flight line area, revetments, fuel tank farms, former rifle ranges, clarifiers, munitions bunkers, agricultural areas and a wastewater treatment plant. Investigation included the collection of air, surface water, groundwater, soil and soil vapor samples to assess the presence of various contaminants that were identified in the previous assessments. Integral member of the team in the evaluation of data collected during the SI and generation of the remedial investigation work plan, health and safety plan, quality assurance project plan, and field sampling plan.

## **Phase I Environmental Site Assessment (ESAs) • Lending Institute • CA, TX, AZ**

Supervised the completion of a 45-site portfolio, as well as many other Phase Is, for a major lending institute to satisfy due diligence. The sites were located in California, Texas, and Arizona and required the coordination of staff from three other offices. All field work and written reports had to be completed within a four-week period of time and within a tight budget. She solely maintained client contact and reviewed all deliverables prior to submittal to client. Some of the projects required subsequent Phase II investigations based on findings during the Phase I.

## **Phase I Environmental Site Assessment /Due Diligence Work • Cellular Communications Company • CA, HI, CO, MT, NV**

Managed the completion of over 1,000 assessments for a cellular communications company since 2001 to satisfy due diligence. Completion of the project, which included Phase I ESAs, NEPA work, subsurface investigations, materials management plans, oversight of ground disturbance and asbestos and lead surveys, required the coordination of staff from five other offices. All fieldwork and written reports had to be completed within a quick turnaround and within a tight budget. She solely maintained client contact and reviewed all deliverables prior to submittal to client.

## **Education**

- BS, Chemistry, Arizona State University (1986)

## **Professional Registrations/Certification/Training**

- Registered Environmental Property Assessor
- Certified Environmental Specialist (13564)
- OSHA 40-Hour HAZWOPER (with annual 8-hour refresher)



# User Questionnaire

DRAFT

**ASTM PRACTICE E 1527-21 USER/CLIENT QUESTIONNAIRE**  
**To be returned to Apex with the authorized proposal**

This Questionnaire is required to be completed by **the User/Client**.

**GENERAL INFORMATION**

User/Client Name(s):	TBD
Property Name and Address (Include known current and former address[es] and parcel no.):	Laurel Road and Country Hills Drive, Antioch, CA
Property Acreage:	18.55
Current Property Type (Designate property type and list current tenants [business name and type of operation]):	Residential: <input type="checkbox"/> Commercial: <input type="checkbox"/> Industrial: <input type="checkbox"/> Other: <input type="checkbox"/>
Type of Property Transaction with respect to User (Designate one):	Purchase: <input checked="" type="checkbox"/> Lease: <input type="checkbox"/> Other (provide further information): <input type="checkbox"/>
Reason Phase I is Required (Check all that apply):	<i>Landowner Liability Protections</i> (e.g. Innocent Landowner Defense): <input checked="" type="checkbox"/> Evaluation of Business Risk: <input type="checkbox"/> Other (list): <input type="checkbox"/>  (Note: If no reason is given it is assumed that this assessment is being performed to satisfy one of the requirements for <i>Landowner Liability Protections</i> to <i>CERCLA</i> liability.
Site Owner/ Contact(s) (Name and phone number):	Charles McKeag charles@SEVENWESTCAP.COM

Please provide the above information as well as a site plan (ALTA Survey, if available) which clearly designates the boundaries of the subject property for purposes of this Phase I ESA. A list of other Helpful Documents is included with the proposal.

Providing the following information (if available) to the *environmental professional* (Apex) is one of the requirements to qualify for one of the *Landowner Liability Protections (LLPs)* offered under CERCLA. Missing or incomplete information could result in a determination that “*all appropriate inquiry*” is not complete. If further information is desired regarding these issues, Apex recommends you consult with an Environmental Attorney.

**REQUIRED INFORMATION**

The citation at the end of each item (e.g., 40 CFR 312.XX) is the section of EPA’s November 1, 2005 AAI Final Rule which discusses that item. The ASTM Standard requires that reasonably ascertainable recorded land title records that are filed under federal, tribal, state and local law should be reviewed to determine the presence of Environmental Liens and Activity and Use Limitations (AULs) that are currently recorded against the property. This should also include a review of Environmental Liens and AULs that are imposed by judicial authorities and recorded/filed in judicial records. The Standard recommends that the User retain a title company or title professional to undertake a review of recorded land title records. Furthermore, the User is to provide any actual knowledge on Environmental Liens and AULs, as well as other selected information regarding *recognized environmental conditions*, to the *environmental professional*.

**1. Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).**

Given the above requirement, are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law? (Check One)

No:   x  

Yes (If “Yes” provide further information):   

(Note: If you desire that Apex retain a title company/title professional on your behalf to review reasonably ascertainable recorded land title records for the presence of environmental cleanup liens and AULs currently recorded against the property please designate such on the Proposal Acceptance Agreement)

**2. Activity and land use limitations (AULs) that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).**

Given the above requirement, are you aware of any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? (Check One)

No:   x  

Yes (If “Yes” provide further information):



**3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).**

As the *user* of this *ESA* do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business? (Check One)

No:

Yes (If "Yes" provide further information):

**4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).**

Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes:

No (If "No" provide further information):

Not Applicable (e.g., transaction is a lease):

**5. Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).**

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases?

No:

Yes (If "Yes" provide further information):

For example, as *user*,

(a.) Do you know the past uses of the *property*?

No:

Yes (If "Yes" provide further information):

(b.) Do you know of specific chemicals that are present or once were present at the *property*?

No:

Yes (If "Yes" provide further information):

(c.) Do you know of spills or other chemical releases that have taken place at the *property*?

No:

Yes (If "Yes" provide further information):

(d.) Do you know of any environmental cleanups that have taken place at the *property*?

No:

Yes (If "Yes" provide further information):

**6. The degree of obviousness of the presence or likely presence of contamination at the *property* and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).**

As the *user* of this *ESA*, based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*?

No:

Yes (If "Yes" provide further information):

**7. Proceedings involving the *property* (ASTM E 1527-13 § 10.9).**

Are you aware of any of the following:

(a.) Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property?

No:  X

Yes (If "Yes" provide further information):  \_\_\_

(b.) Any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property?

No:  X

Yes (If "Yes" provide further information):  \_\_\_

(c.) Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?

No:  X

Yes (If "Yes" provide further information):  \_\_\_

**SIGNATURE**

It is understood that the information presented in this form is an integral part of the Phase I ESA process and that Apex will evaluate and rely on this information in the development of the final Phase I ESA report.

Questionnaire Prepared

By:  P. Wilson

Print/Type Name: Pam Wilson

Title:  
VP Investment Underwriting

Company:  
Resmark Equity Partners

Date:  
6.13.2022

# Aerial Photographs

DRAFT



# HISTORICAL AERIALS

**Project Property:** Resmark - Antioch  
Laurel Road and Country Hills Road  
Antioch CA

**Project No:** RES012-0313063-22007688

**Requested By:** Apex Companies, LLC

**Order No:** 22061400618

**Date Completed:** June 16,2022

Aerial Maps included in this report are produced by the sources listed above and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property. ERIS provides no warranty of accuracy or liability. The information contained in this report has been produced using aerial photos listed in above sources by ERIS Information Inc. (in the US) and ERIS Information Limited Partnership (in Canada), both doing business as 'ERIS'. The maps contained in this report do not purport to be and do not constitute a guarantee of the accuracy of the information contained herein. Although ERIS has endeavored to present information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.

## **Environmental Risk Information Services**

*A division of Glacier Media Inc.*

1.866.517.5204 | [info@erisinfo.com](mailto:info@erisinfo.com) | [erisinfo.com](http://erisinfo.com)

<b>Date</b>	<b>Source</b>	<b>Scale</b>	<b>Comments</b>
2020	United States Department of Agriculture	1" = 500'	
2018	United States Department of Agriculture	1" = 500'	
2016	United States Department of Agriculture	1" = 500'	
2014	United States Department of Agriculture	1" = 500'	
2012	United States Department of Agriculture	1" = 500'	
2010	United States Department of Agriculture	1" = 500'	
2005	United States Department of Agriculture	1" = 500'	
1993	United States Geological Survey	1" = 500'	
1988	United States Geological Survey	1" = 500'	
1982	United States Geological Survey	1" = 500'	
1974	United States Geological Survey	1" = 500'	
1968	United States Geological Survey	1" = 500'	
1958	Agricultural Stabilization & Conserv. Service	1" = 500'	
1949	United States Geological Survey	1" = 500'	
1939	FAIRCHILD	1" = 500'	

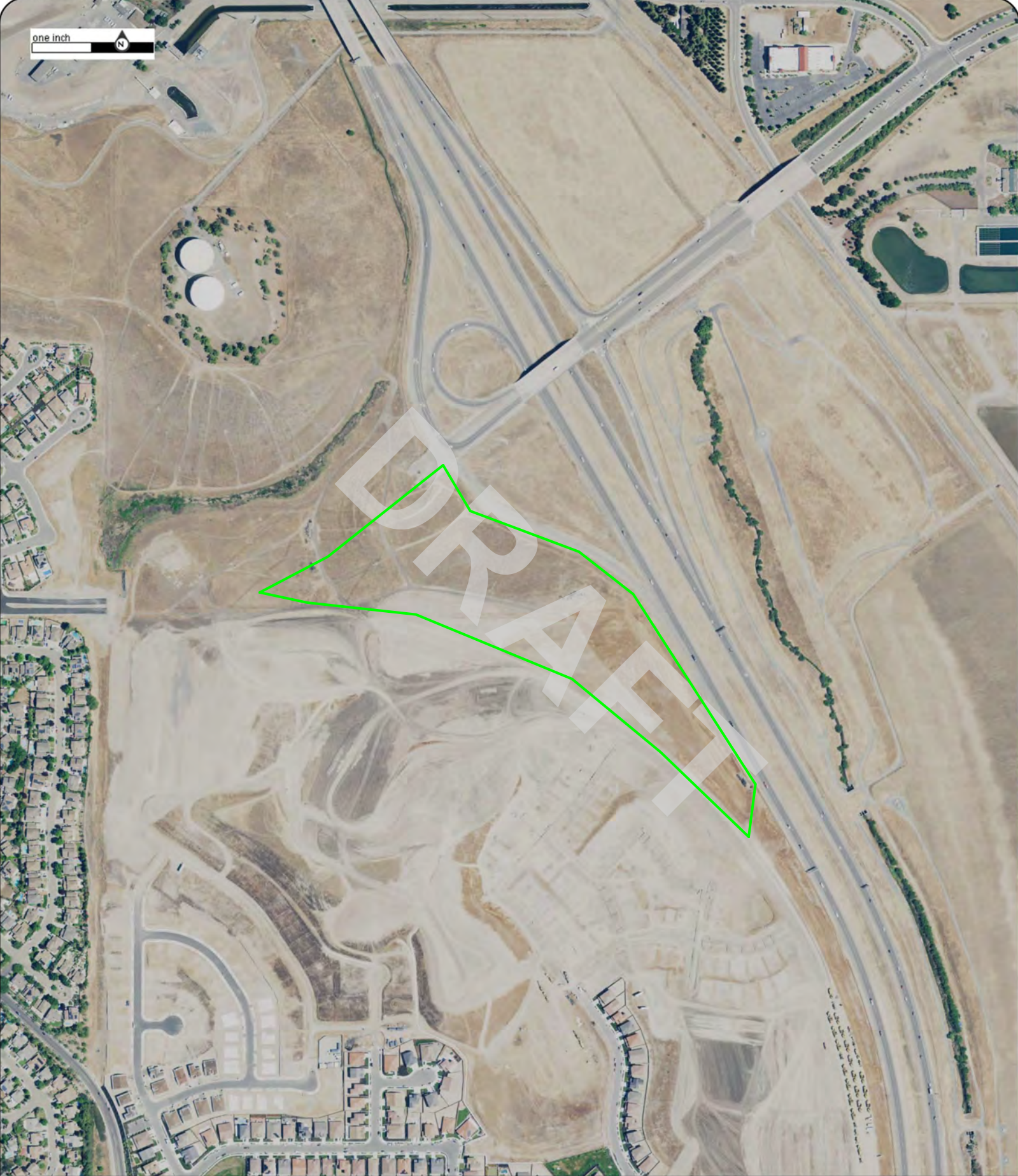
**Environmental Risk Information Services**

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1.866.517.5204 | [info@erisinfo.com](mailto:info@erisinfo.com) | [erisinfo.com](http://erisinfo.com)



one inch



Year: 2020  
Source: USDA  
Scale: 1" = 500'  
Comment:

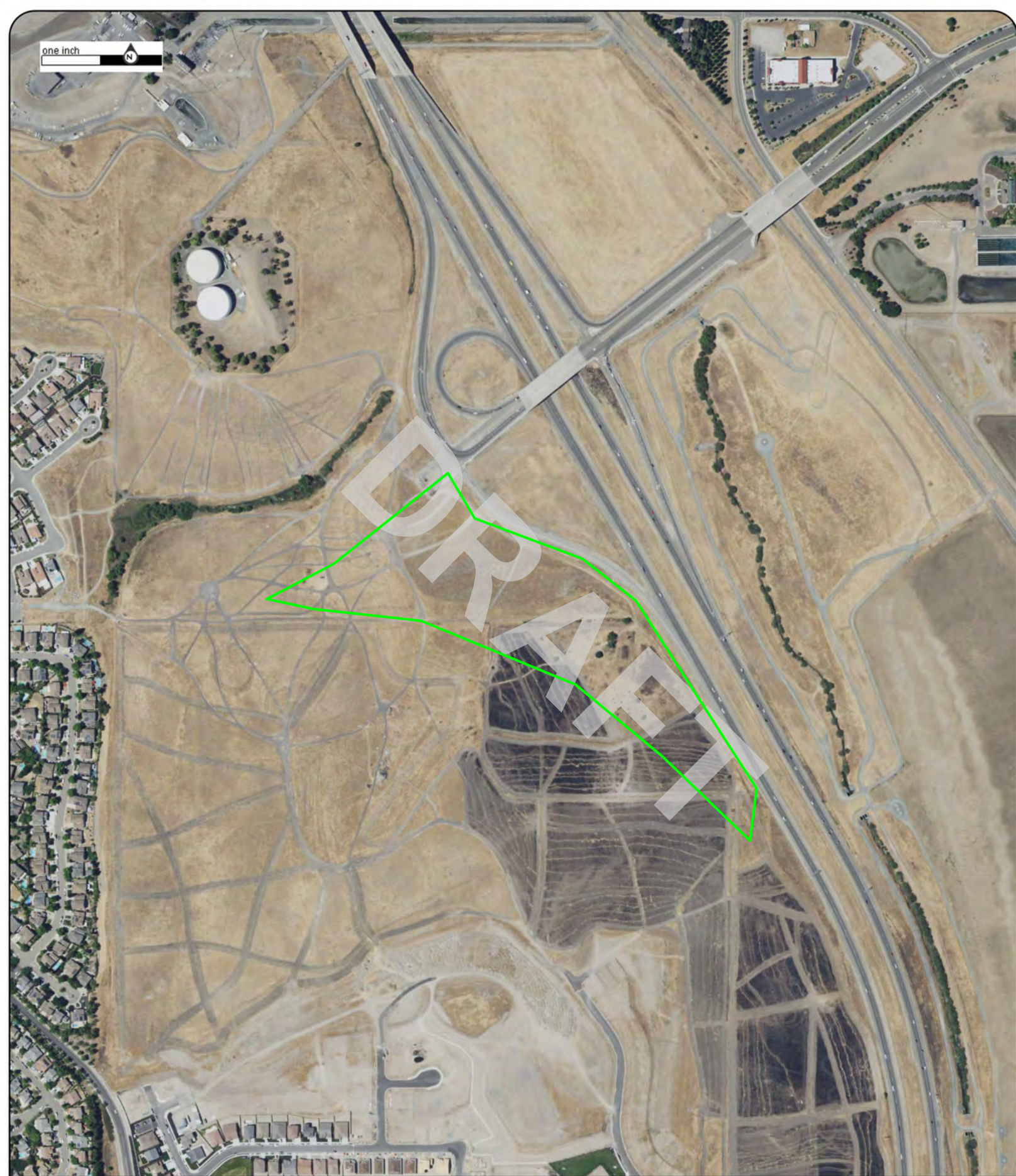
Address: Laurel Road and Country Hills Road, Antioch,  
CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



Year: 2018  
Source: USDA  
Scale: 1" = 500'  
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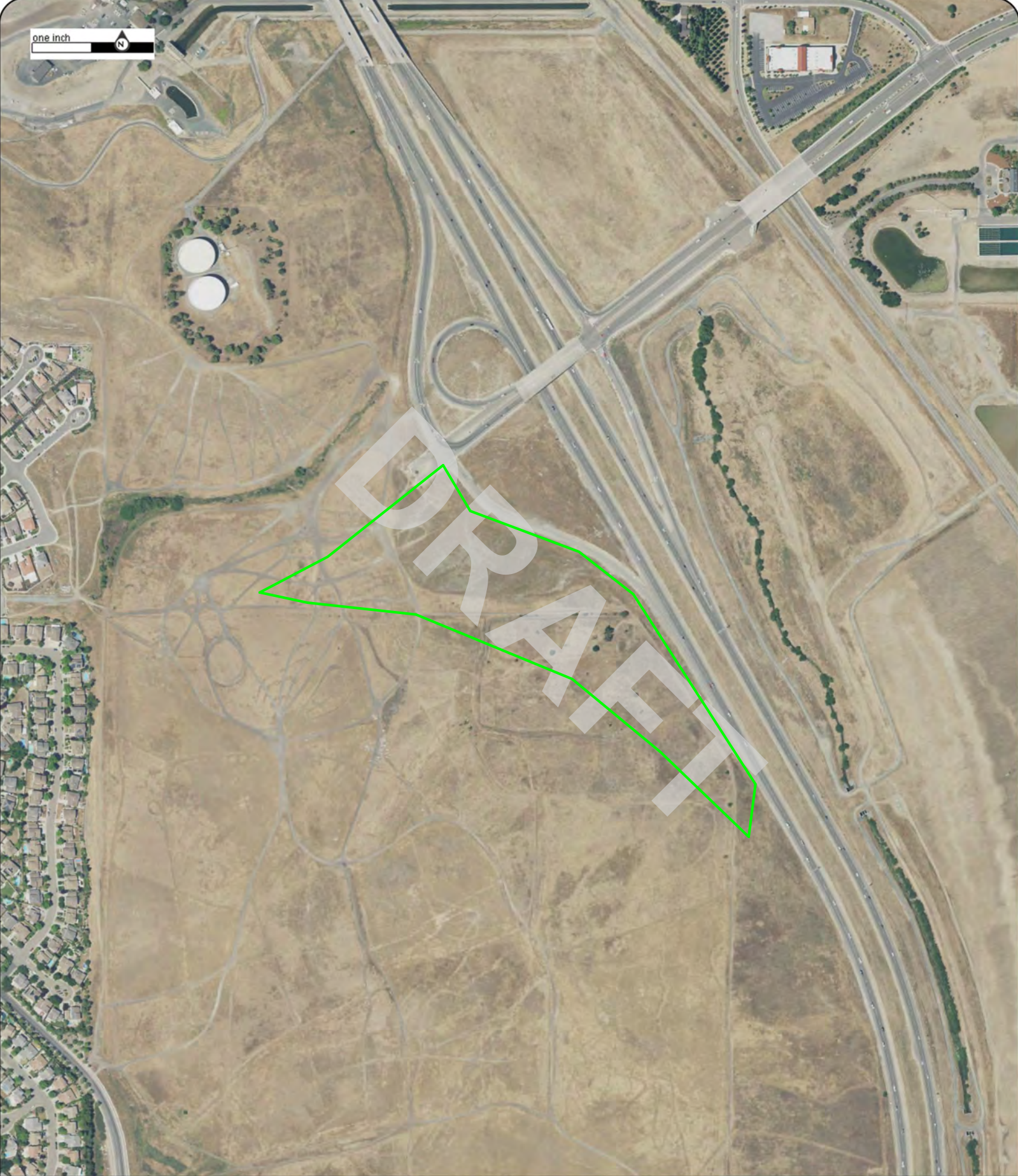
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CA  
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Order No: 22061400618





one inch



Year: 2016  
Source: USDA  
Scale: 1" = 500'  
Comment:

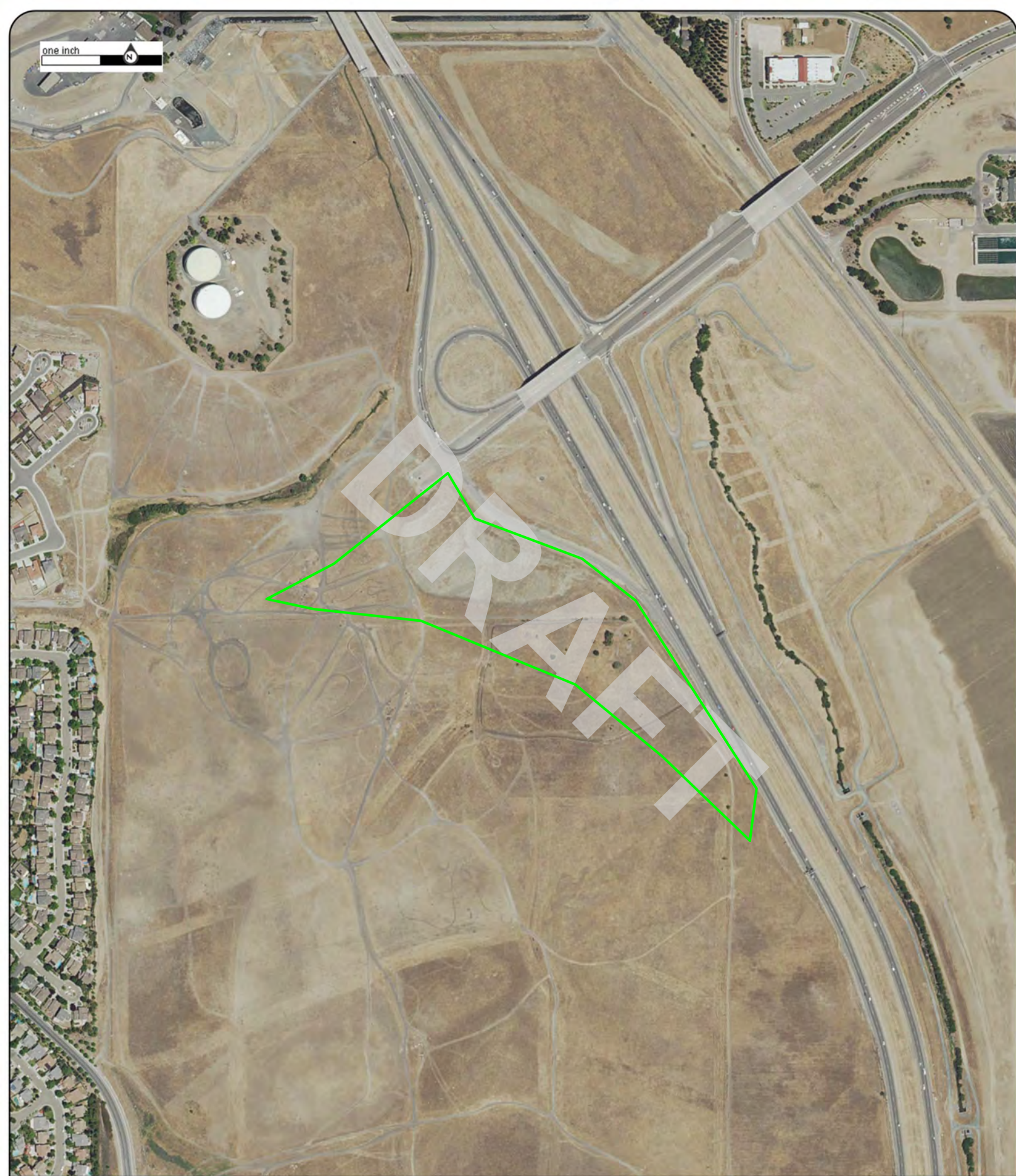
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CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



Year: 2014  
Source: USDA  
Scale: 1" = 500'  
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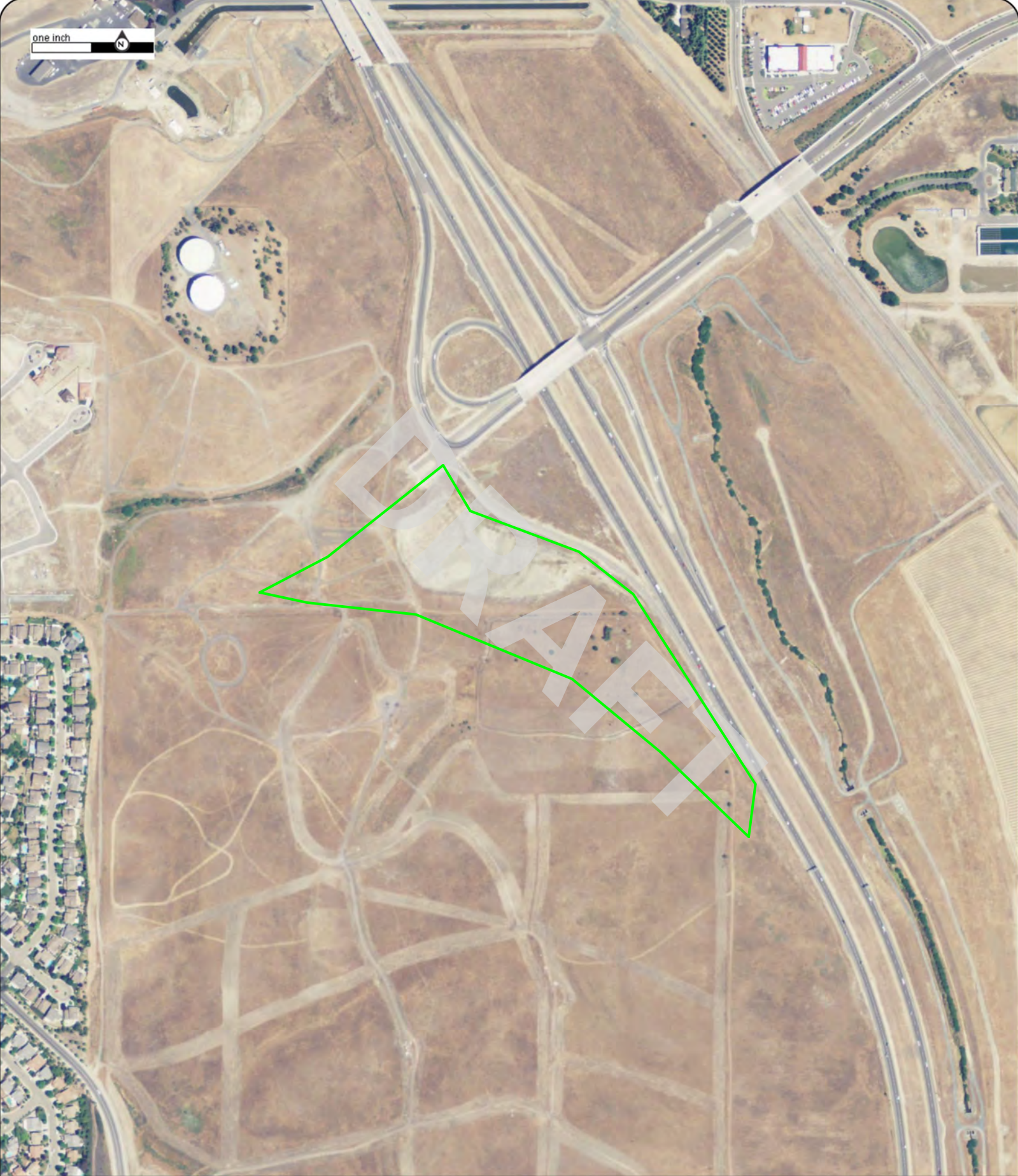
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CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



Year: 2012  
Source: USDA  
Scale: 1" = 500'  
Comment:

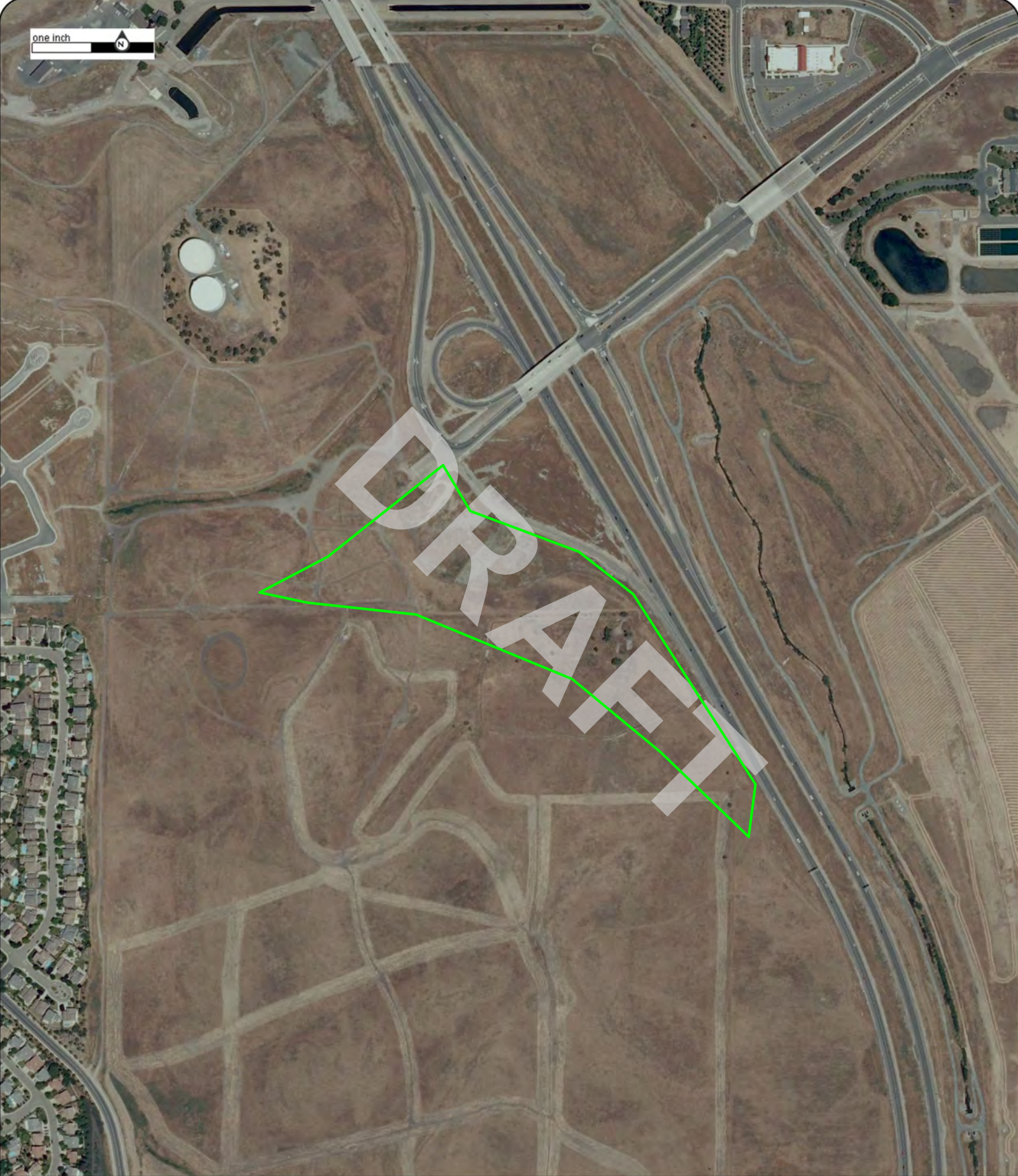
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CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



Year: 2010  
Source: USDA  
Scale: 1" = 500'  
Comment:

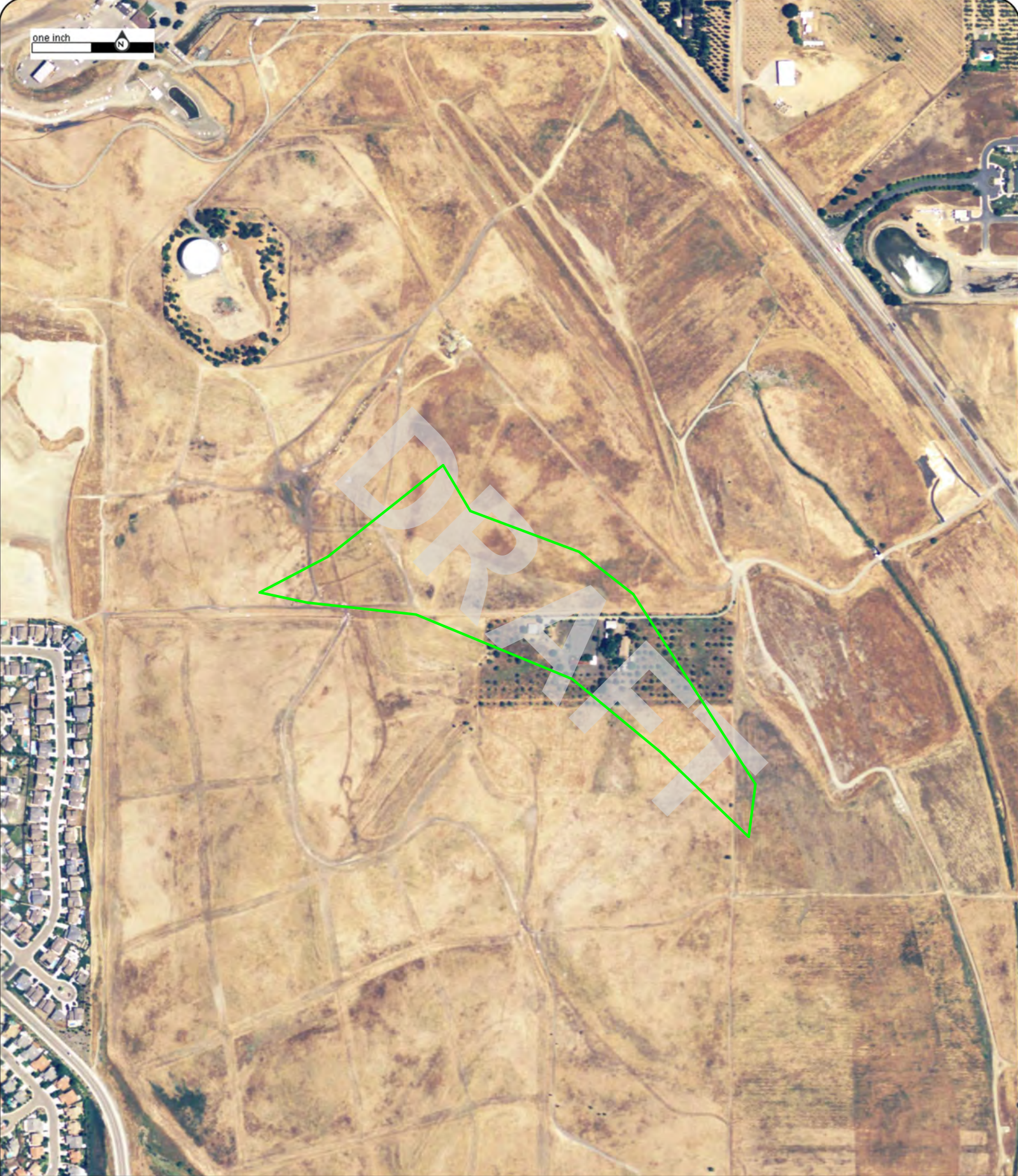
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CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



Year: 2005  
Source: USDA  
Scale: 1" = 500'  
Comment:

Address: Laurel Road and Country Hills Road, Antioch,  
CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



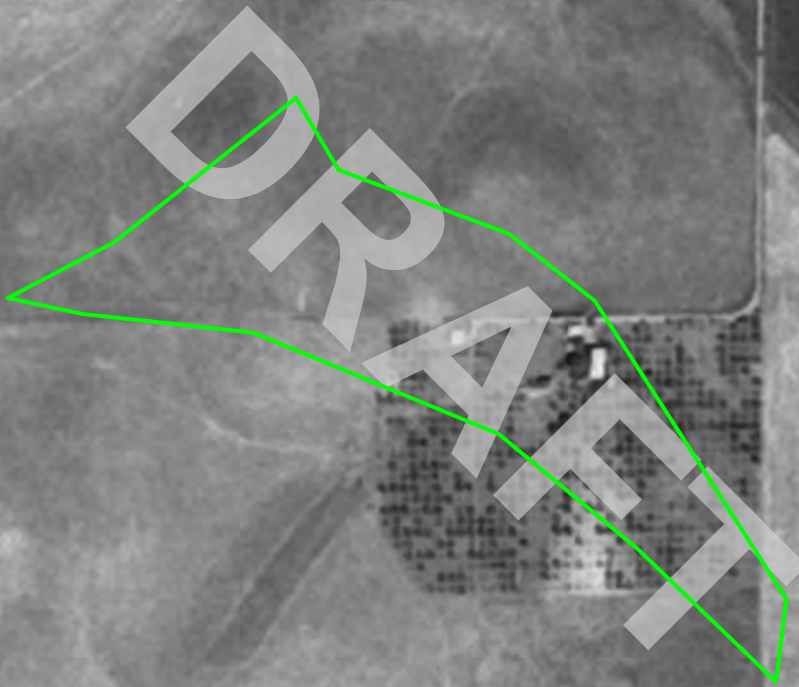
Year: 1993  
Source: USGS  
Scale: 1" = 500'  
Comment:

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CA  
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Order No: 22061400618



one inch



Year: 1988  
Source: USGS  
Scale: 1" = 500'  
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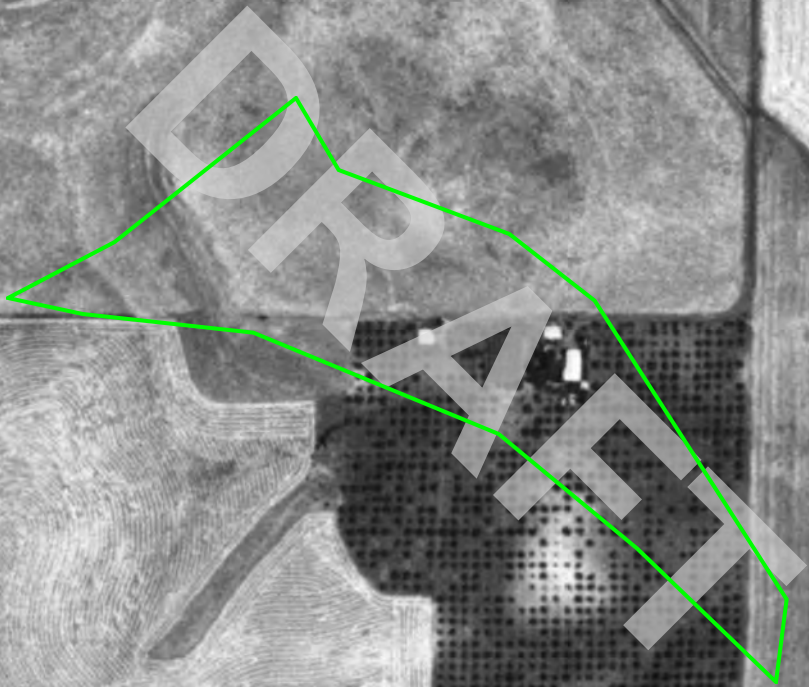
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CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



Year: 1982  
Source: USGS  
Scale: 1" = 500'  
Comment:

Address: Laurel Road and Country Hills Road, Antioch,  
CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



Year: 1974  
Source: USGS  
Scale: 1" = 500'  
Comment:

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CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



Year: 1968  
Source: USGS  
Scale: 1" = 500'  
Comment:

Address: Laurel Road and Country Hills Road, Antioch,  
CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



Year: 1958  
Source: ASCS  
Scale: 1" = 500'  
Comment:

Address: Laurel Road and Country Hills Road, Antioch,  
CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



Year: 1949  
Source: USGS  
Scale: 1" = 500'  
Comment:

Address: Laurel Road and Country Hills Road, Antioch,  
CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618





one inch



DRAFT

Year: 1939  
Source: FAIRCHILD  
Scale: 1" = 500'  
Comment:

Address: Laurel Road and Country Hills Road, Antioch,  
CA  
Approx Center: -121.74450154,37.97592308

Order No: 22061400618



# Topographic Maps

DRAFT





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# TOPOGRAPHIC MAPS

**Project Property:** Resmark - Antioch  
Laurel Road and Country Hills Road  
Antioch CA None

**Project No:** RES012-0313063-22007688

**Requested By:** Apex Companies, LLC

**Order No:** 22061400618

**Date Completed:** June 15, 2022

We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2021	7.5
2018	7.5
2015	7.5
1980	7.5
1978	7.5
1973	7.5
1968	7.5
1954	7.5
1953	7.5
1916	7.5
1914	7.5
1943	15
1940	15
1916	15
1898	15
1896	15

**Topographic Map Symbology for the maps may be available in the following documents:**

*Pre-1947*

[Page 223 of 1918 Topographic Instructions](#)

[Page 130 of 1928 Topographic Instructions](#)

*1947-2009*

[Topographic Map Symbols](#)

*2009-present*

[US Topo Map Symbols](#)

Topographic Maps included in this report are produced by the USGS and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property.

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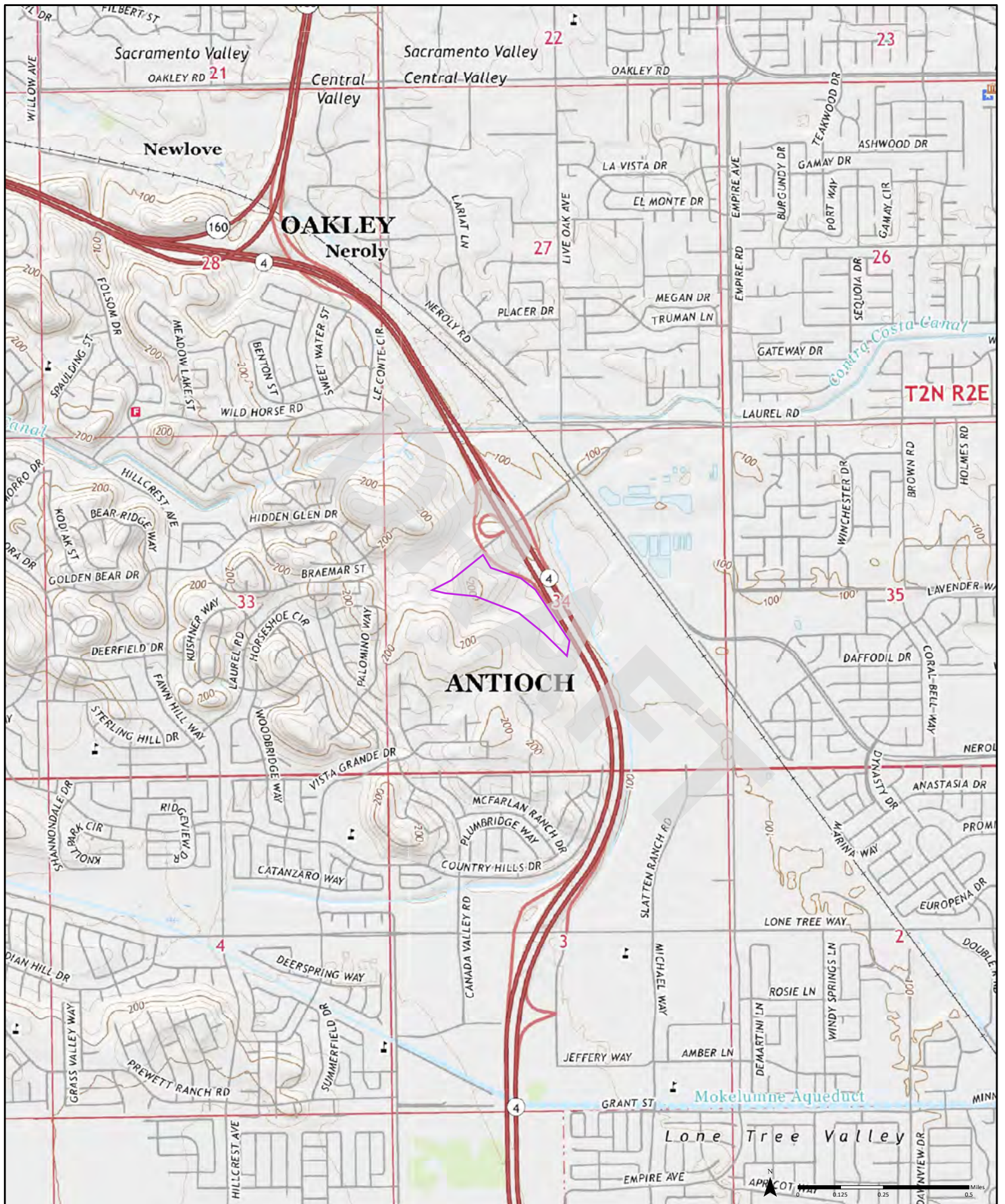
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2021

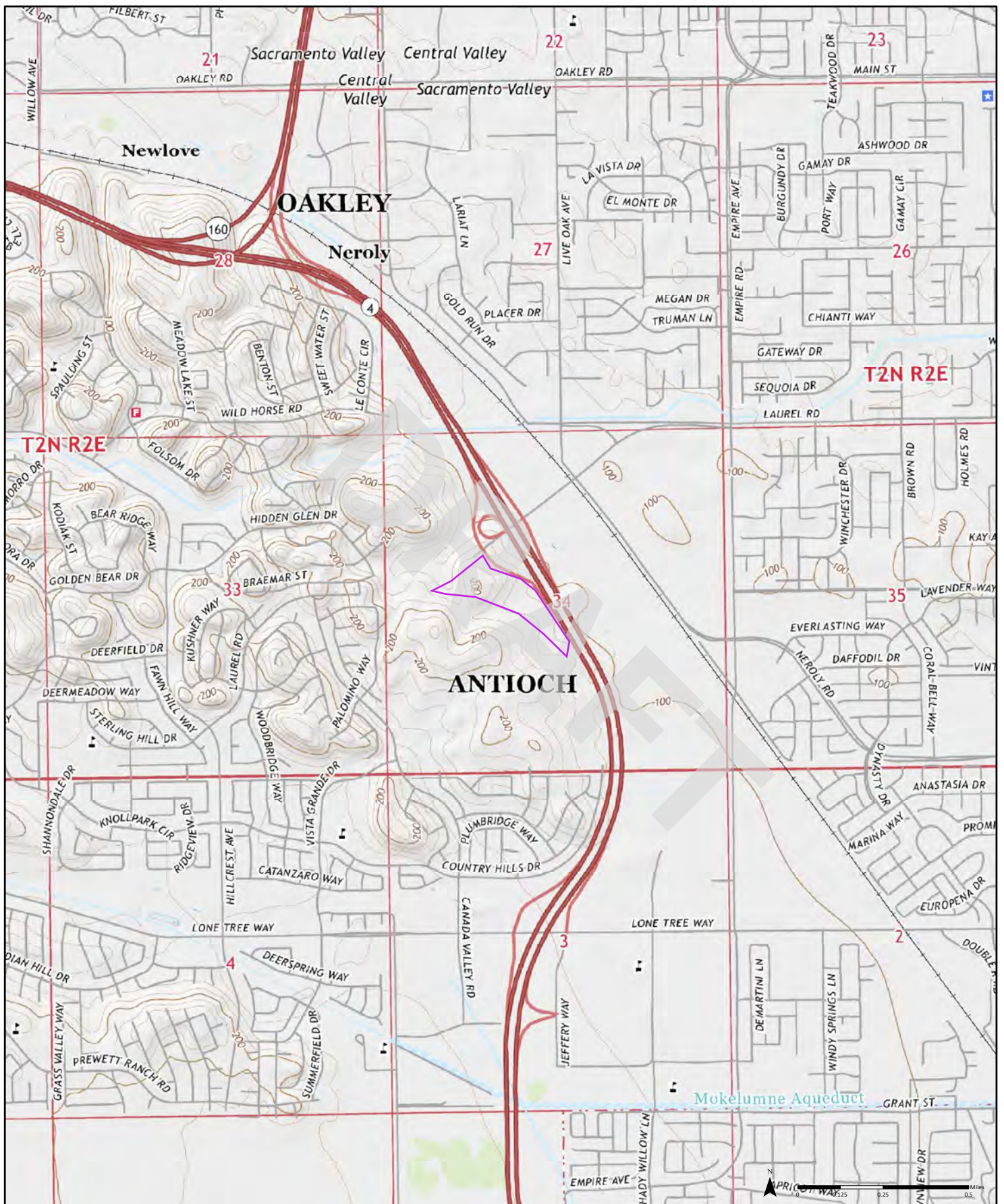
Quadrangle(s): Brentwood, CA| Antioch South, CA| Antioch North, CA| Jersey Island, CA|

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







2018

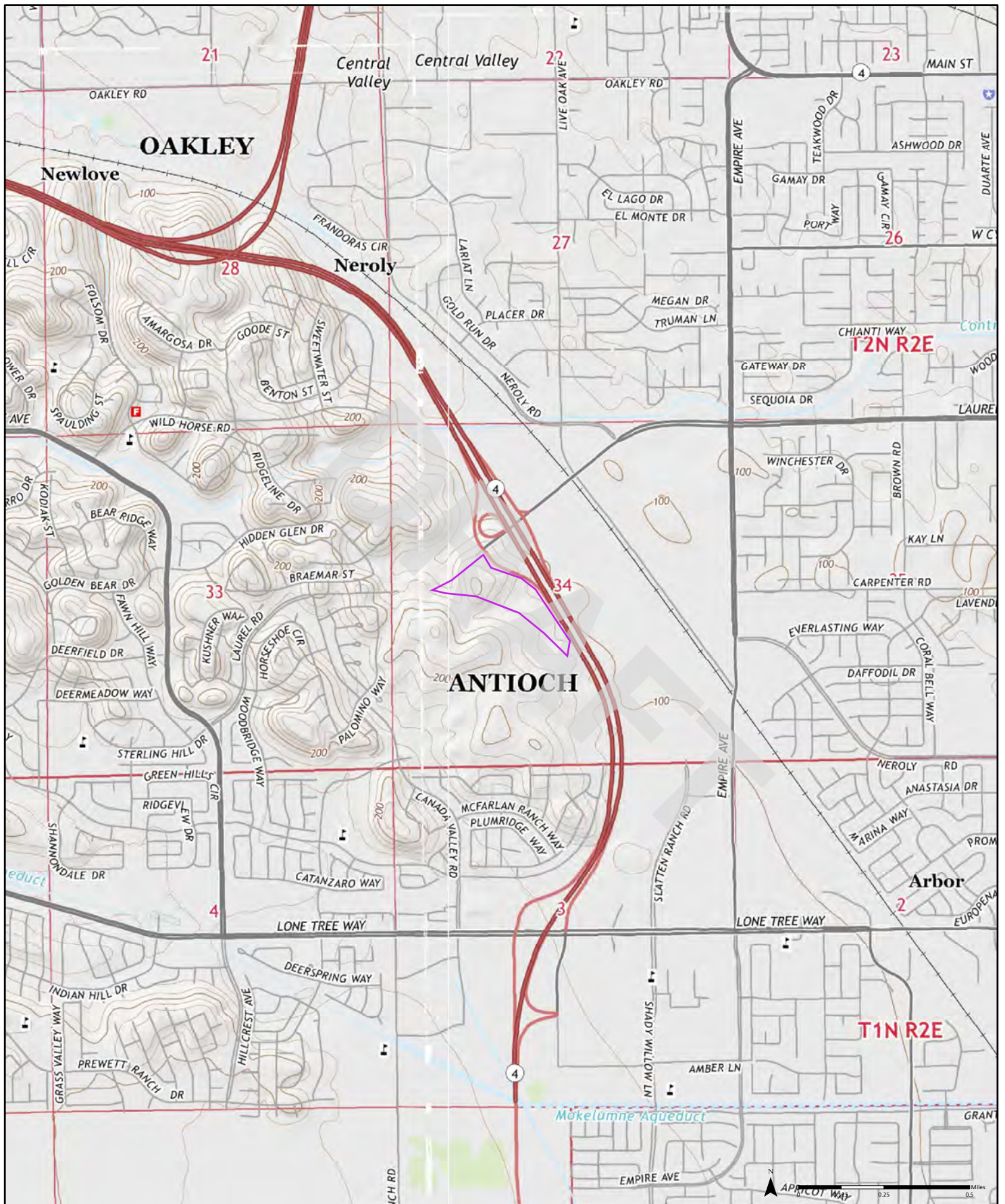
Quadrangle(s): Antioch North, CA| Jersey Island, CA| Brentwood, CA| Antioch South, CA|

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







2015

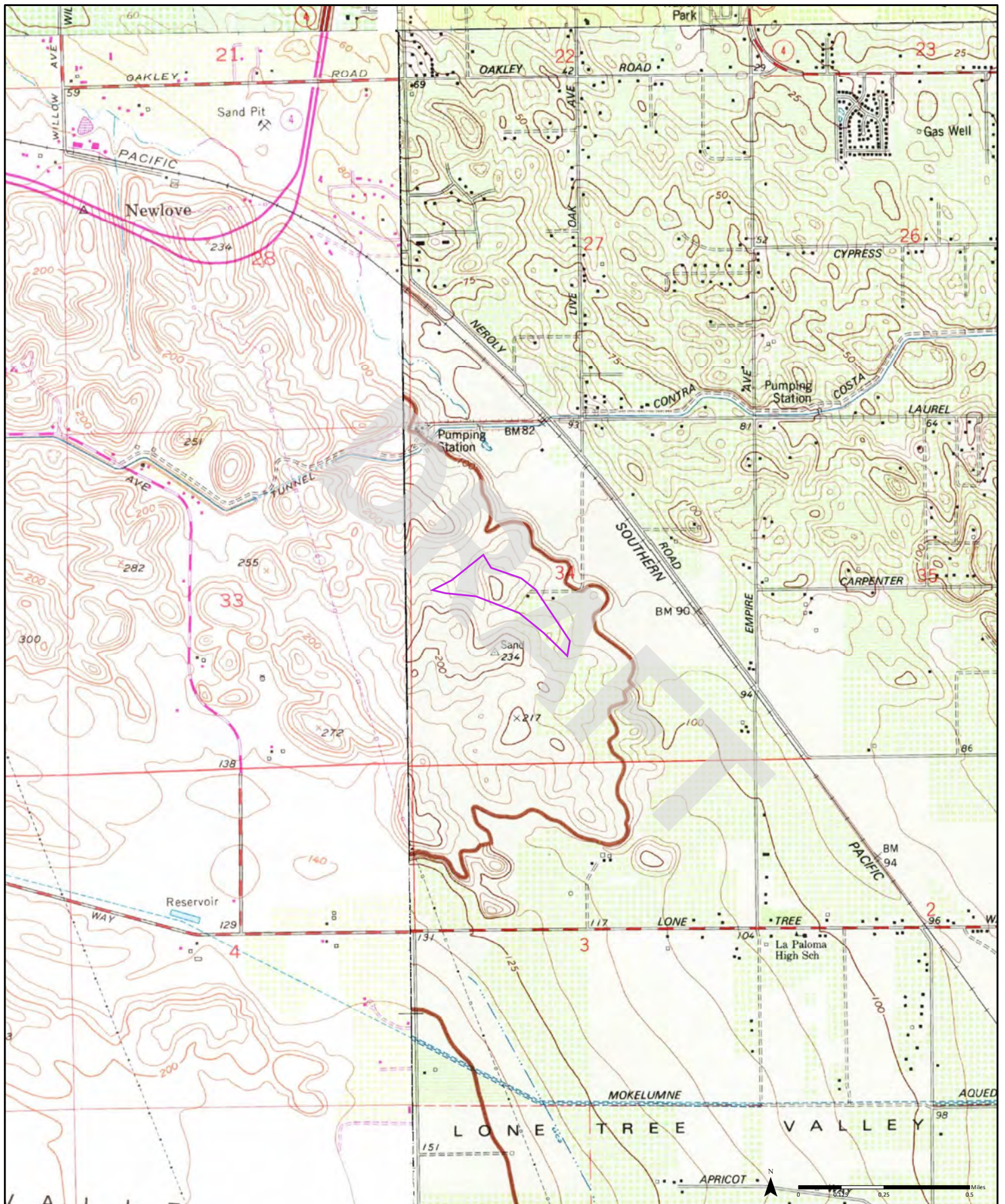
Quadrangle(s): Antioch South, CA| Jersey Island, CA| Antioch North, CA| Brentwood, CA|

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







1980 (1-1978) Aerial Photo Year: 1974 (2-1980) Aerial Photo Year: 1978 Photo Revision Year: 1980 (3-1978) Aerial Photo Year: 1974 (4-1978) Aerial Photo Year: 1974

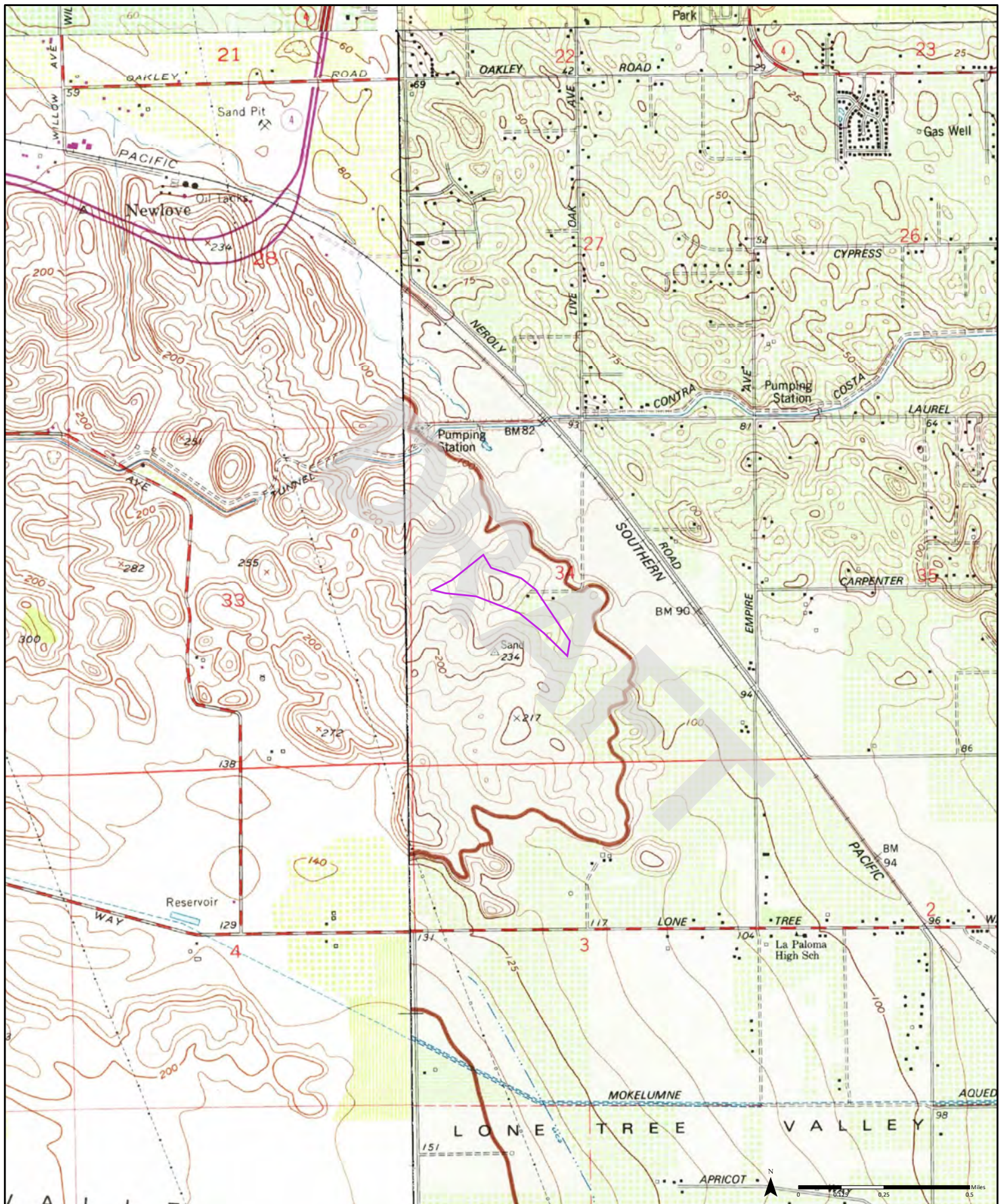
Quadrangle(s): Antioch North, CA(1-1978) | Antioch South, CA(2-1980) | Jersey Island, CA(3-1978) | Brentwood, CA(4-1978) |

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







1978

(1-1978) Aerial Photo Year: 1974    (2-1978) Aerial Photo Year: 1974    (3-1973) Aerial Photo Year: 1973    (4-1978) Aerial Photo Year: 1974  
 Photo Revision Year: 1973

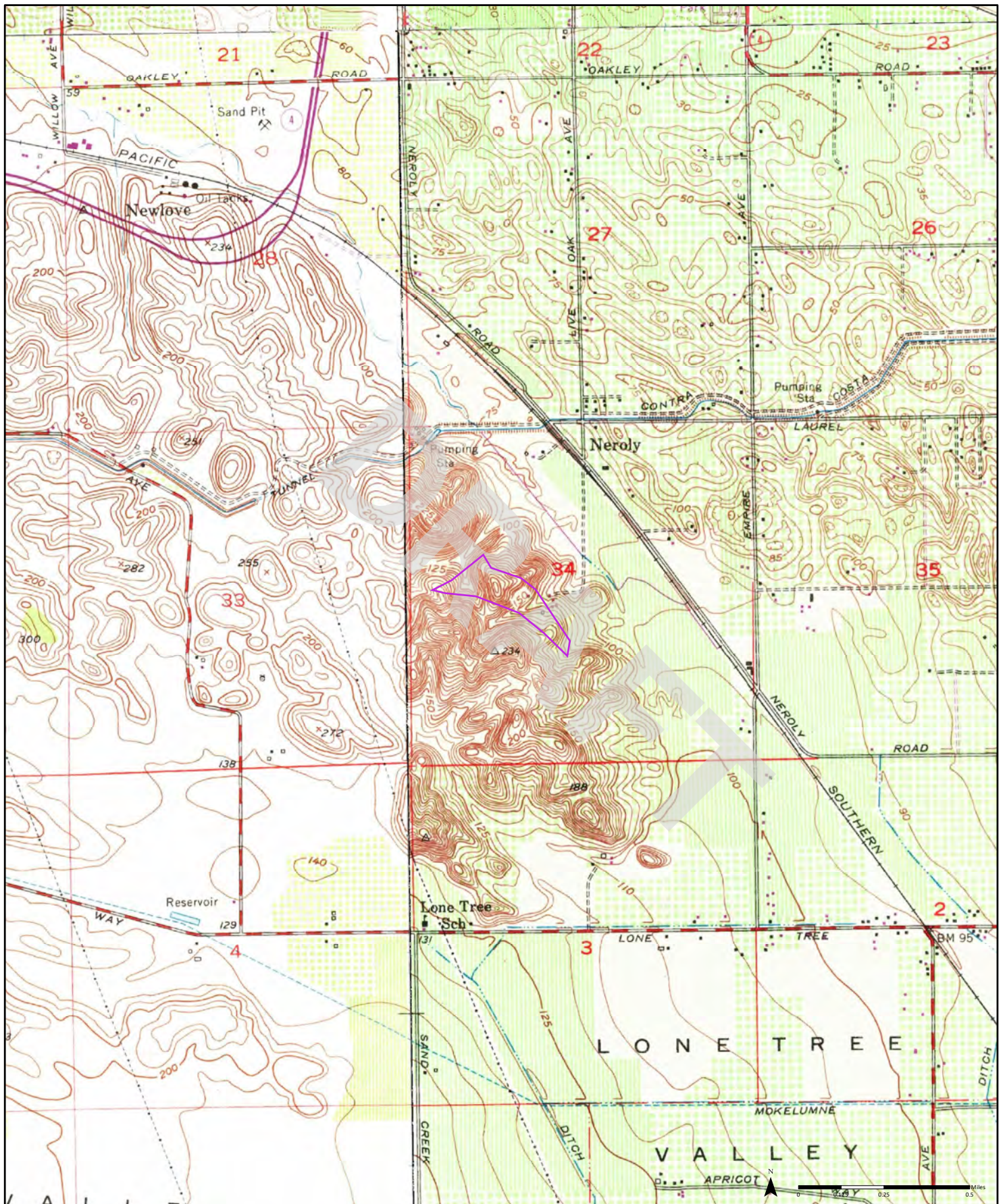
Quadrangle(s): Antioch North, CA(1-1978) | Jersey Island, CA(2-1978) | Antioch South, CA(3-1973) | Brentwood, CA(4-1978) |

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







1973

(1-1968) Aerial Photo Year: 1968 Photo Revision Year: 1968	(2-1968) Aerial Photo Year: 1968 Photo Revision Year: 1968	(3-1973) Aerial Photo Year: 1973 Photo Revision Year: 1973	(4-1968) Aerial Photo Year: 1968 Photo Revision Year: 1968
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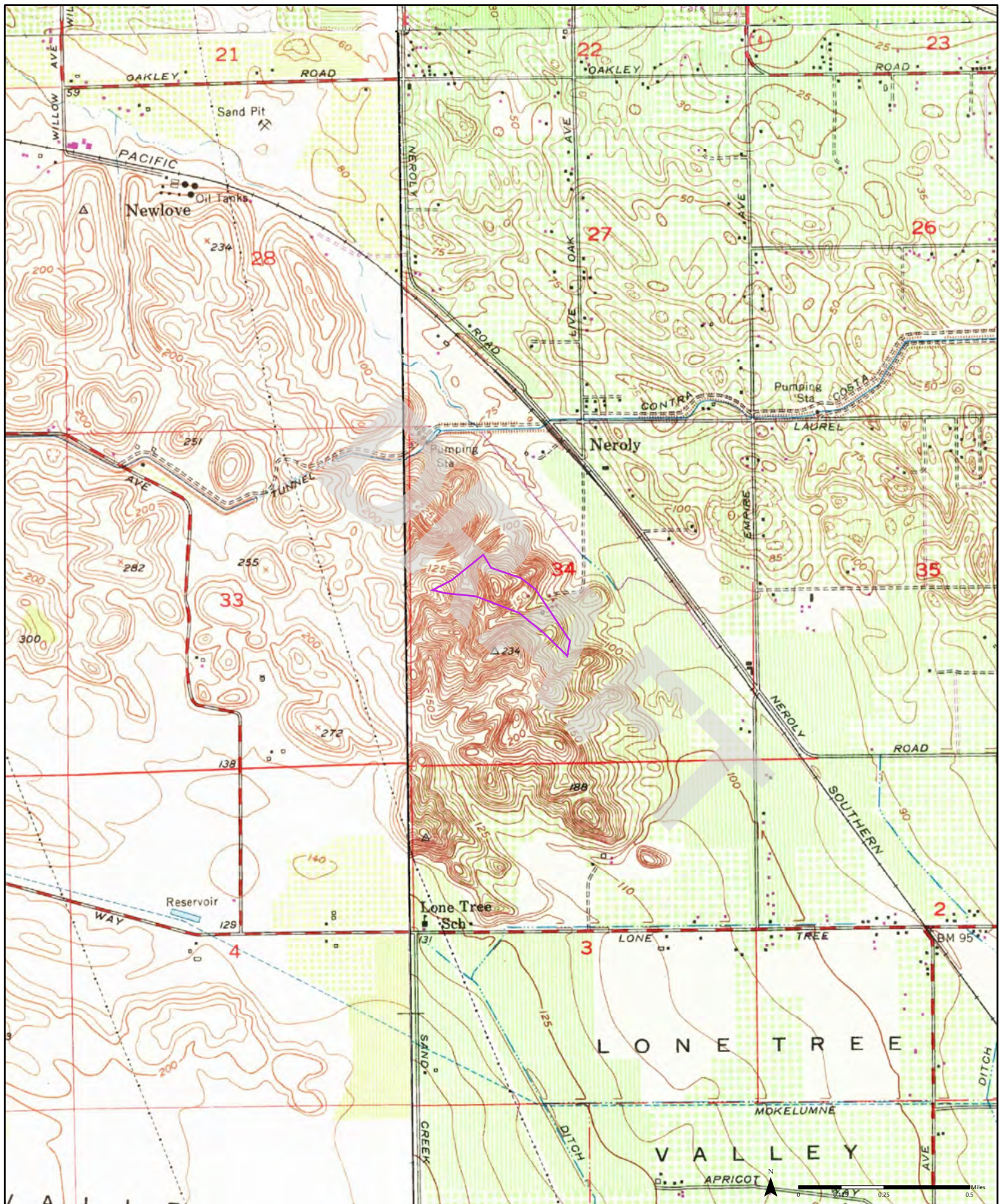
Quadrangle(s): Jersey Island, CA(1-1968) | Brentwood, CA(2-1968) | Antioch South, CA(3-1973) | Antioch North, CA(4-1968)

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







1968 (1-1968) Aerial Photo Year: 1968 Photo Revision Year: 1968 (2-1968) Aerial Photo Year: 1968 Photo Revision Year: 1968 (3-1968) Aerial Photo Year: 1968 Photo Revision Year: 1968 (4-1968) Aerial Photo Year: 1968 Photo Revision Year: 1968

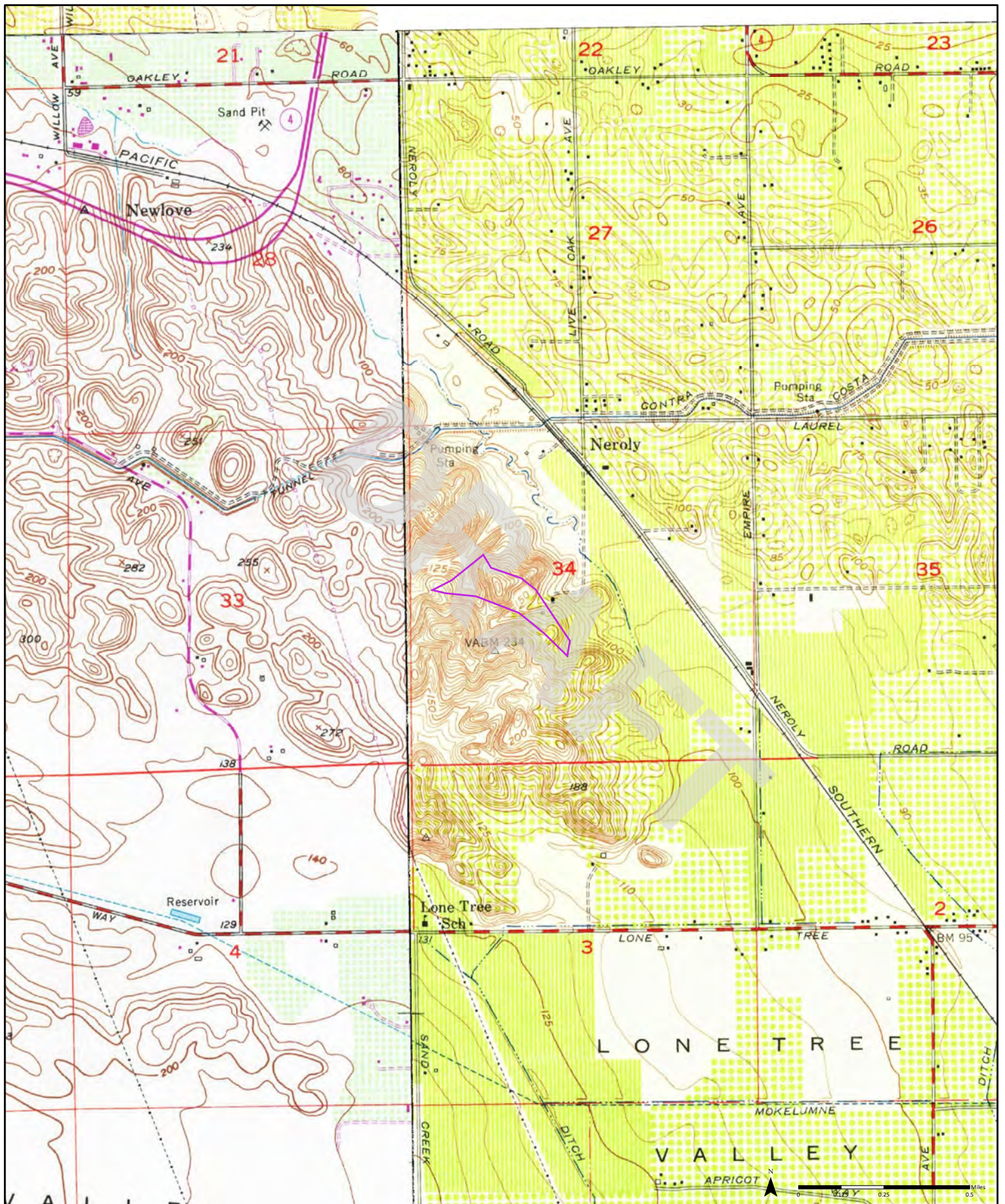
Quadrangle(s): Antioch South, CA(1-1968) | Jersey Island, CA(2-1968) | Brentwood, CA(3-1968) | Antioch North, CA(4-1968)

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







1954 (1-1953) Aerial Photo Year: 1949 (2-1953) Aerial Photo Year: 1949 (3-1954) Aerial Photo Year: 1949

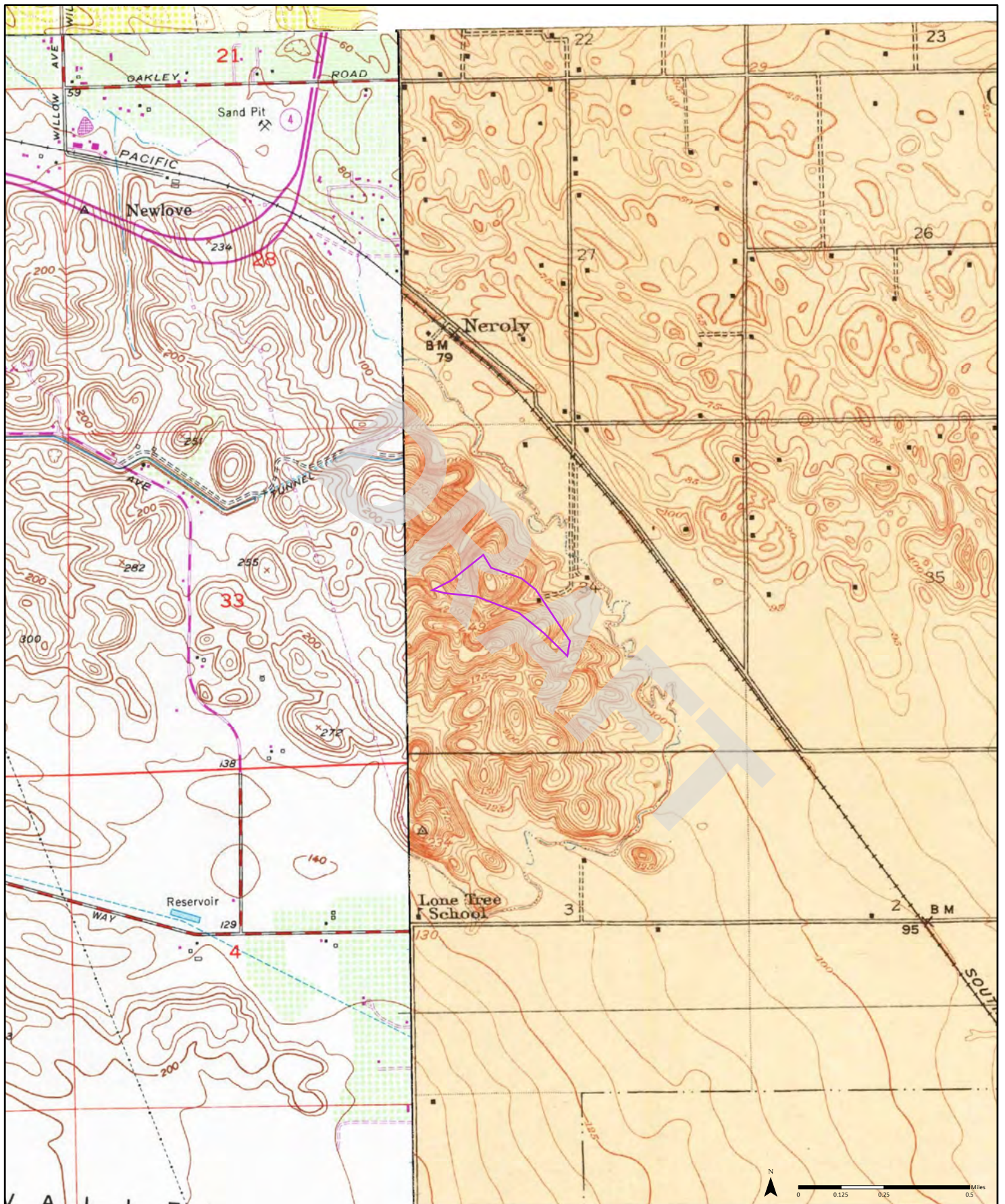
Quadrangle(s): Antioch South, CA(1-1953) | Antioch North, CA(2-1953) | Brentwood, CA(3-1954)

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







1953

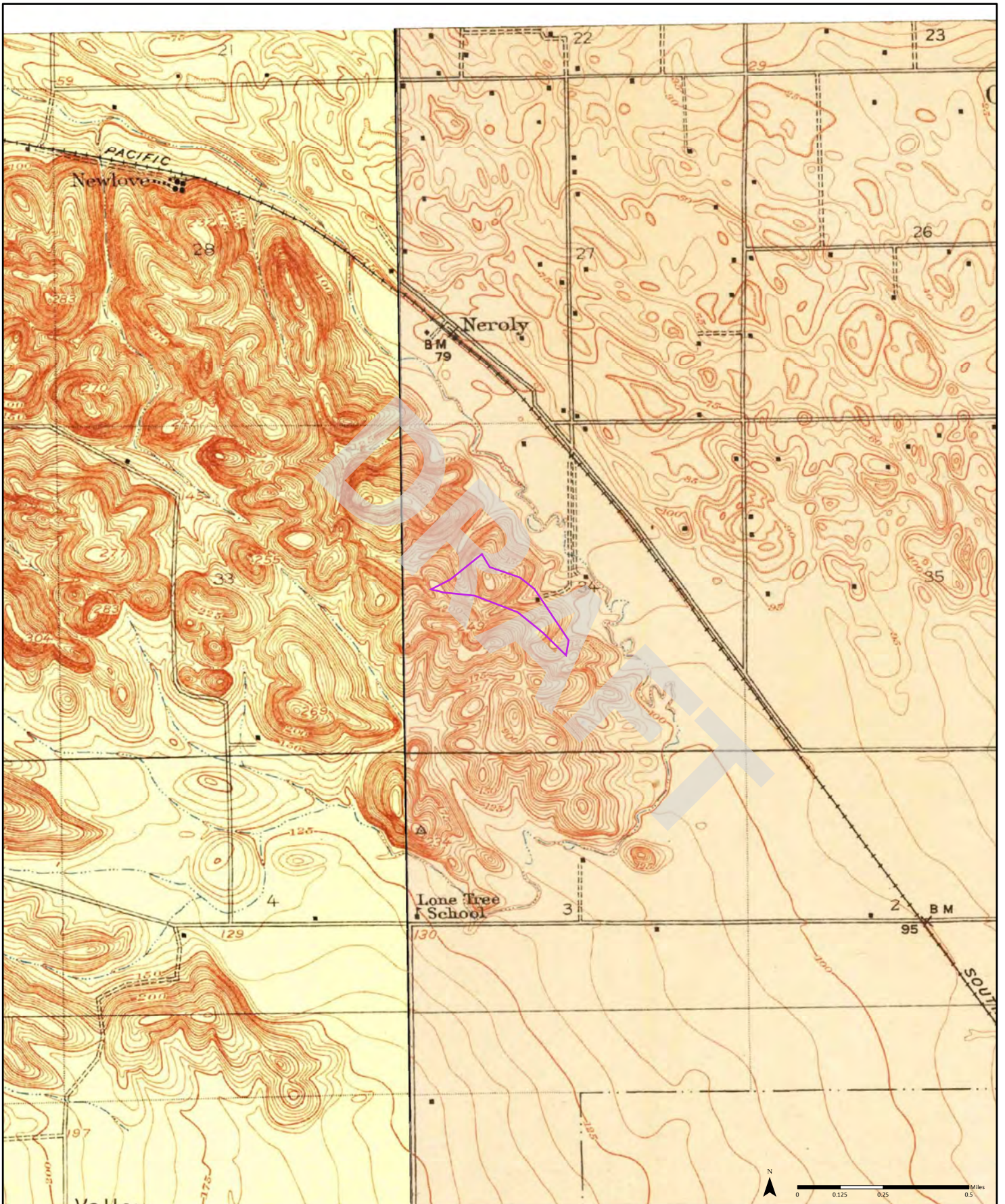
Quadrangle(s): Antioch South, CA<sub>(1-1953)</sub> | Antioch North, CA<sub>(2-1953)</sub> | Brentwood, CA |

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







1916

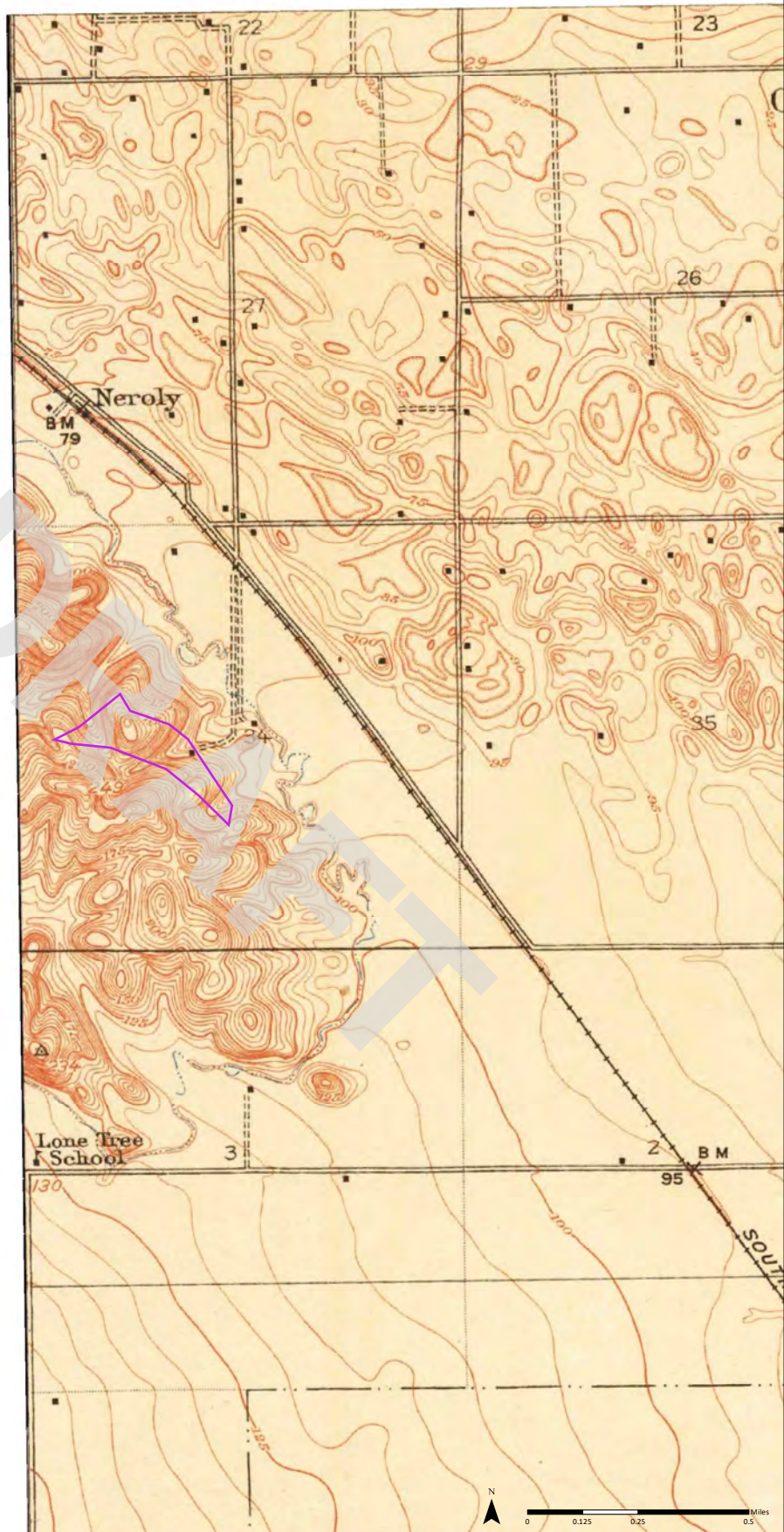
Quadrangle(s): Lone Tree Valley, CA| Brentwood, CA|

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







1914

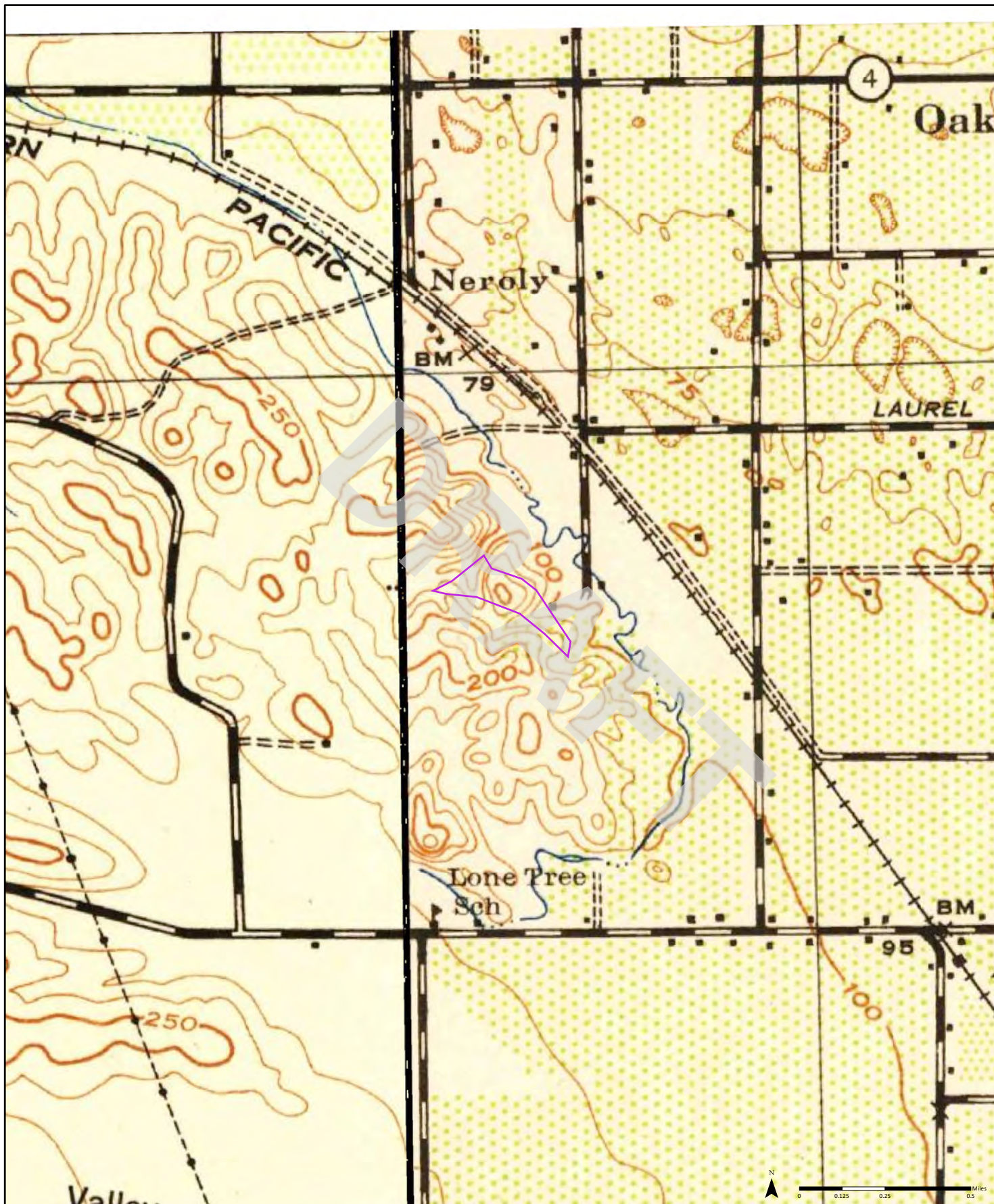
Quadrangle(s): Brentwood, CA|

Order No. 22061400618

Source: USGS 7.5 Minute Topographic Map







1943

(1-1940)  
Aerial Photo Year: 1940

(2-1943)  
Aerial Photo Year: 1937

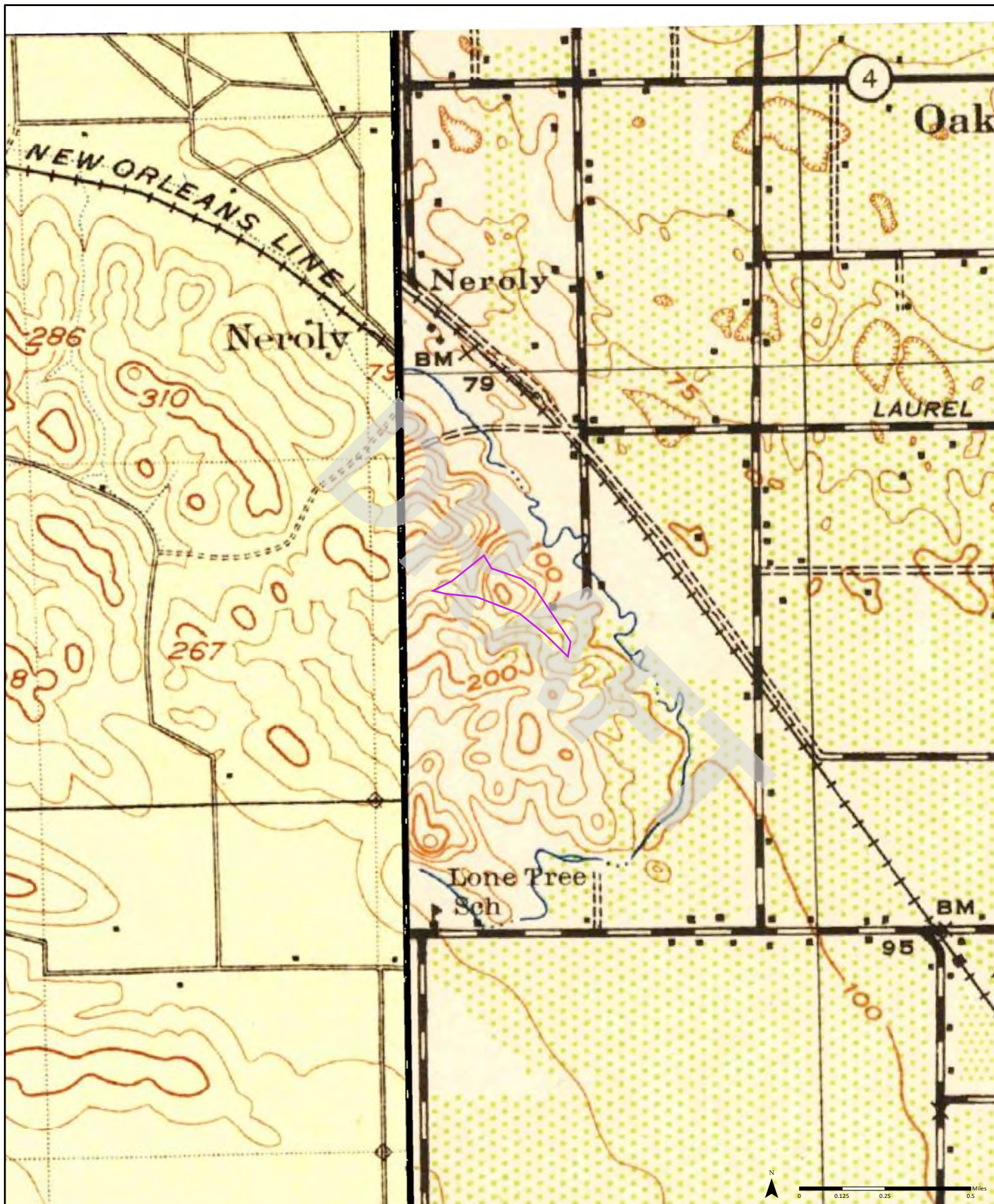
Quadrangle(s): Byron, CA<sub>(1-1940)</sub> | Mt Diablo, CA<sub>(2-1943)</sub>

Order No. 22061400618

Source: USGS 15 Minute Topographic Map







1940 (1-1940)  
Aerial Photo Year: 1940

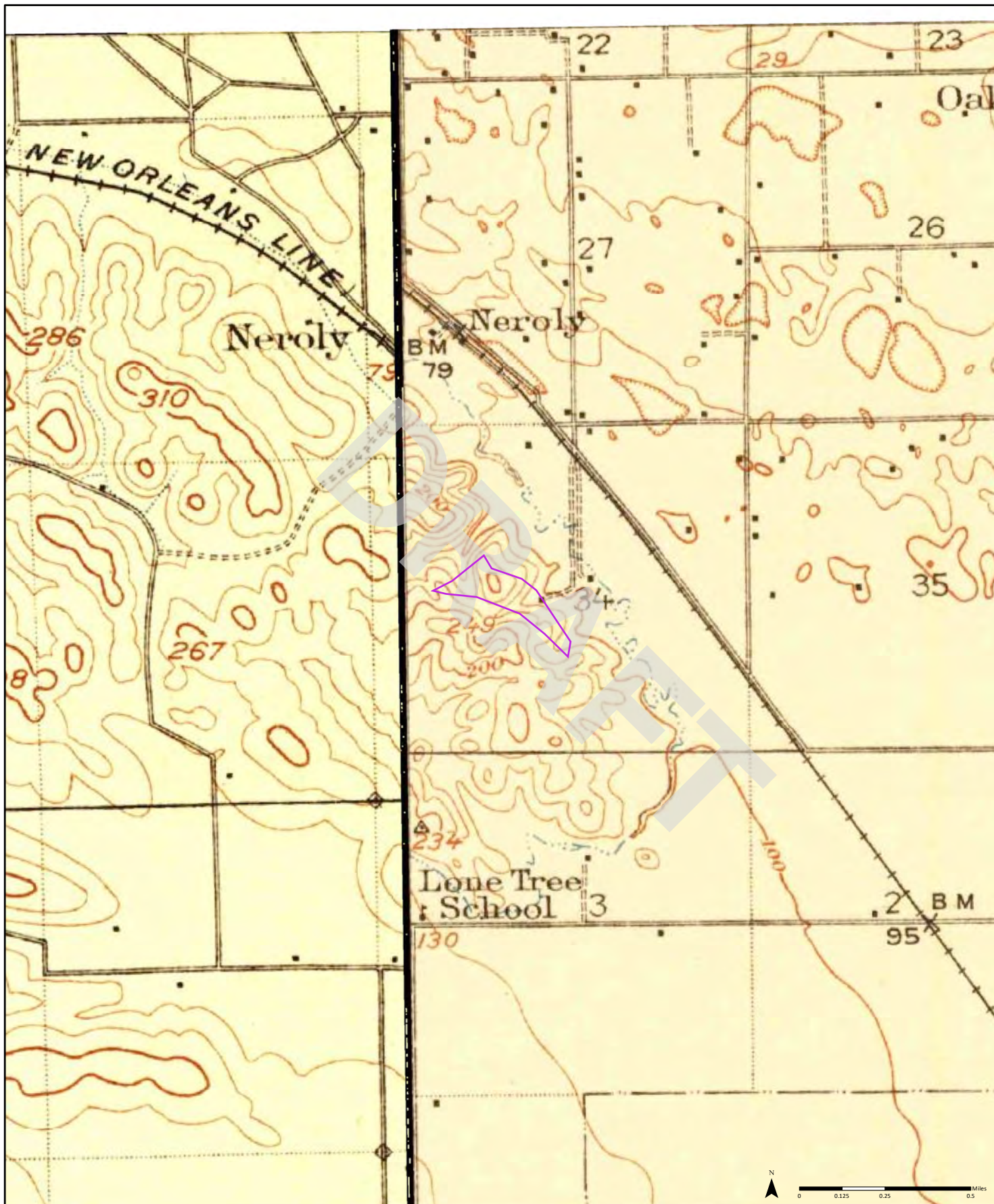
Quadrangle(s): Mt Diablo, CA| Byron, CA(1-1940)|

Order No. 22061400618

Source: USGS 15 Minute Topographic Map







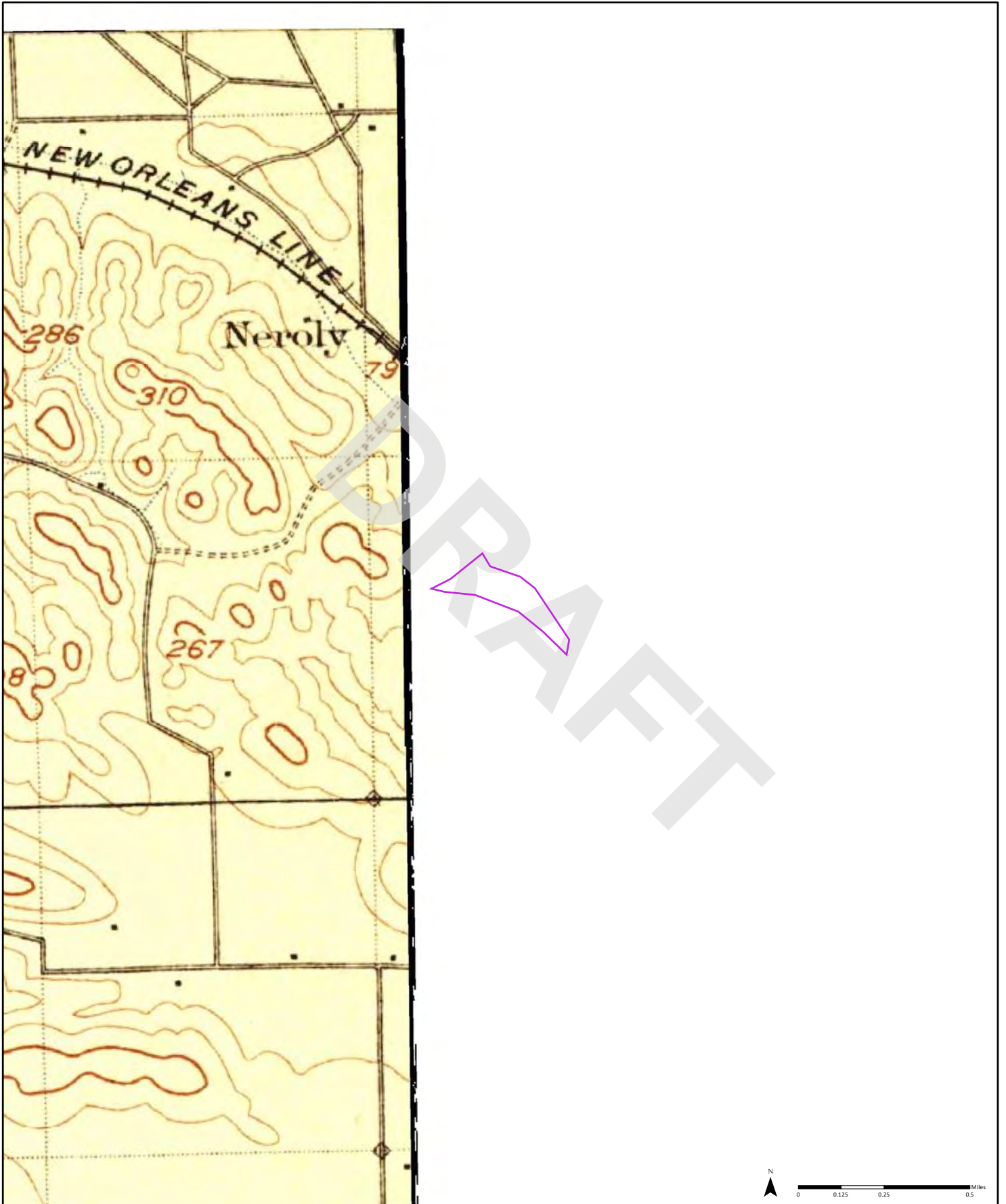
1916

Quadrangle(s): Mt Diablo, CA| Byron, CA|

Order No. 22061400618

Source: USGS 15 Minute Topographic Map





1898

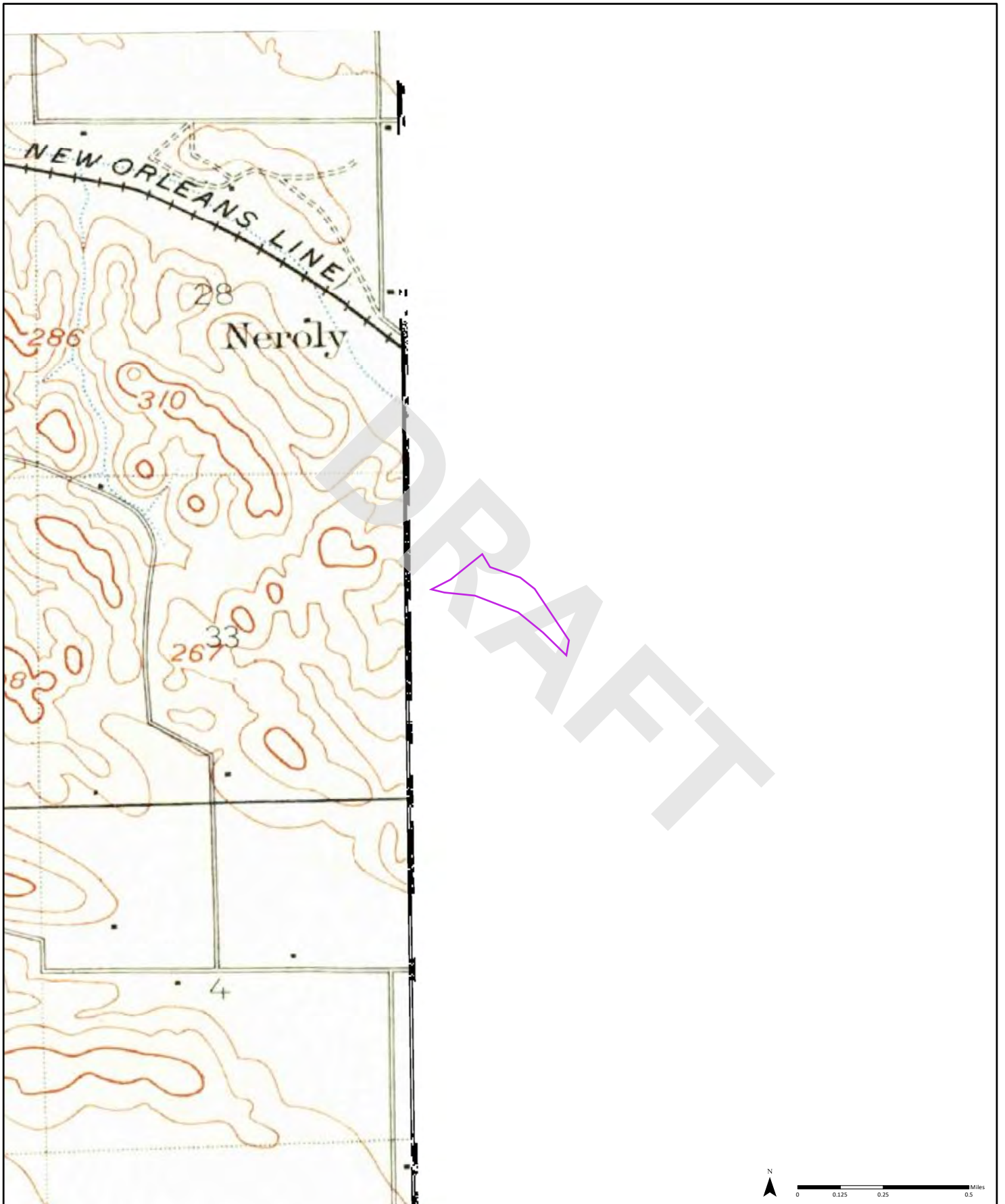
Quadrangle(s): Mt Diablo, CA|

Order No. 22061400618

Source: USGS 15 Minute Topographic Map







1896

Quadrangle(s): Mt Diablo, CA|

Order No. 22061400618

Source: USGS 15 Minute Topographic Map



# **Fire Insurance Maps**

DRAFT



—  
FIRE  
INSURANCE  
MAPS

**Project Property:** Resmark - Antioch  
Laurel Road and Country Hills Road  
Antioch CA

**Project No:** RES012-0313063-22007688

**Requested By:** Apex Companies, LLC

**Order No:** 22061400618

**Date Completed:** June 15, 2022

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**Please note that no information was found for your site or adjacent properties.**

# City Directories

DRAFT



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CITY  
**DIRECTORY**

**Project Property:** *Resmark - Antioch  
Laurel Road and Country Hills Road  
Antioch, CA*

**Project No:** *RES012-0313063-22007688*

**Requested By:** *Apex Companies, LLC*

**Order No:** *22061400618*

**Date Completed:** *June 21, 2022*

**Environmental Risk Information Services**

*A division of Glacier Media Inc.*

1.866.517.5204 | [info@erisinfo.com](mailto:info@erisinfo.com) | [erisinfo.com](http://erisinfo.com)



June 21, 2022  
RE: CITY DIRECTORY RESEARCH  
Laurel Road and Country Hills Road  
Antioch,CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

**Search Criteria:**

ALL of Country Hills Dr  
ALL of Laurel Rd

**Search Notes:**

## Search Results Summary

Date	Source	Comment
2020	DIGITAL BUSINESS DIRECTORY	
2016	DIGITAL BUSINESS DIRECTORY	
2012	DIGITAL BUSINESS DIRECTORY	
2008	DIGITAL BUSINESS DIRECTORY	
2003	DIGITAL BUSINESS DIRECTORY	
2000	DIGITAL BUSINESS DIRECTORY	
1995-1996	HAINES	
1990	HAINES	
1985	HAINES	
1981	HAINES	
1976	HAINES	
1970	PACIFIC TELEPHONE	
1960	POLKS	
1955	POLKS	
1952	POLKS	
1947	POLKS	
1937	POLKS	
1931	POLKS	

### Environmental Risk Information Services

A division of Glacier Media Inc.

1.866.517.5204 | [info@erisinfo.com](mailto:info@erisinfo.com) | [erisinfo.com](http://erisinfo.com)

## 95 total records. Part 1 of 2

2163 FRESENIUS MEDICAL CARE...DIALYSIS  
 2163 KANG, SHARON Y MD...PHYSICIANS & SURGEONS  
 2163 KANG, SHARON Y MD...MEDICAL & SURGICAL SVC ORGANIZATIONS  
 2200 ANTIOCH 7TH DAY ADVENTIST CHR...CHURCHES  
 2200 GEORGIA CLUFF...RESIDENTIAL  
 2200 HILLTOP CHRISTIAN PRESCHOOL...SCHOOLS  
 2200 HILLTOP CHRISTIAN PRESCHOOL...RELIGIOUS SCHOOLS  
 2200 HILLTOP CHRISTIAN PRESCHOOL...CHILD CARE SERVICE  
 2200 HILLTOP CHRISTIAN PRESCHOOL...SCHOOLS UNIVERSITIES & COLLEGES  
 ACADEMIC  
 2200 SEVENTH-DAY ADVENTIST CHURCH...CHURCHES  
 2330 TOBINWORLD...REAL ESTATE  
 2330 TOBINWORLD...SCHOOLS  
 2330 TOBINWORLD...REAL ESTATE INSPECTION  
 2330 TOBINWORLD...SCHOOLS WITH SPECIAL ACADEMIC EDUCATION  
 2335 FIRESTEIN, TALIA RUTH MD...PHYSICIANS & SURGEONS  
 2335 GOMEZ, PATRICIA E...SOCIAL WORKERS  
 2335 IWUJOHA, CHINAZOM...NURSES-PRACTITIONERS  
 2335 MARROQUIN, AMALIA E...SOCIAL WORKERS  
 2335 MIRELES, LETICIA...MARRIAGE & FAMILY COUNSELORS  
 2335 RODGERS, KIMBERLY...COUNSELORS  
 2345 DESOUZA, NEHA ANDREA MD...PHYSICIANS & SURGEONS  
 2350 GLICKMAN, BOBBY S MD...MEDICAL & SURGICAL SVC ORGANIZATIONS  
 2350 GLICKMAN, BOBBY S MD...PHYSICIANS & SURGEONS  
 2350 JONATHAN CHIN...RESIDENTIAL  
 2350 KIM, TAEHO PA...PHYSICIANS & SURGEONS  
 2350 NAINANI, NEHA MD...PHYSICIANS & SURGEONS  
 2350 PHILLIP POLIDO...RESIDENTIAL  
 2370 DIABLO NEPHROLOGY MED GROUP...PHYSICIANS & SURGEONS  
 2390 EAST COUNTY BRACES...DENTISTS  
 4501 ALFREDO RUVALCABA...RESIDENTIAL  
 4505 ANTONIO ALAYO...RESIDENTIAL  
 4509 ADILIA VASQUEZ...RESIDENTIAL  
 4509 JUAN VASQUEZ...RESIDENTIAL  
 4517 DARRELL SEGREST...RESIDENTIAL  
 4526 ANG SUDARMA...RESIDENTIAL  
 4604 KIMBERLY KARTHAUSER...RESIDENTIAL  
 4605 MARK BAYABO...RESIDENTIAL  
 4609 ABDUL SALAYMEH...RESIDENTIAL  
 4609 WILLIE FOSSELMAN...RESIDENTIAL  
 4612 KATHLEEN EARLYWINE...RESIDENTIAL  
 4612 NIDA ABOGA...RESIDENTIAL  
 4612 PATRICIA SALONGA...RESIDENTIAL  
 4613 MICHAEL GABRIELSON...RESIDENTIAL  
 4616 ERNEST NEUMANN...RESIDENTIAL  
 4620 TERENCE WILLIAMS...RESIDENTIAL  
 4624 ELEAZAR ARELLANO...RESIDENTIAL  
 4628 LINDA LEE...RESIDENTIAL  
 4632 FRED JENSEN...RESIDENTIAL  
 4632 GALE HUNT...RESIDENTIAL  
 4636 BRANDON SHAW...RESIDENTIAL  
 4636 LINDA SHAW...RESIDENTIAL  
 4640 JOYCE LINDBERG...RESIDENTIAL  
 4650 KENNETH SHEREDY...RESIDENTIAL  
 4651 AURELIO TEJADA...RESIDENTIAL  
 4651 ESTEBAN SHIROMA...RESIDENTIAL  
 4654 SUNSHINE ROBLES...RESIDENTIAL  
 4655 MARIA PRIMGAARD...RESIDENTIAL  
 4655 NILS PRIMGAARD...RESIDENTIAL  
 4658 CAROL NEPOMUCENO...RESIDENTIAL  
 4662 CIMI ECHOLS...RESIDENTIAL  
 4663 RICHARD SEITHEL...RESIDENTIAL  
 4666 ANAYATULLAH MEHRABI...RESIDENTIAL  
 4666 ZARGHUNA MEHRABI...RESIDENTIAL  
 4676 ARLENE SICKLER...RESIDENTIAL  
 4676 KENNETH LOPEZ...RESIDENTIAL  
 4701 MAGDALENA ALVAREZ...RESIDENTIAL  
 4705 JERRY HIX...RESIDENTIAL

## Part 2 of 2

4713 LETTICE MARTIN...RESIDENTIAL  
 4717 VIOLA MYERS...RESIDENTIAL  
 4725 SIDNEY SILKET JR...RESIDENTIAL  
 4729 RAYONA ARTEAGA...RESIDENTIAL  
 4737 LLOYD WILDERSON...RESIDENTIAL  
 4741 ALAN REED...RESIDENTIAL  
 4801 JUDY DELAFONTAINE...RESIDENTIAL  
 4804 CHRIS ESTANDIAN...RESIDENTIAL  
 4804 JEANNE NAKAGAKI...RESIDENTIAL  
 4805 AUSTIN KENT...RESIDENTIAL  
 4809 HOPE HIPSKIND...RESIDENTIAL  
 4816 LAURA GONZALEZ...RESIDENTIAL  
 4817 ROBERT HELD...RESIDENTIAL  
 4821 DEBORAH BURNLEY...RESIDENTIAL  
 4825 CRAIG LOCKE...RESIDENTIAL  
 4828 KATRINA FREEMAN...RESIDENTIAL  
 4833 JAMES DUFFIE...RESIDENTIAL  
 4840 CALEB MILLER...RESIDENTIAL  
 4841 ALYSSA RUPERT...RESIDENTIAL  
 4845 PAUL HELBERG...RESIDENTIAL  
 4858 BRENDA MICHELSON...RESIDENTIAL  
 4862 GRACE VELAZQUEZ...RESIDENTIAL  
 4909 AMPARO COLCHADO...RESIDENTIAL  
 4913 BRAZZ SCOTT...RESIDENTIAL  
 4925 JACQUELIN RIDER...RESIDENTIAL  
 4929 JOHN BRINKMAN...RESIDENTIAL  
 4933 ANA MAIDAT...RESIDENTIAL

277 MARJORIE DE FREMERY...RESIDENTIAL  
 401 ALFRED HERRERA...RESIDENTIAL  
 541 ROBERT BECK...RESIDENTIAL  
 1070 ECC BANK...BANKS  
 1070 ECC BANK...REAL ESTATE LOANS  
 1141 LAUREL ELEMENTARY SCHOOL...SCHOOLS UNIVERSITIES & COLLEGES  
 ACADEMIC  
 1141 LAUREL ELEMENTARY SCHOOL...SCHOOLS  
 1269 MATAMOROS WELDING...MACHINE SHOPS (MFRS)  
 1269 MATAMOROS WELDING...WELDING  
 1289 DEBBIE MCCALL...RESIDENTIAL  
 1289 MICHAEL MEDINA...RESIDENTIAL  
 1432 CHURCH OF JESUS CHRIST OF LDS...CHURCHES  
 1580 DIANA ORTIZ...RESIDENTIAL  
 1600 EVELYN MIGUEL...RESIDENTIAL  
 1931 CARLYON INKLEBARGER...RESIDENTIAL  
 1931 CAROLYN CAMBRA...RESIDENTIAL  
 2001 7-ELEVEN...CONVENIENCE STORES  
 2459 LAUREL RIDGE COMMUNITY CHURCH...CHURCHES  
 2459 LAUREL RIDGE COMMUNITY CHURCH...MISSIONS

102 total records. Part 1 of 2  
 2157 CARRINGTON COLLEGE CALIFORNIA...SCHOOLS-BUSINESS & VOCATIONAL  
 2163 FRESENIUS MEDICAL CARE...MEDICAL CENTERS  
 2163 FRESENIUS MEDICAL CARE...DIALYSIS  
 2200 ANTIOCH 7TH DAY ADVENTIST CHR...CHURCHES  
 2200 GEORGIA CLUFF...RESIDENTIAL  
 2200 HILLTOP CHRISTIAN PRESCHOOL...SCHOOLS  
 2200 HILLTOP CHRISTIAN PRESCHOOL...RELIGIOUS SCHOOLS  
 2200 HILLTOP CHRISTIAN SCHOOL...SCHOOLS  
 2200 SEVENTH-DAY ADVENTIST CHURCH...CHURCHES  
 2330 TOBINWORLD...SCHOOLS WITH SPECIAL ACADEMIC EDUCATION  
 2330 TOBINWORLD...REAL ESTATE  
 2335 GOMEZ, PATRICIA E...SOCIAL WORKERS  
 2350 COSTELLO, BRIAN J...PHYSICIANS ASSISTANTS  
 2350 GLICKMAN, BOBBY S MD...PHYSICIANS & SURGEONS  
 2350 JONATHAN CHIN...RESIDENTIAL  
 2350 PHILLIP POLIDO...RESIDENTIAL  
 2350 POLIDO, PHILLIP MD...PHYSICIANS & SURGEONS  
 2350 RASSAI, HAMID R MD...PHYSICIANS & SURGEONS  
 2350 DIABLO NEPHROLOGY MED GROUP...PHYSICIANS & SURGEONS  
 2370 EAST COUNTY BRACES...DENTISTS  
 2390 ALFREDO RUVALCABA...RESIDENTIAL  
 4501 ANTONIO ALAYO...RESIDENTIAL  
 4550 JACK LONDON ELEMENTARY SCHOOL...SCHOOLS  
 4601 TERESA BARRAZA...RESIDENTIAL  
 4605 MARK BAYABO...RESIDENTIAL  
 4609 ABDUL SALAYMEH...RESIDENTIAL  
 4612 GEORGE EARLYWINE JR...RESIDENTIAL  
 4612 KATHLEEN EARLYWINE...RESIDENTIAL  
 4613 MICHAEL GABRIELSON...RESIDENTIAL  
 4616 ERNEST NEUMANN...RESIDENTIAL  
 4620 TERENCE WILLIAMS...RESIDENTIAL  
 4628 LINDA LEE...RESIDENTIAL  
 4632 FRED JENSEN...RESIDENTIAL  
 4632 GALE HUNT...RESIDENTIAL  
 4632 GALE JENSEN...RESIDENTIAL  
 4636 BRANDON SHAW...RESIDENTIAL  
 4636 JOHNNY SHAW...RESIDENTIAL  
 4636 LINDA SHAW...RESIDENTIAL  
 4640 JOYCE LINDBERG...RESIDENTIAL  
 4640 RONALD LINDBERG...RESIDENTIAL  
 4650 KENNETH SHEREDY...RESIDENTIAL  
 4651 AURELIO TEJADA...RESIDENTIAL  
 4655 MARIA PRIMGAARD...RESIDENTIAL  
 4655 NILS PRIMGAARD...RESIDENTIAL  
 4662 CIMI ECHOLS...RESIDENTIAL  
 4662 TABIAS ECHOLS...RESIDENTIAL  
 4662 YOLONDR A ECHOLS...RESIDENTIAL  
 4666 ANAYATULLAH MEHRABI...RESIDENTIAL  
 4666 ZARGHUNA MEHRABI...RESIDENTIAL  
 4676 ARLENE BOYD...RESIDENTIAL  
 4676 ARLENE SICKLER...RESIDENTIAL  
 4676 KENNETH LOPEZ...RESIDENTIAL  
 4676 MATTHEW LOPEZ...RESIDENTIAL  
 4701 MAGDALENA ALVAREZ...RESIDENTIAL  
 4705 JERRY HIX...RESIDENTIAL  
 4705 LIANA HIX...RESIDENTIAL  
 4709 KHALID SYED...RESIDENTIAL  
 4709 NABIHA SYED...RESIDENTIAL  
 4713 LETTICE MARTIN...RESIDENTIAL  
 4717 VIOLA MYERS...RESIDENTIAL  
 4725 SIDNEY SILKET JR...RESIDENTIAL  
 4733 CELIA MELHADO...RESIDENTIAL  
 4733 JOSEPH MELHADO...RESIDENTIAL  
 4801 JUDY DELAFONTAINE...RESIDENTIAL  
 4801 LAURENCE DELAFONTAINE...RESIDENTIAL  
 4804 CHRIS ESTANDIAN...RESIDENTIAL  
 4804 JEANNE NAKAGAKI...RESIDENTIAL

## Part 2 of 2

4809 HOPE HIPSKIND...RESIDENTIAL  
 4816 LAURA GONZALEZ...RESIDENTIAL  
 4817 ROBERT HELD...RESIDENTIAL  
 4820 DINAH LAKE...RESIDENTIAL  
 4820 MARC LAKE...RESIDENTIAL  
 4820 MELANIE LAKE...RESIDENTIAL  
 4821 DEBORAH BURNLEY...RESIDENTIAL  
 4821 KEOSHA BURNLEY...RESIDENTIAL  
 4821 PHILIP BURNLEY...RESIDENTIAL  
 4825 CRAIG LOCKE...RESIDENTIAL  
 4825 JENNIFER LOCKE...RESIDENTIAL  
 4825 LINDA LOCKE...RESIDENTIAL  
 4833 CAMELIA SMITH...RESIDENTIAL  
 4833 DEBRA SMITH DUFFIE...RESIDENTIAL  
 4840 PAUL MILLER...RESIDENTIAL  
 4841 ALYSSA RUPERT...RESIDENTIAL  
 4841 CAROL RUPERT...RESIDENTIAL  
 4841 DONALD RUPERT...RESIDENTIAL  
 4845 PAUL HELBERG...RESIDENTIAL  
 4845 STEPHANIE HELBERG...RESIDENTIAL  
 4858 MARTHA GONZALEZ...RESIDENTIAL  
 4862 GRACE VELAZQUEZ...RESIDENTIAL  
 4909 AMPARO COLCHADO...RESIDENTIAL  
 4909 AUGUSTIN COLCHADO...RESIDENTIAL  
 4909 JOSE COLCHADO...RESIDENTIAL  
 4909 JUAN COLCHADO...RESIDENTIAL  
 4913 BRAZZ SCOTT...RESIDENTIAL  
 4913 JESSE SCOTT...RESIDENTIAL  
 4913 LINDA SCOTT...RESIDENTIAL  
 4925 JACQUELIN RIDER...RESIDENTIAL  
 4929 JOHN BRINKMAN...RESIDENTIAL  
 4933 ANA MAIDAT...RESIDENTIAL  
 4933 HOWIE MAIDAT...RESIDENTIAL  
 4933 VERONICA MAIDAT...RESIDENTIAL

277 JOHN DEFREMERY...RESIDENTIAL  
 277 MARJORIE DE FREMERY...RESIDENTIAL  
 401 ISAAC HERRERA...RESIDENTIAL  
 401 ROXANNE HERRERA...RESIDENTIAL  
 1070 ECC BANK...BANKS  
 1141 LAUREL ELEMENTARY SCHOOL...SCHOOLS  
 1269 MATAMOROS WELDING...WELDING  
 1289 DEBBIE MCCALL...RESIDENTIAL  
 1289 MICHAEL MEDINA...RESIDENTIAL  
 1432 CHURCH OF JESUS CHRIST OF LDS...CHURCHES  
 1580 DIANA ORTIZ...RESIDENTIAL  
 1580 MARGARITA ORTIZ...RESIDENTIAL  
 1600 EVELYN MIGUEL...RESIDENTIAL  
 1600 THOMAS MIGUEL...RESIDENTIAL  
 1931 CARLYON INKLEBARGER...RESIDENTIAL  
 1931 CAROLYN CAMBRA...RESIDENTIAL  
 1931 MANUEL CAMBRA JR...RESIDENTIAL  
 2459 LAUREL RIDGE COMMUNITY CHURCH...CHURCHES

DRAFT



## 125 total records. Part 1 of 2

2157 CARRINGTON COLLEGE CA...SCHOOLS-BUSINESS & VOCATIONAL  
 2163 FRESENIUS MEDICAL CARE...MEDICAL CENTERS  
 2200 ANTIOCH 7TH DAY ADVENTIST CHR...CHURCHES  
 2200 HILLTOP CHRISTIAN PRESCHOOL...SCHOOLS  
 2200 SEVENTH-DAY ADVENTIST CHURCH...CHURCHES  
 2330 TOBINWORLD...SCHOOLS WITH SPECIAL ACADEMIC EDUCATION  
 2370 DIABLO NEPHROLOGY MED GROUP...PHYSICIANS & SURGEONS  
 2370 DIRAIMONDO, CAROL R MD...PHYSICIANS & SURGEONS  
 2370 KIM, EDWARD T MD...PHYSICIANS & SURGEONS  
 2370 WRONE, ELIZABETH M MD...PHYSICIANS & SURGEONS  
 2390 ANTIOCH & BRENTWOOD PEDIATRIC...DENTISTS  
 2390 ESTERKYN, JOHN I DDS...DENTISTS  
 2390 PENG, ROBERT C K DDS...DENTISTS  
 2390 SO, PATRICK T DDS...DENTISTS  
 2390 SOBEL, RICHARD S DDS...DENTISTS  
 2390 TANIMURA, LESLIE K DDS...DENTISTS  
 4501 ANNA RODRIGUEZ...RESIDENTIAL  
 4509 ADILIA VASQUEZ...RESIDENTIAL  
 4509 ADILIA VAZQUEZ...RESIDENTIAL  
 4509 CARLOS GOMEZ...RESIDENTIAL  
 4509 FRANCISCO VASQUEZ...RESIDENTIAL  
 4509 JUAN VAZQUEZ...RESIDENTIAL  
 4509 MARIA VASQUEZ...RESIDENTIAL  
 4509 MARIO VASQUEZ...RESIDENTIAL  
 4513 KHAN AZHER...RESIDENTIAL  
 4513 NIEVES BUCLATIN...RESIDENTIAL  
 4517 JOSE ECHEVARRIA...RESIDENTIAL  
 4517 LUWALIA GALLI...RESIDENTIAL  
 4522 MARILYNN WESTBROOK...RESIDENTIAL  
 4526 ANG SUDARMA...RESIDENTIAL  
 4526 BOENJAMIN GUNARDI...RESIDENTIAL  
 4526 CAROLINE BOENJAMIN...RESIDENTIAL  
 4526 CAROLINE SUDDABY...RESIDENTIAL  
 4526 GUNARDI BOENJAMIN...RESIDENTIAL  
 4526 PATRICIA BOENJAMIN...RESIDENTIAL  
 4530 CARMEN SALAZAR...RESIDENTIAL  
 4530 MARIA SALAZAR...RESIDENTIAL  
 4530 RENE SALAZAR...RESIDENTIAL  
 4550 JACK LONDON ELEMENTARY SCHOOL...SCHOOLS  
 4604 BARBARA KARTHAUSER...RESIDENTIAL  
 4604 GUY SMITH...RESIDENTIAL  
 4604 KIMBERLY KARTHAUSER...RESIDENTIAL  
 4612 AMELIA BAUTISTA...RESIDENTIAL  
 4612 DEANNE COLANTOPO...RESIDENTIAL  
 4612 HILDA BAUTISTA...RESIDENTIAL  
 4612 MANUEL BAUTISTA...RESIDENTIAL  
 4612 MEDICAL SUPPLIES...PHYSICIANS & SURGEONS EQUIP & SUPLS-WHLS  
 4612 STEPHANIE BAUTISTA...RESIDENTIAL  
 4617 ANA BUSTOS...RESIDENTIAL  
 4617 CAMILLE BUSTOS...RESIDENTIAL  
 4624 ELEAZAR ARELLANO...RESIDENTIAL  
 4624 MARIA ARRELLANO HERNANDEZ...RESIDENTIAL  
 4628 CRAIG LEE...RESIDENTIAL  
 4628 JOHN LEE...RESIDENTIAL  
 4628 LINDA LEE...RESIDENTIAL  
 4632 FREDERICK JENSEN...RESIDENTIAL  
 4632 GALE JENSEN...RESIDENTIAL  
 4650 HARVEY WENZEL...RESIDENTIAL  
 4650 KENNETH SHEREDY...RESIDENTIAL  
 4650 RAQUEL WENZEL...RESIDENTIAL  
 4654 C LEVAIS...RESIDENTIAL  
 4654 LARONDA LEVIAS...RESIDENTIAL  
 4654 RONALD LEVIAS...RESIDENTIAL  
 4655 MARIA PRIMGAARD...RESIDENTIAL  
 4655 NILS PRIMGAARD...RESIDENTIAL  
 4655 PRIMGAARD NILS...RESIDENTIAL  
 4659 MICHAEL BILLS...RESIDENTIAL

## Part 2 of 2

4659 SHERI WILLHITE...RESIDENTIAL  
 4676 ARLENE SICKLER...RESIDENTIAL  
 4676 HAROLD SICKLER...RESIDENTIAL  
 4701 JESSICA DUNAKIN...RESIDENTIAL  
 4701 MENIE DE PEDRO...RESIDENTIAL  
 4701 MENIE DEPEDRO...RESIDENTIAL  
 4701 THERESA DE PEDRO...RESIDENTIAL  
 4701 THERESA DEPEDRO...RESIDENTIAL  
 4709 GHOSIA SHAIKH...RESIDENTIAL  
 4709 KHALID SYED...RESIDENTIAL  
 4713 LETTICE MARTIN...RESIDENTIAL  
 4717 LEO MYERS...RESIDENTIAL  
 4721 G KAUR...RESIDENTIAL  
 4725 HOPE SILKET...RESIDENTIAL  
 4725 SIDNEY SILKET...RESIDENTIAL  
 4729 DANIEL DRUMMOND...RESIDENTIAL  
 4729 DRUMMOND RAYONA...RESIDENTIAL  
 4741 D ROBERTS...RESIDENTIAL  
 4741 DANIEL ROBERTS...RESIDENTIAL  
 4741 YASMIN ENRIQUEZ...RESIDENTIAL  
 4801 JUDY DELAFONTAINE...RESIDENTIAL  
 4801 LAURENCE DELAFONTAINE...RESIDENTIAL  
 4804 DANIEL ESTANDIAN...RESIDENTIAL  
 4804 GEOFF ESTANDIAN...RESIDENTIAL  
 4804 GEOFFREY ESTANDIAN...RESIDENTIAL  
 4804 JEANNE ESTANDIAN...RESIDENTIAL  
 4804 JEANNE NAKAGAKI...RESIDENTIAL  
 4821 DEBORAH BURNLEY...RESIDENTIAL  
 4825 CRAIG LOCKE...RESIDENTIAL  
 4825 LINDA LOCKE...RESIDENTIAL  
 4828 PAMELLA COURTWAY...RESIDENTIAL  
 4829 JENNY TRAN...RESIDENTIAL  
 4829 PAT VU...RESIDENTIAL  
 4832 NIMFA OCHINANG...RESIDENTIAL  
 4832 NOELLE OCHINANG...RESIDENTIAL  
 4832 SAMUEL OCHINANG...RESIDENTIAL  
 4836 CHARLES KELLY...RESIDENTIAL  
 4836 JUANITA KELLY...RESIDENTIAL  
 4836 TE KELLY...RESIDENTIAL  
 4837 CHRIS PHELAN...RESIDENTIAL  
 4837 LISA PHELAN...RESIDENTIAL  
 4840 DOROTHY MILLER...RESIDENTIAL  
 4840 PAUL MILLER...RESIDENTIAL  
 4841 DONALD RUPERT...RESIDENTIAL  
 4844 MAURICE DICKENS...RESIDENTIAL  
 4845 WAVES OF SPIRIT...AMUSEMENT & RECREATION NEC  
 4909 AMPARO COLCHADO...RESIDENTIAL  
 4909 AUGUSTIN COLCHADO...RESIDENTIAL  
 4909 JOSE COLCHADO...RESIDENTIAL  
 4921 CHARLES WARNER...RESIDENTIAL  
 4921 ELBA WARNER...RESIDENTIAL  
 4921 OSCAR WARNER...RESIDENTIAL  
 4929 DORIS MESINA...RESIDENTIAL  
 4929 RICHARD AVILA...RESIDENTIAL  
 4929 TERESA AVILA...RESIDENTIAL  
 4937 EVELYN MAGALLANES...RESIDENTIAL  
 4937 LOUIE MAGALLANES...RESIDENTIAL

277 JOHN DE FREMERY...RESIDENTIAL  
 277 MARGIE DE FREMERY...RESIDENTIAL  
 401 DUARTE JOE...RESIDENTIAL  
 1070 ECC BANK...BANKS  
 1141 LAUREL ELEMENTARY SCHOOL...SCHOOLS  
 1269 MATAMOROS WELDING...WELDING  
 1289 CHRISTOPHE CAVANAUGH...RESIDENTIAL  
 1289 STEPHEN CAROSELLI...RESIDENTIAL  
 1432 CHURCH OF JESUS CHRIST OF LDS...CHURCHES  
 1580 JAMES ORCUTT...RESIDENTIAL  
 1580 MARSHALL BEATTY...RESIDENTIAL  
 1580 SERGIO DURAN...RESIDENTIAL  
 1600 EVELYN MIGUEL...RESIDENTIAL  
 2221 GARY NIX...RESIDENTIAL  
 2459 LAUREL RIDGE COMMUNITY CHURCH...CHURCHES

2157 WESTERN CAREER COLLEGE...BUS,SECRETARIAL SCH  
 2200 CARL RUSK...RESIDENTIAL  
 2200 E-Z CONSTRUCTION...MANAGEMENT SERVICES  
 2200 HILLTOP CHRISTIAN PRESCHOOL...NURSERY SCHOOL  
 2200 HILLTOP CHRISTIAN PRESCHOOL...SCHOOLS-NURSERY & KINDERGARTEN  
 ACADEMIC  
 2200 HILLTOP CHRISTIAN SCHOOL...SCHOOLS  
 2200 HILLTOP CHRISTIAN SCHOOL...ELEMENT, SECON SCHL  
 2200 LAURA I MCGEE...RESIDENTIAL  
 2200 SEVENTH DAY ADVENTIST CHURCH...RELIGIOUS ORGANIZ  
 2200 SEVENTH-DAY ADVENTIST CHURCH...CHURCHES  
 4517 DARREL BENTLEY...RESIDENTIAL  
 4517 SIDEWALK GRAFFITI...COFFEE & TEA  
 4550 JACK LONDON ELEMENTARY SCHOOL...ELEMENT, SECON SCHL  
 4550 JACK LONDON ELEMENTARY SCHOOL...SCHOOLS  
 4601 PAWS-ITIVELY PETS-EAST COUNTY...PET BOARDING & SITTING  
 4601 TIDY PAWS...ANIMAL SERVICES  
 4612 D & P A MATTOON...RESIDENTIAL  
 4624 EDELMIRA SAYO...RESIDENTIAL  
 4624 EDELMIRA V SAYO...RESIDENTIAL  
 4624 ROLAND LAND...REAL ESTATE AGENT/MANAGER  
 4628 SK-8 SLO ENTERPRISES...WHOL COMMERCIAL EQUIPMENT  
 4632 C DIX JAMES...RESIDENTIAL  
 4654 C LEVIAS...RESIDENTIAL  
 4666 A MEHRABI...RESIDENTIAL  
 4701 MENIE M DE PEDRO...RESIDENTIAL  
 4713 L MARTIN...RESIDENTIAL  
 4721 JUJAAR SINGH...RESIDENTIAL  
 4801 GERALD MUNGER...RESIDENTIAL  
 4804 R ESTANDIAN...RESIDENTIAL  
 4820 ABRAHIM MOHAMMAD...RESIDENTIAL  
 4841 DONALD L RUPERT...RESIDENTIAL  
 4913 RMB ENGINEERING & SALES...INDUSTRIAL EQUIPMENT & SUPPLIES (WHOL  
 4913 VERNON BAILEY...RESIDENTIAL  
 4929 CATHERINE A POPE...RESIDENTIAL  
 4937 LOUIE MAGALLANES...RESIDENTIAL

0 EDWARD DEL CHIARO...RESIDENTIAL  
 277 JOHN & MARGIE H DE FREMERY...RESIDENTIAL  
 277 MARGIE & JOHN DE FREMERY...RESIDENTIAL  
 401 JOE DUARTE...RESIDENTIAL  
 422 WILLIAM S RAMIREZ...RESIDENTIAL  
 1141 LAUREL ELEMENTARY SCHOOL...ELEMENT, SECON SCHL  
 1141 LAUREL ELEMENTARY SCHOOL...SCHOOLS  
 1141 YMCA...CHILD DAY CARE SVS  
 1269 3-D MACHINING...MACHINE SHOPS  
 1269 KATHY RICKNER...RESIDENTIAL  
 1269 MATAMOROS WELDING...WELDING REPAIR  
 1289 BLAINE V MCCALL...RESIDENTIAL  
 1289 DWAYNE MCCALL...RESIDENTIAL  
 2221 EDMUND J CALISESI...RESIDENTIAL  
 2289 P W LAMBORN...RESIDENTIAL  
 2389 STEPHEN GEISER...RESIDENTIAL  
 2459 IMMANUEL BAPTIST CHURCH...CHURCHES  
 2459 IMMANUEL BAPTIST CHURCH...BAPTIST CHURCH

2200 HILLTOP CHRISTIAN PRESCHOOL  
 2200 HILLTOP CHRISTIAN SCHOOL...PUBLIC ELEMENTARY AND SECONDARY  
 SCHOOLS  
 2200 SEVENTH-DAY ADVENTIST CHURCH  
 4517 SIDEWALK GRAFFITI  
 4550 JACK LONDON ELEMENTARY SCHOOL...PUBLIC ELEMENTARY AND  
 SECONDARY SCHOOLS  
 4601 CARL & SHELLEY MUELLER...RESIDENTIAL  
 4601 PAWS-ITIVELY PETS-EAST COUNTY  
 4612 D A & P R MATTOON...RESIDENTIAL  
 4621 GERALD NELSON...RESIDENTIAL  
 4624 ALLSTATE INSURANCE  
 4624 SAYO EDEY V  
 4672 DOUGLAS & HEATHER BADEN...RESIDENTIAL  
 4801 GERALD MUNGER...RESIDENTIAL  
 4804 RUBEN ESTANDIAN...RESIDENTIAL  
 4809 JR HIPSKIND...RESIDENTIAL  
 4820 RANDALL MOSER...RESIDENTIAL  
 4841 DONALD L RUPERT...RESIDENTIAL  
 4858 ROBIN R JASPER...RESIDENTIAL  
 4913 RMB ENGINEERING & SALES  
 4937 LOUIE MAGALLANES...RESIDENTIAL

DRAFT

0 ARTHUR E HONEGGER...RESIDENTIAL  
 0 D RIOS...RESIDENTIAL  
 0 EDWARD DEL CHIARO...RESIDENTIAL  
 107 LAVERNE GRAUNSTADT...RESIDENTIAL  
 201 EDMUND J CALISESI...RESIDENTIAL  
 277 MARGIE & JOHN H DE FREMERY...RESIDENTIAL  
 401 JOE DUARTE...RESIDENTIAL  
 577 EUGENE PATO...RESIDENTIAL  
 1141 LAUREL ELEMENTARY SCHOOL...PUBLIC ELEMENTARY AND SECONDARY  
 SCHOOLS  
 1141 LAUREL KIDS CONNECTION  
 1269 3-D MACHINING...MACHINE AND OTHER JOB SHOP WORK  
 1269 MILFORD E RICKNER...RESIDENTIAL  
 1289 BLAINE V MCCALL...RESIDENTIAL  
 1289 DWAYNE MCCALL...RESIDENTIAL  
 1580 ALAMEDA SCREENMOBILE  
 1580 SCREENMOBILE  
 2289 P W LAMBORN...RESIDENTIAL  
 2771 JOHN H & MARGIE DE FREMERY...RESIDENTIAL

4601 MUELLER CARL & SHELLEY...RESIDENTIAL  
 4612 MATTOON D A & P R...RESIDENTIAL  
 4621 NELSON GERALD...RESIDENTIAL  
 4659 HEMMINGSEN ERIC...RESIDENTIAL  
 4801 MUNGER GERALD...RESIDENTIAL  
 4804 ESTANDIAN RUBEN...RESIDENTIAL  
 4809 HIPSKIND JR...RESIDENTIAL  
 4812 VICKERS JAMES A...RESIDENTIAL  
 4820 MOSER RANDALL...RESIDENTIAL  
 4841 RUPERT DONALD L...RESIDENTIAL  
 4858 JASPER ROBINR...RESIDENTIAL  
 4937 MAGALLANES LOUIE...RESIDENTIAL

DRAFT

0 DELCHIARO EDWARD...RESIDENTIAL  
 0 HONEGGER ARTHUR E...RESIDENTIAL  
 0 RIOS D...RESIDENTIAL  
 107 GRAUNSTADT LAVERNE...RESIDENTIAL  
 109 BRENNAN JAMES...RESIDENTIAL  
 201 CALISESI EDMUND J...RESIDENTIAL  
 277 DE FREMERY MARGIE & JOHN H...RESIDENTIAL  
 401 DUARTE JOE...RESIDENTIAL  
 577 PATO EUGENE...RESIDENTIAL  
 1269 RICKNER MILFORD E...RESIDENTIAL  
 1269 RICKNER TED...RESIDENTIAL  
 1289 MCCALL BLAINE V...RESIDENTIAL  
 1289 MCCALL DWAYNE...RESIDENTIAL  
 2289 LAMBORN P W...RESIDENTIAL  
 2389 BALL GREGORY...RESIDENTIAL  
 2771 DE FREMERY JOHN H & MARGIE...RESIDENTIAL

4518 PONDEROSA GLEN  
 4550 ANTIOCH SC LONDON  
 4550 LONDON ELEM SC  
 4601 MUELLER CARL  
 4601 MUELLER SHELLEY  
 4612 MATTOON D A  
 4612 MATTOON P R  
 4621 NELSON GERALD  
 4659 HEMMINGSEN ERIC  
 4659 HEMMINGSEN MICHELE  
 4672 XXXX  
 4801 MUNGER GERALD  
 4804 ESTANDIAN R  
 4809 HIPSKIND JR  
 4812 XXXX  
 4813 XXXX  
 4820 MOSER RANDALL  
 4832 XXXX  
 4841 RUPERT DONALD L  
 4854 XXXX  
 4858 JASPER ROBIN R  
 4913 XXXX  
 4937 MAGALLANES LOUIE

DRAFT



**1995- LAUREL RD****1996**

SOURCE: HAINES

0 DELCHiaro EDW  
0 HONEGGER ARTHUR E  
107 GRAUNSTADT LAVERNE  
109 BRENNAN JAMES  
201 CALISESI EDMUND J  
277 DEFREMERY JOHN H  
277 DEFREMERY MARGIE  
401 DUARTE JOE  
577 PATO EUGENE  
1141 LAUREL KIDS CONNCTN  
1141 OAKLEY SC LAUREL  
1269 3 D MACHNING  
1269 RICKNER MILFORD E  
1289 MCCALL BLAINE V  
1289 MCCALL DWAYNE  
1432 CHURCH JESUS CHRIST  
2289 LAMBORN P W  
2389 XXXX

**1990 COUNTRY HILLS DR**

SOURCE: HAINES

4651 ALEXANDER A M  
4651 SPAFFORD MICHAEL D  
4659 HEMMINGSEN ERIC  
4659 HEMMINGSEN MICHELE  
4804 ESTANDIAN R  
4805 BRADY WILLIAM P  
4809 HIPSKIND J R  
4809 HIPSKIND S S  
4813 HARTLET J T  
4820 MOSER RANDALL  
4832 OCHINANG NIMLA  
4832 OCHINANG SAMUEL  
4841 RUPERT DONALD L  
4937 MAGALLANES LOULE

DRAFT

0 ADAMS LARRY  
 0 BLOODWORTH LEONARD  
 0 BRENNAN JAMES  
 0 BRILEY ALBIE  
 0 CALISESI EDMUND J  
 0 CARROLL EDDLE  
 0 DEFREMERY JOHN H  
 0 DEFREMERY MARGIE  
 0 DELCHIARO EDW  
 0 DUARTE JOE  
 0 HARTER E CARL  
 0 HONEGGER ARTHUR E  
 0 HUGHES GENE  
 0 HUGHES HELEN  
 0 KERNAN GEO  
 0 LAMBORN P W  
 0 LUNA RAYMOND M  
 0 MCCALL BLAINE V  
 0 MCCALL DWAYNE  
 0 PAPINI JOHN  
 0 PATO EUGENE  
 0 POWELL W T  
 0 RICKNER MIKE  
 0 RICKNER MILFORD E  
 0 RICKNER PHYLLIS  
 0 SIMONI ESOLA  
 0 SOUZA MICHELLE  
 0 SOUZA MICKEY  
 0 SOUZA NICOLA  
 1580 CLASEN WENDY  
 1580 CLASEN WILLIAM

STREET NOT LISTED

DRAFT

0 ADAMS LARRY  
0 BLOODWORTH LEONARD  
0 BRILEY ALBE  
0 CALISESI EDMUND  
0 CALISESI EDMUND J  
0 CAREY CLARE  
0 CARROLL EDDIE  
0 CORPUZ PETE JR  
0 COUSSOULIS PETER  
0 DEFREMERY JOHN H  
0 DEFREMERY MARGIE  
0 DEL CHIARO EDW  
0 DIAS JOS B  
0 DUARTE JOE  
0 HARTER E CARL  
0 HONEGGER ARTHUR E  
0 JONES SAM  
0 KERNAN GEO  
0 LAMBORN P W  
0 LUNA RAYMOND M  
0 MCCALL BLAINE V  
0 MCCALL DWAYNE  
0 PAPINI JOHN  
0 PATO EUGENE  
0 POWELL W T  
0 RICKNER MIKE  
0 RICKNER MILFORD E  
0 ROSS FERNANDES INC  
0 SIMONI JOHN  
0 SMITH AUDREY  
0 SOUZA MICHELLE  
0 SOUZA MICKEY  
0 SOUZA NICOLE  
0 WILLIAMS TRUDY

STREET NOT LISTED

DRAFT

0 ALEXANDER PETE  
0 BLOODWORTH LEONARD  
0 BRILEY ALBIE  
0 CALISESI EDMUND  
0 CALISESI EDMUND J  
0 CARROLL EDDIE  
0 CLARK WAYNE  
0 COURCIER L K  
0 DEFREMERY JOHN H  
0 DEFREMERY MARGIE  
0 DEL CHIARO EDW  
0 DIAS JOS B  
0 HARTER E CARL  
0 HONEGGER ARTHUR E  
0 HUFF BERT  
0 JONES SAM  
0 KLEINSMITH MARVIN  
0 LAMBORN P W  
0 MCCALL BLAINE V  
0 PAPINI JOHN  
0 PATO EUGENE  
0 PLANCHON EDNA V  
0 POWELL W T  
0 RAMSAY MICHAEL  
0 RICHIE ROBT M  
0 RICKNER MILFORD E  
0 RIOS D  
0 SIMONI JOHN  
0 SMITH AUDREY  
0 SOUZA MICKEY  
0 TALSIG ED  
0 TOMPKINS ELMER V

STREET NOT LISTED

DRAFT

0 BLOODWORTH LEONARD  
0 BROWN J W  
0 CALISESI EDMUND  
0 CLARK WAYNE  
0 COURCIER L K (I)  
0 DEFREMERY JOHN H  
0 DELCHIARO EDW  
0 DUMMER CARL  
0 FLETCHER THOS W  
0 HARTER E CARL  
0 HARTY JAS E  
0 HONEGGER ARTHUR E  
0 HUFF BERT  
0 JONES SAM  
0 LAMBORN P W  
0 LAWLER H BCKHOE RNT  
0 LAWLER HARRIS  
0 LITTLE DONALD E  
0 PAPINI JOHN  
0 PATO EUGENE  
0 PHILLIPS E L  
0 PLANCHON EDNA V  
0 POWELL W T  
0 RICKNER MILFORD E  
0 SARAIVA ABEL  
0 SARAIVA CAROLIN  
0 SIMONI JOHN  
0 SMITH AUDREY  
0 THOMPSON R K  
0 WILSON EUGENE

STREET NOT LISTED

DRAFT



0 BARRETT J  
0 BLOODWORTH LEONARD  
0 BROWN J W  
0 CALISESI EDMUND  
0 CLARK WAYNE  
0 COURCIER L K  
0 DILL J D  
0 DUMMER CARL  
0 FRANZKE JOHN LEWS  
0 HICKMOTT CANNING CO  
0 HONEGGER ARTHUR E JR  
0 HUFF BERT  
0 JONES SAM  
0 KLEINSMITH MARVIN  
0 LITTLE DONALD E  
0 NEELY H D  
0 ORTIZ RAY  
0 PATO EUGENE  
0 PHILLIPS E L  
0 PLANCHON EDNA V  
0 SARAIVA CAROLINE  
0 SIMONI JOHN  
0 SMITH WALTER H

STREET NOT LISTED

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# **Recorded Land Title Documents**

DRAFT



Environmental Lien Search Report  
E L S



**Security First Title Resource**  
Residential - Commercial - Environmental

**Celebrating 35 Years In Business**

Prepared For  
**Apex Companies, LLC**

Subject Property:  
Antioch, CA sites  
Report 2 of 2

July 14, 2022

The Environmental Lien Search Report (ELS) provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering control and institutional controls. Our in house professional abstractors / title examiners, following established procedure, use client supplied property data, such as property address, map, parcel number etc. to search for:

- parcel information and / or legal description
- search for ownership information
- research official recorded land title documents
- provide a copy of the deed
- search for environmental encumbering instrument (s) associated with the deed
- provide a copy of any environmental encumbrance (s) based upon a review of key words in the Instrument (s) (title, parties involved, and description).

Below is the property data information and Environmental Lien Search report of the subject property for a period ending June 30, 2022.

A copy of the current vesting deed is attached hereto and made a part hereof.

CLIENT PROJECT NO.: TBD

REPORT DATE: July 14, 2022

SUBJECT PROPERTY: Antioch, CA sites

COUNTY / JURISDICTION: Contra Costa  
California

PROPERTY IDENTIFIER: 053-060-057, 053-060-056 & 053-060-055

**CURRENT OWNER INFORMATION (legal owner)**

Type of Deed: Grant Deed  
Title Vested in: Delizia Ranch LLC  
Deed dated: 5-29-2020  
Deed Recorded: 8-20-2020  
Document #: 2020-0176966

LEGAL DESCRIPTION: See the current vesting deed attached hereto and made a part hereof.

**Disclaimer**

This report is neither a guarantee of title, a commitment to insure, nor a policy of title insurance. NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. Security First Title Resource, specifically disclaims the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. Therefore, the company's liability to this report extends only to the fee charged thereof. Copyright 2012 by Security First Title Resource. All Rights Reserved. Reproduction in any media or format, in whole or in part, of any report, or its affiliates, is prohibited without prior written permission.

"Celebrating 35 years in Business"  
1987 - 2022



# Environmental Lien Search

**ENVIRONMENTAL LIEN**

Environmental Lien:     Found     Not Found

If found:

1<sup>st</sup> Party:

2<sup>nd</sup> Party:

Dated:

Recorded:

Book:

Page:

Instrument:

Comments:

DRAFT

**OTHER ACTIVITY AND USE LIMITATIONS (AULs)**

Other AUL's:     Found     Not Found

If found:

1<sup>st</sup> Party:

2<sup>nd</sup> Party:

Dated:

Recorded:

Book:

Page:

Instrument:

Comments:

**RECORDING REQUESTED BY:**  
First American Title Company

**MAIL TAX STATEMENT  
AND WHEN RECORDED MAIL DOCUMENT TO:**

Delizia Ranch, LLC  
12714 SE Oatfield Road  
Milwaukie, OR 97222



CONTRA COSTA Co Recorder Office  
DEBORAH COOPER, Clerk-Recorder

**DOC - 2020-0176966**

Thursday, Aug 20, 2020 13:50:00

SB2 Fee: \$75.00



**Total Paid: \$114.00**

**Receipt#: 202003861659**

0000 - Public

211 / LFPC / 1-8

A.P.N.: 053-060-024-6 (portion of),  
053-060-044 (portion of), 053-060-048  
(portion of) and 053-072-020 (portion of)

File No.: 0192-6004915

**GRANT DEED**

(Resultant Deed – New Parcel A)

The Undersigned Grantor(s) Declare(s): DOCUMENTARY TRANSFER TAX \$0 R&T Code 11911, lot line adjustment; CITY TRANSFER TAX \$;  
SURVEY MONUMENT FEE \$

- computed on the consideration or full value of property conveyed, OR
- computed on the consideration or full value less value of liens and/or encumbrances remaining at time of sale,
- unincorporated area;  City of **Antioch**, and
- Exempt from transfer tax; Reason: **R&T Code 11911, Consideration less than \$100**

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

**DELIZIA RANCH, LLC, AN ARKANSAS LIMITED LIABILITY COMPANY**

hereby GRANT(s) to **DELIZIA RANCH, LLC, AN ARKANSAS LIMITED LIABILITY COMPANY**

the following described property in the City of **Antioch**, County of **Contra Costa**, State of **California**:

This deed is being recorded to effectuate the New Parcel A from the lot line adjustment.

**LEGAL DESCRIPTION AND PLAT ARE ATTACHED HERETO AS EXHIBIT "A" AND "B".**

Mail Tax Statements To: **SAME AS ABOVE**

A.P.N.: 053-060-024-6 (portion of),  
053-060-044 (portion of), 053-060-048  
(portion of) and 053-072-020 (portion of)

File No.: 0192-6004915

Dated: 5-29, 2020

**DELIZIA RANCH, LLC, AN ARKANSAS LIMITED  
LIABILITY COMPANY**

By: *Patrick Hawkins*  
Name: PATRICK HAWKINS  
Title: CO-MANAGER

A notary public or other officer completing this certificate  
verifies only the identity of the individual who signed the  
document to which this certificate is attached, and not the  
truthfulness, accuracy, or validity of that document.

STATE OF MINNESOTA )SS  
COUNTY OF HENNEPIN )

On MAY 29<sup>TH</sup>, 2020, before me, CHRISTOPHER RICHMAN, Notary  
Public, personally appeared PATRICK HAWKINS

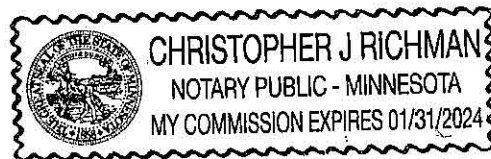
\_\_\_\_\_, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are  
subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their  
authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity  
upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is  
true and correct.

WITNESS my hand and official seal.

*This area for official notarial seal*

*Christopher J Richman*  
Notary Signature



**Exhibit "A"**

LOT LINE ADJUSTMENT  
LEGAL DESCRIPTION  
NEW PARCEL A

ALL THAT REAL PROPERTY, SITUATED IN THE CITY OF ANTIOCH, COUNTY OF CONTRA COSTA, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

A PORTION OF PARCEL A AS DESCRIBED IN THE AMENDED PARCEL MAP MS-5-95 RECORDED NOVEMBER 7, 1996, IN BOOK 170 OF PARCEL MAPS AT PAGE 12, AND A PORTION OF PARCELS N-N, Q-Q AS SHOWN ON THE MAP OF SUBDIVISION 8846, RECORDED JANUARY 26, 2017, IN BOOK 531 OF MAPS AT PAGE 37, A PORTION OF THE PARCEL DESCRIBED IN THE GRANT DEED RECORDED MARCH 5, 2009, IN DEED SERIES 2009-46361, AND A PORTION OF PARCEL 6 AS DESCRIBED IN THE GRANT DEED RECORDED JUNE 17, 2005, IN DEED SERIES 2005-220479, CONTRA COSTA COUNTY RECORDS, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF PARCEL N-N; THENCE FROM SAID POINT COMMENCEMENT ALONG THE EXTERIOR LINE OF SAID PARCEL N-N, SOUTH 89° 20' 17" EAST 223.17 FEET TO THE TRUE POINT OF BEGINNING; THENCE FROM SAID TRUE POINT OF BEGINNING CONTINUING SOUTH 89° 20' 17" EAST 966.94 FEET TO A POINT ON THE STATE ROUTE 4 WESTERLY RIGHT OF WAY; THENCE ALONG SAID STATE ROUTE 4 WESTERLY RIGHT OF WAY THE FOLLOWING COURSES: SOUTH 33° 38' 18" EAST 87.41 FEET; THENCE SOUTH 34° 16' 44" EAST 224.05 FEET; THENCE SOUTH 29° 51' 33" EAST 354.69 FEET; THENCE SOUTH 29° 51' 40" EAST 159.64 FEET; THENCE NORTH 60° 06' 27" EAST 14.95 FEET; THENCE SOUTH 29° 53' 33" EAST 25.00 FEET; THENCE LEAVING SAID STATE ROUTE 4 WESTERLY RIGHT OF WAY SOUTH 60° 06' 27" WEST 12.41 FEET; THENCE SOUTH 04° 24' 27" WEST 212.71 FEET TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 2442.00 FEET, A RADIAL LINE FROM THE CENTER OF SAID CURVE BEARS NORTH 52° 07' 07" EAST; THENCE NORTHWESTERLY 266.77 FEET ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 06° 15' 33"; THENCE NORTH 44° 08' 26" WEST 21.16 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 2571.00 FEET; THENCE NORTHWESTERLY 467.60 FEET ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 10° 25' 14"; THENCE NORTH 54° 33' 40" WEST 147.71 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 1882.00 FEET; THENCE NORTHWESTERLY 490.83 FEET ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 14° 56' 35"; THENCE NORTH 69° 30' 15" WEST 319.47 FEET TO THE POINT OF BEGINNING.

CONTAINING 8.35 ACRES MORE OR LESS.

EXHIBIT "B" ATTACHED HERETO AND MADE A PART HEREOF.

Exhibit "A"

PREPARED BY:

  
DANIEL DRUMMOND, LS 6333

10/2/19  
DATE



DRAFT



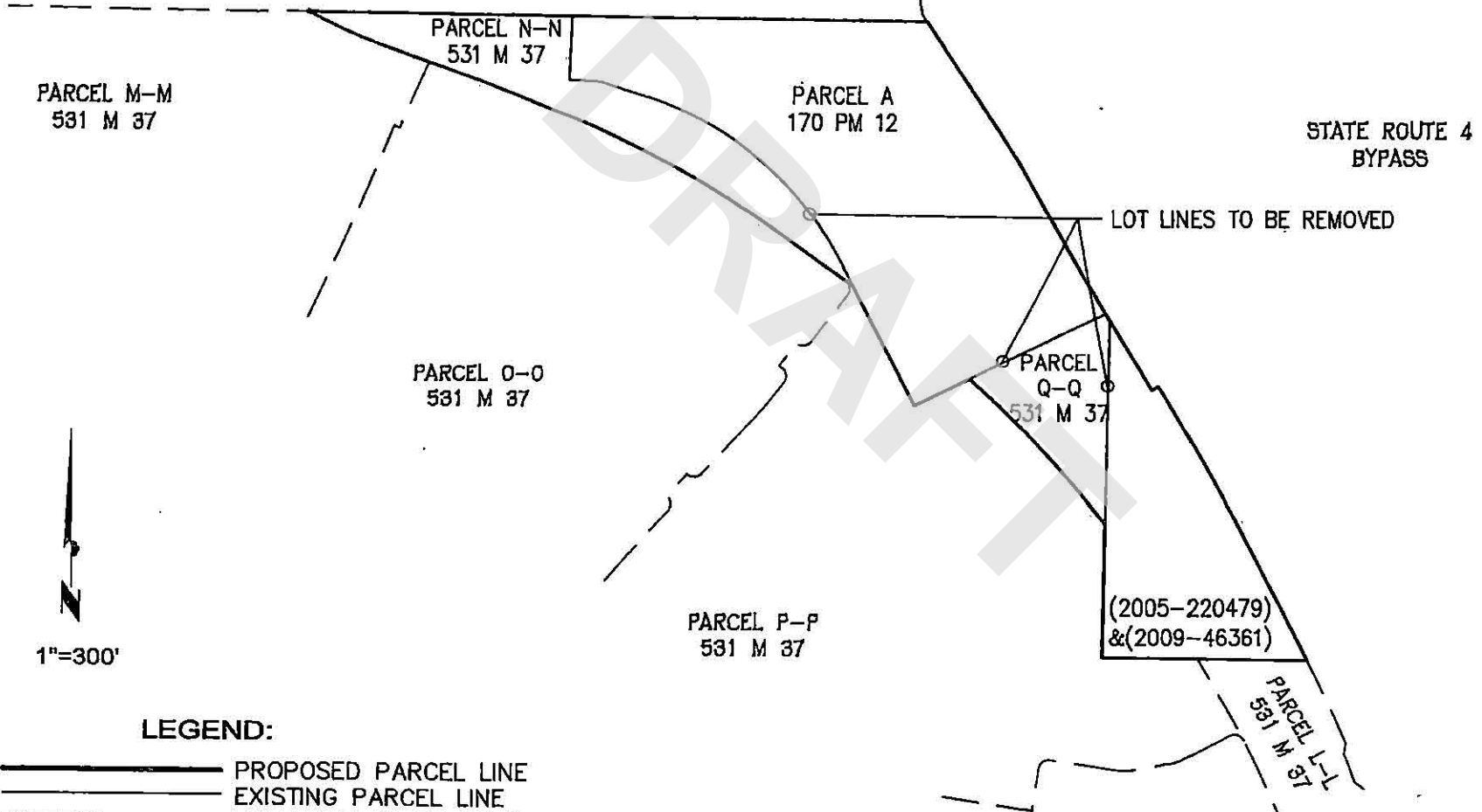
# EXHIBIT "B" LOT LINE ADJUSTMENT

PARCEL A (170 PM 12) & PARCELS N-N, Q-Q (531 M 37) & DEED PARCEL 2009-46361 & 2005-220479  
EXISTING CONDITIONS  
JULY 26, 2019

LAUREL RANCH  
SUB 8741

## REFERENCES:

1. MS-5-95 (AMENDED) (170 PM 12)
2. SUBDIVISION 8846 "PARK RIDGE 1" (531 M 37)
3. GRANT DEED (2009-46361)
4. PARCEL 6 (2005-220479)



## LEGEND:

- PROPOSED PARCEL LINE
- EXISTING PARCEL LINE
- LOT LINES TO BE REMOVED
- ADJACENT PROPERTY
- (T) TOTAL BEARING
- (R) RADIAL BEARING

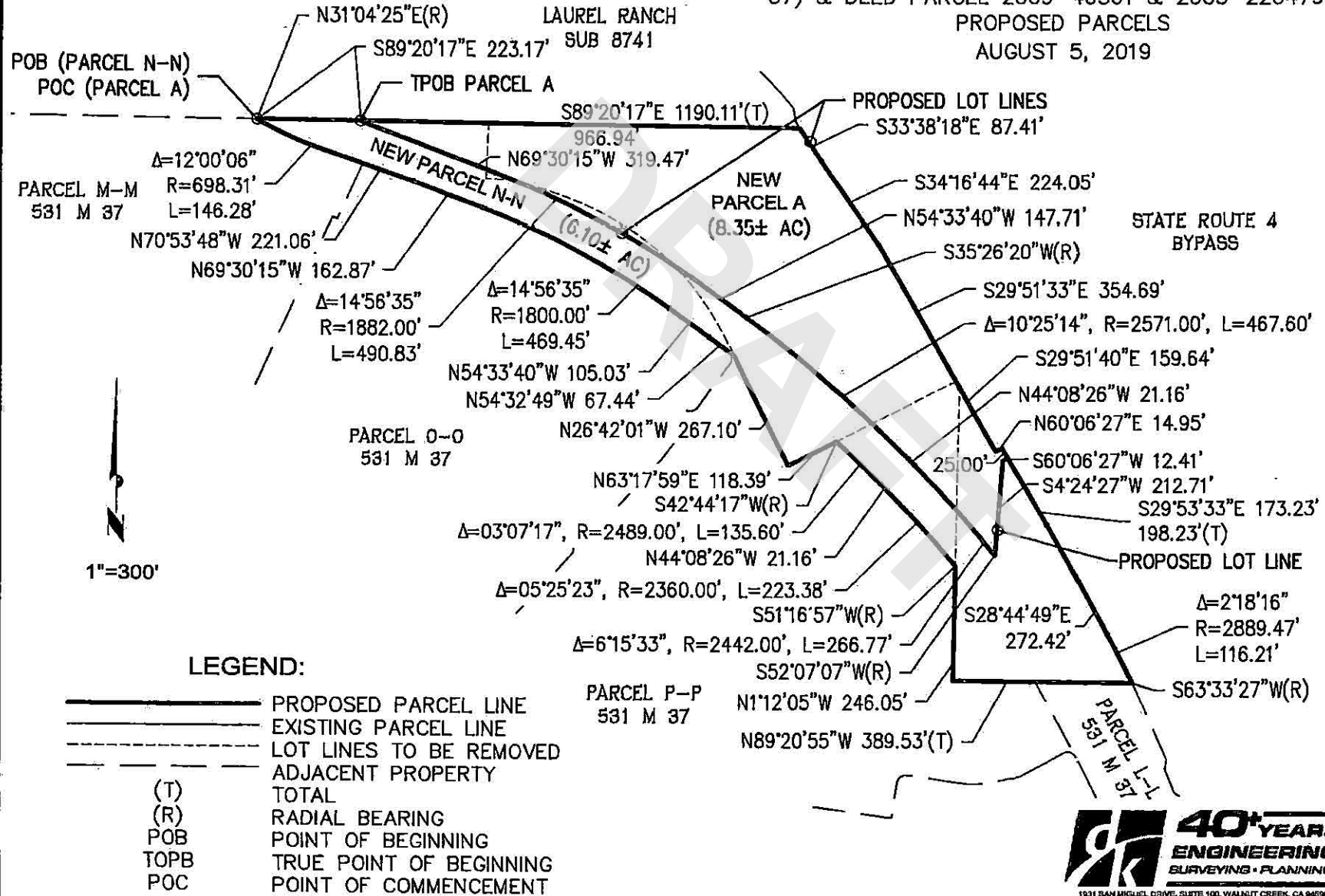
**40+ YEARS**  
**ENGINEERING**  
SURVEYING • PLANNING

1031 SAN MIGUEL DRIVE, SUITE 100, WALNUT CREEK, CA 94596  
WWW.DKCONSULTING.COM (925) 632-8883

F:\PROJECTS\2001\011052-41 COUNTRY HILLS ROAD\DWG\SURVEY\PLATS AND LEGALS\0152-11A.DWG 8/1/2019

# EXHIBIT "B" LOT LINE ADJUSTMENT

PARCEL A (170 PM 12) & PARCELS N-N, Q-Q (531 M 37) & DEED PARCEL 2009-46361 & 2005-220479  
PROPOSED PARCELS  
AUGUST 5, 2019



**40+ YEARS**  
**ENGINEERING**  
SURVEYING • PLANNING

1931 SAN MIGUEL DRIVE, SUITE 100, WALNUT CREEK, CA 94596  
WWW.DRCONSULTING.COM (925) 832-8888

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Environmental Lien Search Report  
E L S



**Security First Title Resource**  
Residential - Commercial - Environmental

**Celebrating 35 Years In Business**

Prepared For  
**Apex Companies, LLC**

Subject Property:  
Antioch, CA sites  
Report 1 of 2

July 14, 2022

The Environmental Lien Search Report (ELS) provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering control and institutional controls. Our in house professional abstractors / title examiners, following established procedure, use client supplied property data, such as property address, map, parcel number etc. to search for:

- parcel information and / or legal description
- search for ownership information
- research official recorded land title documents
- provide a copy of the deed
- search for environmental encumbering instrument (s) associated with the deed
- provide a copy of any environmental encumbrance (s) based upon a review of key words in the Instrument (s) (title, parties involved, and description).

Below is the property data information and Environmental Lien Search report of the subject property for a period ending June 30, 2022.

A copy of the current vesting deed is attached hereto and made a part hereof.

CLIENT PROJECT NO.: TBD

REPORT DATE: July 14, 2022

SUBJECT PROPERTY: Antioch, CA sites

COUNTY / JURISDICTION: Contra Costa  
California

PROPERTY IDENTIFIER: 053-060-063

**CURRENT OWNER INFORMATION (legal owner)**

Type of Deed: Grant Deed  
Title Vested in: Strack Farms Land LLC (70.5% interest and WSI land Holdings, LLC (29.5% interest)  
Deed dated: 1-08-2018  
Deed Recorded: 1-22-2018  
Document #: 20189000917900007

LEGAL DESCRIPTION: See the current vesting deed attached hereto and made a part hereof.

**Disclaimer**

This report is neither a guarantee of title, a commitment to insure, nor a policy of title insurance. NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. Security First Title Resource, specifically disclaims the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. Therefore, the company's liability to this report extends only to the fee charged thereof. Copyright 2012 by Security First Title Resource. All Rights Reserved. Reproduction in any media or format, in whole or in part, of any report, or its affiliates, is prohibited without prior written permission.

"Celebrating 35 years in Business"  
1987 - 2022

# Environmental Lien Search

**ENVIRONMENTAL LIEN**

Environmental Lien:     Found     Not Found

If found:

1<sup>st</sup> Party:

2<sup>nd</sup> Party:

Dated:

Recorded:

Book:

Page:

Instrument:

Comments:

DRAFT

**OTHER ACTIVITY AND USE LIMITATIONS (AULs)**

Other AUL's:     Found     Not Found

If found:

1<sup>st</sup> Party:

2<sup>nd</sup> Party:

Dated:

Recorded:

Book:

Page:

Instrument:

Comments:



20189000917900007  
CONTRA COSTA Co Recorder Office  
JOSEPH CANCIAMILLA, Clerk-Recorder  
DOC 2018-0009179-00  
Acct 2116-E North American Title  
Monday, JAN 22, 2018 08:45:39  
SB2 \$0.00|MOD \$7.00|REC \$17.00  
FTC \$6.00|RED \$1.00|ERD \$1.00  
S20 \$10.00|ANT \$55.00|  
Ttl Pd \$97.00 Nbr-0003126382  
AAV/RC/1-7

RECORDING REQUESTED BY:  
54606-1492427  
WHEN RECORDED MAIL TO AND

3161 Michelson Drive, Suite 425  
Irvine, CA 92612  
Attention: Legal Department

(Space Above Line For Recorder's Use Only)

The undersigned Grantor(s) declare(s): DOCUMENTARY TRANSFER TAX \$ 55.00; CITY TRANSFER TAX \$ N/A

- computed on the consideration or full value of property conveyed, OR  
 computed on the consideration or full value less value of liens and/or encumbrances remaining at time of sale,  
 unincorporated area;  City of Antioch, and

#### GRANT DEED

FOR VALUE RECEIVED, STATE ROUTE 4 BYPASS AUTHORITY, a Joint Exercise of Powers Agency, hereby grants to Strack Farms Land, LLC, a Delaware limited liability company, as to an undivided 70.5% interest, and WSI Land Holdings, LLC, a Delaware limited liability company, as to an undivided 29.5% interest, as tenants in common, all that certain real property (the "Property") situated in the City of Antioch, County of Contra Costa State of California, more particularly described in Exhibit "A" attached hereto and incorporated herein by reference.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the undersigned has executed this Grant Deed this 8<sup>th</sup> day of January, 2018.

STATE ROUTE 4 BYPASS AUTHORITY

By: 

Name: Doug Hardcastle

Title: Chair

*[all signatures must be notarized]*

DRAFT

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

**CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Contra Costa )

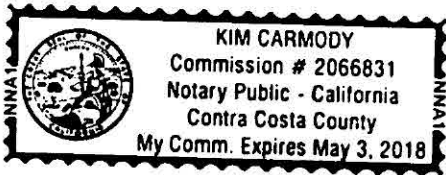
On 1/8/2018 before me, Kim Carmody, Notary Public  
Date Here Insert Name and Title of the Officer

personally appeared Doug Hardcastle  
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature Kim Carmody  
Signature of Notary Public

Place Notary Seal Above

**OPTIONAL**

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

**Description of Attached Document**

Title or Type of Document: Grant Deed

Document Date: \_\_\_\_\_ Number of Pages: 6

Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: \_\_\_\_\_

- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Individual  Attorney in Fact
- Trustee  Guardian or Conservator
- Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_

- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Individual  Attorney in Fact
- Trustee  Guardian or Conservator
- Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

EXHIBIT "A"  
LEGAL DESCRIPTION Parcel 1 (60013-2)

All that property situated in the City of Antioch, County of Contra Costa, State of California, being all of "Parcel 1 (60013-2) / Fee Property for Highway (CCC Flood Control WCD)" as described in Document 2005-0220479, recorded June 17, 2005, Official Records of Contra Costa County more particularly described as follows:

**COMMENCING** at the northwest corner of that parcel described in that certain Grant Deed conveyed to Contra Costa Flood Control and Water Conservation District recorded August 14, 1987 in Book 13838, at page 552, Official Records of Contra Costa County (henceforth "FC Parcel");

Thence, along the west line of the FC Parcel, South 36° 51' 41" East, a distance of 830.02 feet to the **POINT OF BEGINNING**;

Thence leaving said westerly line of and crossing through said FC Parcel the following five (5) courses and arcs:

- (1) North 76° 21' 06" East, a distance of 126.69 feet,
- (2) South 51° 06' 32" East, a distance of 64.89 feet,
- (3) South 32° 14' 04" East, a distance of 60.04 feet,
- (4) South 16° 45' 56" East, a distance of 68.75 feet to the beginning of a curve to the right from which the center point bears South 73° 14' 04" West, and
- (5) Along a curve to the right having a radius of 590.26 feet and a central angle of 23° 38' 43", a distance of 243.59 feet to a point of intersection with the west line of said FC Parcel;

Thence, along the west line of said FC Parcel the following two (2) courses:

- (6) North 28° 57' 40" West, a distance of 174.21 feet;
- (7) North 36° 51' 41" West, a distance of 269.98 feet to the **POINT OF BEGINNING**.

Containing 0.88 Acres, more or less.

There are no abutters rights of access along the four (4) courses contiguous with the State Highway Parcel (61994-4). Said rights having been previously relinquished in Grant Deed Document 2015-0183698-00 recorded September 2, 2015.

EXHIBIT "B", a plat is attached hereto, and by this reference made a part hereof.

This real property description has been prepared at Mark Thomas & Company, Inc., by me, or under my direction, in conformance with the Professional Land Surveyors Act.



  
Travis Timothy Bohan, LS 8965

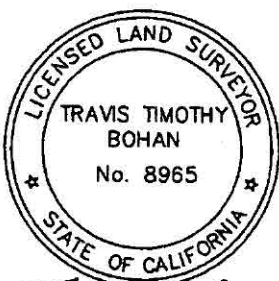
January 2, 2018

Date

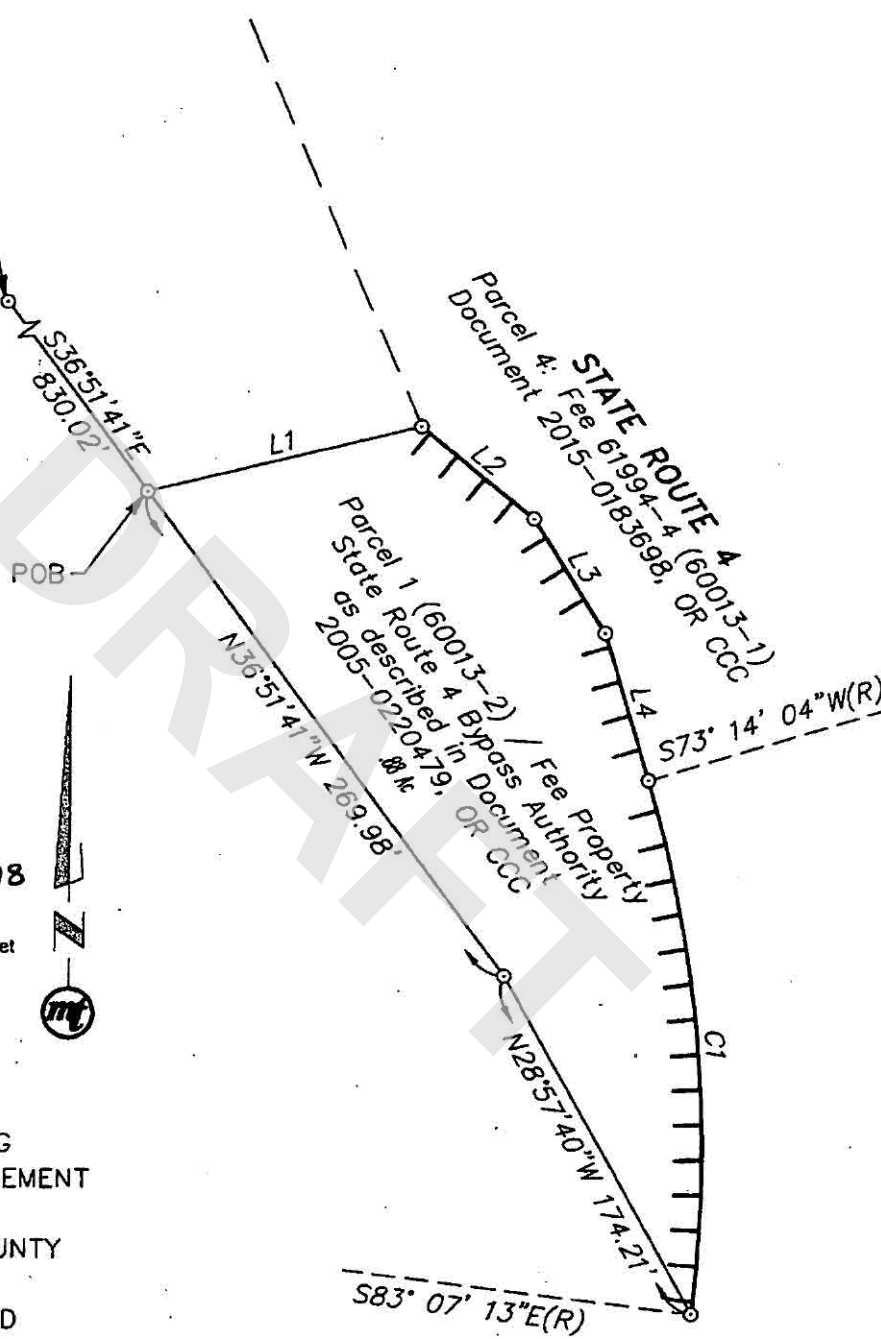
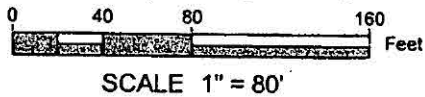


SECTION 34,  
T2N, R2E M.D.B.M.

POC:  
NORTHWEST CORNER OF  
PARCEL DESCRIBED IN  
GRANT DEED TO CONTRA  
COSTA FLOOD CONTROL  
AND WATER CONSERVATION  
DISTRICT RECORDED  
AUGUST 14, 1987 IN BOOK  
13838, AT PAGE 552 OR  
CCC



*Travis Timothy Bohan*  
JAN. 2, 2018



**LEGEND**

- POB POINT OF BEGINNING
- POC POINT OF COMMENCEMENT
- OR OFFICIAL RECORDS
- CCC CONTRA COSTA COUNTY
- ⊙ DIMENSION POINT
- |||| ACCESS CONTROLLED

SHEET 1 OF 2

**mf** Mark Thomas & Company Inc.

Scale: 1" = 200'  
Date Aug. 2016  
Drawn By TTB  
Checked By MJS

Exhibit B  
Parcel 1 (60013-2)  
Plat to Accompany Legal Description  
In the City of Antioch,  
Contra Costa County, California

SECTION 34,  
T2N, R2E M.D.B.M.

<u>LINE TABLE</u>		
<i>LINE #</i>	<i>BEARING</i>	<i>LENGTH</i>
L1	N76°21'06"E	126.69'
L2	S51°06'32"E	64.89'
L3	S32°14'04"E	60.04'
L4	N16°45'56"W	68.75'
L5	N75°37'48"E	126.69'
L6	S51°49'50"E	64.89'
L7	S32°57'22"E	60.04'
L8	N17°29'14"W	68.75'

<u>CURVE TABLE</u>			
<i>CURVE #</i>	<i>RADIUS</i>	<i>DELTA</i>	<i>LENGTH</i>
C1	590.26'	23°38'43"	243.59'

SHEET 2 OF 2



Mark  
Thomas &  
Company  
Inc.

Scale: NONE  
Date Aug. 2016  
Drawn By TTB  
Checked By MJS

Exhibit B  
Parcel 1 (60013-2)  
Plat to Accompany Legal Description  
In the City of Antioch,  
Contra Costa County, California

# **Interview Questionnaire(s)**

DRAFT

## Owner Representative/Property Manager Questionnaire

\*Please explain all 'yes' answers and mark N/A if you do not know the answer or it doesn't apply

Name	Mike Byer
Title	SVP
Company	Richland
How long have you been associated with the site?	+/- 8 yrs.
What is the address of the site?	
Who is the owner of the property?	
When were the buildings onsite (if any) constructed?	No buildings
Do you know the previous use of the site?	No
What companies supply utilities to the subject property?  Gas Electricity Water Sewer	
What company picks up trash and how often?	None
Do you know if any environmental work has been done at the property? If so, please describe.	no
Do you know if any hazardous materials are currently or previously stored onsite or if hazardous waste was generated onsite?  If so, please provide details.	no
Do you know of any underground storage tanks previously associated with this site? If so, please provide details in next column:	How many? No Capacity?  Contents?  Construction Material?  When were they installed?  If removed, when were they removed and by what company?

	<p>Were soil samples collected?</p> <p>Was an agency there to witness?</p>
<p>Do you know of any aboveground storage tanks associated with this site, past or present? If so, please provide details in next column:</p> <p>NO</p>	<p>How many? No</p> <p>Location?</p> <p>Capacity?</p> <p>Contents?</p> <p>Construction Material?</p> <p>When were they installed?</p> <p>When were they removed?</p>
<p>Do you know of any sumps, clarifiers, or grease interceptors associated with this site, past or present? If so, please provide details in next column:</p> <p>NO</p>	<p>Time frame located onsite (when installed/removed)?</p> <p>Location?</p> <p>What used for?</p> <p>Capacity?</p> <p>Who serviced and how often?</p> <p>What company removed?</p> <p>Were soil samples collected?</p> <p>Was there regulatory agency oversight of removal?</p>
<p>Do you know of any septic systems currently or formerly located onsite? If so, please provide details in next column:</p>	<p>Time frame located onsite? (NO)</p> <p>Location?</p> <p>Removal procedures if any? None</p>
<p>Do you know of any in-ground hydraulic equipment associated with this site, past or present? If so, please provide details in next column:</p>	<p>How many? (NO)</p> <p>Location?</p> <p>Time frame located onsite (when installed/removed)?</p> <p>What company removed them?</p> <p>Were samples collected from soil?</p> <p>Was there local agency oversight of removal?</p>
<p>Are you aware of any wells ever onsite (for example: Irrigation, groundwater,</p>	<p>When installed? NO</p> <p>How many?</p>



<p>groundwater monitoring, soil vapor extraction)? If so, please provide details in next column:</p>	<p>Where located?</p> <p>Currently operating?</p> <p>Abandoned? If so, when? And was it in accordance with agency? Which one?</p>
--	---

Are you aware of any of the following?

Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property. No

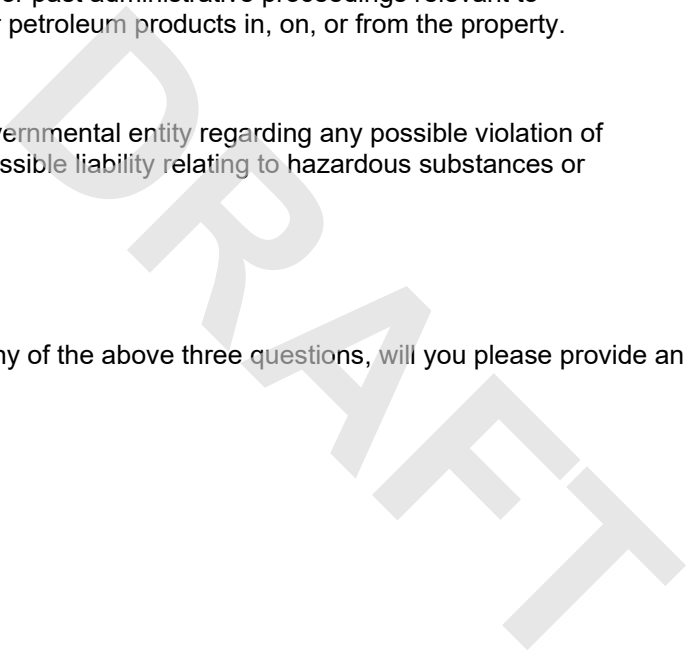
Any pending, threatened or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property.

No

Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.

No

If you answered yes to any of the above three questions, will you please provide an explanation:



# **Regulatory Database Report**

DRAFT



---

# DATABASE REPORT

DRAFT

**Project Property:** *Resmark - Antioch  
Laurel Road and Country Hills Road  
Antioch CA*

**Project No:** *RES012-0313063-22007688*

**Report Type:** *Database Report*

**Order No:** *22061400618*

**Requested by:** *Apex Companies, LLC*

**Date Completed:** *June 15, 2022*

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## **Notice: IMPORTANT LIMITATIONS and YOUR LIABILITY**

**Reliance on information in Report:** This report DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as database review of environmental records.

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# Executive Summary

## Property Information:

**Project Property:** *Resmark - Antioch  
Laurel Road and Country Hills Road Antioch CA*

**Project No:** *RES012-0313063-22007688*

## **Coordinates:**

**Latitude:** *37.97592308*  
**Longitude:** *-121.74450154*  
**UTM Northing:** *4,203,887.10*  
**UTM Easting:** *610,267.60*  
**UTM Zone:** *UTM Zone 10S*

**Elevation:** *141 FT*

## Order Information:

**Order No:** *22061400618*  
**Date Requested:** *June 14, 2022*  
**Requested by:** *Apex Companies, LLC*  
**Report Type:** *Database Report*

## Historicals/Products:

**Aerial Photographs** *Historical Aerials (with Project Boundaries)*  
**City Directory Search** *CD - 2 Street Search*  
**ERIS Xplorer** [\*ERIS Xplorer\*](#)  
**Excel Add-On** *Excel Add-On*  
**Fire Insurance Maps** *US Fire Insurance Maps*  
**Physical Setting Report (PSR)** *Physical Setting Report (PSR)*  
**Topographic Map** *Topographic Maps*



# Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
<b>Standard Environmental Records</b>								
<b>Federal</b>								
DOE FUSRAP	Y	1	0	0	0	0	0	0
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	0	-	0
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	0	1	-	-	1
RCRA VSQG	Y	0.25	0	0	0	-	-	0
RCRA NON GEN	Y	0.25	0	0	0	-	-	0
RCRA CONTROLS	Y	0.5	0	0	0	0	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
NPL IC	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
FRP	Y	0.25	0	0	0	-	-	0
DELISTED FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0

**State**

RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	0	3	3
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
SWRCB SWF	Y	0.5	0	0	0	0	-	0
WMUD	Y	0.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
SWAT	Y	0.5	0	0	0	0	-	0
C&D DEBRIS RECY	Y	0.5	0	0	0	0	-	0
RECYCLING	Y	0.5	0	0	0	0	-	0
PROCESSORS	Y	0.5	0	0	0	0	-	0
CONTAINER RECY	Y	0.5	0	0	0	0	-	0
LDS	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	0	0	0	0	-	0
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	0	0	-	-	0
UST CLOSURE	Y	0.5	0	0	0	0	-	0
HHSS	Y	0.25	0	0	0	-	-	0
UST SWEEPS	Y	0.25	0	0	0	-	-	0
AST	Y	0.25	0	0	0	-	-	0
AST SWRCB	Y	0.25	0	0	0	-	-	0
TANK OIL GAS	Y	0.25	0	0	0	-	-	0
DELISTED TNK	Y	0.25	0	0	0	-	-	0
CERS TANK	Y	0.25	0	0	0	-	-	0
DELISTED CTNK	Y	0.25	0	0	0	-	-	0
HIST TANK	Y	0.25	0	0	0	-	-	0

<b>Database</b>	<b>Searched</b>	<b>Search Radius</b>	<b>Project Property</b>	<b>Within 0.12mi</b>	<b>0.125mi to 0.25mi</b>	<b>0.25mi to 0.50mi</b>	<b>0.50mi to 1.00mi</b>	<b>Total</b>
LUR	Y	0.5	0	0	0	0	-	0
CALSITES	Y	0.5	0	0	0	0	-	0
HLUR	Y	0.5	0	0	0	0	-	0
DEED	Y	0.5	0	0	0	0	-	0
VCP	Y	0.5	0	0	0	0	-	0
CLEANUP SITES	Y	0.5	0	0	0	0	-	0
DELISTED CLEANUP	Y	0.5	0	0	0	0	-	0
DELISTED COUNTY	Y	0.25	0	0	0	-	-	0
<b>Tribal</b>								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED ILST	Y	0.5	0	0	0	0	-	0
DELISTED IUST	Y	0.25	0	0	0	-	-	0
<b>County</b>								
CUPA CONTRACO	Y	0.25	0	0	0	-	-	0
<b><u>Additional Environmental Records</u></b>								
<b>Federal</b>								
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0
ERNS PFAS	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0

<b>Database</b>	<b>Searched</b>	<b>Search Radius</b>	<b>Project Property</b>	<b>Within 0.12mi</b>	<b>0.125mi to 0.25mi</b>	<b>0.25mi to 0.50mi</b>	<b>0.50mi to 1.00mi</b>	<b>Total</b>
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	1	1
URANIUM	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
CONSENT DECREES	Y	0.25	0	0	0	-	-	0
AFS	Y	PO	0	-	-	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCBT	Y	0.5	0	0	0	0	-	0
PCB	Y	0.5	0	0	0	0	-	0
<b>State</b>								
DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DRYC GRANT	Y	0.25	0	0	0	-	-	0
PFAS	Y	0.5	0	0	0	0	-	0
PFAS GW	Y	0.5	0	0	0	0	-	0
HWSS CLEANUP	Y	0.5	0	0	0	0	-	0
TOXIC PITS	Y	1	0	0	0	0	0	0
DTSC HWF	Y	0.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	2	2
CHMIRS	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HW TRANSPORT	Y	0.125	0	0	-	-	-	0
WASTE TIRE	Y	PO	0	-	-	-	-	0
MEDICAL WASTE	Y	0.25	0	0	0	-	-	0
HIST CORTESE	Y	0.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
CDO/CAO	Y	0.5	0	0	0	0	-	0
CERS HAZ	Y	0.125	0	0	-	-	-	0
DELISTED HAZ	Y	0.5	0	0	0	0	-	0
GEOTRACKER	Y	0.125	0	0	-	-	-	0
MINE	Y	1	0	0	0	0	2	2
LIEN	Y	PO	0	-	-	-	-	0
WASTE DISCHG	Y	0.25	0	0	0	-	-	0
EMISSIONS	Y	0.25	0	0	0	-	-	0
CDL	Y	0.125	0	0	-	-	-	0

Tribal

*No Tribal additional environmental record sources available for this State.*

County

*No County additional environmental databases were selected to be included in the search.*

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**Total:** 0 0 1 0 8 9

\* PO – Property Only

\* 'Property and adjoining properties' database search radii are set at 0.25 miles.



## Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Direction</i>	<i>Distance (mi/ft)</i>	<i>Elev Diff (ft)</i>	<i>Page Number</i>
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No records found in the selected databases for the project property.

DRAFT

## Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
<a href="#">1</a>	RCRA SQG	STATE RTE 4 PM R28.6 T30.5 FROM .32 MI EW TO 1.53 MI E OF HILLCREST	STATE RTE 4 PM R28.6 T30.5 FROM .32 MI EW TO 1.53 MI E OF ANTIOCH CA 94531  <i>EPA Handler ID: CAR000246843</i>	NNW	0.20 / 1,037.17	-57	<a href="#">18</a>
<a href="#">2</a>	MINE	DELTA TOPSOIL, INC.	OAKLEY CA 94561	NNE	0.53 / 2,805.71	-50	<a href="#">19</a>
<a href="#">3</a>	MINE	DEL BARBA SAND #2	OAKLEY CA 94561	ENE	0.56 / 2,948.73	-47	<a href="#">19</a>
<a href="#">4</a>	MRDS	UNNAMED LOCATION	CONTRA COSTA COUNTY ANTIOCH CA 94531  <i>Dep ID: 10259951</i>	SE	0.71 / 3,726.78	-31	<a href="#">20</a>
<a href="#">5</a>	SCH	MEADOW CREEK ELEMENTARY	VISTA GRANDE DRIVE/COUNTRY HILLS DRIVE ANTIOCH CA 94561  <i>Estor/EPA ID   Cleanup Status: 07010004   NO ACTION REQUIRED AS OF 4/7/2000</i>	SW	0.72 / 3,812.10	2	<a href="#">20</a>
<a href="#">5</a>	ENVIROSTOR	MEADOW CREEK ELEMENTARY	VISTA GRANDE DRIVE/COUNTRY HILLS DRIVE ANTIOCH CA 94561  <i>Estor/EPA ID   Cleanup Status: 07010004   NO ACTION REQUIRED AS OF 4/7/2000</i>	SW	0.72 / 3,812.10	2	<a href="#">21</a>
<a href="#">6</a>	ENVIROSTOR	ORFANOS PROPERTY	2800 EMPIRE AVENUE BRENTWOOD CA 94513  <i>Estor/EPA ID   Cleanup Status: 60002939   NO FURTHER ACTION AS OF 5/20/2021</i>	ESE	0.78 / 4,119.30	-42	<a href="#">22</a>
<a href="#">7</a>	SCH	CARPENTER ROAD SCHOOL	1629 AND 1541 CARPENTER ROAD OAKLEY CA 94561  <i>Estor/EPA ID   Cleanup Status: 07010015   NO FURTHER ACTION AS OF 4/26/2005</i>	E	0.79 / 4,175.92	-47	<a href="#">25</a>
<a href="#">7</a>	ENVIROSTOR	CARPENTER ROAD SCHOOL	1629 AND 1541 CARPENTER ROAD OAKLEY CA 94561  <i>Estor/EPA ID   Cleanup Status: 07010015   NO FURTHER ACTION AS OF 4/26/2005</i>	E	0.79 / 4,175.92	-47	<a href="#">26</a>

## Executive Summary: Summary by Data Source

### Standard

#### Federal

##### RCRA SQG - RCRA Small Quantity Generators List

A search of the RCRA SQG database, dated Apr 11, 2022 has found that there are 1 RCRA SQG site(s) within approximately 0.25 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
STATE RTE 4 PM R28.6 T30.5 FROM .32 MI EW TO 1.53 MI E OF HILLCREST	STATE RTE 4 PM R28.6 T30.5 FROM .32 MI EW TO 1.53 MI E OF ANTIOCH CA 94531 <i>EPA Handler ID: CAR000246843</i>	NNW	0.20 / 1,037.17	<a href="#">1</a>

#### State

##### ENVIROSTOR - EnviroStor Database

A search of the ENVIROSTOR database, dated May 30, 2022 has found that there are 3 ENVIROSTOR site(s) within approximately 1.00 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
MEADOW CREEK ELEMENTARY	VISTA GRANDE DRIVE/COUNTRY HILLS DRIVE ANTIOCH CA 94561 <i>Estor/EPA ID   Cleanup Status: 07010004   NO ACTION REQUIRED AS OF 4/7/2000</i>	SW	0.72 / 3,812.10	<a href="#">5</a>

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
ORFANOS PROPERTY	2800 EMPIRE AVENUE BRENTWOOD CA 94513 <i>Estor/EPA ID   Cleanup Status: 60002939   NO FURTHER ACTION AS OF 5/20/2021</i>	ESE	0.78 / 4,119.30	<a href="#">6</a>
CARPENTER ROAD SCHOOL	1629 AND 1541 CARPENTER ROAD OAKLEY CA 94561 <i>Estor/EPA ID   Cleanup Status: 07010015   NO FURTHER ACTION AS OF 4/26/2005</i>	E	0.79 / 4,175.92	<a href="#">7</a>

### Non Standard

#### Federal

##### MRDS - Mineral Resource Data System

A search of the MRDS database, dated Mar 15, 2016 has found that there are 1 MRDS site(s) within approximately 1.00 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
UNNAMED LOCATION	CONTRA COSTA COUNTY ANTIOCH CA 94531	SE	0.71 / 3,726.78	<a href="#">4</a>

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
	<i>Dep ID: 10259951</i>			

**State**

**SCH - School Property Evaluation Program Sites**

A search of the SCH database, dated May 30, 2022 has found that there are 2 SCH site(s) within approximately 1.00 miles of the project property.

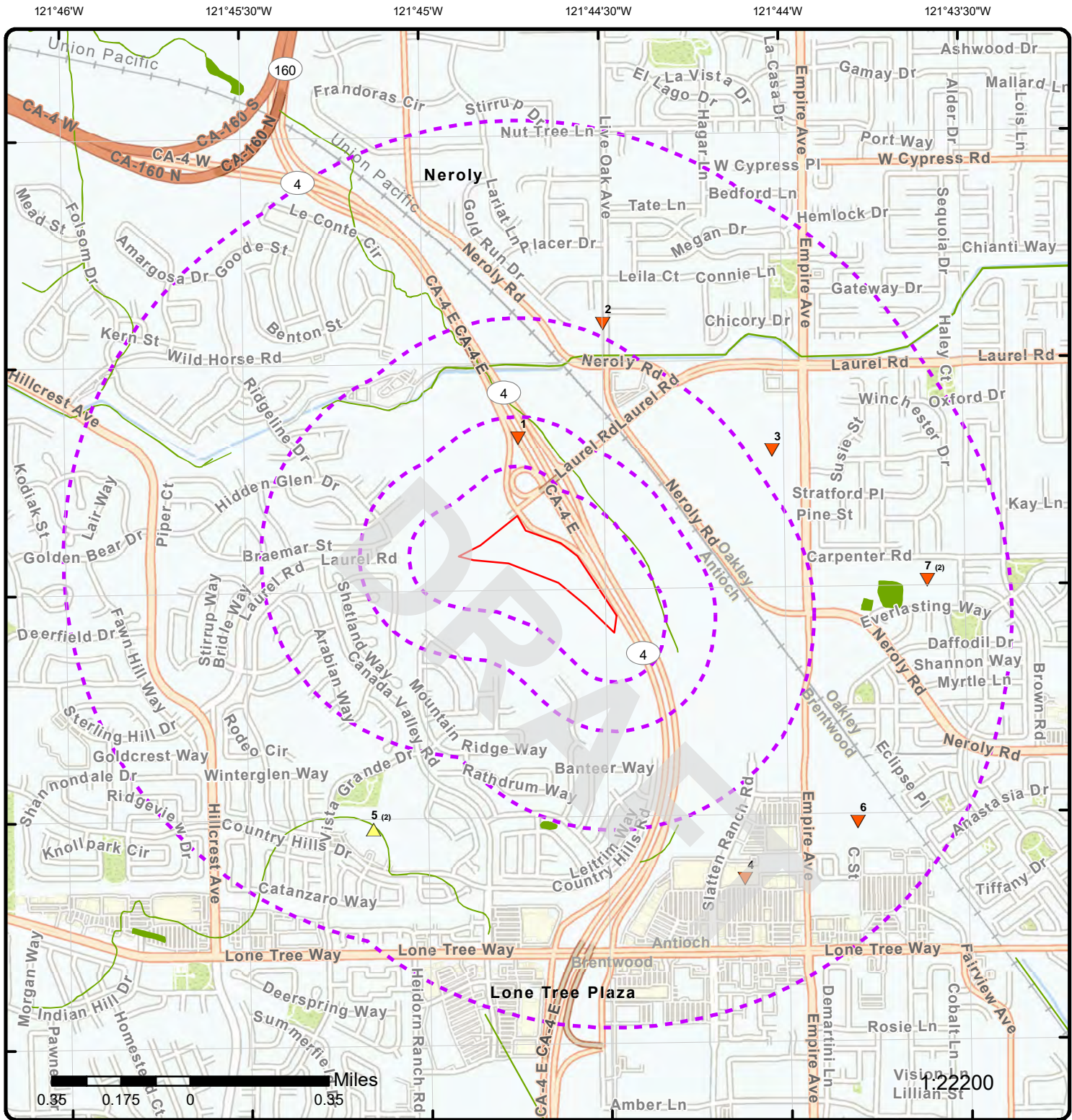
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
MEADOW CREEK ELEMENTARY	VISTA GRANDE DRIVE/COUNTRY HILLS DRIVE ANTIOCH CA 94561 <i>Estor/EPA ID   Cleanup Status: 07010004   NO ACTION REQUIRED AS OF 4/7/2000</i>	SW	0.72 / 3,812.10	<a href="#">5</a>

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
CARPENTER ROAD SCHOOL	1629 AND 1541 CARPENTER ROAD OAKLEY CA 94561 <i>Estor/EPA ID   Cleanup Status: 07010015   NO FURTHER ACTION AS OF 4/26/2005</i>	E	0.79 / 4,175.92	<a href="#">7</a>

**MINE - Mines Listing**

A search of the MINE database, dated Dec 17, 2021 has found that there are 2 MINE site(s) within approximately 1.00 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
DELTA TOPSOIL, INC.	OAKLEY CA 94561	NNE	0.53 / 2,805.71	<a href="#">2</a>
DEL BARBA SAND #2	OAKLEY CA 94561	ENE	0.56 / 2,948.73	<a href="#">3</a>



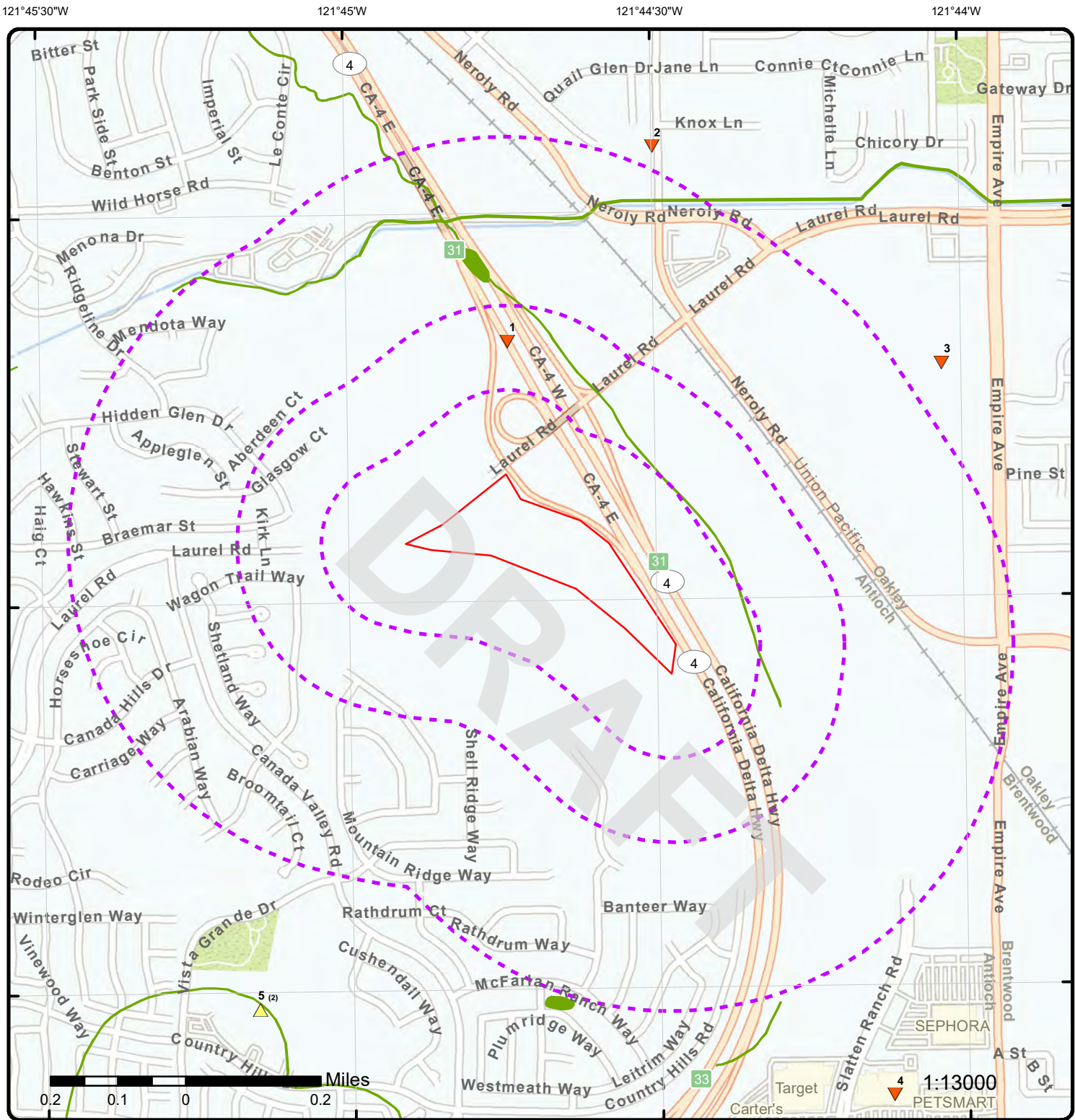
**Map: 1.0 Mile Radius**

Order Number: 22061400618  
 Address: Laurel Road and Country Hills Road, Antioch, CA



- |                                   |                        |                     |                               |
|-----------------------------------|------------------------|---------------------|-------------------------------|
| Project Property                  | Buffer Outline         | State               | FWS Special Designation Areas |
| Eris Sites with Higher Elevation  | Freeways; Highways     | Country             | National Wetland              |
| Eris Sites with Same Elevation    | Traffic Circle; Ramp   | Indian Reserve Land | Plume                         |
| Eris Sites with Lower Elevation   | Major & Minor Arterial | 100 Year Flood Zone | 500 Year Flood Zone           |
| Eris Sites with Unknown Elevation | Traffic Circle; Ramp   | Rail                |                               |
| Eris Areas with Higher Elevation  | Local Road             |                     |                               |
| Eris Areas with Same Elevation    |                        |                     |                               |
| Eris Areas with Lower Elevation   |                        |                     |                               |
| Eris Areas with Unknown Elevation |                        |                     |                               |





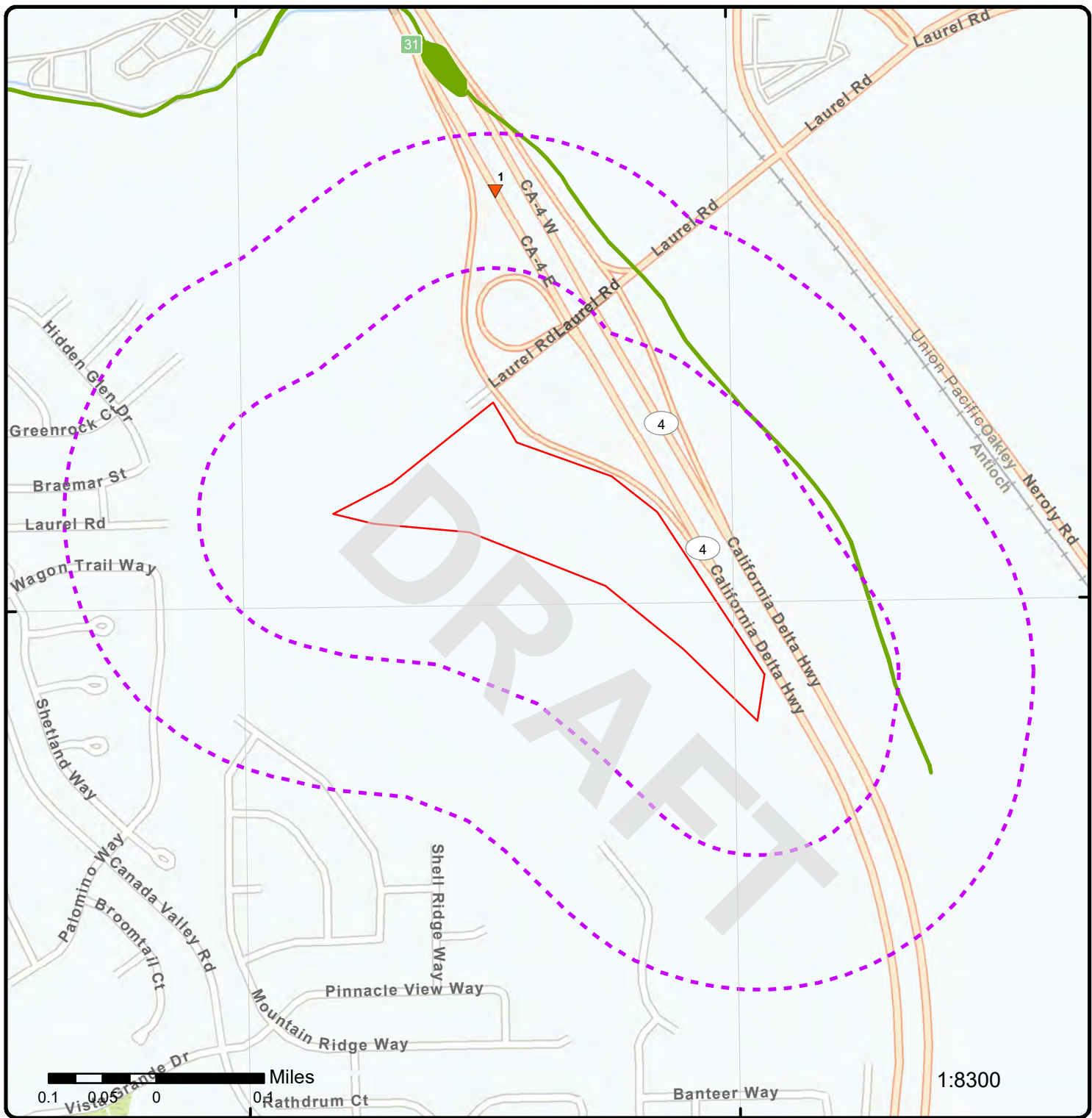
**Map: 0.5 Mile Radius**

Order Number: 22061400618  
 Address: Laurel Road and Country Hills Road, Antioch, CA



- |                                   |                      |                        |                     |                               |
|-----------------------------------|----------------------|------------------------|---------------------|-------------------------------|
| Project Property                  | Buffer Outline       | Freeways; Highways     | State               | FWS Special Designation Areas |
| Eris Sites with Higher Elevation  | Freeways; Highways   | Traffic Circle; Ramp   | Country             | National Wetland              |
| Eris Sites with Same Elevation    | Traffic Circle; Ramp | Major & Minor Arterial | Indian Reserve Land | Plume                         |
| Eris Sites with Lower Elevation   | Traffic Circle; Ramp | Local Road             | 100 Year Flood Zone | 500 Year Flood Zone           |
| Eris Sites with Unknown Elevation | Rail                 |                        |                     |                               |
| Eris Areas with Higher Elevation  |                      |                        |                     |                               |
| Eris Areas with Same Elevation    |                      |                        |                     |                               |
| Eris Areas with Lower Elevation   |                      |                        |                     |                               |
| Eris Areas with Unknown Elevation |                      |                        |                     |                               |





### Map: 0.25 Mile Radius

Order Number: 22061400618

Address: Laurel Road and Country Hills Road, Antioch, CA



- |                                   |                        |                     |                     |                               |
|-----------------------------------|------------------------|---------------------|---------------------|-------------------------------|
| Project Property                  | Buffer Outline         | Freeways; Highways  | State               | FWS Special Designation Areas |
| Eris Sites with Higher Elevation  | Traffic Circle; Ramp   | Country             | National Wetland    | Plume                         |
| Eris Sites with Same Elevation    | Major & Minor Arterial | Indian Reserve Land | 100 Year Flood Zone | 500 Year Flood Zone           |
| Eris Sites with Lower Elevation   | Traffic Circle; Ramp   | Plume               |                     |                               |
| Eris Sites with Unknown Elevation | Local Road             | 100 Year Flood Zone |                     |                               |
| Eris Areas with Higher Elevation  | Rail                   |                     |                     |                               |
| Eris Areas with Same Elevation    |                        |                     |                     |                               |
| Eris Areas with Lower Elevation   |                        |                     |                     |                               |
| Eris Areas with Unknown Elevation |                        |                     |                     |                               |



121°45'W

121°44'30"W

37°59'N

37°59'N

37°58'30"N

37°58'30"N

37°58'N

37°58'N



**Aerial** Year: 2021

Address: Laurel Road and Country Hills Road, Antioch, CA

Source: ESRI World Imagery

Order Number: 22061400618



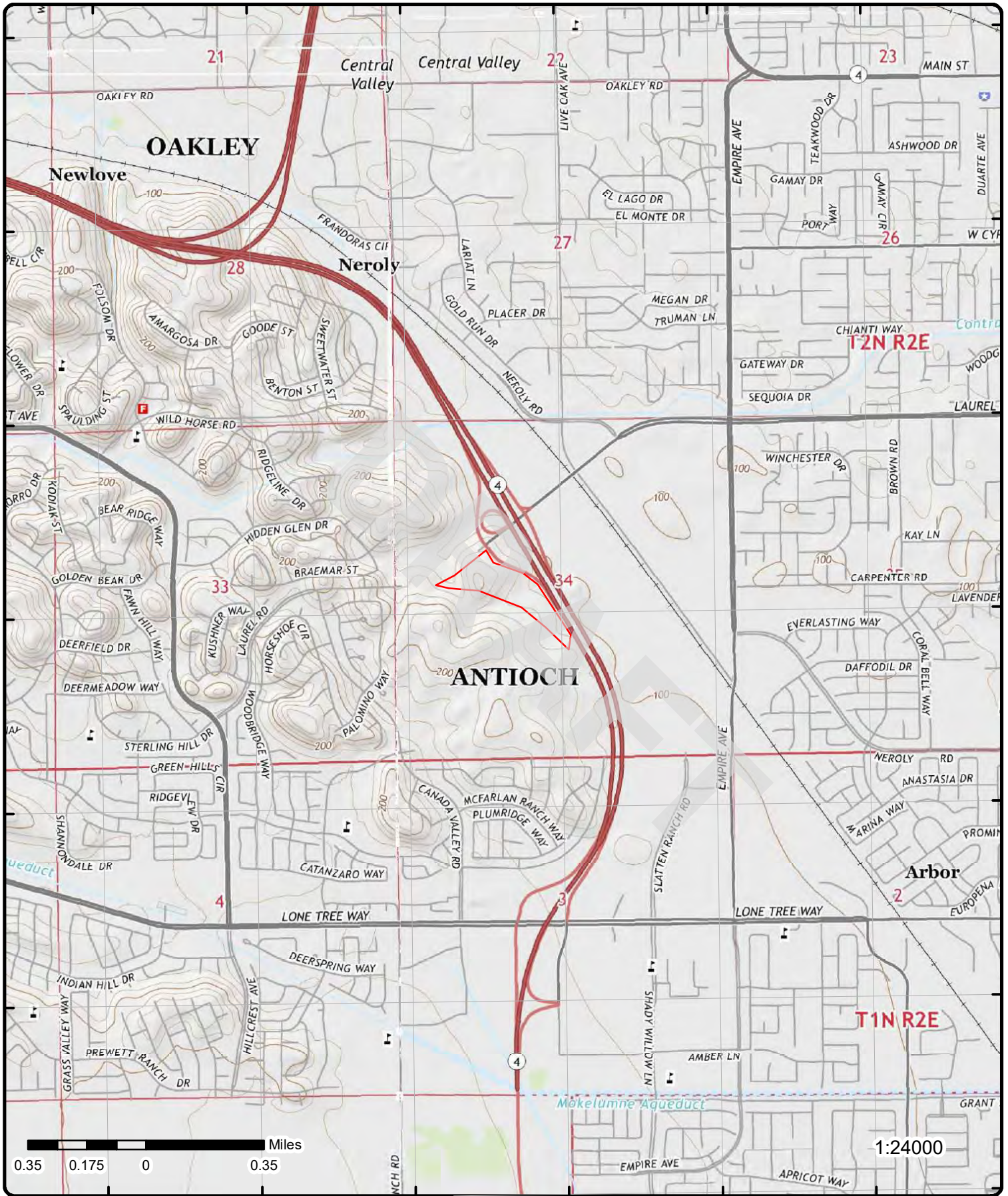
© ERIS Information Inc.



121°46'W 121°45'30"W 121°45'W 121°44'30"W 121°44'W 121°43'30"W

38°0'N 37°59'30"N 37°59'N 37°58'30"N 37°58'N 37°57'30"N

38°0'N 37°59'30"N 37°59'N 37°58'30"N 37°58'N 37°57'30"N



# Topographic Map Year: 2015

Address: Laurel Road and Country Hills Road, CA

Quadrangle(s): Antioch South, CA; Brentwood, CA; Antioch North, CA; Jersey Island, CA

Source: USGS Topographic Map

Order Number: 22061400618



© ERIS Information Inc.

# Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
<a href="#">1</a>	1 of 1	NNW	0.20 / 1,037.17	84.12 / -57	STATE RTE 4 PM R28.6 T30.5 FROM .32 MI EW TO 1.53 MI E OF HILLCREST STATE RTE 4 PM R28.6 T30.5 FROM .32 MI EW TO 1.53 MI E OF ANTIOCH CA 94531	RCRA SQG

**EPA Handler ID:** CAR000246843  
**Gen Status Universe:** Small Quantity Generator  
**Contact Name:** MIKE CHAN  
**Contact Address:** 2729 HILLCREST AVE , , ANTIOCH , CA, 94531 , US  
**Contact Phone No and Ext:** 510-774-6119  
**Contact Email:** MIKE\_CHAN@SCENGINEERS.COM  
**Contact Country:** US  
**County Name:** CONTRA COSTA  
**EPA Region:** 09  
**Land Type:** State  
**Receive Date:** 20140527  
**Location Latitude:** 37.980574  
**Location Longitude:** -121.745663

### Violation/Evaluation Summary

**Note:** NO RECORDS: As of Apr 2022, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

### Handler Summary

**Importer Activity:** No  
**Mixed Waste Generator:** No  
**Transporter Activity:** Yes  
**Transfer Facility:** No  
**Onsite Burner Exemption:** No  
**Furnace Exemption:** No  
**Underground Injection Activity:** No  
**Commercial TSD:** No  
**Used Oil Transporter:** No  
**Used Oil Transfer Facility:** No  
**Used Oil Processor:** No  
**Used Oil Refiner:** No  
**Used Oil Burner:** No  
**Used Oil Market Burner:** No  
**Used Oil Spec Marketer:** No

### Hazardous Waste Handler Details

**Sequence No:** 1  
**Receive Date:** 20140527  
**Handler Name:** STATE RTE 4 PM R28.6 T30.5 FROM .32 MI EW TO 1.53 MI E OF HILLCREST  
**Federal Waste Generator Code:** 2  
**Generator Code Description:** Small Quantity Generator  
**Source Type:** Notification

### Waste Code Details



Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
<b>Hazardous Waste Code:</b>		D008				
<b>Waste Code Description:</b>		LEAD				
<b>Hazardous Waste Code:</b>		U144				
<b>Waste Code Description:</b>		ACETIC ACID, LEAD(2+) SALT (OR) LEAD ACETATE				
<b>Hazardous Waste Code:</b>		U051				
<b>Waste Code Description:</b>		CREOSOTE				

**Owner/Operator Details**

<b>Owner/Operator Ind:</b>	Current Owner	<b>Street No:</b>	
<b>Type:</b>	State	<b>Street 1:</b>	111 GRAND AVE
<b>Name:</b>	CALIFORNIA DEPT OF TRANSPORTATION	<b>Street 2:</b>	
<b>Date Became Current:</b>	19490101	<b>City:</b>	OAKLAND
<b>Date Ended Current:</b>		<b>State:</b>	CA
<b>Phone:</b>	510-622-8750	<b>Country:</b>	US
<b>Source Type:</b>	Notification	<b>Zip Code:</b>	94597
<b>Owner/Operator Ind:</b>	Current Operator	<b>Street No:</b>	
<b>Type:</b>	Other	<b>Street 1:</b>	
<b>Name:</b>	CONTRA COSTA TRANSPORTATION AUTHORITY	<b>Street 2:</b>	
<b>Date Became Current:</b>	20110101	<b>City:</b>	
<b>Date Ended Current:</b>		<b>State:</b>	
<b>Phone:</b>		<b>Country:</b>	US
<b>Source Type:</b>	Notification	<b>Zip Code:</b>	

<a href="#"><u>2</u></a>	1 of 1	<b>NNE</b>	<b>0.53 / 2,805.71</b>	<b>91.10 / -50</b>	<b>DELTA TOPSOIL, INC.</b> <b>OAKLEY CA 94561</b>	<b>MINE</b>
<b>Mine ID:</b>	91-07-0015	<b>Las Code:</b>				
<b>Mine Status:</b>	RECLAIMED	<b>Rp No:</b>				
<b>Primary Product:</b>	SPECIALTY SAND	<b>Report Type:</b>				
<b>Other Products:</b>		<b>Owner City:</b>				
<b>Report Year:</b>	2001	<b>Owner Country:</b>				
<b>Acres Disturbed:</b>	0	<b>Owner State:</b>				
<b>Reclamation Status:</b>	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY	<b>Owner Street:</b>				
<b>Permit Acres:</b>		<b>Owner Zip:</b>				
<b>Finan Assur Mech:</b>	10000	<b>Operator City:</b>				
<b>Fin Assur Cost Est:</b>		<b>Operator Country:</b>				
<b>Primary Product 1:</b>		<b>Operator State:</b>				
<b>Primary Prod Label:</b>		<b>Operator Street:</b>				
<b>Facility City:</b>	OAKLEY	<b>Operator Zip:</b>				
<b>Facility State:</b>	CA	<b>Shape:</b>				
<b>Facility Zip:</b>	94561	<b>X:</b>	-13552220.38			
<b>Facility County:</b>	CONTRA COSTA	<b>Y:</b>	4577267.769			
<b>Facility Address:</b>	CONTRA COSTA COUNTY					
<b>Owner:</b>	DELTA TOPSOIL, INC.					
<b>Permit No:</b>						
<b>Operation Type:</b>						
<b>Operator:</b>	DELTA TOPSOIL, INC.					
<b>Lead Agency:</b>	County of Contra Costa					

<a href="#"><u>3</u></a>	1 of 1	<b>ENE</b>	<b>0.56 / 2,948.73</b>	<b>93.73 / -47</b>	<b>DEL BARBA SAND #2</b> <b>OAKLEY CA 94561</b>	<b>MINE</b>
<b>Mine ID:</b>	91-07-0011	<b>Las Code:</b>				
<b>Mine Status:</b>	RECLAIMED	<b>Rp No:</b>				
<b>Primary Product:</b>	SAND AND GRAVEL	<b>Report Type:</b>				
<b>Other Products:</b>		<b>Owner City:</b>				
<b>Report Year:</b>	1992	<b>Owner Country:</b>				



Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
<b>Acres Disturbed:</b>	7				<b>Owner State:</b>	
<b>Reclamation Status:</b>	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY				<b>Owner Street:</b>	
<b>Permit Acres:</b>	10				<b>Owner Zip:</b>	
<b>Finan Assur Mech:</b>					<b>Operator City:</b>	
<b>Fin Assur Cost Est:</b>					<b>Operator Country:</b>	
<b>Primary Product 1:</b>					<b>Operator State:</b>	
<b>Primary Prod Label:</b>					<b>Operator Street:</b>	
<b>Facility City:</b>	OAKLEY				<b>Operator Zip:</b>	
<b>Facility State:</b>	CA				<b>Shape:</b>	
<b>Facility Zip:</b>	94561				<b>X:</b>	-13551354.54
<b>Facility County:</b>	CONTRA COSTA				<b>Y:</b>	4576600.869
<b>Facility Address:</b>	CONTRA COSTA COUNTY					
<b>Owner:</b>	DEL BARBA					
<b>Permit No:</b>	2032-90					
<b>Operation Type:</b>	QUARRY					
<b>Operator:</b>	DEL BARBA					
<b>Lead Agency:</b>	County of Contra Costa					

<u>4</u>	1 of 1	SE	0.71 / 3,726.78	109.35 / -31	UNNAMED LOCATION CONTRA COSTA COUNTY ANTIOCH CA 94531	MRDS
<b>Dep ID:</b>	10259951			<b>I1:</b>	58	
<b>Dev Status:</b>	PROSPECT			<b>Latitude:</b>	37.964294	
<b>Code List:</b>	SDG			<b>Longitude:</b>	-121.735413	
<b>Url:</b>	http://mrddata.usgs.gov/mrds/show-mrds.php?dep_id=10259951					
<b>Commodity</b>						
<b>I1:</b>	36			<b>Line:</b>	1	
<b>Code:</b>	SDG			<b>Inserted By:</b>	MAS migration	
<b>Commodity:</b>	Sand and Gravel, Cons			<b>Insert Date:</b>	29-OCT-2002 09:00:24	
<b>Commodity Type:</b>	Non-metallic			<b>Updated By:</b>	USGS	
<b>Commodity Group:</b>	Sand and Gravel			<b>Update Date:</b>	29-OCT-2002 09:02:19	
<b>Importance:</b>	Primary					
<b>Names</b>						
<b>I1:</b>	97			<b>Inserted By:</b>	MAS migration	
<b>Status:</b>	Current			<b>Insert Date:</b>	29-OCT-02	
<b>Site Name:</b>	Unnamed Location			<b>Updated By:</b>	USGS	
<b>Line:</b>	1			<b>Update Date:</b>	29-OCT-02	

<u>5</u>	1 of 2	SW	0.72 / 3,812.10	142.91 / 2	MEADOW CREEK ELEMENTARY VISTA GRANDE DRIVE/COUNTRY HILLS DRIVE ANTIOCH CA 94561	SCH
<b>Estor/EPA ID:</b>	07010004			<b>Permit Renewal Lead:</b>		
<b>Site Code:</b>	204024			<b>Project Manager:</b>		
<b>Nat Priority List:</b>	NO			<b>Supervisor:</b>		
<b>Acres:</b>	10 ACRES			<b>Public Partici Spclst:</b>		
<b>Special Program:</b>				<b>Census Tract:</b>	6013302009	
<b>Funding:</b>	SCHOOL DISTRICT			<b>County:</b>	CONTRA COSTA	
<b>Assembly District:</b>	11			<b>Latitude:</b>	37.9663	
<b>Senate District:</b>	07			<b>Longitude:</b>	-121.7526	
<b>School District:</b>	ANTIOCH UNIFIED SCHOOL DISTRICT					
<b>APN:</b>	NONE SPECIFIED					
<b>Cleanup Status:</b>	NO ACTION REQUIRED AS OF 4/7/2000					
<b>Cleanup Oversight Agencies:</b>	DTSC - LEAD AGENCY					
<b>Site Type:</b>	SCHOOL					
<b>Office:</b>	NORTHERN CALIFORNIA SCHOOLS & SANTA SUSANA					
<b>Past Use that Caused Contam:</b>	AGRICULTURAL - ROW CROPS					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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**Potential Media Affected:** NO MEDIA AFFECTED  
**Potential Contaminant of Concern:**

NO CONTAMINANTS FOUND

**SITE HISTORY:**

This 10-acre Site was used for grazing and some dry-crop grains for approximately 20 years.

**Status:** NO ACTION REQUIRED  
**Program Type:** SCHOOL EVALUATION  
**CalEnviroScreen Score:** 50-55%  
**Summary Link:** [https://www.envirostor.dtsc.ca.gov/public/profile\\_report?global\\_id=07010004](https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07010004)

**Completed Activities**

**Title:** Phase 1  
**Title Link:** [https://www.envirostor.dtsc.ca.gov/public/final\\_documents2?global\\_id=07010004&doc\\_id=6000251](https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010004&doc_id=6000251)  
**Area Name:**  
**Area Link:**  
**Sub Area:**  
**Sub Area Link:**  
**Document Type:** Phase 1  
**Date Completed:** 4/7/2000  
**Comments:**

**Title:** \* Site Visit - Site Inspections/visit  
**Title Link:**  
**Area Name:**  
**Area Link:**  
**Sub Area:**  
**Sub Area Link:**  
**Document Type:** Site Inspections/Visit (Non LUR)  
**Date Completed:** 4/4/2000  
**Comments:**

<a href="#">5</a>	2 of 2	SW	0.72 / 3,812.10	142.91 / 2	MEADOW CREEK ELEMENTARY VISTA GRANDE DRIVE/COUNTRY HILLS DRIVE ANTIOCH CA 94561	ENVIROSTOR
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<b>Estor/EPA ID:</b> 07010004	<b>Assembly District:</b> 11
<b>Site Code:</b> 204024	<b>Senate District:</b> 07
<b>Nat Priority List:</b> NO	<b>Permit Renewal Lead:</b>
<b>APN:</b> NONE SPECIFIED	<b>Public Partici Spclst:</b>
<b>Census Tract:</b> 6013302009	<b>Project Manager:</b>
<b>Site Type:</b> SCHOOL	<b>County:</b> CONTRA COSTA
<b>Address Description:</b> VISTA GRANDE DRIVE/COUNTRY HILLS DRIVE	<b>Latitude:</b> 37.9663
<b>Office:</b> NORTHERN CALIFORNIA SCHOOLS & SANTA SUSANA	<b>Longitude:</b> -121.7526
<b>Special Program:</b>	<b>Acres:</b> 10 ACRES
<b>Funding:</b> SCHOOL DISTRICT	<b>Supervisor:</b>
<b>Cleanup Status:</b> NO ACTION REQUIRED AS OF 4/7/2000	
<b>Cleanup Oversight Agencies:</b> DTSC - LEAD AGENCY	
<b>School District:</b> ANTIOCH UNIFIED SCHOOL DISTRICT	
<b>Past Use that Caused Contam:</b> AGRICULTURAL - ROW CROPS	
<b>Potential Media Affected:</b> NO MEDIA AFFECTED	
<b>Site History:</b>	

This 10-acre Site was used for grazing and some dry-crop grains for approximately 20 years.

**Potential Contaminant of Concern:**

NO CONTAMINANTS FOUND

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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**Status:** NO ACTION REQUIRED  
**Program Type:** SCHOOL EVALUATION  
**CalEnviroScreen Score:** 50-55%  
**Summary Link:** [https://www.envirostor.dtsc.ca.gov/public/profile\\_report?global\\_id=07010004](https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07010004)

**Completed Activities**

**Title:** Phase 1  
**Title Link:** [https://www.envirostor.dtsc.ca.gov/public/final\\_documents2?global\\_id=07010004&doc\\_id=6000251](https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010004&doc_id=6000251)  
**Area Name:**  
**Area Link:**  
**Sub Area:**  
**Sub Area Link:**  
**Document Type:** Phase 1  
**Date Completed:** 4/7/2000  
**Comments:**

**Title:** \* Site Visit - Site Inspections/visit  
**Title Link:**  
**Area Name:**  
**Area Link:**  
**Sub Area:**  
**Sub Area Link:**  
**Document Type:** Site Inspections/Visit (Non LUR)  
**Date Completed:** 4/4/2000  
**Comments:**

<a href="#">6</a>	1 of 1	ESE	0.78 / 4,119.30	98.62 / -42	ORFANOS PROPERTY 2800 EMPIRE AVENUE BRENTWOOD CA 94513	ENVIROSTOR
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<b>Estor/EPA ID:</b> 60002939	<b>Assembly District:</b> , 11
<b>Site Code:</b> 202294	<b>Senate District:</b> , 07
<b>Nat Priority List:</b> NO	<b>Permit Renewal Lead:</b>
<b>APN:</b> NONE SPECIFIED	<b>Public Partici Spclst:</b>
<b>Census Tract:</b> 6013303203	<b>Project Manager:</b> GREGORY RUIZ
<b>Site Type:</b> VOLUNTARY AGREEMENT	<b>County:</b> CONTRA COSTA
<b>Address Description:</b> 2800 EMPIRE AVENUE	<b>Latitude:</b> 37.966338
<b>Office:</b> CLEANUP SACRAMENTO	<b>Longitude:</b> -121.730159
<b>Special Program:</b> VOLUNTARY AGREEMENT - STANDARD	<b>Acres:</b> 20 ACRES
	<b>Supervisor:</b> FERNANDO AMADOR
<b>Funding:</b> SITE PROPONENT	
<b>Cleanup Status:</b> NO FURTHER ACTION AS OF 5/20/2021	
<b>Cleanup Oversight Agencies:</b> DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY	
<b>School District:</b>	
<b>Past Use that Caused Contam:</b> UNKNOWN	
<b>Potential Media Affected:</b> SOIL, SOIL VAPOR	
<b>Potential Contamin of Concern:</b>	

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**Site History:**

The site was an orchard from 1939 to the 1970s. The Sun Recycling Center was formerly located on the western portion of the site, but has since been demolished. The site is planned for construction of new homes, pending the result of a Preliminary Endangerment Assessment.

**Status:** NO FURTHER ACTION  
**Program Type:** VOLUNTARY CLEANUP  
**CalEnviroScreen Score:** 50-55%  
**Summary Link:** [https://www.envirostor.dtsc.ca.gov/public/profile\\_report?global\\_id=60002939](https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60002939)

**Completed Activities**

<b>Map Key</b>	<b>Number of Records</b>	<b>Direction</b>	<b>Distance (mi/ft)</b>	<b>Elev/Diff (ft)</b>	<b>Site</b>	<b>DB</b>
<b>Title:</b>					Application for a Voluntary Cleanup Agreement	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60475640">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60475640</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Application	
<b>Date Completed:</b>					1/8/2020	
<b>Comments:</b>					Assigned to DTSC 1/24/2020	
<b>Title:</b>					Second Additional Sampling Fieldwork	
<b>Title Link:</b>						
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Fieldwork	
<b>Date Completed:</b>					9/14/2020	
<b>Comments:</b>					Completed 9/14/2020. Report uploaded 10/10/2020 - see separate activity.	
<b>Title:</b>					VCA - PEA only	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;enforcement_id=60475321">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;enforcement_id=60475321</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Standard Voluntary Agreement	
<b>Date Completed:</b>					2/24/2020	
<b>Comments:</b>					Completed	
<b>Title:</b>					Correspondence - Post-grading Sampling	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;enforcement_id=60483935">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;enforcement_id=60483935</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Correspondence	
<b>Date Completed:</b>					8/12/2020	
<b>Comments:</b>						
<b>Title:</b>					Second Additional Sampling Workplan	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60483477">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60483477</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Technical Workplan	
<b>Date Completed:</b>					9/1/2020	
<b>Comments:</b>						
<b>Title:</b>					Review of Existing Phase I and II Studies	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60476053">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60476053</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Site Characterization Report	
<b>Date Completed:</b>					4/10/2020	
<b>Comments:</b>						
<b>Title:</b>					Supplemental SG and GW Sampling Workplan	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60491645">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60491645</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Technical Workplan	
<b>Date Completed:</b>					1/26/2021	
<b>Comments:</b>						

<b>Map Key</b>	<b>Number of Records</b>	<b>Direction</b>	<b>Distance (mi/ft)</b>	<b>Elev/Diff (ft)</b>	<b>Site</b>	<b>DB</b>
<b>Title:</b>					Additional Sampling Workplan	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60477842">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60477842</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Preliminary Endangerment Assessment Workplan	
<b>Date Completed:</b>					6/8/2020	
<b>Comments:</b>						
<b>Title:</b>					Additional Sampling Fieldwork	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60483458">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60483458</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Fieldwork	
<b>Date Completed:</b>					6/17/2020	
<b>Comments:</b>					Samples collected on both June 17th and 19th	
<b>Title:</b>					Phase II (Past)	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60475636">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60475636</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Other Report	
<b>Date Completed:</b>					9/18/2015	
<b>Comments:</b>					Performed before VCA application. DTSC did not oversee	
<b>Title:</b>					Additional Soil Gas and Groundwater Sampling Report	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60492695">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60492695</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Preliminary Endangerment Assessment Report	
<b>Date Completed:</b>					5/19/2021	
<b>Comments:</b>					No evidence of a release found at this Site.	
<b>Title:</b>					Correspondence - Grading Event	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;enforcement_id=60483463">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;enforcement_id=60483463</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Correspondence	
<b>Date Completed:</b>					7/31/2020	
<b>Comments:</b>						
<b>Title:</b>					Phase I (Current)	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60475638">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;doc_id=60475638</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Phase 1	
<b>Date Completed:</b>					5/17/2019	
<b>Comments:</b>					Performed before VCA application - DTSC did not oversee	
<b>Title:</b>					FY 20/21 - Oversight Cost Estimate	
<b>Title Link:</b>					<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;enforcement_id=60488578">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002939&amp;enforcement_id=60488578</a>	
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>					Annual Oversight Cost Estimate	
<b>Date Completed:</b>					9/25/2020	



Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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**Comments:**

**Title:** Second Additional Sampling Report  
**Title Link:**  
**Area Name:**  
**Area Link:**  
**Sub Area:**  
**Sub Area Link:**  
**Document Type:** Technical Report  
**Date Completed:** 12/18/2020  
**Comments:**

<a href="#">7</a>	1 of 2	E	0.79 / 4,175.92	93.29 / -47	CARPENTER ROAD SCHOOL 1629 AND 1541 CARPENTER ROAD OAKLEY CA 94561	SCH
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<b>Estor/EPA ID:</b>	07010015	<b>Permit Renewal Lead:</b>	
<b>Site Code:</b>	204139	<b>Project Manager:</b>	
<b>Nat Priority List:</b>	NO	<b>Supervisor:</b>	MARK MALINOWSKI
<b>Acres:</b>	10 ACRES	<b>Public Partici Spclst:</b>	
<b>Special Program:</b>		<b>Census Tract:</b>	6013302010
<b>Funding:</b>	SCHOOL DISTRICT	<b>County:</b>	CONTRA COSTA
<b>Assembly District:</b>	11	<b>Latitude:</b>	37.9751745724274
<b>Senate District:</b>	07	<b>Longitude:</b>	-121.726784793701
<b>School District:</b>	OAKLEY UNION ELEMENTARY SCHOOL DISTRICT		
<b>APN:</b>	NONE SPECIFIED		
<b>Cleanup Status:</b>	NO FURTHER ACTION AS OF 4/26/2005		
<b>Cleanup Oversight Agencies:</b>	DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY		
<b>Site Type:</b>	SCHOOL		
<b>Office:</b>	NORTHERN CALIFORNIA SCHOOLS & SANTA SUSANA		
<b>Past Use that Caused Contam:</b>	AGRICULTURAL - ROW CROPS		
<b>Potential Media Affected:</b>	SOIL		
<b>Potential Contamin of Concern:</b>			

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 DDE  
 DDT  
 LEAD

**SITE HISTORY:**

The site is surrounded by mixed residential and agricultural properties. Portions of the site are occupied by the various structures and a vineyard. The site has been historically utilized for agricultural activities.

**Status:** NO FURTHER ACTION  
**Program Type:** SCHOOL EVALUATION  
**CalEnviroScreen Score:** 25-30%  
**Summary Link:** [https://www.envirostor.dtsc.ca.gov/public/profile\\_report?global\\_id=07010015](https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07010015)

**Completed Activities**

**Title:** Environmental Oversight Agreement  
**Title Link:** [https://www.envirostor.dtsc.ca.gov/public/final\\_documents2?global\\_id=07010015&enforcement\\_id=6000288](https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010015&enforcement_id=6000288)  
**Area Name:**  
**Area Link:**  
**Sub Area:**  
**Sub Area Link:**  
**Document Type:** Environmental Oversight Agreement  
**Date Completed:** 7/13/2004  
**Comments:**

**Title:** Site Visit - Site Inspections/visit  
**Title Link:**  
**Area Name:**  
**Area Link:**

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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**Sub Area:**  
**Sub Area Link:**  
**Document Type:** Site Inspections/Visit (Non LUR)  
**Date Completed:** 11/1/2004  
**Comments:**

**Title:** Preliminary Endangerment Assessment Report  
**Title Link:**  
**Area Name:**  
**Area Link:**  
**Sub Area:**  
**Sub Area Link:** Preliminary Endangerment Assessment Report  
**Document Type:** Preliminary Endangerment Assessment Report  
**Date Completed:** 4/26/2005  
**Comments:**

**Title:** PEA Workplan  
**Title Link:**  
**Area Name:**  
**Area Link:**  
**Sub Area:**  
**Sub Area Link:** Preliminary Endangerment Assessment Workplan  
**Document Type:** Preliminary Endangerment Assessment Workplan  
**Date Completed:** 10/27/2004  
**Comments:**

<a href="#">7</a>	2 of 2	E	0.79 / 4,175.92	93.29 / -47	CARPENTER ROAD SCHOOL 1629 AND 1541 CARPENTER ROAD OAKLEY CA 94561	ENVIROSTOR
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<b>Estor/EPA ID:</b> 07010015	<b>Assembly District:</b> 11
<b>Site Code:</b> 204139	<b>Senate District:</b> 07
<b>Nat Priority List:</b> NO	<b>Permit Renewal Lead:</b>
<b>APN:</b> NONE SPECIFIED	<b>Public Partici Spclst:</b>
<b>Census Tract:</b> 6013302010	<b>Project Manager:</b>
<b>Site Type:</b> SCHOOL	<b>County:</b> CONTRA COSTA
<b>Address Description:</b> 1629 AND 1541 CARPENTER ROAD	<b>Latitude:</b> 37.9751745724274
<b>Office:</b> NORTHERN CALIFORNIA SCHOOLS & SANTA SUSANA	<b>Longitude:</b> -121.726784793701
<b>Special Program:</b>	<b>Acres:</b> 10 ACRES
<b>Funding:</b> SCHOOL DISTRICT	<b>Supervisor:</b> MARK MALINOWSKI
<b>Cleanup Status:</b> NO FURTHER ACTION AS OF 4/26/2005	
<b>Cleanup Oversight Agencies:</b> DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY	
<b>School District:</b> OAKLEY UNION ELEMENTARY SCHOOL DISTRICT	
<b>Past Use that Caused Contam:</b> AGRICULTURAL - ROW CROPS	
<b>Potential Media Affected:</b> SOIL	
<b>Potential Contamin of Concern:</b>	

ARSENIC  
 DDD  
 DDE  
 DDT  
 LEAD

**Site History:**

The site is surrounded by mixed residential and agricultural properties. Portions of the site are occupied by the various structures and a vineyard. The site has been historically utilized for agricultural activities.

**Status:** NO FURTHER ACTION  
**Program Type:** SCHOOL EVALUATION  
**CalEnviroScreen Score:** 25-30%  
**Summary Link:** [https://www.envirostor.dtsc.ca.gov/public/profile\\_report?global\\_id=07010015](https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=07010015)

**Completed Activities**

<b>Map Key</b>	<b>Number of Records</b>	<b>Direction</b>	<b>Distance (mi/ft)</b>	<b>Elev/Diff (ft)</b>	<b>Site</b>	<b>DB</b>
<b>Title:</b>		PEA Workplan				
<b>Title Link:</b>						
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>		Preliminary Endangerment Assessment Workplan				
<b>Date Completed:</b>		10/27/2004				
<b>Comments:</b>						
<b>Title:</b>		Preliminary Endangerment Assessment Report				
<b>Title Link:</b>						
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>		Preliminary Endangerment Assessment Report				
<b>Date Completed:</b>		4/26/2005				
<b>Comments:</b>						
<b>Title:</b>		Site Visit - Site Inspections/visit				
<b>Title Link:</b>						
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>		Site Inspections/Visit (Non LUR)				
<b>Date Completed:</b>		11/1/2004				
<b>Comments:</b>						
<b>Title:</b>		Environmental Oversight Agreement				
<b>Title Link:</b>		<a href="https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010015&amp;enforcement_id=6000288">https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=07010015&amp;enforcement_id=6000288</a>				
<b>Area Name:</b>						
<b>Area Link:</b>						
<b>Sub Area:</b>						
<b>Sub Area Link:</b>						
<b>Document Type:</b>		Environmental Oversight Agreement				
<b>Date Completed:</b>		7/13/2004				
<b>Comments:</b>						

# Unplottable Summary

Total: 1 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
ERNS		ON LAUREL RD <i>NRC Report No:</i> 598996	OAKLEY CA		807056779

DRAFT

# Unplottable Report

**Site:**

ON LAUREL RD OAKLEY CA

ERNS

**NRC Report No:** 598996  
**Type of Incident:** FIXED  
**Incident Cause:** OTHER  
**Incident Date:** 4/9/2002 10:15:00 AM  
**Incident Location:** PUMP PLANT NUMBER THREE  
**Incident Dtg:** OCCURRED  
**Distance from City:**  
**Distance Units:**  
**Direction from City:**  
**Location County:** CONTRA COSTA  
**Potential Flag:**  
**Year:** Year 2002 Reports  
**Description of Incident:** FIVE GALLONS OF TURBINE OIL RELEASED WHILE CHANGING OIL IN A TURBINE.

**Latitude Degrees:**  
**Latitude Minutes:**  
**Latitude Seconds:**  
**Longitude Degrees:**  
**Longitude Minutes:**  
**Longitude Seconds:**  
**Lat Quad:**  
**Long Quad:**  
**Location Section:**  
**Location Township:**  
**Location Range:**

**Material Spill Information**

**Chris Code:** OTH  
**CAS No:** 000000-00-0  
**UN No:**  
**Name of Material:** TURBINE OIL  
**Amount of Material:** 5

**Unit of Measure:** GALLON(S)  
**If Reached Water:** YES  
**Amount in Water:** 5  
**Unit Reach Water:** GALLON(S)

**Calls Information**

**Date Time Received:** 4/9/2002 2:22:25 PM  
**Date Time Complete:** 4/9/2002 2:35:33 PM  
**Call Type:** INC  
**Resp Company:** CONTRA COSTA WATER DISTRICT  
**Resp Org Type:** LOCAL GOVERNMENT

**Responsible City:** CONCORD  
**Responsible State:** CA  
**Responsible Zip:** 945204907  
**Source:** TELEPHONE

**Incident Information**

**Tank ID:**  
**Tank Regulated:** U  
**Tank Regulated By:**  
**Capacity of Tank:**  
**Capacity Tank Units:**  
**Description of Tank:**  
**Actual Amount:**  
**Actual Amount Units:**  
**Tank Above Ground:** ABOVE  
**NPDES:**  
**NPDES Compliance:** U  
**Init Contin Rel No:**  
**Contin Rel Permit:**  
**Contin Release Type:**  
**Aircraft ID:**  
**Aircraft Runway No:**  
**Aircraft Spot No:**  
**Aircraft Type:** UNKNOWN  
**Aircraft Model:**  
**Aircraft Fuel Cap:**  
**Aircraft Fuel Cap U:**  
**Aircraft Fuel on Brd:**  
**Aircraft Fuel OB U:**  
**Aircraft Hanger:**

**Building ID:**  
**Location Area ID:**  
**Location Block ID:**  
**OCSG No:**  
**OCSF No:**  
**State Lease No:**  
**Pier Dock No:**  
**Berth Slip No:**  
**Brake Failure:** N  
**Airbag Deployed:**  
**Transport Contain:** U  
**Location Subdiv:**  
**Platform Rig Name:**  
**Platform Letter:**  
**Allision:** N  
**Type of Structure:**  
**Structure Name:**  
**Structure Oper:** U  
**Transit Bus Flag:**  
**Date Time Norm Serv:**  
**Serv Disrupt Time:**  
**Serv Disrupt Units:**  
**CR Begin Date:**  
**CR End Date:**



**Road Mile Marker:**  
**Power Gen Facility:** N  
**Generating Capacity:**  
**Type of Fixed Obj:** OTHER  
**Type of Fuel:**  
**DOT Crossing No:**  
**DOT Regulated:** U  
**Pipeline Type:**  
**Pipeline Abv Ground:** ABOVE  
**Pipeline Covered:** U  
**Exposed Underwater:** N  
**Railroad Hotline:**  
**Railroad Milepost:**  
**Grade Crossing:** N  
**Crossing Device Ty:**  
**Ty Vehicle Involved:**  
**Device Operational:** Y

**CR Change Date:**  
**FBI Contact:**  
**FBI Contact Dt Tm:**  
**Passenger Handling:**  
**Passenger Route:** XXX  
**Passenger Delay:** XXX  
**Sub Part C Test Req:** XXX  
**Conductor Test:**  
**Engineer Test:**  
**Trainman Test:**  
**Yard Foreman Test:**  
**RCL Operator Test:**  
**Brakeman Test:**  
**Train Dispat Test:**  
**Signalman Test:**  
**Oth Employee Test:**  
**Unknown Test:**

**Incident Details Information**

**Release Secured:** Y  
**Release Rate:**  
**Release Rate Unit:**  
**Release Rate Rate:**  
**Est Duration of Rel:**  
**Desc Remedial Act:** ESTABLISHED CONTAINMENT WITH A BOOM AND OIL SPILL EQUIPMENT  
**Fire Involved:** N  
**Fire Extinguished:** U  
**Any Evacuations:** N  
**No Evacuated:**  
**Who Evacuated:**  
**Radius of Evacu:**  
**Any Injuries:** N  
**No. Injured:**  
**No. Hospitalized:**  
**No. Fatalities:**  
**Any Fatalities:** N  
**Any Damages:** N  
**Damage Amount:**  
**Air Corridor Closed:** N  
**Air Corridor Desc:**  
**Air Closure Time:**  
**Waterway Closed:** N  
**Waterway Desc:**  
**Waterway Close Time:**  
**Road Closed:** N  
**Road Desc:**  
**Road Closure Time:**  
**Road Closure Units:**  
**Closure Direction:**  
**Major Artery:** No  
**Track Closed:** N  
**Track Desc:**  
**Track Closure Time:**  
**Track Closure Units:**  
**Track Close Dir:**  
**Media Interest:** NONE  
**Medium Desc:** WATER  
**Addl Medium Info:** PUMPING BAY

**State Agen Report No:**  
**State Agen on Scene:**  
**State Agen Notified:**  
**Fed Agency Notified:**  
**Oth Agency Notified:**  
**Body of Water:** PUMPING BAY  
**Tributary of:**  
**Near River Mile Make:**  
**Near River Mile Mark:**  
**Offshore:** N  
**Weather Conditions:** PARTLY CLOUDY  
**Air Temperature:** 65  
**Wind Direction:**  
**Wind Speed:**  
**Wind Speed Unit:**  
**Water Supp Contam:** N  
**Water Temperature:**  
**Wave Condition:** 0 CALM  
**Current Speed:**  
**Current Direction:**  
**Current Speed Unit:**  
**EMPL Fatality:**  
**Pass Fatality:**  
**Community Impact:** N  
**Passengers Transfer:** UNK  
**Passenger Injuries:**  
**Employee Injuries:**  
**Occupant Fatality:**  
**Sheen Size:**  
**Sheen Size Units:**  
**Sheen Size Length:**  
**Sheen Size Length U:**  
**Sheen Size Width:**  
**Sheen Size Width U:**  
**Sheen Color:**  
**Dir of Sheen Travel:**  
**Sheen Odor Desc:**  
**Duration Unit:**  
**Additional Info:** CALLER PLANS TO NOTIFY THE OES AND COUNTY HEALTH. NO SHEEN INFORMATION GIVEN.

# Appendix: Database Descriptions

*Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:*

*"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."*

## **Standard Environmental Record Sources**

### **Federal**

#### **Formerly Utilized Sites Remedial Action Program:**

[DOE FUSRAP](#)

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

**Government Publication Date: Mar 4, 2017**

#### **National Priority List:**

[NPL](#)

Sites on the United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

**Government Publication Date: Mar 30, 2022**

#### **National Priority List - Proposed:**

[PROPOSED NPL](#)

Sites proposed - by the EPA, the state agency, or concerned citizens - for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

**Government Publication Date: Mar 30, 2022**

#### **Deleted NPL:**

[DELETED NPL](#)

Sites deleted from the United States Environmental Protection Agency (EPA)'s National Priorities List. 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. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

**Government Publication Date: Mar 30, 2022**

**SEMS List 8R Active Site Inventory:**

[SEMS](#)

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

**Government Publication Date: Apr 27, 2022**

**SEMS List 8R Archive Sites:**

[SEMS ARCHIVE](#)

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

**Government Publication Date: Apr 27, 2022**

**Inventory of Open Dumps, June 1985:**

[ODI](#)

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

**Government Publication Date: Jun 1985**

**Comprehensive Environmental Response, Compensation and Liability Information System -**

[CERCLIS](#)

**CERCLIS:**

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

**Government Publication Date: Oct 25, 2013**

**EPA Report on the Status of Open Dumps on Indian Lands:**

[IODI](#)

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

**Government Publication Date: Dec 31, 1998**

**CERCLIS - No Further Remedial Action Planned:**

[CERCLIS NFRAP](#)

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means 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 this site on the National Priorities List (NPL). This 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 a potential NPL site.

**Government Publication Date: Oct 25, 2013**

**CERCLIS Liens:**

[CERCLIS LIENS](#)

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA). This database was provided by the United States Environmental Protection Agency (EPA). Refer to SEMS LIEN as the current data source for Superfund Liens.

**Government Publication Date: Jan 30, 2014**

**RCRA CORRACTS-Corrective Action:**

[RCRA CORRACTS](#)

RCRA Info 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. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

**Government Publication Date: Apr 11, 2022**

**RCRA non-CORRACTS TSD Facilities:**

[RCRA TSD](#)

RCRA Info 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. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

**Government Publication Date: Apr 11, 2022**

**RCRA Generator List:**

[RCRA LQG](#)

RCRA Info 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. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

**Government Publication Date: Apr 11, 2022**

**RCRA Small Quantity Generators List:**

[RCRA SQG](#)

RCRA Info is the 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. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

**Government Publication Date: Apr 11, 2022**

**RCRA Very Small Quantity Generators List:**

[RCRA VSQG](#)

RCRA Info is the 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. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

**Government Publication Date: Apr 11, 2022**

**RCRA Non-Generators:**

[RCRA NON GEN](#)

RCRA Info 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. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

**Government Publication Date: Apr 11, 2022**

**RCRA Sites with Controls:**

[RCRA CONTROLS](#)

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

**Government Publication Date: Apr 11, 2022**

**Federal Engineering Controls-ECs:**

[FED ENG](#)

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

**Government Publication Date: Dec 30, 2021**

**Federal Institutional Controls- ICs:**

[FED INST](#)

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

**Government Publication Date: Dec 30, 2021**

**Land Use Control Information System:**

LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

**Government Publication Date: Sep 1, 2006**

**Institutional Control Boundaries at NPL sites:**

NPL IC

Boundaries of Institutional Control areas at sites on the United States Environmental Protection Agency (EPA)'s National Priorities List, or Proposed or Deleted, made available by the EPA's Shared Enterprise Geodata and Services (SEGS). United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy.

**Government Publication Date: Mar 30, 2022**

**Emergency Response Notification System:**

ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

**Government Publication Date: 1982-1986**

**Emergency Response Notification System:**

ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

**Government Publication Date: 1987-1989**

**Emergency Response Notification System:**

ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

**Government Publication Date: Dec 31, 2021**

**The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database:**

FED BROWNFIELDS

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 protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

**Government Publication Date: Aug 20, 2021**

**FEMA Underground Storage Tank Listing:**

FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

**Government Publication Date: Dec 31, 2017**

**Facility Response Plan:**

FRP

List of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

**Government Publication Date: Dec 31, 2021**

**Delisted Facility Response Plans:**

DELISTED FRP

Facilities that once appeared in - and have since been removed from - the list of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

**Government Publication Date: Dec 31, 2021**



**Historical Gas Stations:**

[HIST GAS STATIONS](#)

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

**Government Publication Date: Jul 1, 1930**

**Petroleum Refineries:**

[REFN](#)

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

**Government Publication Date: Feb 4, 2022**

**Petroleum Product and Crude Oil Rail Terminals:**

[BULK TERMINAL](#)

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

**Government Publication Date: Feb 4, 2022**

**LIEN on Property:**

[SEMS LIEN](#)

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

**Government Publication Date: Apr 27, 2022**

**Superfund Decision Documents:**

[SUPERFUND ROD](#)

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

**Government Publication Date: May 3, 2022**

**State**

**State Response Sites:**

[RESPONSE](#)

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

**Government Publication Date: May 30, 2022**

**EnviroStor Database:**

[ENVIROSTOR](#)

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

**Government Publication Date: May 30, 2022**

**Delisted State Response Sites:**

[DELISTED ENVS](#)

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

**Government Publication Date: May 30, 2022**

**Solid Waste Information System (SWIS):**

[SWF/LF](#)

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

**Government Publication Date: Feb 2, 2022**

**Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels:**

[SWRCB SWF](#)

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

**Government Publication Date: Sep 20, 2006**

**Waste Management Unit Database:**

WMUD

The Waste Management Unit Database System tracks and inventories waste management units. CCR Title 27 contains criteria stating that Waste Management Units are classified according to their ability to contain wastes. Containment shall be determined by geology, hydrology, topography, climatology, and other factors relating to the ability of the Unit to protect water quality. Water Code Section 13273.1 requires that operators submit a water quality solid waste assessment test (SWAT) report to address leak status. The WMUDS was last updated by the State Water Resources control board in 2000.

**Government Publication Date: Jan 1, 2000**

**EnviroStor Hazardous Waste Facilities:**

HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

**Government Publication Date: May 30, 2022**

**Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report:**

SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

**Government Publication Date: Dec 31, 1995**

**Construction and Demolition Debris Recyclers:**

C&D DEBRIS RECY

This listing of Construction and Demolition Debris Recyclers is maintained by the California Intergrated Waste Management Board-common C&D materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard, or green waste related to land development.

**Government Publication Date: Jun 20, 2018**

**Recycling Centers:**

RECYCLING

This list of Certified Recycling Centers that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

**Government Publication Date: Apr 12, 2022**

**Listing of Certified Processors:**

PROCESSORS

This list of Certified Processors that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

**Government Publication Date: Apr 12, 2022**

**Listing of Certified Dropoff, Collection, and Community Service Programs:**

CONTAINER RECY

This list of Certified Dropoff, Collection, and Community Service Programs (non-buyback) operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

**Government Publication Date: Apr 12, 2022**

**Land Disposal Sites:**

LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

**Government Publication Date: Feb 15, 2022**

**Leaking Underground Fuel Tank Reports:**

LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

**Government Publication Date: Feb 15, 2022**

**Delisted Leaking Storage Tanks:**

DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

**Permitted Underground Storage Tank (UST) in GeoTracker:**

UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Apr 25, 2022

**Proposed Closure of Underground Storage Tank Cases:**

UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: May 5, 2021

**Historical Hazardous Substance Storage Information Database:**

HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

**Statewide Environmental Evaluation and Planning System:**

UST SWEEPS

The Statewide Environmental Evaluation and Planning System (SWEEPS) is a historical listing of active and inactive underground storage tanks made available by the California State Water Resources Control Board (SWRCB).

Government Publication Date: Oct 1, 1994

**Aboveground Storage Tanks:**

AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

**SWRCB Historical Aboveground Storage Tanks:**

AST SWRCB

A list of aboveground storage tanks made available by the California State Water Resources Control Board (SWRCB). Effective January 1, 2008, the Certified Unified Program Agencies (CUPAs) are vested with the responsibility and authority to implement the Aboveground Petroleum Storage Act (APSA).

Government Publication Date: Dec 1, 2007

**Oil and Gas Facility Tanks:**

TANK OIL GAS

Locations of oil and gas tanks that fall under the jurisdiction of the Geologic Energy Management Division of the California Department of Conservation (CalGEM) (CCR 1760). CalGEM was formerly the Division of Oil, Gas, and Geothermal Resources (DOGGR).

Government Publication Date: Apr 4, 2022

**Delisted Storage Tanks:**

DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: May 25, 2022

**California Environmental Reporting System (CERS) Tanks:**

CERS TANK

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. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Apr 5, 2022

**Delisted California Environmental Reporting System (CERS) Tanks:**

DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Apr 5, 2022

**Historical Hazardous Substance Storage Container Information - Facility Summary:**

HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in the 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

**Government Publication Date: May 27, 1988**

**Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions:**

LUR

The Department of Toxic Substances Control (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 land use restrictions that are active. Some sites have multiple land use restrictions.

**Government Publication Date: May 30, 2022**

**CALSITES Database:**

CALSITES

This historical database was maintained by the Department of Toxic Substance Control (DTSC) for more than a decade. CALSITES contains information on Brownfield properties with confirmed or potential hazardous contamination. In 2006, DTSC introduced EnviroStor as the latest Brownfields site database.

**Government Publication Date: May 1, 2004**

**Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions:**

HLUR

The Department of Toxic Substances Control (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.

**Government Publication Date: Feb 18, 2021**

**Deed Restrictions and Land Use Restrictions:**

DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

**Government Publication Date: Feb 15, 2022**

**Voluntary Cleanup Program:**

VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

**Government Publication Date: May 30, 2022**

**GeoTracker Cleanup Program Sites:**

CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

**Government Publication Date: Feb 15, 2022**

**Delisted Cleanup Program Sites:**

DELISTED CLEANUP

A list of Cleanup Program sites which were once included - and have since been removed from - the list of Cleanup Program Sites in GeoTracker. GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

**Government Publication Date: Feb 15, 2022**

**Delisted County Records:**

DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

**Government Publication Date: Jun 3, 2022**

## **Tribal**

**Leaking Underground Storage Tanks (LUSTs) on Indian Lands:**  
LUSTs on Tribal/Indian Lands in Region 9, which includes California.  
*Government Publication Date: Oct 12, 2021*

INDIAN LUST

**Underground Storage Tanks (USTs) on Indian Lands:**  
USTs on Tribal/Indian Lands in Region 9, which includes California.  
*Government Publication Date: Oct 12, 2021*

INDIAN UST

**Delisted Tribal Leaking Storage Tanks:**  
Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.  
*Government Publication Date: Oct 12, 2021*

DELISTED ILST

**Delisted Tribal Underground Storage Tanks:**  
Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.  
*Government Publication Date: Oct 13, 2021*

DELISTED IUST

## **County**

**Contra Costa County - CUPA List:**  
A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in the County of Contra Costa. This list is made available by Contra Costa County which has been certified by CalEPA to implement the Unified program as a CUPA.  
*Government Publication Date: May 3, 2022*

CUPA CONTRACO

## **Additional Environmental Record Sources**

### **Federal**

**Facility Registry Service/Facility Index:**  
The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the Environmental Protection Agency (US EPA).  
*Government Publication Date: Nov 2, 2020*

FINDS/FRS

**Toxics Release Inventory (TRI) Program:**  
The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.  
*Government Publication Date: Aug 24, 2021*

TRIS

**Perfluorinated Alkyl Substances (PFAS) Releases:**  
List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.  
*Government Publication Date: Aug 24, 2021*

PFAS TRI

**PFOA/PFOS Contaminated Sites:**  
List of National Priorities List (NPL) and related Superfund Alternative Agreement (SAA) sites where PFOA or PFOS contaminants have been found in water and/or soil. The site listing is provided by the Federal Environmental Protection Agency (EPA).  
*Government Publication Date: Apr 15, 2022*

PFAS NPL



**Perfluorinated Alkyl Substances (PFAS) Water Quality:**

[PFAS WATER](#)

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances.

**Government Publication Date:** Jul 20, 2020

**SSEHRI PFAS Contamination Sites:**

[PFAS SSEHRI](#)

This PFAS Contamination Site Tracker database is compiled by the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents, and this is cited in the tracker. Disclaimer: The source conveys this database undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Limited location details are available with this data. Access the following for the most current informations <https://pfasproject.com/pfas-contamination-site-tracker/>

**Government Publication Date:** Dec 12, 2019

**National Response Center PFAS Spills:**

[ERNS PFAS](#)

National Response Center (NRC) calls from 1990 to the most recent complete calendar year where there is indication of Aqueous Film Forming Foam (AFFF) usage. NRC calls may reference AFFF usage in the "Material Involved" or "Incident Description" fields. Data made available by the US Environmental Protection Agency (EPA). Disclaimer: dataset may include initial or misidentified incident data not yet validated or investigated by a federal/state response agency.

**Government Publication Date:** Feb 23, 2022

**Hazardous Materials Information Reporting System:**

[HMIRS](#)

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

**Government Publication Date:** Sep 1, 2020

**National Clandestine Drug Labs:**

[NCDL](#)

The U.S. Department of Justice ("the Department") provides this data 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.

**Government Publication Date:** Nov 22, 2021

**Toxic Substances Control Act:**

[TSCA](#)

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

**Government Publication Date:** Apr 11, 2019

**Hist TSCA:**

[HIST TSCA](#)

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

**Government Publication Date:** Dec 31, 2006

**FTTS Administrative Case Listing:**

[FTTS ADMIN](#)

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

**FTTS Inspection Case Listing:**

FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

**Potentially Responsible Parties List:**

PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Mar 30, 2022

**State Coalition for Remediation of Drycleaners Listing:**

SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin. Since 2017, the SCRCD no longer maintains this data, refer to applicable state source data where available.

Government Publication Date: Nov 08, 2017

**Integrated Compliance Information System (ICIS):**

ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Apr 30, 2022

**Drycleaner Facilities:**

FED DRYCLEANERS

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) online search. The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 5, 2021

**Delisted Drycleaner Facilities:**

DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 5, 2021

**Formerly Used Defense Sites:**

FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: May 26, 2021

**Former Military Nike Missile Sites:**

FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

**PHMSA Pipeline Safety Flagged Incidents:**

PIPELINE INCIDENT

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

Government Publication Date: Jul 7, 2020

**Material Licensing Tracking System (MLTS):**

[MLTS](#)

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

**Government Publication Date: May 11, 2021**

**Historic Material Licensing Tracking System (MLTS) sites:**

[HIST MLTS](#)

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

**Government Publication Date: Jan 31, 2010**

**Mines Master Index File:**

[MINES](#)

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

**Government Publication Date: Feb 1, 2022**

**Surface Mining Control and Reclamation Act Sites:**

[SMCRA](#)

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (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 Abandoned Mine Land (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.

**Government Publication Date: Dec 18, 2020**

**Mineral Resource Data System:**

[MRDS](#)

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

**Government Publication Date: Mar 15, 2016**

**Uranium Mill Tailings Radiation Control Act Sites:**

[URANIUM](#)

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

**Government Publication Date: Mar 4, 2017**

**Alternative Fueling Stations:**

[ALT FUELS](#)

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

**Government Publication Date: May 16, 2022**

**Superfunds Consent Decrees:**

[CONSENT DECREES](#)

A list of Superfund consent decrees made available by the Department of Justice, Environment & Natural Resources Division (ENRD).

**Government Publication Date: May 18, 2022**

**Air Facility System:**

[AFS](#)

This EPA retired Air Facility System (AFS) dataset contains emissions, compliance, and enforcement data on stationary sources of air pollution. Regulated sources cover a wide spectrum; from large industrial facilities to relatively small operations such as dry cleaners. AFS does not contain data on facilities that are solely asbestos demolition and/or renovation contractors, or landfills. ECHO Clean Air Act data from AFS are frozen and reflect data as of October 17, 2014; the EPA retired this system for Clean Air Act stationary sources and transitioned to ICIS-Air.

**Government Publication Date: Oct 17, 2014**

**Registered Pesticide Establishments:**

SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

**Government Publication Date: Mar 30, 2022**

**Polychlorinated Biphenyl (PCB) Transformers:**

PCBT

Locations of Transformers Containing Polychlorinated Biphenyls (PCBs) registered with the United States Environmental Protection Agency. PCB transformer owners must register their transformer(s) with EPA. Although not required, PCB transformer owners who have removed and properly disposed of a registered PCB transformer may notify EPA to have their PCB transformer de-registered. Data made available by EPA.

**Government Publication Date: Oct 15, 2019**

**Polychlorinated Biphenyl (PCB) Notifiers:**

PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

**Government Publication Date: Jan 20, 2022**

**State**

**Dry Cleaning Facilities:**

DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

**Government Publication Date: Dec 20, 2021**

**Delisted Drycleaners:**

DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

**Government Publication Date: Feb 28, 2020**

**Non-Toxic Dry Cleaning Incentive Program:**

DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

**Government Publication Date: Feb 28, 2020**

**Per- and Polyfluoroalkyl Substances (PFAS):**

PFAS

List of sites from the State Water Resources Control Board (SWRCB)'s GeoTracker at which one or more of the potential contaminants of concern are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

**Government Publication Date: Feb 15, 2022**

**PFOA/PFOS Groundwater:**

PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.

**Government Publication Date: Apr 27, 2022**

**Hazardous Waste and Substances Site List - Site Cleanup:**

HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

**Government Publication Date: May 20, 2021**

**Toxic Pit Cleanup Act Sites:**

TOXIC PITS

The Toxic Pits Cleanup Act (TPCA) list identifies sites suspected of containing hazardous substances where cleanup has not yet been completed. This list was maintained by the State Water Resources Control Board (SWRCB), is no longer maintained, and updates are not planned.

**Government Publication Date: Jul 1, 1995**

**List of Hazardous Waste Facilities Subject to Corrective Action:**

[DTSC HWF](#)

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

**Government Publication Date: Jul 18, 2016**

**EnviroStor Inspection, Compliance, and Enforcement:**

[INSP COMP ENF](#)

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

**Government Publication Date: Apr 29, 2021**

**School Property Evaluation Program Sites:**

[SCH](#)

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

**Government Publication Date: May 30, 2022**

**California Hazardous Material Incident Report System (CHMIRS):**

[CHMIRS](#)

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

**Government Publication Date: Feb 8, 2022**

**Historical California Hazardous Material Incident Report System (CHMIRS):**

[HIST CHMIRS](#)

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

**Government Publication Date: Jan 1, 1993**

**Hazardous Waste Manifest Data:**

[HAZNET](#)

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

**Government Publication Date: Oct 24, 2016**

**Historical Hazardous Waste Manifest Data:**

[HIST MANIFEST](#)

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

**Government Publication Date: Dec 31, 1992**

**DTSC Registered Hazardous Waste Transporters:**

[HW TRANSPORT](#)

The California Department of Toxic Substances Control (DTSC) maintains this list of Registered Hazardous Waste Transporters.

**Government Publication Date: Oct 19, 2020**

**Registered Waste Tire Haulers:**

[WASTE TIRE](#)

This list of registered waste tire haulers is maintained by the California Department of Resources Recycling and Recovery.

**Government Publication Date: Apr 12, 2022**

**California Medical Waste Management Program Facility List:**

[MEDICAL WASTE](#)

This list of Medical Waste Management Program Facilities is maintained by the California Department of Public Health. The Medical Waste Management Program (MWMP) regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (MWMA). The MWMP permits and inspects all medical waste off-site treatment facilities, medical waste transporters, and medical waste transfer stations. This list contains transporters, treatment, and transfer facilities.

**Government Publication Date: Dec 31, 2020**



**Historical Cortese List:**

[HIST CORTESE](#)

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

**Government Publication Date: Nov 13, 2008**

**Cease and Desist Orders and Cleanup and Abatement Orders:**

[CDO/CAO](#)

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

**Government Publication Date: Dec 6, 2021**

**California Environmental Reporting System (CERS) Hazardous Waste Sites:**

[CERS HAZ](#)

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

**Government Publication Date: Apr 5, 2022**

**Delisted Environmental Reporting System (CERS) Hazardous Waste Sites:**

[DELISTED HAZ](#)

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

**Government Publication Date: Nov 29, 2018**

**Sites in GeoTracker:**

[GEOTRACKER](#)

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

**Government Publication Date: Feb 15, 2022**

**Mines Listing:**

[MINE](#)

This list includes mine site locations extracted from the Mines Online database, maintained by the California Department of Conservation. Mines Online (MOL) is an interactive web map designed with GIS features that provide information such as the mine name, mine status, commodity sold, location, and other mine specific data. Please note: Mine location information is provided to assist experts in determining the location of mine operators in accordance with California Civil Code section 1103.4 and reflects information reported by mine operators in annual reports provided under Public Resources Code section 2207. While the Division of Mine Reclamation (DMR) attempts to populate MOL with accurate location information, the DMR cannot guarantee the accuracy of operator reported location information.

**Government Publication Date: Dec 17, 2021**

**Recorded Environmental Cleanup Liens:**

[LIEN](#)

The California Department of Toxic Substance Control (DTSC) maintains this list of liens placed upon real properties. A lien is utilized by the DTSC to obtain reimbursement from responsible parties for costs associated with the remediation of contaminated properties.

**Government Publication Date: May 4, 2022**

**Waste Discharge Requirements:**

[WASTE DISCHG](#)

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

**Government Publication Date: Feb 15, 2022**

**Toxic Pollutant Emissions Facilities:**

[EMISSIONS](#)

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

**Government Publication Date: Dec 31, 2019**

**Clandestine Drug Lab Sites:**

CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/ clandestine drug laboratories.

**Government Publication Date: Jan 19, 2021**

**Tribal**

***No Tribal additional environmental record sources available for this State.***

**County**

***No County additional environmental databases were selected to be included in the search.***

DRAFT

# Definitions

**Database Descriptions:** This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

**Detail Report:** This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

**Distance:** The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

**Direction:** The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

**Elevation:** The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

**Executive Summary:** This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

**Map Key:** The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

**Unplottables:** These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.



## Property Information

Order Number: 22061400618p  
 Date Completed: June 15, 2022  
 Project Number: RES012-0313063-22007688  
 Project Property: Resmark - Antioch  
 Laurel Road and Country Hills Road Antioch CA  
 Coordinates:  
 Latitude: 37.97592308  
 Longitude: -121.74450154  
 UTM Northing: 4203887.10394 Meters  
 UTM Easting: 610267.604056 Meters  
 UTM Zone: UTM Zone 10S  
 Elevation: 140.77 ft  
 Slope Direction: SE

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 Hydrologic Information.....10  
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 Wells and Additional Sources.....22  
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The ERIS **Physical Setting Report - PSR** provides comprehensive information about the physical setting around a site and includes a complete overview of topography and surface topology, in addition to hydrologic, geologic and soil characteristics. The location and detailed attributes of oil and gas wells, water wells, public water systems and radon are also included for review.

The compilation of both physical characteristics of a site and additional attribute data is useful in assessing the impact of migration of contaminants and subsequent impact on soils and groundwater.

### Disclaimer

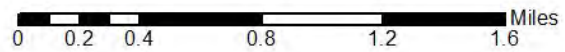
This Report does not provide a full environmental evaluation for the site or adjacent properties. Please see the terms and disclaimer at the end of the Report for greater detail.



# Topographic Information



**Current USGS Topo (2015)**



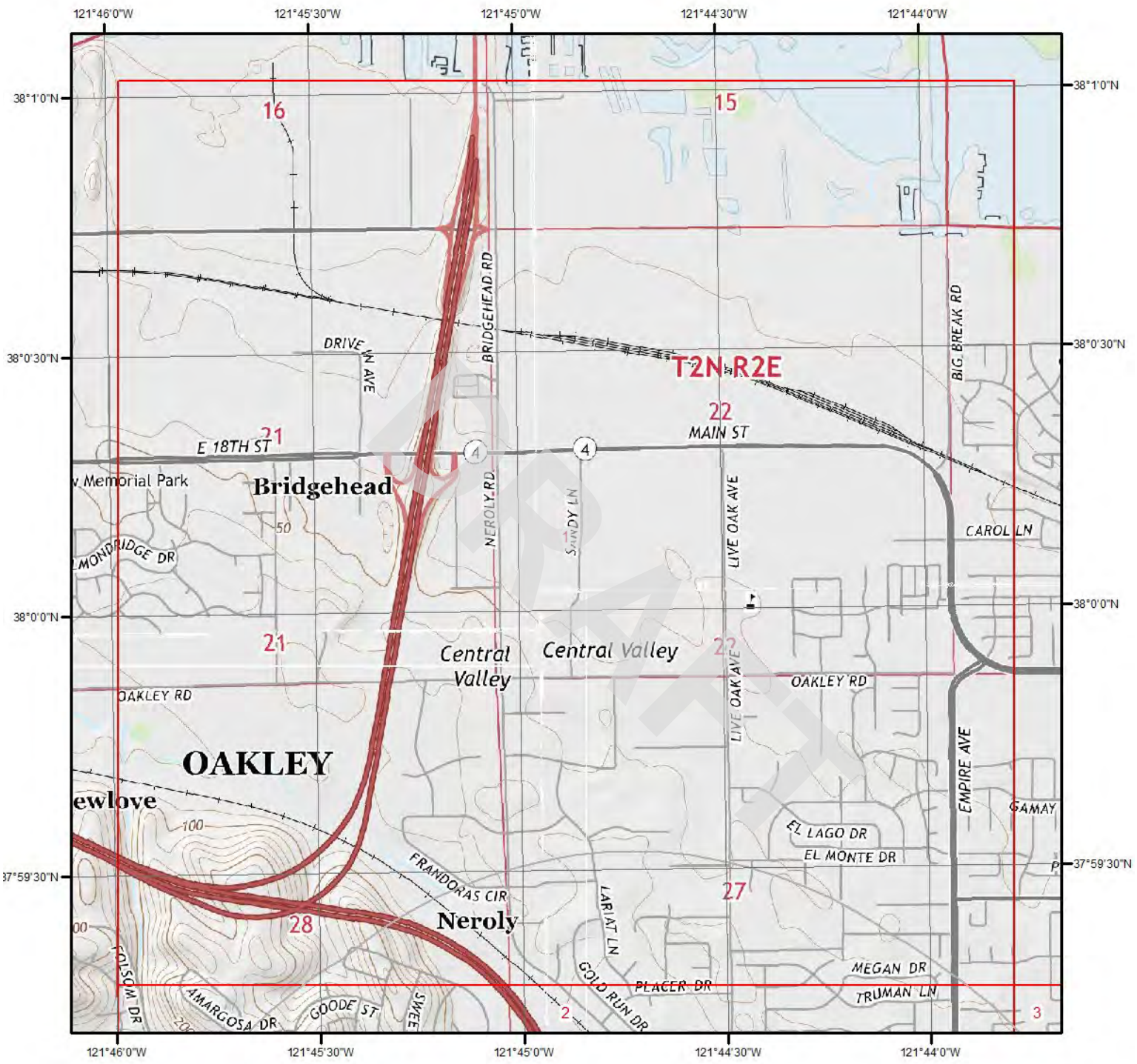
**Quadrangle(s): Antioch North,CA; Antioch South,CA; Brentwood,CA: Jersev Island,CA**

Source: USGS 7.5 Minute Topographic Map





# Topographic Information



Current USGS Topo - Page 1

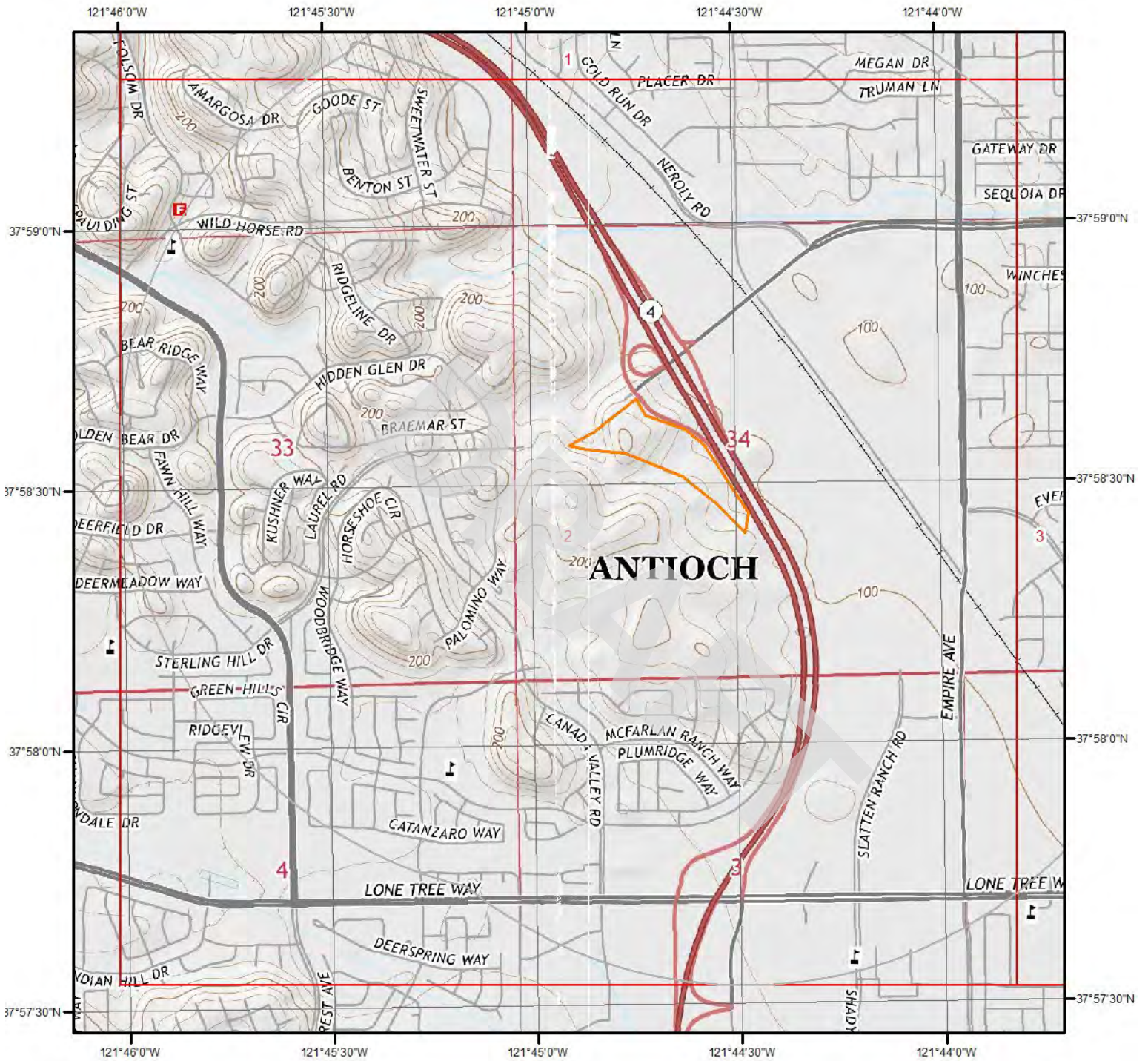
Quadrangle(s): Antioch North,CA; Antioch South,CA; Brentwood,CA: Jersev Island,CA

Source: USGS 7.5 Minute Topographic Map

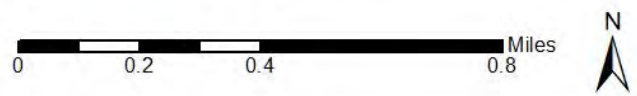




# Topographic Information



## Current USGS Topo - Page 2



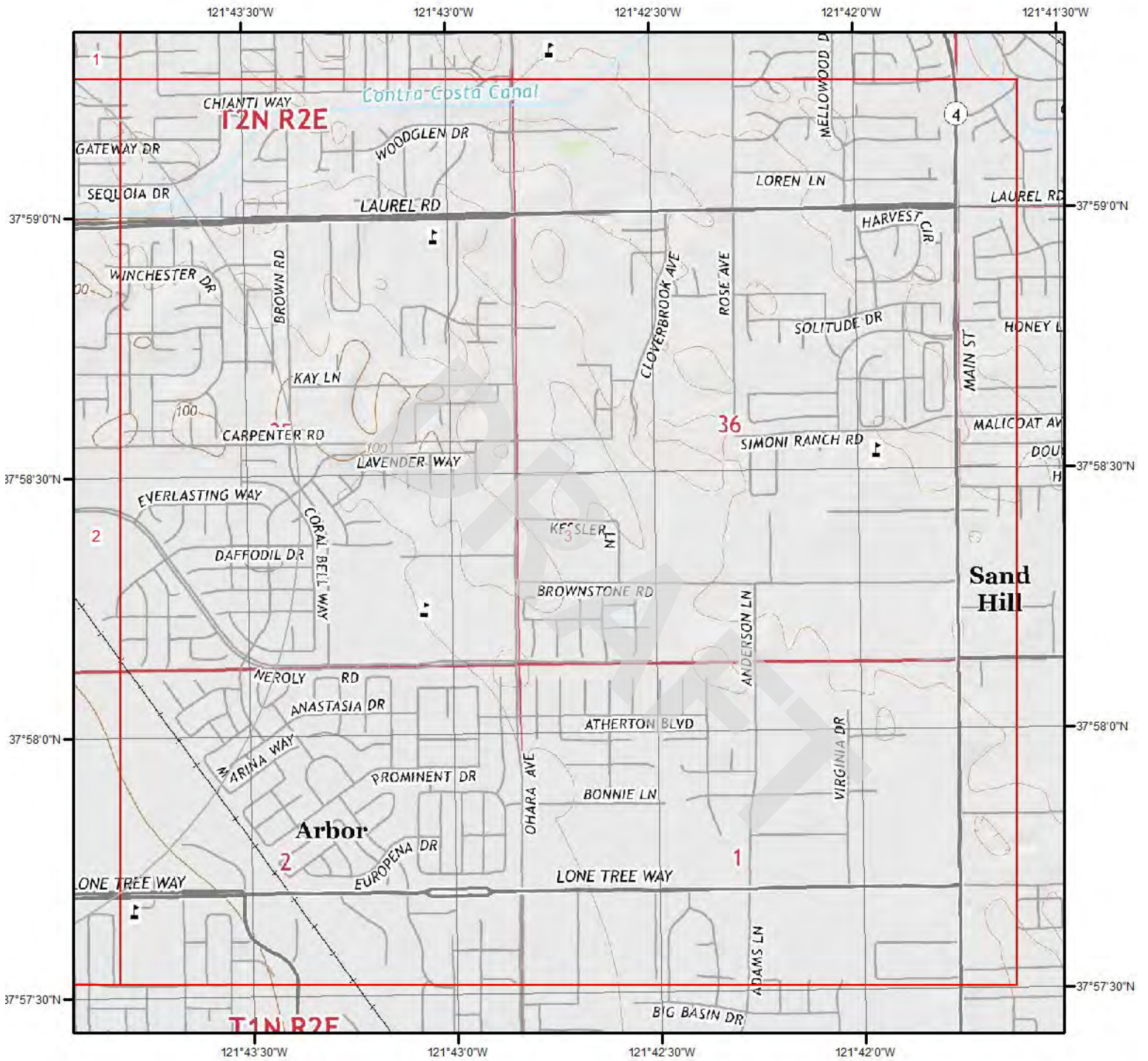
Quadrangle(s): Antioch South,CA; Brentwood,CA

Source: USGS 7.5 Minute Topographic Map





# Topographic Information



Current USGS Topo - Page 3



Quadrangle(s): Brentwood, CA

Source: USGS 7.5 Minute Topographic Map

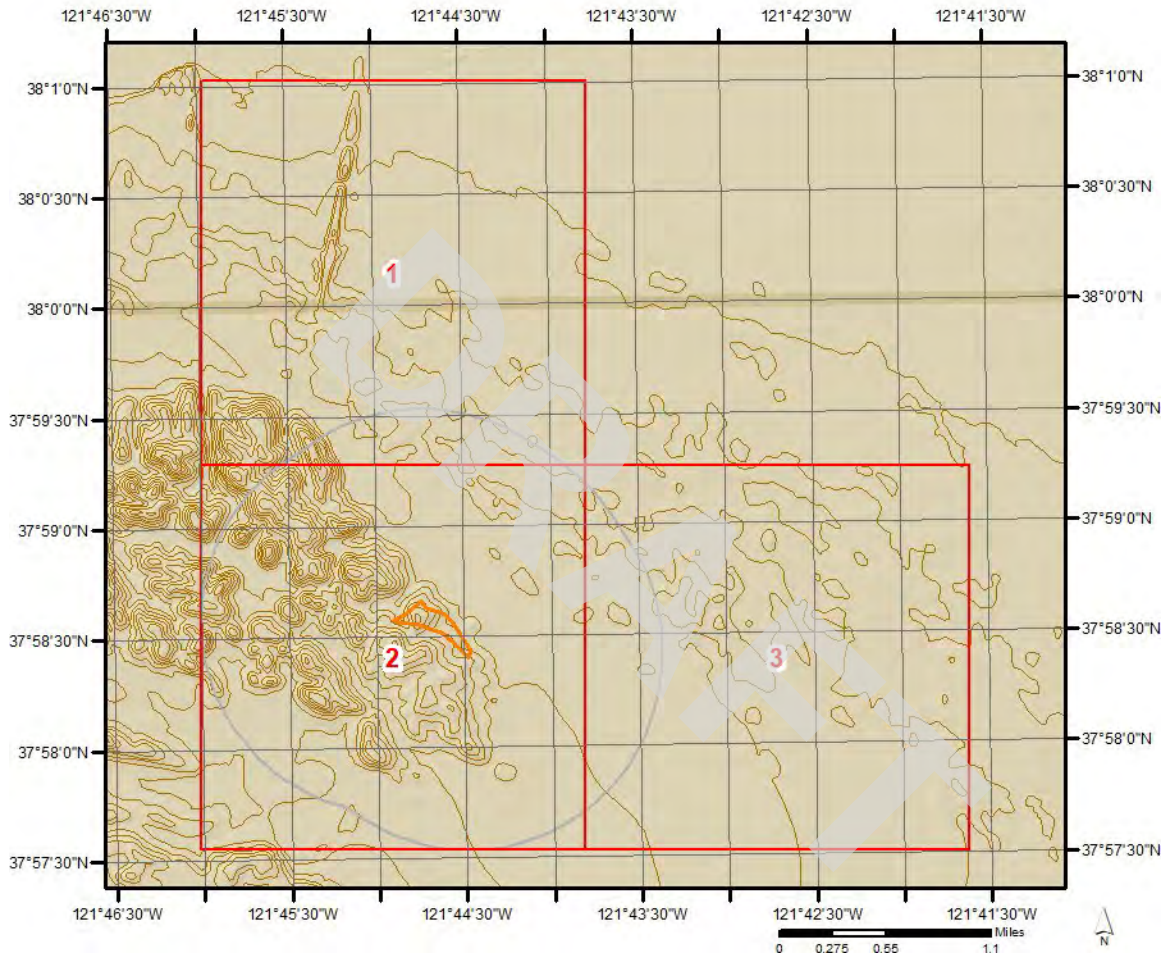


# Topographic Information

The previous topographic map(s) are created by seamlessly merging and cutting current USGS topographic data. Below are shaded relief map(s), derived from USGS elevation data to show surrounding topography in further detail.

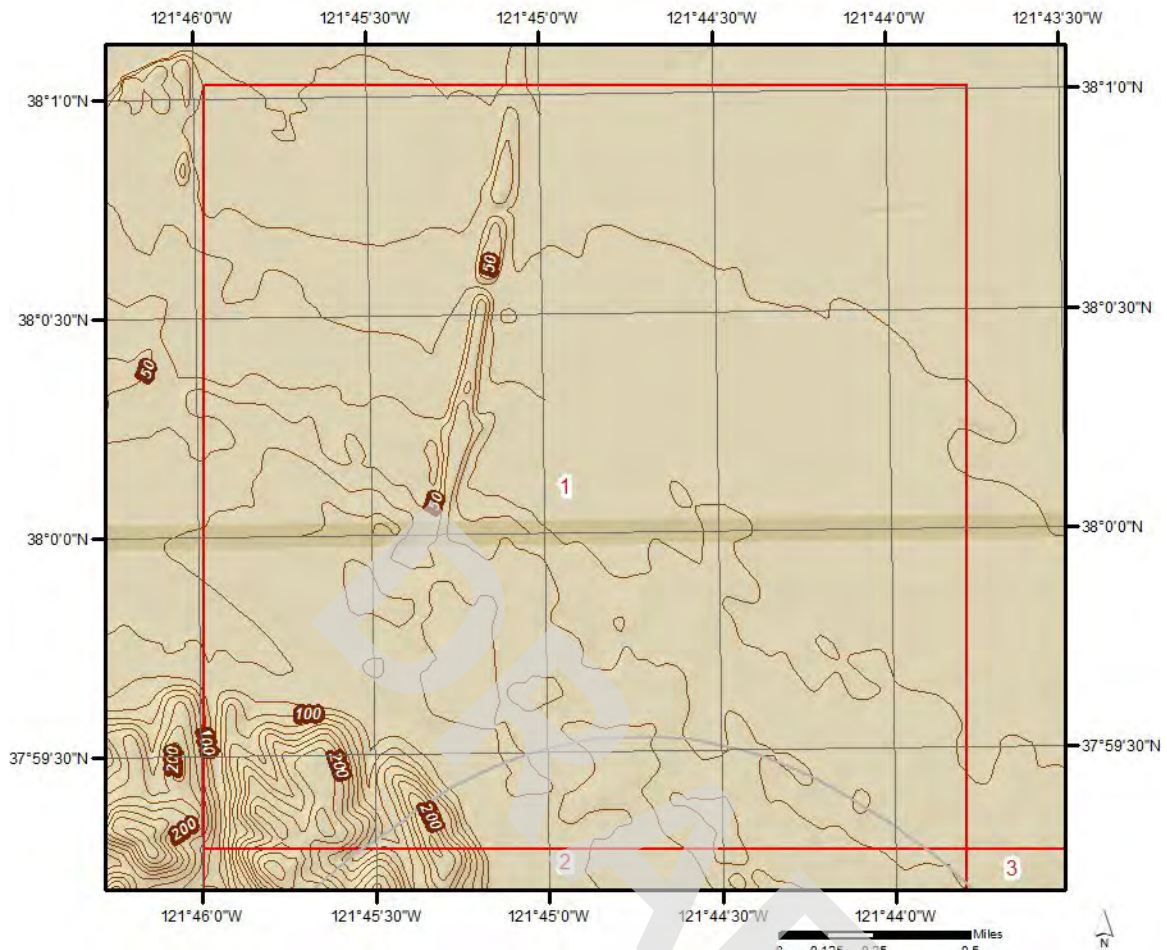
Topographic information at project property:

Elevation: 140.77 ft  
Slope Direction: SE



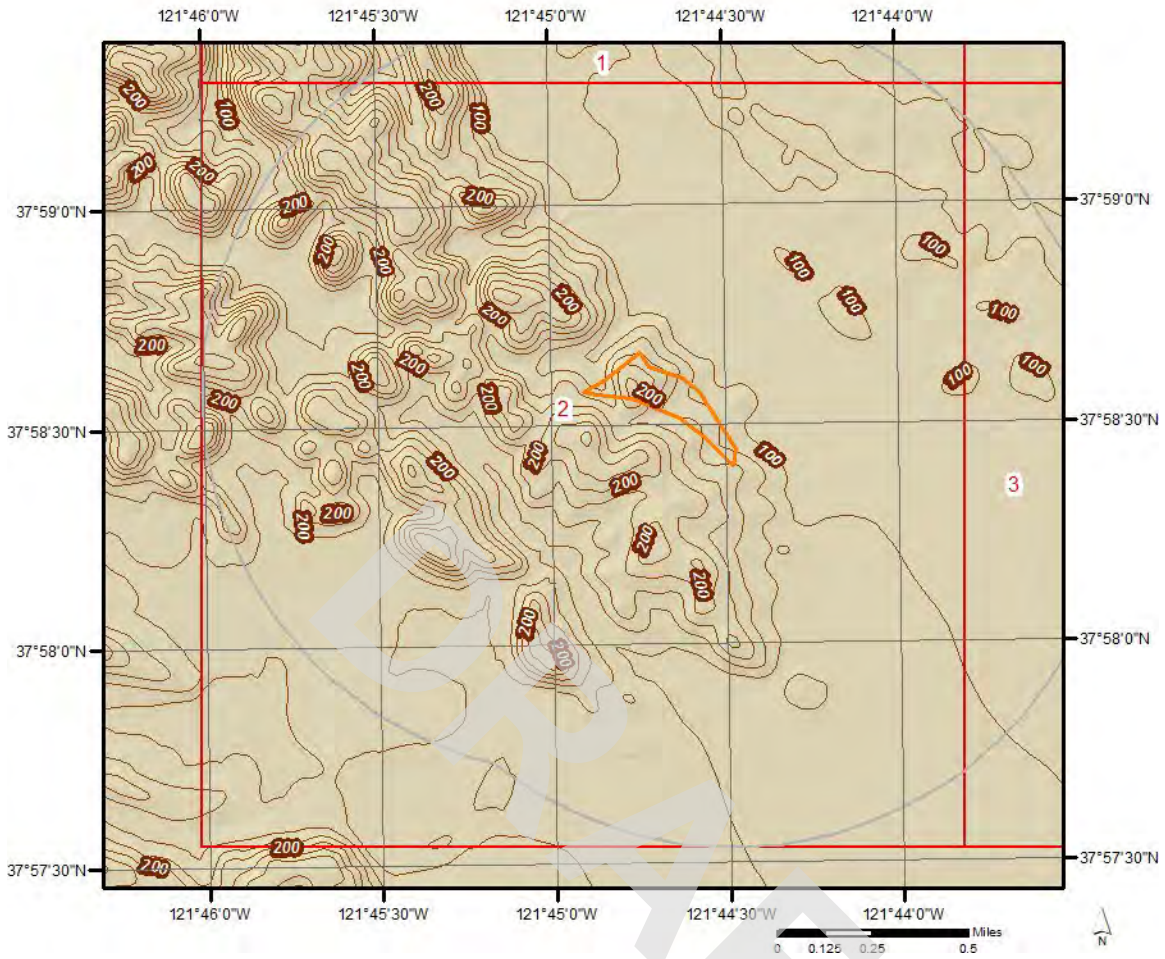


# Topographic Information

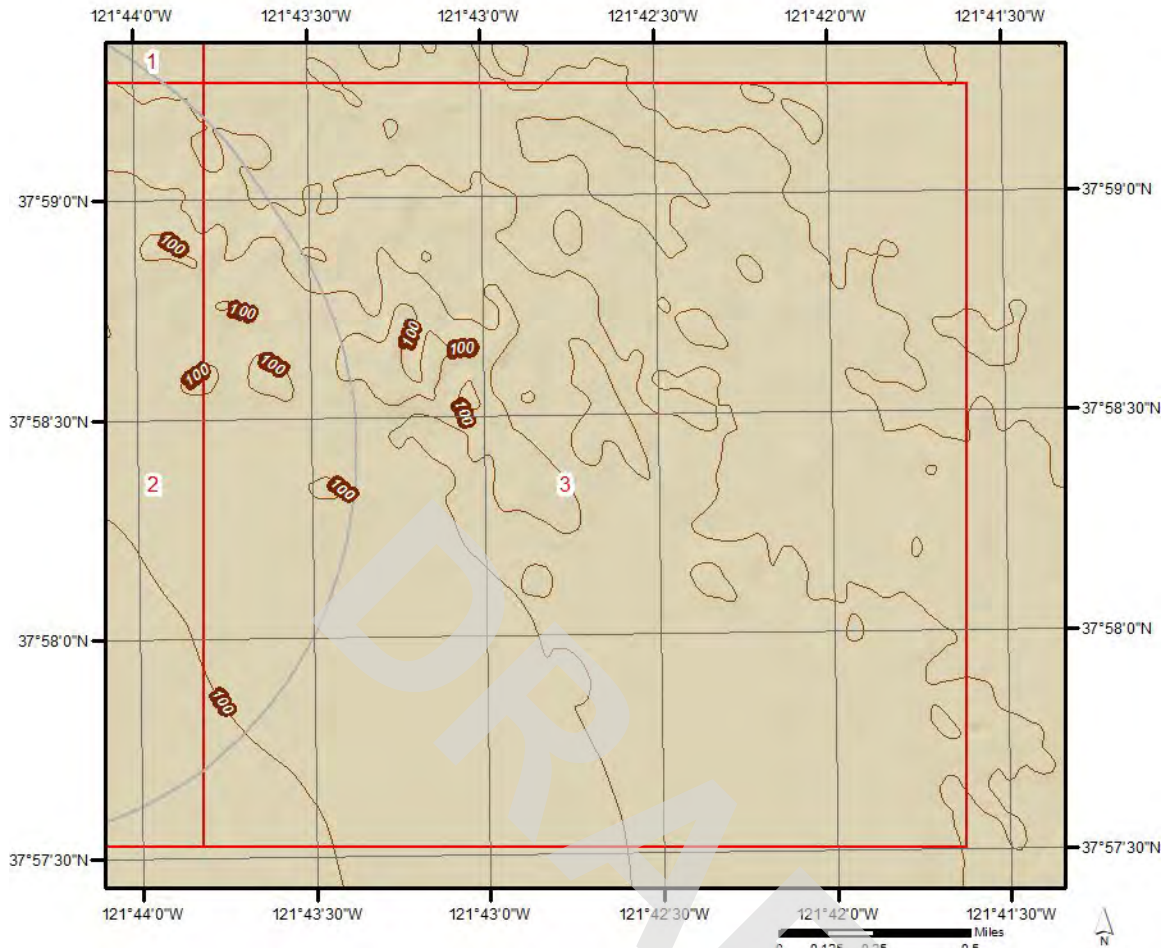




# Topographic Information

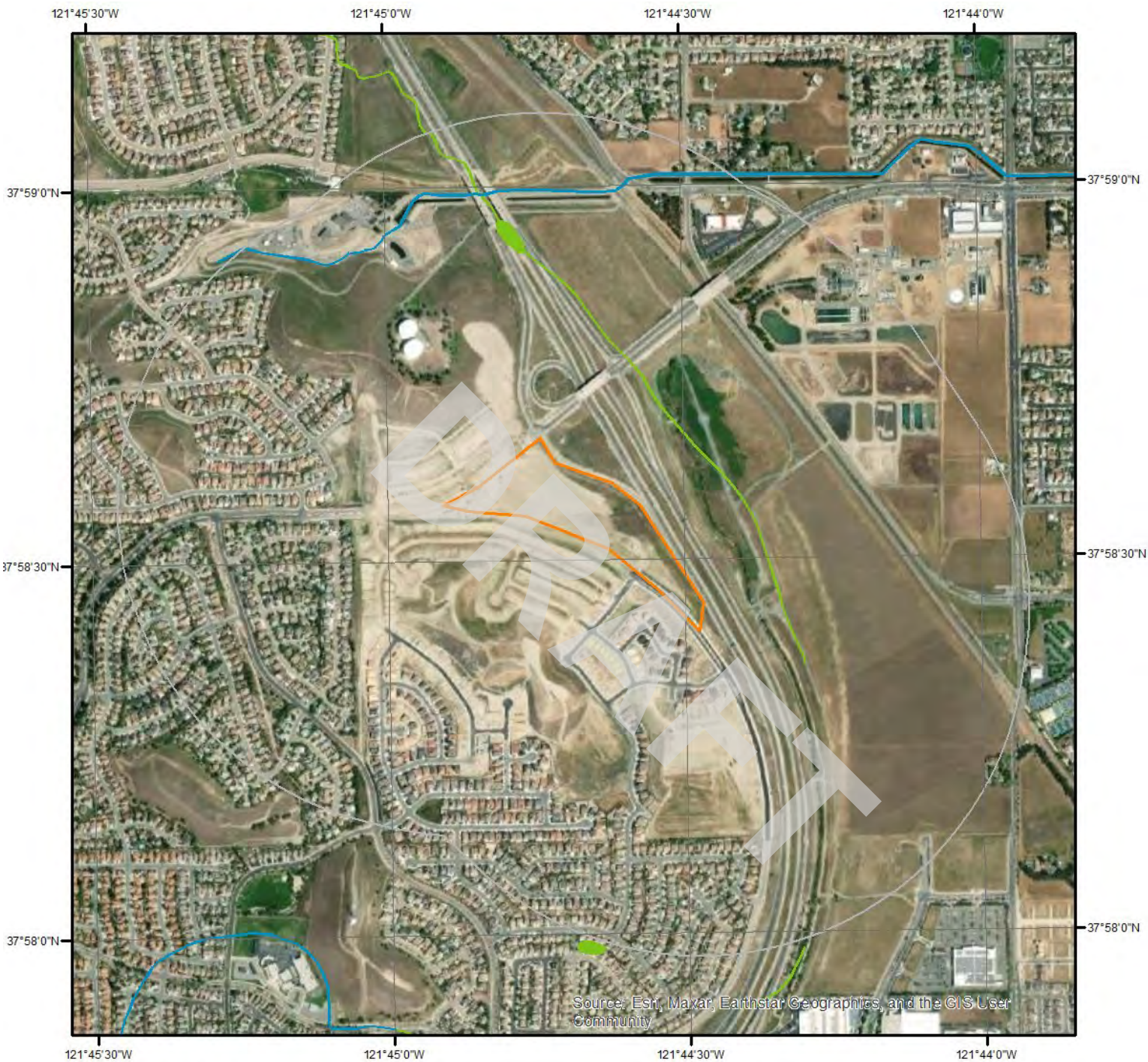


# Topographic Information

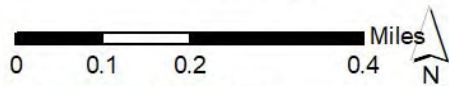




# Hydrologic Information



## Wetland



This map shows wetland existence using data from US Fish & Wildlife. Data coverage is shown to the right. Gray indicates no data available in the area.

- |   |   |
|---|---|
|  Estuarine and Marine Deepwater    |  Freshwater Pond |
|  Estuarine and Marine Wetland      |  Lake            |
|  Freshwater Emergent Wetland       |  Other           |
|  Freshwater Forested/Shrub Wetland |  Riverine        |



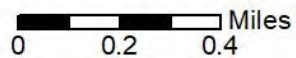


# Hydrologic Information



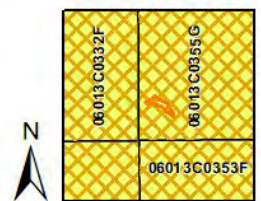
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

## Flood Hazard Zones



This map shows FEMA flood hazard zones. FIRM panels are shown to the right, and blank indicates no data is available.

 A	 AO	 X
 A99	 V	 OPEN WATER
 AE	 VE	 NOT POPULATED
 AH	 D	 AREA NOT INCLUDED



Quadrangle(s): Antioch North, CA; Antioch South, CA; Brentwood, CA; Jersey Island, CA



## Hydrologic Information

The Wetland Type map shows wetland existence overlaid on an aerial imagery. The Flood Hazard Zones map shows FEMA flood hazard zones overlaid on an aerial imagery. Relevant FIRM panels and detailed zone information is provided below. For detailed Zone descriptions please click the link: <https://floodadvocate.com/fema-zone-definitions>

---

Available FIRM Panels in area: 06013C0332F(effective:2009-06-16) 06013C0353F(effective:2009-06-16)  
06013C0335F(effective:2009-06-16) 06013C0355G(effective:2017-03-21)

---

### Flood Zone A-01

Zone: A  
Zone subtype:

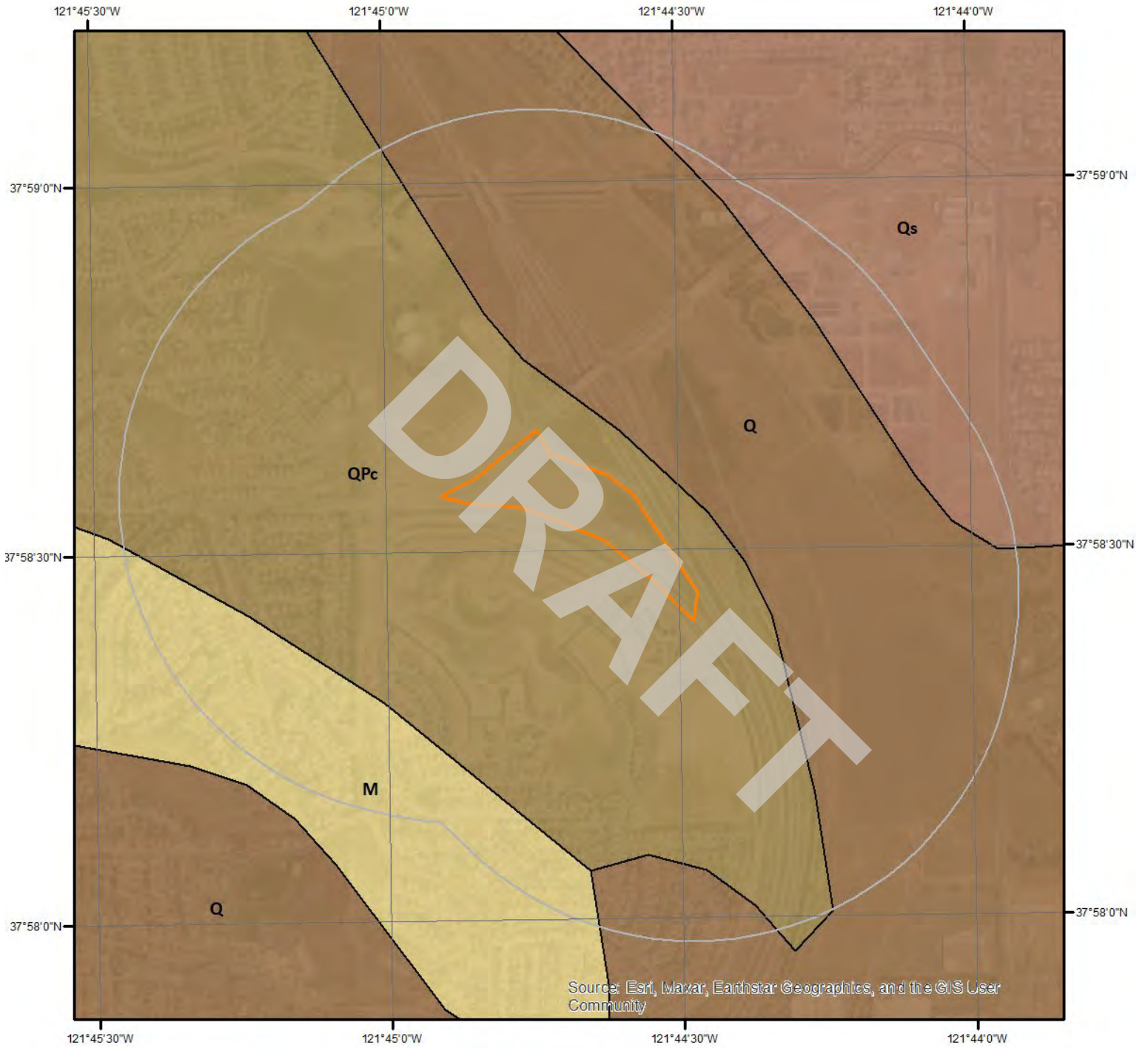
---

### Flood Zone X-12

Zone: X  
Zone subtype: AREA OF MINIMAL FLOOD HAZARD

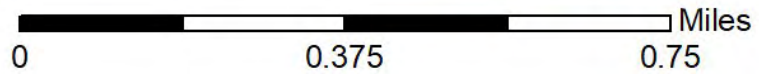
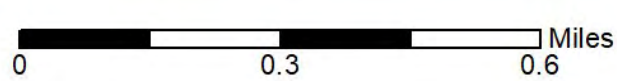


# Geologic Information



## Geologic Units

This maps shows geologic units in the area. Please refer to the report for detailed descriptions.



## Geologic Information

The previous page shows USGS geology information. Detailed information about each unit is provided below.

---

### Geologic Unit Q

Unit Name: Quaternary alluvium and marine deposits  
Unit Age: Pliocene to Holocene  
Primary Rock Type: alluvium  
Secondary Rock Type: terrace  
Unit Description: Alluvium, lake, playa, and terrace deposits; unconsolidated and semi-consolidated. Mostly nonmarine, but includes marine deposits near the coast.

---

### Geologic Unit Qs

Unit Name: Quaternary sand deposits, unit 2 (inland)  
Unit Age: Quaternary  
Primary Rock Type: dune sand  
Secondary Rock Type: lake or marine deposit (non-glacial)  
Unit Description: Extensive marine and nonmarine sand deposits, generally near the coast or desert playas

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### Geologic Unit QPc

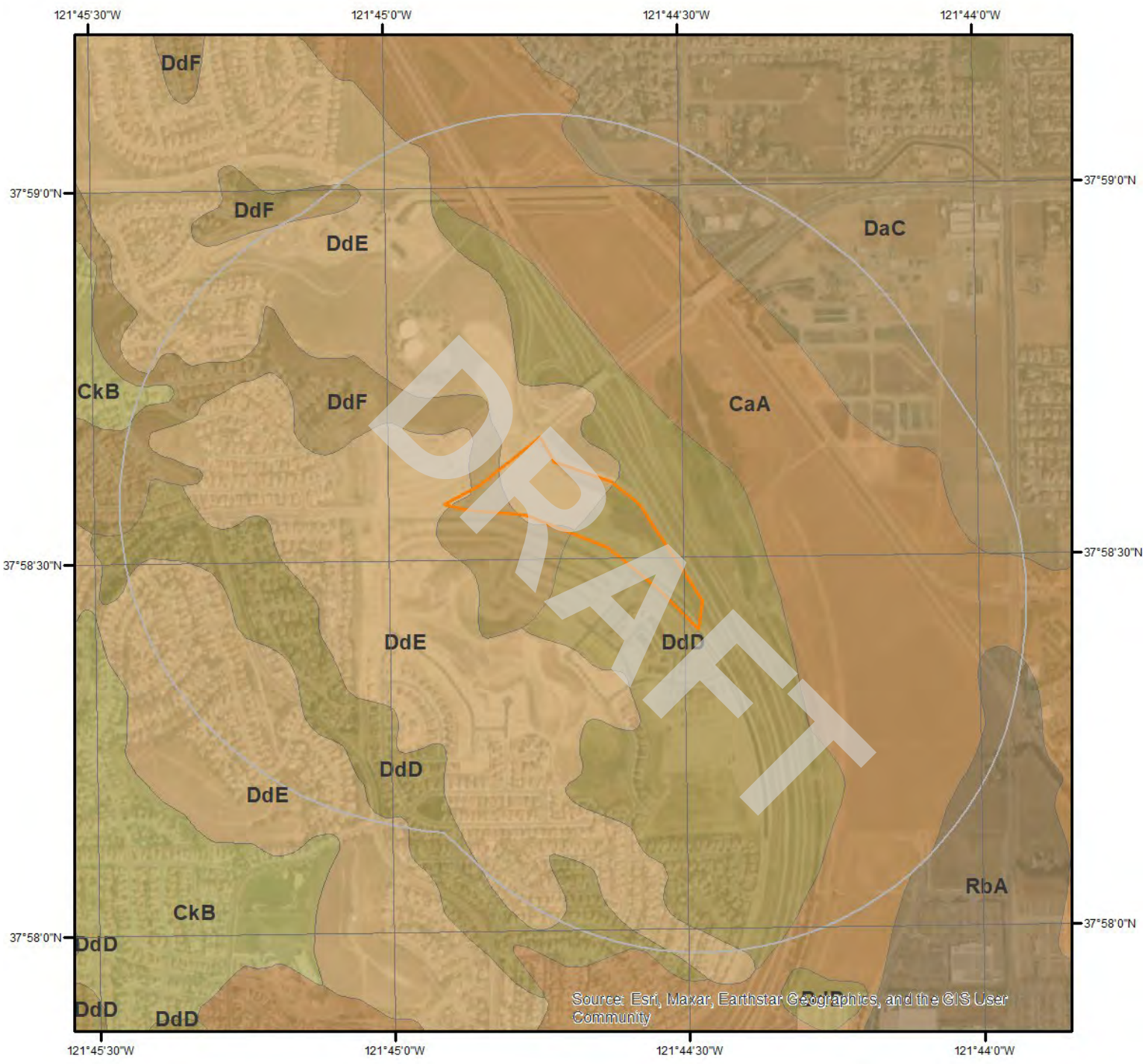
Unit Name: Plio-Pleistocene and Pliocene loosely consolidated deposits  
Unit Age: Miocene to Pleistocene  
Primary Rock Type: sandstone  
Secondary Rock Type: conglomerate  
Unit Description: Pliocene and/or Pleistocene sandstone, shale, and gravel deposits; in part Miocene.

---

### Geologic Unit M

Unit Name: Miocene marine rocks  
Unit Age: Oligocene to Pliocene  
Primary Rock Type: sandstone  
Secondary Rock Type: mudstone  
Unit Description: Sandstone, shale, siltstone, conglomerate and breccia; in part Pliocene and Oligocene.

# Soil Information



## SSURGO Soils



This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.





## Soil Information

The previous page shows a soil map using SSURGO data from USDA Natural Resources Conservation Service. Detailed information about each unit is provided below.

### Map Unit CaA (27.8%)

Map Unit Name: Capay clay, 0 to 2 percent slopes  
Bedrock Depth - Min:  
Watertable Depth - Annual Min:  
Drainage Class - Dominant: Moderately well drained  
Hydrologic Group - Dominant: C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Capay(85%)  
horizon H1(0cm to 91cm) Clay  
horizon H2(91cm to 130cm) Clay  
horizon H3(130cm to 183cm) Silty clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: CaA - Capay clay, 0 to 3 percent slopes, MLRA 17

Component: Capay (90%)

The Capay component makes up 90 percent of the map unit. Slopes are 0 to 3 percent. This component is on stream terraces on valleys, distal alluvial fans on valleys. The parent material consists of clayey alluvium derived from metamorphic and sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is rarely flooded. It is occasionally ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4s. Irrigated land capability classification is 2s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 7 within 30 inches of the soil surface.

Component: Rincon (7%)

Generated brief soil descriptions are created for major soil components. The Rincon soil is a minor component.

Component: Brentwood (2%)

Generated brief soil descriptions are created for major soil components. The Brentwood soil is a minor component.

Component: Marcuse (1%)

Generated brief soil descriptions are created for major soil components. The Marcuse soil is a minor component.

### Map Unit CkB (0.55%)

Map Unit Name: Cropley clay, 2 to 5 percent slopes  
Bedrock Depth - Min:  
Watertable Depth - Annual Min:  
Drainage Class - Dominant: Moderately well drained  
Hydrologic Group - Dominant: C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Cropley(85%)  
horizon H1(0cm to 61cm) Clay  
horizon H2(61cm to 152cm) Clay

## Soil Information

### Component Description:

Minor map unit components are excluded from this report.

Map Unit: CkB - Cropley clay, 2 to 5 percent slopes

#### Component: Cropley (85%)

The Cropley component makes up 85 percent of the map unit. Slopes are 2 to 5 percent. This component is on valleys. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 4 percent. There are no saline horizons within 30 inches of the soil surface.

#### Component: Pescadero (5%)

Generated brief soil descriptions are created for major soil components. The Pescadero soil is a minor component.

#### Component: Conejo (5%)

Generated brief soil descriptions are created for major soil components. The Conejo soil is a minor component.

#### Component: Clear Lake (4%)

Generated brief soil descriptions are created for major soil components. The Clear Lake soil is a minor component.

#### Component: Unnamed (1%)

Generated brief soil descriptions are created for major soil components. The Unnamed soil is a minor component.

---

### Map Unit DaC (60.2%)

Map Unit Name:

Delhi sand, 2 to 9 percent slopes

Bedrock Depth - Min:

Watertable Depth - Annual Min:

Drainage Class - Dominant:

Somewhat excessively drained

Hydrologic Group - Dominant:

A - Soils in this group have low runoff potential when thoroughly wet. Water is transmitted freely through the soil.

Major components are printed below

Delhi(85%)

horizon H1(0cm to 13cm)

Sand

horizon H2(13cm to 152cm)

Sand

### Component Description:

Minor map unit components are excluded from this report.

Map Unit: DaC - Delhi sand, 2 to 9 percent slopes

#### Component: Delhi (85%)

The Delhi component makes up 85 percent of the map unit. Slopes are 2 to 9 percent. This component is on alluvial fans, terraces, flood plains. The parent material consists of eolian deposits derived from igneous and sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. Irrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

#### Component: Unnamed (12%)

Generated brief soil descriptions are created for major soil components. The Unnamed soil is a minor component.

#### Component: Laugenour (3%)

Generated brief soil descriptions are created for major soil components. The Laugenour soil is a minor component.



## Soil Information

### Map Unit DdD (2.12%)

Map Unit Name:	Diablo clay, 9 to 15 percent slopes
Bedrock Depth - Min:	107cm
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.
Major components are printed below	
Diablo(85%)	
horizon H1(0cm to 74cm)	Clay
horizon H2(74cm to 107cm)	Silty clay
horizon H3(107cm to 117cm)	Weathered bedrock

#### Component Description:

Minor map unit components are excluded from this report.

Map Unit: DdD - Diablo clay, 5 to 25 percent slopes, MLRA 15

#### Component: Diablo (85%)

The Diablo component makes up 85 percent of the map unit. Slopes are 5 to 25 percent. This component is on hillslopes on hills. The parent material consists of residuum weathered from calcareous shale. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 59 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is very high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R015XD001CA Clayey ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 4 percent. There are no saline horizons within 30 inches of the soil surface.

#### Component: Haire (3%)

Generated brief soil descriptions are created for major soil components. The Haire soil is a minor component.

#### Component: Raynor (3%)

Generated brief soil descriptions are created for major soil components. The Raynor soil is a minor component.

#### Component: Soper (2%)

Generated brief soil descriptions are created for major soil components. The Soper soil is a minor component.

#### Component: Linne (2%)

Generated brief soil descriptions are created for major soil components. The Linne soil is a minor component.

#### Component: Clear Lake (2%)

Generated brief soil descriptions are created for major soil components. The Clear Lake soil is a minor component.

#### Component: San Benito (2%)

Generated brief soil descriptions are created for major soil components. The San Benito soil is a minor component.

#### Component: Altamont (1%)

Generated brief soil descriptions are created for major soil components. The Altamont soil is a minor component.

### Map Unit DdE (5.97%)

Map Unit Name:	Diablo clay, 15 to 30 percent slopes
Bedrock Depth - Min:	107cm
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

## Soil Information

Major components are printed below

Diablo(85%)

horizon H1(0cm to 74cm)	Clay
horizon H2(74cm to 107cm)	Silty clay
horizon H3(107cm to 117cm)	Weathered bedrock

Component Description:

Minor map unit components are excluded from this report.

Map Unit: DdE - Diablo clay, 15 to 30 percent slopes, MLRA 15

Component: Diablo (85%)

The Diablo component makes up 85 percent of the map unit. Slopes are 15 to 30 percent. This component is on hillslopes on hills, hillslopes on mountains, mountain slopes on hills, mountain slopes on mountains. The parent material consists of residuum weathered from calcareous shale. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 59 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is very high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R015XD001CA Clayey, Clayey Hills ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 4 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Alo (4%)

Generated brief soil descriptions are created for major soil components. The Alo soil is a minor component.

Component: Cropley (4%)

Generated brief soil descriptions are created for major soil components. The Cropley soil is a minor component.

Component: Sehorn (3%)

Generated brief soil descriptions are created for major soil components. The Sehorn soil is a minor component.

Component: Haire (1%)

Generated brief soil descriptions are created for major soil components. The Haire soil is a minor component.

Component: Altamont (1%)

Generated brief soil descriptions are created for major soil components. The Altamont soil is a minor component.

Component: Linne (1%)

Generated brief soil descriptions are created for major soil components. The Linne soil is a minor component.

Component: Raynor (1%)

Generated brief soil descriptions are created for major soil components. The Raynor soil is a minor component.

---

### Map Unit DdF (2.1%)

Map Unit Name:	Diablo clay, 30 to 50 percent slopes
Bedrock Depth - Min:	107cm
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Diablo(85%)

horizon H1(0cm to 74cm)	Clay
horizon H2(74cm to 107cm)	Silty clay
horizon H3(107cm to 117cm)	Weathered bedrock

Component Description:

## Soil Information

Minor map unit components are excluded from this report.

Map Unit: DdF - Diablo clay, 30 to 50 percent slopes, MLRA 15

Component: Diablo (85%)

The Diablo component makes up 85 percent of the map unit. Slopes are 30 to 50 percent. This component is on hillslopes on hills, hillslopes on mountains, mountain slopes on hills, mountain slopes on mountains. The parent material consists of residuum weathered from calcareous shale. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 59 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is very high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R015XD001CA Clayey, Clayey Hills ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 4 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Alo (8%)

Generated brief soil descriptions are created for major soil components. The Alo soil is a minor component.

Component: Sehorn (5%)

Generated brief soil descriptions are created for major soil components. The Sehorn soil is a minor component.

Component: Lodo (2%)

Generated brief soil descriptions are created for major soil components. The Lodo soil is a minor component.

---

### Map Unit RbA (1.26%)

Map Unit Name: Rincon clay loam, 0 to 2 percent slopes, MLRA 14

Bedrock Depth - Min:

Watertable Depth - Annual Min:

Drainage Class - Dominant:

Well drained

Hydrologic Group - Dominant:

C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Rincon(85%)

horizon A(0cm to 15cm)

Clay loam

horizon Ap(15cm to 30cm)

Clay loam

horizon Bt(30cm to 74cm)

Clay

horizon Bk(74cm to 97cm)

Silty clay loam

horizon Ck(97cm to 200cm)

Loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: RbA - Rincon clay loam, 0 to 2 percent slopes, MLRA 14

Component: Rincon (85%)

The Rincon component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on terraces on valleys, alluvial fans on valleys. The parent material consists of alluvium derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R014XE025CA Fine Loamy Bottom ecological site. Nonirrigated land capability classification is 4s. Irrigated land capability classification is 2s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 4 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Brentwood (5%)

Generated brief soil descriptions are created for major soil components. The Brentwood soil is a minor component.

Component: Capay (3%)

Generated brief soil descriptions are created for major soil components. The Capay soil is a minor component.

## Soil Information

Component: San Ysidro (2%)

Generated brief soil descriptions are created for major soil components. The San Ysidro soil is a minor component.

Component: Cropley (1%)

Generated brief soil descriptions are created for major soil components. The Cropley soil is a minor component.

Component: Danville (1%)

Generated brief soil descriptions are created for major soil components. The Danville soil is a minor component.

Component: Yolo (1%)

Generated brief soil descriptions are created for major soil components. The Yolo soil is a minor component.

Component: Clear Lake (1%)

Generated brief soil descriptions are created for major soil components. The Clear Lake soil is a minor component.

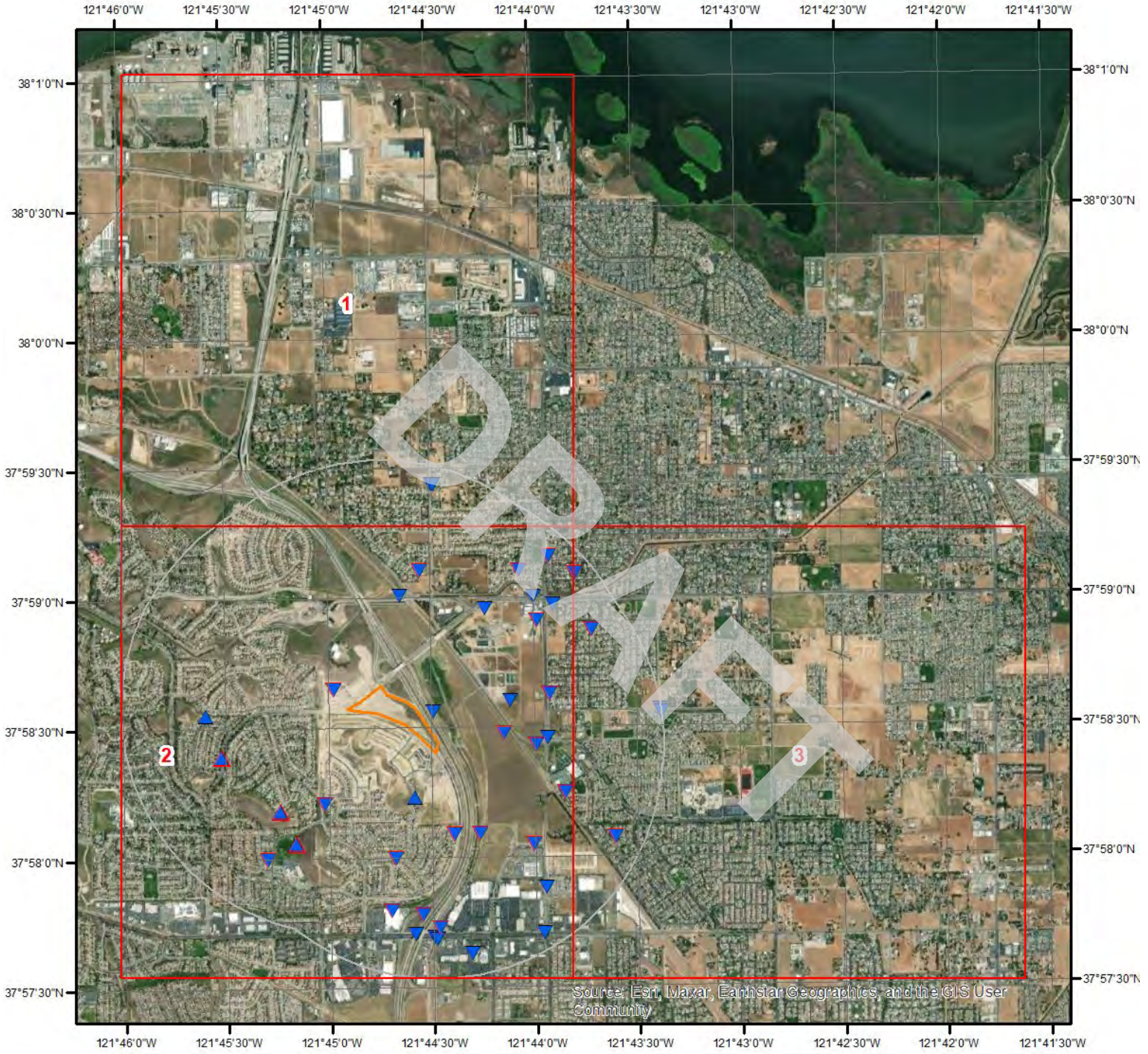
Component: Lockwood (1%)

Generated brief soil descriptions are created for major soil components. The Lockwood soil is a minor component.

DRAFT



# Wells and Additional Sources



## Wells & Additional Sources

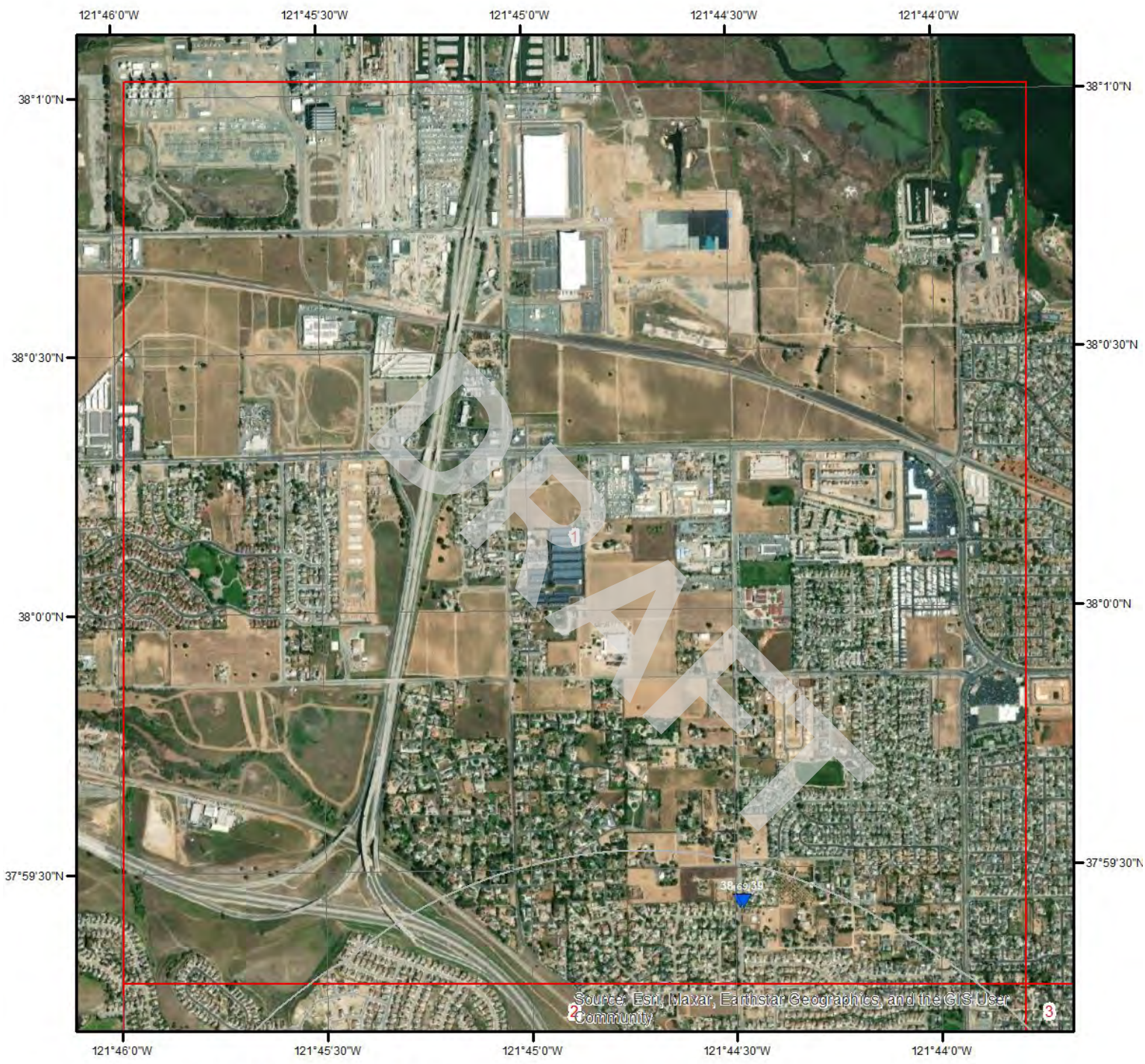


- |                                |                                    |
|--------------------------------|------------------------------------|
| ▲ Sites with Higher Elevation  | ▲ OGW Sites with Higher Elevation  |
| ■ Sites with Same Elevation    | ■ OGW Sites with Same Elevation    |
| ▼ Sites with Lower Elevation   | ▼ OGW Sites with Lower Elevation   |
| ○ Sites with Unknown Elevation | ● OGW Sites with Unknown Elevation |

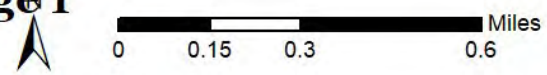




# Wells and Additional Sources



## Wells & Additional Sources - Page 1

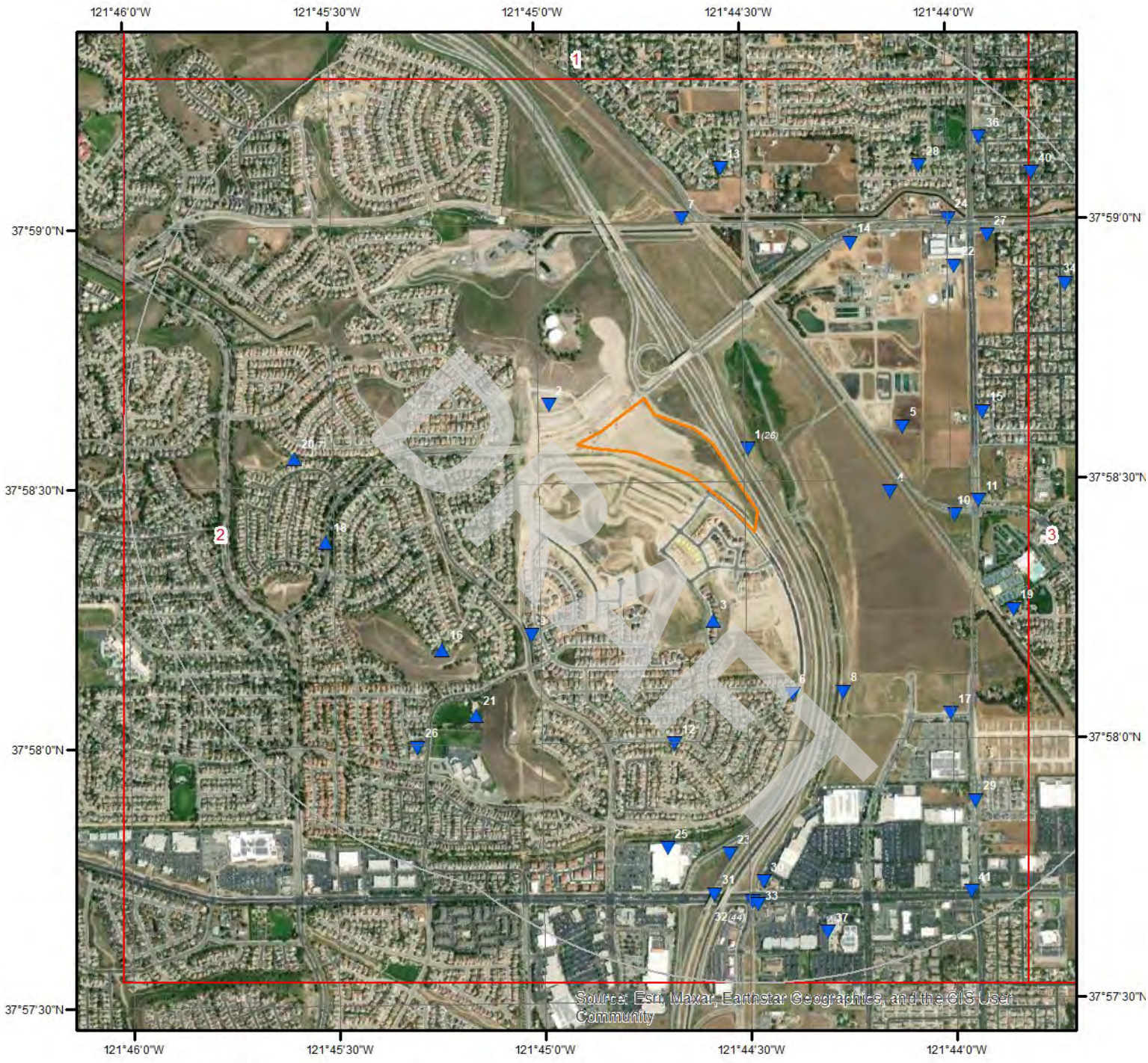


- |                                |                                    |
|--------------------------------|------------------------------------|
| ▲ Sites with Higher Elevation  | ▲ OGW Sites with Higher Elevation  |
| ■ Sites with Same Elevation    | ■ OGW Sites with Same Elevation    |
| ▼ Sites with Lower Elevation   | ▼ OGW Sites with Lower Elevation   |
| ○ Sites with Unknown Elevation | ● OGW Sites with Unknown Elevation |

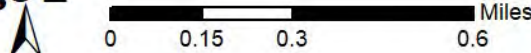




# Wells and Additional Sources



## Wells & Additional Sources - Page 2

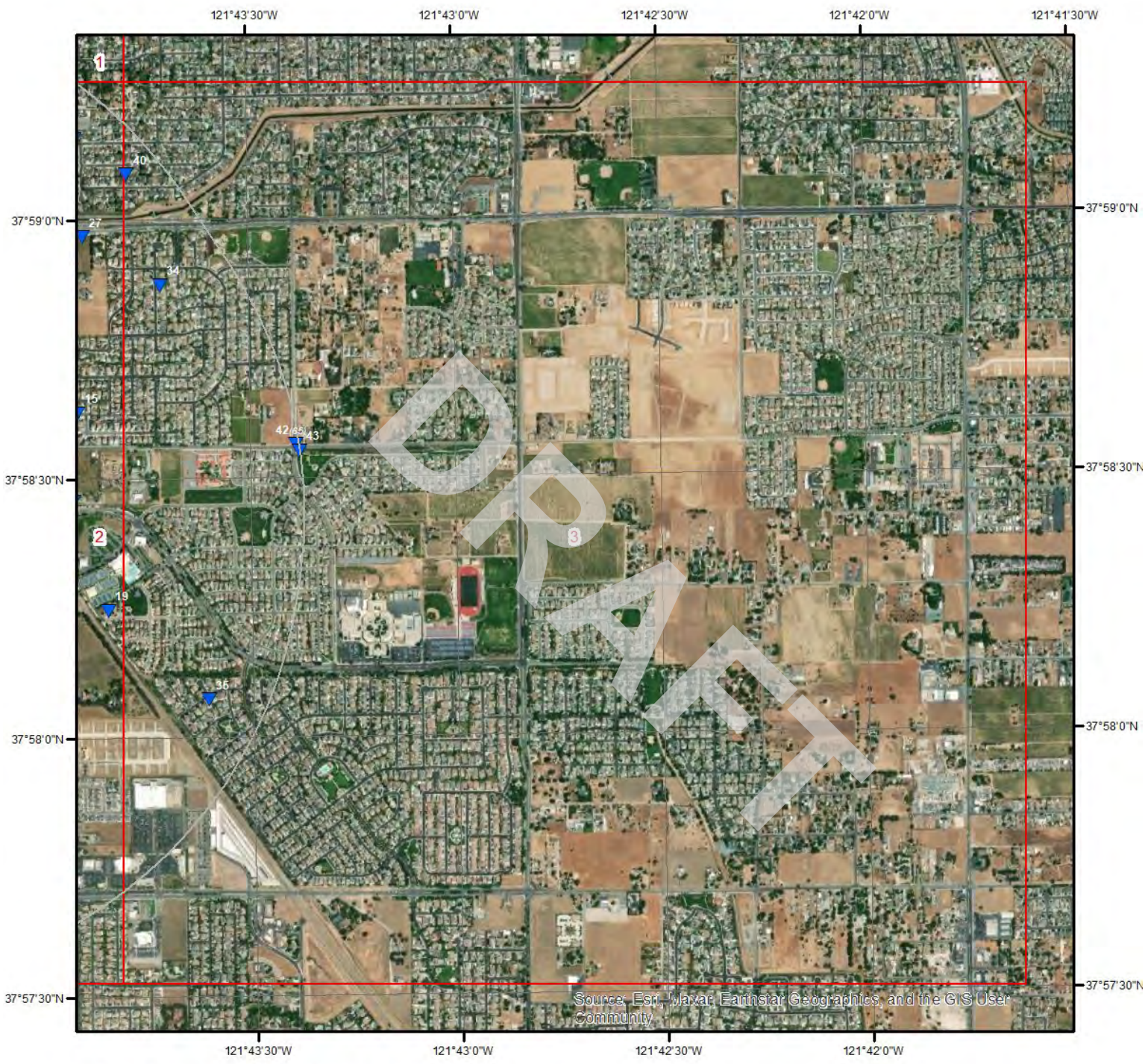


- |                                |                                    |
|--------------------------------|------------------------------------|
| ▲ Sites with Higher Elevation  | ▲ OGW Sites with Higher Elevation  |
| ■ Sites with Same Elevation    | ■ OGW Sites with Same Elevation    |
| ▼ Sites with Lower Elevation   | ▼ OGW Sites with Lower Elevation   |
| ○ Sites with Unknown Elevation | ● OGW Sites with Unknown Elevation |

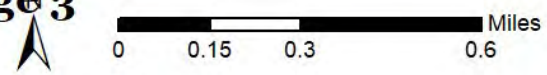




# Wells and Additional Sources



## Wells & Additional Sources - Page 3



- |                                |                                    |
|--------------------------------|------------------------------------|
| ▲ Sites with Higher Elevation  | ▲ OGW Sites with Higher Elevation  |
| ■ Sites with Same Elevation    | ■ OGW Sites with Same Elevation    |
| ▼ Sites with Lower Elevation   | ▼ OGW Sites with Lower Elevation   |
| ○ Sites with Unknown Elevation | ● OGW Sites with Unknown Elevation |





# Wells and Additional Sources Summary

## Federal Sources

### Public Water Systems Violations and Enforcement Data

Map Key	PWS ID	Distance (ft)	Direction
31	CA0707579	4278.12	S
41	CA0706022	4917.36	SE

### Safe Drinking Water Information System (SDWIS)

Map Key	ID	Distance (ft)	Direction
No records found			

### USGS National Water Information System

Map Key	Monitoring Loc Identifier	Distance (ft)	Direction
33	USGS-375741121442901	4371.37	S
37	USGS-375738121441501	4769.93	SSE
43	USGS-375833121432301	5270.91	E

## State Sources

### Oil and Gas Wells

Map Key	API No	Distance (ft)	Direction
2	0401300282	553.33	WNW
4	0401320277	1563.17	E
6	0401320107	1961.22	SSE
8	0401320108	2150.60	SE
9	0401300281	2298.29	SW
10	0401320103	2304.90	ESE
12	0401300029	2661.76	S
13	0401320286	2821.42	N
15	0401320203	2869.44	E
16	0401300279	2871.05	SW
17	0401300031	3132.88	SE
18	0401300280	3137.14	WSW
19	0401320201	3155.27	ESE
21	0401300049	3379.76	SW
22	0401320200	3496.91	NE
23	0401320026	3795.37	S
25	0401320187	3849.87	S
26	0401300046	4007.93	SW
28	0401320015	4038.14	NE
30	0401320323	4104.12	SSE
34	0401320134	4460.99	ENE
35	0401300252	4633.66	ESE
36	0401320003	4735.78	NE
40	0401300276	4879.85	NE

### Periodic Groundwater Level Measurement Locations

## Wells and Additional Sources Summary

Map Key	ID	Distance (ft)	Direction
No records found			

### Well Completion Reports

Map Key	WCR No	Distance (ft)	Direction
1	WCR0128698	301.30	E
1	WCR0242179	301.30	E
1	WCR2008-002919	301.30	E
1	WCR0213115	301.30	E
1	WCR2009-007073	301.30	E
1	WCR2008-002917	301.30	E
1	WCR0006397	301.30	E
1	WCR0044770	301.30	E
1	WCR0019695	301.30	E
1	WCR0005205	301.30	E
1	WCR0167058	301.30	E
1	WCR2008-002920	301.30	E
1	WCR0120784	301.30	E
1	WCR2003-001376	301.30	E
1	WCR1991-003426	301.30	E
1	WCR2008-002916	301.30	E
1	WCR1989-011986	301.30	E
1	WCR0030326	301.30	E
1	WCR1993-005675	301.30	E
1	WCR2007-002357	301.30	E
1	WCR2008-002918	301.30	E
1	WCR2009-007072	301.30	E
1	WCR2003-007803	301.30	E
1	WCR0153895	301.30	E
1	WCR1988-004737	301.30	E
1	WCR0030686	301.30	E
3	WCR2005-005102	1147.38	SSE
5	WCR2013-006473	1960.01	E
7	WCR2018-007341	2129.75	N
11	WCR2018-012609	2583.07	E
14	WCR0200043	2832.12	NE
20	WCR1988-004677	3300.20	W
20	WCR0260949	3300.20	W
20	WCR0167057	3300.20	W
20	WCR1996-003624	3300.20	W
20	WCR1988-006856	3300.20	W
20	WCR1989-011985	3300.20	W
20	WCR1988-004676	3300.20	W
24	WCR2005-004818	3799.67	NE
27	WCR0050383	4018.23	NE
29	WCR2018-007020	4077.10	SE
32	WCR1985-003421	4331.59	S
32	WCR2000-000013	4331.59	S
32	WCR2004-004650	4331.59	S
32	WCR2000-000010	4331.59	S
32	WCR0281309	4331.59	S
32	WCR0246998	4331.59	S
32	WCR1986-002157	4331.59	S
32	WCR1991-002144	4331.59	S
32	WCR1986-000898	4331.59	S
32	WCR2003-001242	4331.59	S
32	WCR2000-000030	4331.59	S
32	WCR2000-002701	4331.59	S
32	WCR0084255	4331.59	S
32	WCR0030087	4331.59	S
32	WCR0137336	4331.59	S
32	WCR0318848	4331.59	S



## Wells and Additional Sources Summary

32	WCR2003-001369	4331.59	S
32	WCR0010968	4331.59	S
32	WCR2000-000033	4331.59	S
32	WCR2000-000034	4331.59	S
32	WCR2002-003776	4331.59	S
32	WCR2004-004651	4331.59	S
32	WCR2000-000029	4331.59	S
32	WCR2002-001483	4331.59	S
32	WCR0301249	4331.59	S
32	WCR2000-000012	4331.59	S
32	WCR1989-012042	4331.59	S
32	WCR2000-000035	4331.59	S
32	WCR2002-003777	4331.59	S
32	WCR1987-007070	4331.59	S
32	WCR1996-005684	4331.59	S
32	WCR2004-004654	4331.59	S
32	WCR1996-005683	4331.59	S
32	WCR1997-001161	4331.59	S
32	WCR2000-000032	4331.59	S
32	WCR2000-000011	4331.59	S
32	WCR1985-003436	4331.59	S
32	WCR1986-001377	4331.59	S
32	WCR2002-001123	4331.59	S
32	WCR1997-001160	4331.59	S
32	WCR2006-002703	4331.59	S
32	WCR0210401	4331.59	S
32	WCR1989-011992	4331.59	S
32	WCR2000-000031	4331.59	S
38	WCR1993-005234	4825.35	N
38	WCR0310825	4825.35	N
38	WCR1993-005233	4825.35	N
38	WCR2002-003760	4825.35	N
38	WCR0290656	4825.35	N
38	WCR2004-002546	4825.35	N
38	WCR1988-006416	4825.35	N
38	WCR0256729	4825.35	N
38	WCR2003-001675	4825.35	N
38	WCR1993-006004	4825.35	N
38	WCR0148015	4825.35	N
38	WCR0084463	4825.35	N
38	WCR0084464	4825.35	N
38	WCR0099092	4825.35	N
38	WCR1995-005386	4825.35	N
38	WCR2003-001327	4825.35	N
38	WCR2002-001163	4825.35	N
38	WCR2002-003790	4825.35	N
38	WCR1981-003263	4825.35	N
38	WCR1987-004266	4825.35	N
38	WCR1992-006230	4825.35	N
38	WCR2003-001240	4825.35	N
38	WCR1997-002081	4825.35	N
38	WCR1993-004947	4825.35	N
38	WCR1988-006462	4825.35	N
38	WCR1981-003257	4825.35	N
38	WCR2006-001493	4825.35	N
38	WCR2007-000766	4825.35	N
38	WCR2003-001244	4825.35	N
38	WCR1999-002022	4825.35	N
38	WCR2000-002736	4825.35	N
38	WCR2005-004527	4825.35	N
38	WCR1996-005693	4825.35	N
38	WCR1983-001504	4825.35	N
38	WCR1988-006475	4825.35	N
38	WCR0103462	4825.35	N
38	WCR1991-002147	4825.35	N
38	WCR1994-001989	4825.35	N

## Wells and Additional Sources Summary

38	WCR2006-001492	4825.35	N
38	WCR2006-000892	4825.35	N
38	WCR1988-003464	4825.35	N
38	WCR2003-003698	4825.35	N
38	WCR2008-003990	4825.35	N
38	WCR1999-003937	4825.35	N
38	WCR1992-006222	4825.35	N
38	WCR0247019	4825.35	N
38	WCR0219971	4825.35	N
38	WCR1986-006000	4825.35	N
38	WCR1990-005198	4825.35	N
38	WCR2004-004594	4825.35	N
38	WCR1990-001945	4825.35	N
38	WCR2007-003319	4825.35	N
38	WCR1980-003271	4825.35	N
38	WCR1993-006003	4825.35	N
38	WCR1991-002131	4825.35	N
38	WCR1983-001430	4825.35	N
38	WCR2005-004557	4825.35	N
38	WCR2001-001771	4825.35	N
38	WCR2004-004673	4825.35	N
38	WCR2000-002734	4825.35	N
38	WCR1993-007274	4825.35	N
38	WCR1988-006411	4825.35	N
38	WCR1999-002024	4825.35	N
38	WCR1980-003673	4825.35	N
38	WCR1980-000785	4825.35	N
38	WCR2005-002764	4825.35	N
38	WCR1991-002154	4825.35	N
38	WCR1990-004849	4825.35	N
38	WCR2003-001323	4825.35	N
39	WCR1986-000634	4837.00	N
42	WCR0006829	5241.99	E
42	WCR2011-004001	5241.99	E
42	WCR1981-003267	5241.99	E
42	WCR2010-002768	5241.99	E
42	WCR2004-007635	5241.99	E
42	WCR2005-004606	5241.99	E
42	WCR0167059	5241.99	E
42	WCR0292326	5241.99	E
42	WCR0099096	5241.99	E
42	WCR0065377	5241.99	E
42	WCR0102935	5241.99	E
42	WCR0210415	5241.99	E
42	WCR0070152	5241.99	E
42	WCR1993-001178	5241.99	E
42	WCR2009-000931	5241.99	E
42	WCR1999-001485	5241.99	E
42	WCR2005-004559	5241.99	E
42	WCR1995-005546	5241.99	E
42	WCR2005-004564	5241.99	E
42	WCR2006-002721	5241.99	E
42	WCR2005-004563	5241.99	E
42	WCR2001-008553	5241.99	E
42	WCR2004-002412	5241.99	E
42	WCR2001-001732	5241.99	E
42	WCR1982-001061	5241.99	E
42	WCR2005-004583	5241.99	E
42	WCR1983-001909	5241.99	E
42	WCR1990-004552	5241.99	E
42	WCR1991-010315	5241.99	E
42	WCR1980-000812	5241.99	E
42	WCR1992-006520	5241.99	E
42	WCR1999-003925	5241.99	E
42	WCR1986-001608	5241.99	E
42	WCR1989-005006	5241.99	E

## Wells and Additional Sources Summary

42	WCR1995-005424	5241.99	E
42	WCR0137349	5241.99	E
42	WCR1998-001828	5241.99	E
42	WCR2007-000534	5241.99	E
42	WCR2003-001321	5241.99	E
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42	WCR0310596	5241.99	E
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42	WCR0286974	5241.99	E
42	WCR2000-002710	5241.99	E
42	WCR1983-001678	5241.99	E
42	WCR1996-003126	5241.99	E
42	WCR1984-003065	5241.99	E
42	WCR1986-001387	5241.99	E
42	WCR2005-004600	5241.99	E
42	WCR1999-001484	5241.99	E
42	WCR2007-000758	5241.99	E
42	WCR2005-004605	5241.99	E
42	WCR2008-004016	5241.99	E
42	WCR1985-004904	5241.99	E
42	WCR1980-000798	5241.99	E
42	WCR2001-008484	5241.99	E
42	WCR0260950	5241.99	E
42	WCR1980-003270	5241.99	E

# Wells and Additional Sources Detail Report

## Public Water Systems Violations and Enforcement Data

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
31	S	0.81	4,278.12	120.83	PWSV

Address Line 2: HIWAY 4 & LONE TREE WAY  
 State Code: CA  
 Zip Code:  
 City Name: BRENTWOOD  
 Address Line 1:  
 PWS ID: CA0707579  
 PWS Type Code: TNCWS  
 PWS Type Description: Transient Non-Community Water System  
 Primary Source Code: GW  
 Primary Source Desc: Groundwater  
 PWS Activity Code: I  
 PWS Activity Description: Inactive  
 PWS Deactivation Date: 01/11/1993  
 Phone Number:

--Details--

Population Served Count: 25  
 City Served:  
 County Served:  
 State Served: CA  
 Zip Code Served:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
41	SE	0.93	4,917.36	106.43	PWSV

Address Line 2: 6294 LONE TREE WAY  
 State Code: CA  
 Zip Code: 94514  
 City Name: BYRON  
 Address Line 1: PO BOX 175  
 PWS ID: CA0706022  
 PWS Type Code: TNCWS  
 PWS Type Description: Transient Non-Community Water System  
 Primary Source Code: GW  
 Primary Source Desc: Groundwater  
 PWS Activity Code: A  
 PWS Activity Description: Active  
 PWS Deactivation Date:  
 Phone Number: 925-634-3391





## Wells and Additional Sources Detail Report

Organiz Name:	USGS California Water Science Center	Aquifer Name:	Central Valley aquifer system
Well Depth:	80.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:	113	Provider Name:	NWIS
W Hole Depth Unit:	ft	County:	CONTRA COSTA
Construction Date:	19760615	Latitude:	37.96047828000000
Source Map Scale:	24000	Longitude:	-121.7385648000000
Monitoring Loc Name:	001N002E03K001M		
Monitoring Loc Identifier:	USGS-375738121441501		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	18040003		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	1		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	112.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	2.5		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Interpolated from topographic map.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
43	E	1.00	5,270.91	87.43	FED USGS

Organiz Identifier:	USGS-CA	Formation Type:	
Organiz Name:	USGS California Water Science Center	Aquifer Name:	
Well Depth:	65	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	CONTRA COSTA
Construction Date:		Latitude:	37.97583330000000
Source Map Scale:		Longitude:	-121.7230556000000
Monitoring Loc Name:	002N002E35Z001M MENDENHALL 1916		
Monitoring Loc Identifier:	USGS-375833121432301		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	18040003		
Drainage Area:			

# Wells and Additional Sources Detail Report

Drainage Area Unit:  
 Contrib Drainage Area:  
 Contrib Drainage Area Unit:  
 Horizontal Accuracy: Unknown  
 Horizontal Accuracy Unit: Unknown  
 Horizontal Collection Mthd: Calculated from land net  
 Horiz Coord Refer System: NAD83  
 Vertical Measure:  
 Vertical Measure Unit:  
 Vertical Accuracy:  
 Vertical Accuracy Unit:  
 Vertical Collection Mthd:  
 Vert Coord Refer System:

## Oil and Gas Wells

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
2	WNW	0.10	553.33	122.56	OGW

API No:	0401300282	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	06200
Well No:	1	Operator Name:	Neaves Petro. Developments
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	Any Field
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Neaves Mateas	Section:	34
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.97750092
Confidential:		Long83:	-121.74959564
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

## Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	E	0.30	1,563.17	92.93	OGW

API No:	0401320277	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	C0885
Well No:	1	Operator Name:	California Resources Production Corporation
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	GAS	District:	Northern
Well Type Desc:	GAS	Geo District:	
Well Symbol:	PluggedGAS	Field Code:	
Well Sym Desc:		Field Name:	River Break Gas
Release Date:		Area Code:	
Completion Date:		Area Name:	Main
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Nunn-Continente	Section:	34
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.97458649
Confidential:		Long83:	-121.73582458
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	GPS
Hydr Fractured:			
Location:			
Source83 Desc:	Global Positioning System - Coordinates derived from Division staff and Trimble GPS unit		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
6	SSE	0.37	1,961.22	124.17	OGW

API No:	0401320107	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	W1700
Well No:	2	Operator Name:	Western Continental Operating Company
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	

## Wells and Additional Sources Detail Report

Well Sym Desc:		Field Name:	Brentwood
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Napolitano	Section:	03
Elevation:		Township:	01N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.96813202
Confidential:		Long83:	-121.73988342
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	GPS
Hydr Fractured:			
Location:			
Source83 Desc:	Global Positioning System - Coordinates derived from Division staff and Trimble GPS unit		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
8	SE	0.41	2,150.60	107.93	OGW

API No:	0401320108	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	W1700
Well No:	3	Operator Name:	Western Continental Operating Company
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	Brentwood
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Napolitano	Section:	03
Elevation:		Township:	01N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.96818161
Confidential:		Long83:	-121.73782349
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			
Location:			

## Wells and Additional Sources Detail Report

Source83 Desc: Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps  
 URL:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
9	SW	0.44	2,298.29	137.58	OGW

API No:	0401300281	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	C5640
Well No:	1	Operator Name:	Chevron U.S.A. Inc.
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	Any Field
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Canada Community	Section:	34
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.97012329
Confidential:		Long83:	-121.75039673
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud

Source83 Desc: Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps  
 URL:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
10	ESE	0.44	2,304.90	93.60	OGW

API No:	0401320103	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	W1700
Well No:	1	Operator Name:	Western Continental Operating Company
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	GAS	District:	Northern



## Wells and Additional Sources Detail Report

Well Type Desc:	GAS	Geo District:	
Well Symbol:	PluggedGAS	Field Code:	
Well Sym Desc:		Field Name:	River Break Gas
Release Date:		Area Code:	
Completion Date:		Area Name:	Main
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Continente	Section:	34
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.97382355
Confidential:		Long83:	-121.7332077
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
12	S	0.50	2,661.76	121.45	OGW

API No:	0401300029	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	W1700
Well No:	4	Operator Name:	Western Continental Operating Company
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DG	District:	Northern
Well Type Desc:	DG	Geo District:	
Well Symbol:	PluggedDG	Field Code:	
Well Sym Desc:		Field Name:	Brentwood
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Napolitano	Section:	03
Elevation:		Township:	01N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.96658325
Confidential:		Long83:	-121.74468231
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	GPS

## Wells and Additional Sources Detail Report

Hydr Fractured:

Location:

Source83 Desc: Global Positioning System - Coordinates derived from Division staff and Trimble GPS unit

URL:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
13	N	0.53	2,821.42	94.85	OGW

API No: 0401320286

Directional:

All Well Key:

BLM Well:

OP Well ID:

EPA Well:

OID:

Operator Code: J1930

Well No: 1

Operator Name: Vern Jones Oil & Gas Corp.

Well Status: Plugged

Operator St:

Well Stat Desc: Plugged

County APIC:

Well Type: DH

District: Northern

Well Type Desc: Dry Hole

Geo District:

Well Symbol: PluggedDH

Field Code:

Well Sym Desc:

Field Name: Any Field

Release Date:

Area Code:

Completion Date:

Area Name: Any Area

Abandoned Date:

County Name: Contra Costa

Lease Name: Fleet-Rogers

Section: 27

Elevation:

Township: 02N

Total Depth:

Range: 02E

Redrilled Depth:

Lat27:

Redrill Cancel Flag:

Long27:

Dryhole:

Lat83: 37.98504257

Confidential:

Long83: -121.74252319

Confidential Well: No

Base Meridian: MD

Directional Drilled: No

GIS Source Code: GPS

Hydr Fractured:

Location:

Source83 Desc: Global Positioning System - Coordinates derived from Division staff and Trimble GPS unit

URL:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	E	0.54	2,869.44	96.19	OGW

API No: 0401320203

Directional:

All Well Key:

BLM Well:

OP Well ID:

EPA Well:

OID:

Operator Code: W1700

Well No: 1

Operator Name: Western Continental Operating Company

Well Status: Plugged

Operator St:

## Wells and Additional Sources Detail Report

Well Stat Desc:	Plugged	County APIC:	
Well Type:	GAS	District:	Northern
Well Type Desc:	GAS	Geo District:	
Well Symbol:	PluggedGAS	Field Code:	
Well Sym Desc:		Field Name:	River Break Gas
Release Date:		Area Code:	
Completion Date:		Area Name:	Main
Abandoned Date:		County Name:	Contra Costa
Lease Name:	NGC-McKinney	Section:	35
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.97712326
Confidential:		Long83:	-121.73204803
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
16	SW	0.54	2,871.05	188.05	OGW

API No:	0401300279	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	R1700
Well No:	1	Operator Name:	S. M. Reynolds, Opr.
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	Any Field
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Brazos-Canada	Section:	33
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.96970367
Confidential:		Long83:	-121.75404358

## Wells and Additional Sources Detail Report

Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	Yes	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
17	SE	0.59	3,132.88	102.74	OGW

API No:	0401300031	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	S3100
Well No:	2-3	Operator Name:	Shell Western E&P Inc.
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	Brentwood
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Continente	Section:	03
Elevation:		Township:	01N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.96744156
Confidential:		Long83:	-121.73348236
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
18	WSW	0.59	3,137.14	162.69	OGW

API No:	0401300280	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	S3100
Well No:	4-33	Operator Name:	Shell Western E&P Inc.

## Wells and Additional Sources Detail Report

Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	Any Field
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Canada	Section:	33
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.9732132
Confidential:		Long83:	-121.75868225
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	ESE	0.60	3,155.27	95.88	OGW

API No:	0401320201	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	N0600
Well No:	1-35	Operator Name:	Natural Gas Corp. of Calif.
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	River Break Gas
Release Date:		Area Code:	
Completion Date:		Area Name:	Main
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Western-Napolitano	Section:	35
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.97075272



# Wells and Additional Sources Detail Report

Confidential:	Long83:	-121.73090363
Confidential Well: No	Base Meridian:	MD
Directional Drilled: No	GIS Source Code:	hud
Hydr Fractured:		
Location:		
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps	
URL:		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
21	SW	0.64	3,379.76	146.07	OGW

API No: 0401300049	Directional:	
All Well Key:	BLM Well:	
OP Well ID:	EPA Well:	
OID:	Operator Code: S3100	
Well No: 21-4	Operator Name: Shell Western E&P Inc.	
Well Status: Plugged	Operator St:	
Well Stat Desc: Plugged	County APIC:	
Well Type: DH	District: Northern	
Well Type Desc: Dry Hole	Geo District:	
Well Symbol: PluggedDH	Field Code:	
Well Sym Desc:	Field Name: Brentwood	
Release Date:	Area Code:	
Completion Date:	Area Name: Any Area	
Abandoned Date:	County Name: Contra Costa	
Lease Name: Heidorn	Section: 04	
Elevation:	Township: 01N	
Total Depth:	Range: 02E	
Redrilled Depth:	Lat27:	
Redrill Cancel Flag:	Long27:	
Dryhole:	Lat83: 37.96759033	
Confidential:	Long83: -121.75270844	
Confidential Well: No	Base Meridian: MD	
Directional Drilled: No	GIS Source Code: hud	
Hydr Fractured:		
Location:		
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps	
URL:		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
22	NE	0.66	3,496.91	97.88	OGW

API No: 0401320200	Directional:
All Well Key:	BLM Well:
OP Well ID:	EPA Well:
OID:	Operator Code: N0600

## Wells and Additional Sources Detail Report

Well No:	1-34	Operator Name:	Natural Gas Corp. of Calif.
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	River Break Gas
Release Date:		Area Code:	
Completion Date:		Area Name:	Main
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Western-Berg	Section:	34
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.98180389
Confidential:		Long83:	-121.73310852
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
23	S	0.72	3,795.37	118.88	OGW

API No:	0401320026	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	W1700
Well No:	1	Operator Name:	Western Continental Operating Company
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DG	District:	Northern
Well Type Desc:	DG	Geo District:	
Well Symbol:	PluggedDG	Field Code:	
Well Sym Desc:		Field Name:	Brentwood
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Transamerica	Section:	03
Elevation:		Township:	01N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	

## Wells and Additional Sources Detail Report

Dryhole:	Lat83:	37.9630127
Confidential:	Long83:	-121.74250793
Confidential Well: No	Base Meridian:	MD
Directional Drilled: No	GIS Source Code:	hud
Hydr Fractured:		
Location:		
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps	
URL:		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
25	S	0.73	3,849.87	121.54	OGW

API No: 0401320187	Directional:
All Well Key:	BLM Well:
OP Well ID:	EPA Well:
OID:	Operator Code: N0600
Well No: 2	Operator Name: Natural Gas Corp. of Calif.
Well Status: Plugged	Operator St:
Well Stat Desc: Plugged	County APIC:
Well Type: DH	District: Northern
Well Type Desc: Dry Hole	Geo District:
Well Symbol: PluggedDH	Field Code:
Well Sym Desc:	Field Name: Brentwood
Release Date:	Area Code:
Completion Date:	Area Name: Any Area
Abandoned Date:	County Name: Contra Costa
Lease Name: Transamerica	Section: 03
Elevation:	Township: 01N
Total Depth:	Range: 02E
Redrilled Depth:	Lat27:
Redrill Cancel Flag:	Long27:
Dryhole:	Lat83: 37.96323395
Confidential:	Long83: -121.74502563
Confidential Well: No	Base Meridian: MD
Directional Drilled: No	GIS Source Code: GPS
Hydr Fractured:	
Location:	
Source83 Desc:	Global Positioning System - Coordinates derived from Division staff and Trimble GPS unit
URL:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	SW	0.76	4,007.93	134.42	OGW

API No: 0401300046	Directional:
All Well Key:	BLM Well:
OP Well ID:	EPA Well:

# Wells and Additional Sources Detail Report

OID:	Operator Code: S3100
Well No: 1	Operator Name: Shell Western E&P Inc.
Well Status: Plugged	Operator St:
Well Stat Desc: Plugged	County APIC:
Well Type: DH	District: Northern
Well Type Desc: Dry Hole	Geo District:
Well Symbol: PluggedDH	Field Code:
Well Sym Desc:	Field Name: Brentwood
Release Date:	Area Code:
Completion Date:	Area Name: Any Area
Abandoned Date:	County Name: Contra Costa
Lease Name: Heidorn	Section: 04
Elevation:	Township: 01N
Total Depth:	Range: 02E
Redrilled Depth:	Lat27:
Redrill Cancel Flag:	Long27:
Dryhole:	Lat83: 37.96656418
Confidential:	Long83: -121.75509644
Confidential Well: No	Base Meridian: MD
Directional Drilled: No	GIS Source Code: hud
Hydr Fractured:	
Location:	
Source83 Desc: Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps	
URL:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
28	NE	0.76	4,038.14	61.76	OGW

API No: 0401320015	Directional:
All Well Key:	BLM Well:
OP Well ID:	EPA Well:
OID:	Operator Code: G3200
Well No: 1	Operator Name: Great Yellowstone Corp.
Well Status: Plugged	Operator St:
Well Stat Desc: Plugged	County APIC:
Well Type: DH	District: Northern
Well Type Desc: Dry Hole	Geo District:
Well Symbol: PluggedDH	Field Code:
Well Sym Desc:	Field Name: River Break Gas
Release Date:	Area Code:
Completion Date:	Area Name: Main
Abandoned Date:	County Name: Contra Costa
Lease Name: Heaney	Section: 27
Elevation:	Township: 02N
Total Depth:	Range: 02E
Redrilled Depth:	Lat27:

## Wells and Additional Sources Detail Report

Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.98504257
Confidential:		Long83:	-121.73448181
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	SSE	0.78	4,104.12	117.89	OGW

API No:	0401320323	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	W1700
Well No:	3	Operator Name:	Western Continental Operating Company
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	Brentwood
Release Date:		Area Code:	
Completion Date:		Area Name:	Any Area
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Transamerica	Section:	03
Elevation:		Township:	01N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.96212387
Confidential:		Long83:	-121.74114227
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	Yes	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
34	ENE	0.84	4,460.99	76.31	OGW

API No:	0401320134	Directional:	
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## Wells and Additional Sources Detail Report

All Well Key:	BLM Well:
OP Well ID:	EPA Well:
OID:	Operator Code: W1700
Well No: 1	Operator Name: Western Continental Operating Company
Well Status: Plugged	Operator St:
Well Stat Desc: Plugged	County APIC:
Well Type: GAS	District: Northern
Well Type Desc: GAS	Geo District:
Well Symbol: PluggedGAS	Field Code:
Well Sym Desc:	Field Name: River Break Gas
Release Date:	Area Code:
Completion Date:	Area Name: Main
Abandoned Date:	County Name: Contra Costa
Lease Name: Audrey Smith	Section: 35
Elevation:	Township: 02N
Total Depth:	Range: 02E
Redrilled Depth:	Lat27:
Redrill Cancel Flag:	Long27:
Dryhole:	Lat83: 37.98121262
Confidential:	Long83: -121.7286377
Confidential Well: No	Base Meridian: MD
Directional Drilled: No	GIS Source Code: hud
Hydr Fractured:	
Location:	
Source83 Desc: Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps	
URL:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
35	ESE	0.88	4,633.66	94.27	OGW

API No: 0401300252	Directional:
All Well Key:	BLM Well:
OP Well ID:	EPA Well:
OID:	Operator Code: S3100
Well No: 1	Operator Name: Shell Western E&P Inc.
Well Status: Plugged	Operator St:
Well Stat Desc: Plugged	County APIC:
Well Type: DH	District: Northern
Well Type Desc: Dry Hole	Geo District:
Well Symbol: PluggedDH	Field Code:
Well Sym Desc:	Field Name: River Break Gas
Release Date:	Area Code:
Completion Date:	Area Name: South
Abandoned Date:	County Name: Contra Costa
Lease Name: Carpenter	Section: 02
Elevation:	Township: 01N

## Wells and Additional Sources Detail Report

Total Depth:	Range:	02E
Redrilled Depth:	Lat27:	
Redrill Cancel Flag:	Long27:	
Dryhole:	Lat83:	37.96786118
Confidential:	Long83:	-121.72685242
Confidential Well: No	Base Meridian:	MD
Directional Drilled: No	GIS Source Code:	hud
Hydr Fractured:		
Location:		
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps	
URL:		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
36	NE	0.90	4,735.78	65.35	OGW

API No:	0401320003	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	G3200
Well No:	1	Operator Name:	Great Yellowstone Corp.
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	GAS	District:	Northern
Well Type Desc:	GAS	Geo District:	
Well Symbol:	PluggedGAS	Field Code:	
Well Sym Desc:		Field Name:	River Break Gas
Release Date:		Area Code:	
Completion Date:		Area Name:	Main
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Winger	Section:	26
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.9859314
Confidential:		Long83:	-121.73204803
Confidential Well: No		Base Meridian:	MD
Directional Drilled: No		GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
40	NE	0.92	4,879.85	50.90	OGW

# Wells and Additional Sources Detail Report

API No:	0401300276	Directional:	
All Well Key:		BLM Well:	
OP Well ID:		EPA Well:	
OID:		Operator Code:	G2900
Well No:	1-26	Operator Name:	Great Basins Petroleum Co.
Well Status:	Plugged	Operator St:	
Well Stat Desc:	Plugged	County APIC:	
Well Type:	DH	District:	Northern
Well Type Desc:	Dry Hole	Geo District:	
Well Symbol:	PluggedDH	Field Code:	
Well Sym Desc:		Field Name:	River Break Gas
Release Date:		Area Code:	
Completion Date:		Area Name:	Main
Abandoned Date:		County Name:	Contra Costa
Lease Name:	Shell-Winger	Section:	26
Elevation:		Township:	02N
Total Depth:		Range:	02E
Redrilled Depth:		Lat27:	
Redrill Cancel Flag:		Long27:	
Dryhole:		Lat83:	37.98477173
Confidential:		Long83:	-121.72994232
Confidential Well:	No	Base Meridian:	MD
Directional Drilled:	No	GIS Source Code:	hud
Hydr Fractured:			
Location:			
Source83 Desc:	Heads Up Digitized - Coordinates generated from scanned, geo-referenced, static scale, Mylar maps		
URL:			

## Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No:	WCR0128698	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude:	37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude:	-121.74157		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No:	WCR0242179	City(OSWCR):	None
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## Wells and Additional Sources Detail Report

City:	County(OSWCR):	Contra Costa
County: Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude: 37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude: -121.74157	Location:	
Location(OSWCR):	None	
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No: WCR2008-002919	City(OSWCR):	OAKLEY
City: OAKLEY	County(OSWCR):	Contra Costa
County: Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude: 37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude: -121.74157	Location:	
Location: 3760 NEROLY RD	3760 NEROLY RD	
Location(OSWCR): 3760 NEROLY RD	Original Source:	
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No: WCR0213115	City(OSWCR):	None
City:	County(OSWCR):	Contra Costa
County: Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude: 37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude: -121.74157	Location:	
Location: Location(OSWCR):	None	
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No: WCR2009-007073	City(OSWCR):	OAKLEY
City: OAKLEY	County(OSWCR):	Contra Costa
County: Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude: 37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude: -121.74157	Location:	
Location: 3919 EMPIRE AVE	3919 EMPIRE AVE	
Location(OSWCR): 3919 EMPIRE AVE	Original Source:	
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports	

# Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No: WCR2008-002917      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97601  
 Decimal Latitude: 37.97601      Decim Long(OSWCR): -121.74157  
 Decimal Longitude: -121.74157  
 Location: 3760 NEROLY RD  
 Location(OSWCR): 3760 NEROLY RD  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No: WCR0006397      City(OSWCR): None  
 City:      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97601  
 Decimal Latitude: 37.97601      Decim Long(OSWCR): -121.74157  
 Decimal Longitude: -121.74157  
 Location:      Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No: WCR0044770      City(OSWCR): None  
 City:      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97601  
 Decimal Latitude: 37.97601      Decim Long(OSWCR): -121.74157  
 Decimal Longitude: -121.74157  
 Location:      Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No: WCR0019695      City(OSWCR): None  
 City:      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97601





# Wells and Additional Sources Detail Report

1                    E                    0.06                    301.30                    108.73                    WATER WELLS

WCR No:                    WCR0120784                    City(OSWCR):                    None  
 City:                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97601  
 Decimal Latitude:                    37.97601                    Decim Long(OSWCR):                    -121.74157  
 Decimal Longitude:                    -121.74157  
 Location:  
 Location(OSWCR):                    None  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

1                    E                    0.06                    301.30                    108.73                    WATER WELLS

WCR No:                    WCR2003-001376                    City(OSWCR):                    OAKLEY  
 City:                    OAKLEY                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97601  
 Decimal Latitude:                    37.97601                    Decim Long(OSWCR):                    -121.74157  
 Decimal Longitude:                    -121.74157  
 Location:                    600 BEDFORD LN  
 Location(OSWCR):                    600 BEDFORD LN  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

1                    E                    0.06                    301.30                    108.73                    WATER WELLS

WCR No:                    WCR1991-003426                    City(OSWCR):                    OAKLEY  
 City:                    OAKLEY                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97601  
 Decimal Latitude:                    37.97601                    Decim Long(OSWCR):                    -121.74157  
 Decimal Longitude:                    -121.74157  
 Location:                    3760 NEROLY RD  
 Location(OSWCR):                    3760 NEROLY RD  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

1                    E                    0.06                    301.30                    108.73                    WATER WELLS

WCR No:                    WCR2008-002916                    City(OSWCR):                    OAKLEY  
 City:                    OAKLEY                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97601  
 Decimal Latitude:                    37.97601                    Decim Long(OSWCR):                    -121.74157  
 Decimal Longitude:                    -121.74157

## Wells and Additional Sources Detail Report

Location: 3760 NEROLY RD  
 Location(OSWCR): 3760 NEROLY RD  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
1	E	0.06	301.30	108.73	WATER WELLS

WCR No: WCR1989-011986      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97601  
 Decimal Latitude: 37.97601      Decim Long(OSWCR): -121.74157  
 Decimal Longitude: -121.74157  
 Location:  
 Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
1	E	0.06	301.30	108.73	WATER WELLS

WCR No: WCR0030326      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97601  
 Decimal Latitude: 37.97601      Decim Long(OSWCR): -121.74157  
 Decimal Longitude: -121.74157  
 Location: LAUREL RD & EMPIRE AVE  
 Location(OSWCR): LAUREL RD & EMPIRE AVE  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
1	E	0.06	301.30	108.73	WATER WELLS

WCR No: WCR1993-005675      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97601  
 Decimal Latitude: 37.97601      Decim Long(OSWCR): -121.74157  
 Decimal Longitude: -121.74157  
 Location: 2419 LAUREL RD  
 Location(OSWCR): 2419 LAUREL RD  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
1	E	0.06	301.30	108.73	WATER WELLS

## Wells and Additional Sources Detail Report

WCR No:	WCR2007-002357	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude:	37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude:	-121.74157		
Location:	3991 EMPIRE RD		
Location(OSWCR):	3991 EMPIRE RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No:	WCR2008-002918	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude:	37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude:	-121.74157		
Location:	3760 NEROLY RD		
Location(OSWCR):	3760 NEROLY RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No:	WCR2009-007072	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude:	37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude:	-121.74157		
Location:	3919 EMPIRE AVE		
Location(OSWCR):	3919 EMPIRE AVE		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	E	0.06	301.30	108.73	WATER WELLS

WCR No:	WCR2003-007803	City(OSWCR):	ANTIOCH
City:	ANTIOCH	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude:	37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude:	-121.74157		
Location:			
Location(OSWCR):	None		

## Wells and Additional Sources Detail Report

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
1	E	0.06	301.30	108.73	WATER WELLS

WCR No:	WCR0153895	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude:	37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude:	-121.74157		
Location:	LAUREL RD & EMPIRE AVE		
Location(OSWCR):	LAUREL RD & EMPIRE AVE		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
1	E	0.06	301.30	108.73	WATER WELLS

WCR No:	WCR1988-004737	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude:	37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude:	-121.74157		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
1	E	0.06	301.30	108.73	WATER WELLS

WCR No:	WCR0030686	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97601
Decimal Latitude:	37.97601	Decim Long(OSWCR):	-121.74157
Decimal Longitude:	-121.74157		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
3	SSE	0.22	1,147.38	162.21	WATER WELLS

WCR No:	WCR2005-005102	City(OSWCR):	None
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## Wells and Additional Sources Detail Report

City:	County(OSWCR):	Contra Costa
County:	Decimal Lat(OSWCR):	37.9705556
Decimal Latitude:	Decim Long(OSWCR):	-121.7430556
Decimal Longitude:	Location:	RT 4 BYPASS
Location:	Location(OSWCR):	RT 4 BYPASS
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
5	E	0.37	1,960.01	90.99	WATER WELLS

WCR No:	WCR2013-006473	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9766667
Decimal Latitude:	37.9766667	Decim Long(OSWCR):	-121.7352778
Decimal Longitude:	-121.7352778	Location:	3540 NEROLY RD
Location:	3540 NEROLY RD	Location(OSWCR):	3540 NEROLY RD
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
7	N	0.40	2,129.75	83.64	WATER WELLS

WCR No:	WCR2018-007341	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9834371
Decimal Latitude:	37.9834371	Decim Long(OSWCR):	-121.7441504
Decimal Longitude:	-121.7441504	Location:	
Location:		Location(OSWCR):	None
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	E	0.49	2,583.07	92.35	WATER WELLS

WCR No:	WCR2018-012609	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	
Decimal Latitude:		Decim Long(OSWCR):	
Decimal Longitude:		Location:	3410 EMPIRE RD
Location:	3410 EMPIRE RD	Location(OSWCR):	3410 EMPIRE RD
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

## Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	NE	0.54	2,832.12	88.24	WATER WELLS

WCR No: WCR0200043 City(OSWCR): OAKLEY  
 City: OAKLEY County(OSWCR): Contra Costa  
 County: Contra Costa Decimal Lat(OSWCR): 37.98258647  
 Decimal Latitude: 37.9825864737 Decim Long(OSWCR): -121.73730203  
 Decimal Longitude: -121.737302025  
 Location: 2289 LAUREL ROAD  
 Location(OSWCR): 2289 LAUREL ROAD  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
20	W	0.63	3,300.20	216.01	WATER WELLS

WCR No: WCR1988-004677 City(OSWCR): ANTIOCH  
 City: ANTIOCH County(OSWCR): Contra Costa  
 County: Contra Costa Decimal Lat(OSWCR): 37.9759  
 Decimal Latitude: 37.9759 Decim Long(OSWCR): -121.75994  
 Decimal Longitude: -121.75994  
 Location:  
 Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
20	W	0.63	3,300.20	216.01	WATER WELLS

WCR No: WCR0260949 City(OSWCR): None  
 City: County(OSWCR): Contra Costa  
 County: Contra Costa Decimal Lat(OSWCR): 37.9759  
 Decimal Latitude: 37.9759 Decim Long(OSWCR): -121.75994  
 Decimal Longitude: -121.75994  
 Location:  
 Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
20	W	0.63	3,300.20	216.01	WATER WELLS

WCR No: WCR0167057 City(OSWCR): None  
 City: County(OSWCR): Contra Costa  
 County: Contra Costa Decimal Lat(OSWCR): 37.9759



## Wells and Additional Sources Detail Report

20                      W                      0.63                      3,300.20                      216.01                      WATER WELLS

WCR No:                      WCR1988-004676                      City(OSWCR):                      ANTIOCH  
 City:                      ANTIOCH                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.9759  
 Decimal Latitude:                      37.9759                      Decim Long(OSWCR):                      -121.75994  
 Decimal Longitude:                      -121.75994  
 Location:  
 Location(OSWCR):                      None  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

24                      NE                      0.72                      3,799.67                      87.03                      WATER WELLS

WCR No:                      WCR2005-004818                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.9833333  
 Decimal Latitude:                      37.9833333                      Decim Long(OSWCR):                      -121.7333333  
 Decimal Longitude:                      -121.7333333  
 Location:                      3760 NEROLY RD  
 Location(OSWCR):                      3760 NEROLY RD  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

27                      NE                      0.76                      4,018.23                      81.38                      WATER WELLS

WCR No:                      WCR0050383                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.98278307  
 Decimal Latitude:                      37.9827830745                      Decim Long(OSWCR):                      -121.73177125  
 Decimal Longitude:                      -121.731771246  
 Location:                      3980 EMPIRE ROAD  
 Location(OSWCR):                      3980 EMPIRE ROAD  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

29                      SE                      0.77                      4,077.10                      104.16                      WATER WELLS

WCR No:                      WCR2018-007020                      City(OSWCR):                      Brentwod  
 City:                      Brentwod                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):  
 Decimal Latitude:                      Decim Long(OSWCR):  
 Decimal Longitude:





## Wells and Additional Sources Detail Report

WCR No:	WCR2000-000010	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	BRENTWOOD OIL AND GAS FIELD_		
Location(OSWCR):	BRENTWOOD OIL AND GAS FIELD_		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR0281309	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	NOT AVAILABLE LONE TREE RD-1/8MI WEST OF		
Location(OSWCR):	NOT AVAILABLE LONE TREE RD-1/8MI WEST OF		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR0246998	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR1986-002157	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:			
Location(OSWCR):	None		

## Wells and Additional Sources Detail Report

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR1991-002144	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	2401 SAHDY WILLOW LN		
Location(OSWCR):	2401 SAHDY WILLOW LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR1986-000898	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR2003-001242	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	6294 LONE TREE		
Location(OSWCR):	6294 LONE TREE		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR2000-000030	City(OSWCR):	BRENTWOOD
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## Wells and Additional Sources Detail Report

City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	BRENTWOOD OIL AND GAS FIELD_		
Location(OSWCR):	BRENTWOOD OIL AND GAS FIELD_		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR2000-002701	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	6651 LONE TREE WAY		
Location(OSWCR):	6651 LONE TREE WAY		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR0084255	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR0030087	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

## Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR0137336	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR0318848	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR2003-001369	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	2400 SHADY WILLOW LN		
Location(OSWCR):	2400 SHADY WILLOW LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR0010968	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615





## Wells and Additional Sources Detail Report

32                    S                    0.82                    4,331.59                    118.70                    WATER WELLS

WCR No:                    WCR2004-004651                    City(OSWCR):                    BRENTWOOD  
 City:                    BRENTWOOD                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.9615  
 Decimal Latitude:                    37.9615                    Decim Long(OSWCR):                    -121.7416  
 Decimal Longitude:                    -121.7416  
 Location:                    6390 LONE TREE WAY  
 Location(OSWCR):                    6390 LONE TREE WAY  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

32                    S                    0.82                    4,331.59                    118.70                    WATER WELLS

WCR No:                    WCR2000-000029                    City(OSWCR):                    BRENTWOOD  
 City:                    BRENTWOOD                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.9615  
 Decimal Latitude:                    37.9615                    Decim Long(OSWCR):                    -121.7416  
 Decimal Longitude:                    -121.7416  
 Location:                    BRENTWOOD OIL AND GAS FIELD\_  
 Location(OSWCR):                    BRENTWOOD OIL AND GAS FIELD\_  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

32                    S                    0.82                    4,331.59                    118.70                    WATER WELLS

WCR No:                    WCR2002-001483                    City(OSWCR):                    BRENTWOOD  
 City:                    BRENTWOOD                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.9615  
 Decimal Latitude:                    37.9615                    Decim Long(OSWCR):                    -121.7416  
 Decimal Longitude:                    -121.7416  
 Location:                    2401 SHADY WILLOW LN  
 Location(OSWCR):                    2401 SHADY WILLOW LN  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

32                    S                    0.82                    4,331.59                    118.70                    WATER WELLS

WCR No:                    WCR0301249                    City(OSWCR):                    BRENTWOOD  
 City:                    BRENTWOOD                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.9615  
 Decimal Latitude:                    37.9615                    Decim Long(OSWCR):                    -121.7416  
 Decimal Longitude:                    -121.7416

## Wells and Additional Sources Detail Report

Location:

Location(OSWCR): None

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No: WCR2000-000012 City(OSWCR): BRENTWOOD

City: BRENTWOOD County(OSWCR): Contra Costa

County: Contra Costa Decimal Lat(OSWCR): 37.9615

Decimal Latitude: 37.9615 Decim Long(OSWCR): -121.7416

Decimal Longitude: -121.7416

Location: BRENTWOOD OIL AND GAS FIELD\_

Location(OSWCR): BRENTWOOD OIL AND GAS FIELD\_

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No: WCR1989-012042 City(OSWCR): BRENTWOOD

City: BRENTWOOD County(OSWCR): Contra Costa

County: Contra Costa Decimal Lat(OSWCR): 37.9615

Decimal Latitude: 37.9615 Decim Long(OSWCR): -121.7416

Decimal Longitude: -121.7416

Location:

Location(OSWCR): None

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No: WCR2000-000035 City(OSWCR): BRENTWOOD

City: BRENTWOOD County(OSWCR): Contra Costa

County: Contra Costa Decimal Lat(OSWCR): 37.9615

Decimal Latitude: 37.9615 Decim Long(OSWCR): -121.7416

Decimal Longitude: -121.7416

Location: BRENTWOOD OIL AND GAS FIELD\_

Location(OSWCR): BRENTWOOD OIL AND GAS FIELD\_

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

## Wells and Additional Sources Detail Report

WCR No:	WCR2002-003777	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	6531 LONE TREE WAY		
Location(OSWCR):	6531 LONE TREE WAY		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR1987-007070	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR1996-005684	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	SE OF LONE TREE AND JEFFREY		
Location(OSWCR):	SE OF LONE TREE AND JEFFREY		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR2004-004654	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	2310 SHADY WILLOW LANE		
Location(OSWCR):	2310 SHADY WILLOW LANE		

## Wells and Additional Sources Detail Report

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR1996-005683	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	SE OF LONE TREE AND JEFFREY		
Location(OSWCR):	SE OF LONE TREE AND JEFFREY		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR1997-001161	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	JEFFREY WAYAMBER LN & LOS VAQUEROS		
Location(OSWCR):	JEFFREY WAYAMBER LN & LOS VAQUEROS		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR2000-000032	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	BRENTWOOD OIL AND GAS FIELD_		
Location(OSWCR):	BRENTWOOD OIL AND GAS FIELD_		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR2000-000011	City(OSWCR):	BRENTWOOD
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## Wells and Additional Sources Detail Report

City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	BRENTWOOD OIL AND GAS FIELD_		
Location(OSWCR):	BRENTWOOD OIL AND GAS FIELD_		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR1985-003436	City(OSWCR):	ANTIOCH
City:	ANTIOCH	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR1986-001377	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No:	WCR2002-001123	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9615
Decimal Latitude:	37.9615	Decim Long(OSWCR):	-121.7416
Decimal Longitude:	-121.7416		
Location:	6890 LONE TREE WAY_		
Location(OSWCR):	6890 LONE TREE WAY_		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		



## Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No: WCR1997-001160 City(OSWCR): BRENTWOOD  
 City: BRENTWOOD County(OSWCR): Contra Costa  
 County: Contra Costa Decimal Lat(OSWCR): 37.9615  
 Decimal Latitude: 37.9615 Decim Long(OSWCR): -121.7416  
 Decimal Longitude: -121.7416  
 Location: JEFFREY WAYAMBER LANE & LOS VAQUERO  
 Location(OSWCR): JEFFREY WAYAMBER LANE & LOS VAQUERO  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No: WCR2006-002703 City(OSWCR): BRENTWOOD  
 City: BRENTWOOD County(OSWCR): Contra Costa  
 County: Contra Costa Decimal Lat(OSWCR): 37.9615  
 Decimal Latitude: 37.9615 Decim Long(OSWCR): -121.7416  
 Decimal Longitude: -121.7416  
 Location: 2420 SHADY WILLOW LN  
 Location(OSWCR): 2420 SHADY WILLOW LN  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No: WCR0210401 City(OSWCR): None  
 City: County(OSWCR): Contra Costa  
 County: Contra Costa Decimal Lat(OSWCR): 37.9615  
 Decimal Latitude: 37.9615 Decim Long(OSWCR): -121.7416  
 Decimal Longitude: -121.7416  
 Location:  
 Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.82	4,331.59	118.70	WATER WELLS

WCR No: WCR1989-011992 City(OSWCR): BRENTWOOD  
 City: BRENTWOOD County(OSWCR): Contra Costa  
 County: Contra Costa Decimal Lat(OSWCR): 37.9615



# Wells and Additional Sources Detail Report

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR1993-005233                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152  
 Location:                      4770 LIVE OAK RD  
 Location(OSWCR):                      4770 LIVE OAK RD  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR2002-003760                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152  
 Location:                      LARIAT LN  
 Location(OSWCR):                      LARIAT LN  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR0290656                      City(OSWCR):                      None  
 City:                                           County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152  
 Location:                                           Location(OSWCR):                      None  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR2004-002546                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152

## Wells and Additional Sources Detail Report

Location: 300 BEDFORD LN  
 Location(OSWCR): 300 BEDFORD LN  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No: WCR1988-006416      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.99055  
 Decimal Latitude: 37.99055      Decim Long(OSWCR): -121.74152  
 Decimal Longitude: -121.74152  
 Location:  
 Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No: WCR0256729      City(OSWCR): None  
 City:      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.99055  
 Decimal Latitude: 37.99055      Decim Long(OSWCR): -121.74152  
 Decimal Longitude: -121.74152  
 Location:  
 Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No: WCR2003-001675      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.99055  
 Decimal Latitude: 37.99055      Decim Long(OSWCR): -121.74152  
 Decimal Longitude: -121.74152  
 Location: 4430 LIVE OAK AVE  
 Location(OSWCR): 4430 LIVE OAK AVE  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

## Wells and Additional Sources Detail Report

WCR No:	WCR1993-006004	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	2974 TERRA VERDE LN		
Location(OSWCR):	2974 TERRA VERDE LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR0148015	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR0084463	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	CORNER OF NEROLY LIVE OAK & LAURA		
Location(OSWCR):	CORNER OF NEROLY LIVE OAK & LAURA		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR0084464	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		



## Wells and Additional Sources Detail Report

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR0099092	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	YES		
Location(OSWCR):	YES		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1995-005386	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	NERLY RD		
Location(OSWCR):	NERLY RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR2003-001327	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	4430 LIVE OAK AVE		
Location(OSWCR):	4430 LIVE OAK AVE		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR2002-001163	City(OSWCR):	OAKLEY
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## Wells and Additional Sources Detail Report

City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	400 BEDFORD LN		
Location(OSWCR):	400 BEDFORD LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR2002-003790	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	NEROLY D		
Location(OSWCR):	NEROLY D		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1981-003263	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1987-004266	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

## Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1992-006230	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	2910 REGAL CT		
Location(OSWCR):	2910 REGAL CT		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR2003-001240	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	37 BEDFORD LN		
Location(OSWCR):	37 BEDFORD LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1997-002081	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	4521 LIVE OAK AVENUE		
Location(OSWCR):	4521 LIVE OAK AVENUE		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1993-004947	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055



## Wells and Additional Sources Detail Report

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR2007-000766                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152  
 Location:                      4762 HAGAR CT  
 Location(OSWCR):                      4762 HAGAR CT  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR2003-001244                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152  
 Location:                      431 BEDFORD LN  
 Location(OSWCR):                      431 BEDFORD LN  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR1999-002022                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152  
 Location:                      4501 LIVE OAK AVE  
 Location(OSWCR):                      4501 LIVE OAK AVE  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR2000-002736                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152



## Wells and Additional Sources Detail Report

Location: 400 TATE LN  
 Location(OSWCR): 400 TATE LN  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No: WCR2005-004527      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.99055  
 Decimal Latitude: 37.99055      Decim Long(OSWCR): -121.74152  
 Decimal Longitude: -121.74152  
 Location: 4600 LARIAT LN  
 Location(OSWCR): 4600 LARIAT LN  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No: WCR1996-005693      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.99055  
 Decimal Latitude: 37.99055      Decim Long(OSWCR): -121.74152  
 Decimal Longitude: -121.74152  
 Location: 10 NUT TREE LN  
 Location(OSWCR): 10 NUT TREE LN  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No: WCR1983-001504      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.99055  
 Decimal Latitude: 37.99055      Decim Long(OSWCR): -121.74152  
 Decimal Longitude: -121.74152  
 Location:  
 Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

## Wells and Additional Sources Detail Report

WCR No:	WCR1988-006475	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR0103462	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1991-002147	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	2925 TERRA VERDE LN		
Location(OSWCR):	2925 TERRA VERDE LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1994-001989	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	CROCKETT NEIGHBORHOOD PARK		
Location(OSWCR):	CROCKETT NEIGHBORHOOD PARK		

## Wells and Additional Sources Detail Report

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR2006-001492	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	4524 ORCHARD OAKS CT		
Location(OSWCR):	4524 ORCHARD OAKS CT		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR2006-000892	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	24 W CYPRESS PLACE		
Location(OSWCR):	24 W CYPRESS PLACE		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1988-003464	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR2003-003698	City(OSWCR):	OAKLEY
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## Wells and Additional Sources Detail Report

City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	511 BEDFORD LN		
Location(OSWCR):	511 BEDFORD LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR2008-003990	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	4790 KNARLWOOD ROAD		
Location(OSWCR):	4790 KNARLWOOD ROAD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1999-003937	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	4060 LIVE OAK		
Location(OSWCR):	4060 LIVE OAK		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1992-006222	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	2910 REGAL CT		
Location(OSWCR):	2910 REGAL CT		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

## Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR0247019	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR0219971	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1986-006000	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1990-005198	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055





## Wells and Additional Sources Detail Report

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR1980-003271                      City(OSWCR):                      BRENTWOOD  
 City:                      BRENTWOOD                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152  
 Location:  
 Location(OSWCR):                      None  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR1993-006003                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152  
 Location:                      2974 TERRA VERDE LN  
 Location(OSWCR):                      2974 TERRA VERDE LN  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR1991-002131                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152  
 Location:                      4670 LARIAT LN  
 Location(OSWCR):                      4670 LARIAT LN  
 Original Source:                      California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                      Direction                      Distance (mi)                      Distance (ft)                      Elevation (ft)                      DB**

38                      N                      0.91                      4,825.35                      69.40                      WATER WELLS

WCR No:                      WCR1983-001430                      City(OSWCR):                      OAKLEY  
 City:                      OAKLEY                      County(OSWCR):                      Contra Costa  
 County:                      Contra Costa                      Decimal Lat(OSWCR):                      37.99055  
 Decimal Latitude:                      37.99055                      Decim Long(OSWCR):                      -121.74152  
 Decimal Longitude:                      -121.74152

## Wells and Additional Sources Detail Report

Location:

Location(OSWCR): None

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No: WCR2005-004557

City(OSWCR): OAKLEY

City: OAKLEY

County(OSWCR): Contra Costa

County: Contra Costa

Decimal Lat(OSWCR): 37.99055

Decimal Latitude: 37.99055

Decim Long(OSWCR): -121.74152

Decimal Longitude: -121.74152

Location: 4610 LARIAT LANE

Location(OSWCR): 4610 LARIAT LANE

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No: WCR2001-001771

City(OSWCR): OAKLEY

City: OAKLEY

County(OSWCR): Contra Costa

County: Contra Costa

Decimal Lat(OSWCR): 37.99055

Decimal Latitude: 37.99055

Decim Long(OSWCR): -121.74152

Decimal Longitude: -121.74152

Location: 4461 LIVE OAK AVE

Location(OSWCR): 4461 LIVE OAK AVE

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No: WCR2004-004673

City(OSWCR): OAKLEY

City: OAKLEY

County(OSWCR): Contra Costa

County: Contra Costa

Decimal Lat(OSWCR): 37.99055

Decimal Latitude: 37.99055

Decim Long(OSWCR): -121.74152

Decimal Longitude: -121.74152

Location: 5497 NEROLY RD

Location(OSWCR): 5497 NEROLY RD

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

## Wells and Additional Sources Detail Report

WCR No:	WCR2000-002734	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	2945 TERRA VERDE LN		
Location(OSWCR):	2945 TERRA VERDE LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1993-007274	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	200 BEDFORD LN		
Location(OSWCR):	200 BEDFORD LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1988-006411	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1999-002024	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	2275 GUM TREE RD		
Location(OSWCR):	2275 GUM TREE RD		

## Wells and Additional Sources Detail Report

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1980-003673	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1980-000785	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR2005-002764	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	4527 ORCHARD OAKS CT		
Location(OSWCR):	4527 ORCHARD OAKS CT		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1991-002154	City(OSWCR):	OAKLEY
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## Wells and Additional Sources Detail Report

City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	4580 LARIAT LN		
Location(OSWCR):	4580 LARIAT LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR1990-004849	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	2356 STIRRUP		
Location(OSWCR):	2356 STIRRUP		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	N	0.91	4,825.35	69.40	WATER WELLS

WCR No:	WCR2003-001323	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.99055
Decimal Latitude:	37.99055	Decim Long(OSWCR):	-121.74152
Decimal Longitude:	-121.74152		
Location:	2900 REGAL CT		
Location(OSWCR):	2900 REGAL CT		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
39	N	0.92	4,837.00	67.60	WATER WELLS

WCR No:	WCR1986-000634	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.9905556
Decimal Latitude:	37.9905556	Decim Long(OSWCR):	-121.7413889
Decimal Longitude:	-121.7413889		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		





## Wells and Additional Sources Detail Report

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR0292326                    City(OSWCR):                    None  
 City:                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319  
 Location:                    YES  
 Location(OSWCR):                    YES  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR0099096                    City(OSWCR):                    None  
 City:                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319  
 Location:                    None  
 Location(OSWCR):                    None  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR0065377                    City(OSWCR):                    None  
 City:                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319  
 Location:                    HOMES RD  
 Location(OSWCR):                    HOMES RD  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR0102935                    City(OSWCR):                    None  
 City:                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319

## Wells and Additional Sources Detail Report

Location:

Location(OSWCR): None

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR0210415

City(OSWCR): None

City:

County(OSWCR): Contra Costa

County: Contra Costa

Decimal Lat(OSWCR): 37.97603

Decimal Latitude: 37.97603

Decim Long(OSWCR): -121.72319

Decimal Longitude: -121.72319

Location: SAME

Location(OSWCR): SAME

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR0070152

City(OSWCR): None

City:

County(OSWCR): Contra Costa

County: Contra Costa

Decimal Lat(OSWCR): 37.97603

Decimal Latitude: 37.97603

Decim Long(OSWCR): -121.72319

Decimal Longitude: -121.72319

Location:

Location(OSWCR): None

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR1993-001178

City(OSWCR): OAKLEY

City: OAKLEY

County(OSWCR): Contra Costa

County: Contra Costa

Decimal Lat(OSWCR): 37.97603

Decimal Latitude: 37.97603

Decim Long(OSWCR): -121.72319

Decimal Longitude: -121.72319

Location: BOX 354-AA VINTAGE LN

Location(OSWCR): BOX 354-AA VINTAGE LN

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS



## Wells and Additional Sources Detail Report

WCR No:	WCR2009-000931	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	DYNASTY & NEROLY RDS (CORNER)		
Location(OSWCR):	DYNASTY & NEROLY RDS (CORNER)		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR1999-001485	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	3704 HOLMES RD		
Location(OSWCR):	3704 HOLMES RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR2005-004559	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	CARPENTER RD		
Location(OSWCR):	CARPENTER RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR1995-005546	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	3701 HOLMES RD		
Location(OSWCR):	3701 HOLMES RD		

## Wells and Additional Sources Detail Report

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR2005-004564	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	1400 VINTAGE DRIVE		
Location(OSWCR):	1400 VINTAGE DRIVE		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR2006-002721	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	3700 HOLMES RD		
Location(OSWCR):	3700 HOLMES RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR2005-004563	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	1451 VINTAGE DRIVE		
Location(OSWCR):	1451 VINTAGE DRIVE		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR2001-008553	City(OSWCR):	OAKLEY
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## Wells and Additional Sources Detail Report

City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR2004-002412	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	1141 LAUREL RD		
Location(OSWCR):	1141 LAUREL RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR2001-001732	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	OHARA AVE, SO KAY LN		
Location(OSWCR):	OHARA AVE, SO KAY LN		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR1982-001061	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

## Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR2005-004583      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97603  
 Decimal Latitude: 37.97603      Decim Long(OSWCR): -121.72319  
 Decimal Longitude: -121.72319  
 Location: MAGNOLIA PARK/NEROLY/BROWN RD  
 Location(OSWCR): MAGNOLIA PARK/NEROLY/BROWN RD  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR1983-001909      City(OSWCR): BRENTWOOD  
 City: BRENTWOOD      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97603  
 Decimal Latitude: 37.97603      Decim Long(OSWCR): -121.72319  
 Decimal Longitude: -121.72319  
 Location: None  
 Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR1990-004552      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97603  
 Decimal Latitude: 37.97603      Decim Long(OSWCR): -121.72319  
 Decimal Longitude: -121.72319  
 Location: 1200 KAY LN  
 Location(OSWCR): 1200 KAY LN  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR1991-010315      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97603





## Wells and Additional Sources Detail Report

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR1986-001608                    City(OSWCR):                    OAKLEY  
 City:                    OAKLEY                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319  
 Location:                    LAUREL AND HOLMES  
 Location(OSWCR):                    LAUREL AND HOLMES  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR1989-005006                    City(OSWCR):                    OAKLEY  
 City:                    OAKLEY                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319  
 Location:                      
 Location(OSWCR):                    None  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR1995-005424                    City(OSWCR):                    OAKLEY  
 City:                    OAKLEY                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319  
 Location:                    SUBDIV #7640 LOT 4 OHARA  
 Location(OSWCR):                    SUBDIV #7640 LOT 4 OHARA  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR0137349                    City(OSWCR):                    None  
 City:                                       County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319

## Wells and Additional Sources Detail Report

Location: BROWN & LOWREL RDS  
 Location(OSWCR): BROWN & LOWREL RDS  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR1998-001828	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	1451 VINTAGE DRIVE		
Location(OSWCR):	1451 VINTAGE DRIVE		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR2007-000534	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	5000 AMARYLLIS ST		
Location(OSWCR):	5000 AMARYLLIS ST		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR2003-001321	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	3800 W HOLMES RD		
Location(OSWCR):	3800 W HOLMES RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

## Wells and Additional Sources Detail Report

WCR No:	WCR1996-003625	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	1054 NEROLY RD		
Location(OSWCR):	1054 NEROLY RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR1991-002140	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	BOX 204 CYPRESS RD		
Location(OSWCR):	BOX 204 CYPRESS RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR2005-004584	City(OSWCR):	OAKLEY
City:	OAKLEY	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	MAGNOLIA PARK/NEROLY/BROWN RD		
Location(OSWCR):	MAGNOLIA PARK/NEROLY/BROWN RD		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR0256730	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:			
Location(OSWCR):	None		

# Wells and Additional Sources Detail Report

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR0301199	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR0159679	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR0249459	City(OSWCR):	None
City:		County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:	KAY LANC		
Location(OSWCR):	KAY LANC		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	WCR0157278	City(OSWCR):	None
---------	------------	--------------	------

## Wells and Additional Sources Detail Report

City:	County(OSWCR):	Contra Costa
County:	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	Decim Long(OSWCR):	-121.72319
Decimal Longitude:		
Location:		
Location(OSWCR):		None
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	City(OSWCR):	None
City:	County(OSWCR):	Contra Costa
County:	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	Decim Long(OSWCR):	-121.72319
Decimal Longitude:		
Location:	O'HARA & NEROLY RDS NORTH OF LONE TREE R	
Location(OSWCR):	O'HARA & NEROLY RDS NORTH OF LONE TREE R	
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	City(OSWCR):	OAKLEY
City:	County(OSWCR):	Contra Costa
County:	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	Decim Long(OSWCR):	-121.72319
Decimal Longitude:		
Location:	3650 EMPIRE	
Location(OSWCR):	3650 EMPIRE	
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No:	City(OSWCR):	OAKLEY
City:	County(OSWCR):	Contra Costa
County:	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	Decim Long(OSWCR):	-121.72319
Decimal Longitude:		
Location:	3530 EMPIRE AVE	
Location(OSWCR):	3530 EMPIRE AVE	
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports	



## Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR2000-002710      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97603  
 Decimal Latitude: 37.97603      Decim Long(OSWCR): -121.72319  
 Decimal Longitude: -121.72319  
 Location: 70 MERCEDES LN  
 Location(OSWCR): 70 MERCEDES LN  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR1983-001678      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97603  
 Decimal Latitude: 37.97603      Decim Long(OSWCR): -121.72319  
 Decimal Longitude: -121.72319  
 Location:  
 Location(OSWCR): None  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR1996-003126      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97603  
 Decimal Latitude: 37.97603      Decim Long(OSWCR): -121.72319  
 Decimal Longitude: -121.72319  
 Location: 1783 OHARA AVE  
 Location(OSWCR): 1783 OHARA AVE  
 Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR1984-003065      City(OSWCR): OAKLEY  
 City: OAKLEY      County(OSWCR): Contra Costa  
 County: Contra Costa      Decimal Lat(OSWCR): 37.97603



## Wells and Additional Sources Detail Report

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR2007-000758                    City(OSWCR):                    OAKLEY  
 City:                    OAKLEY                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319  
 Location:                    5301 DAFFODIL DR  
 Location(OSWCR):                    5301 DAFFODIL DR  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR2005-004605                    City(OSWCR):                    OAKLEY  
 City:                    OAKLEY                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319  
 Location:                    CARPENTER RD  
 Location(OSWCR):                    CARPENTER RD  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR2008-004016                    City(OSWCR):                    ANTIOCH  
 City:                    ANTIOCH                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319  
 Location:                    1677 O'HARA AVENUE  
 Location(OSWCR):                    1677 O'HARA AVENUE  
 Original Source:                    California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

**Map Key                    Direction                    Distance (mi)                    Distance (ft)                    Elevation (ft)                    DB**

42                    E                    0.99                    5,241.99                    94.88                    WATER WELLS

WCR No:                    WCR1985-004904                    City(OSWCR):                    OAKLEY  
 City:                    OAKLEY                    County(OSWCR):                    Contra Costa  
 County:                    Contra Costa                    Decimal Lat(OSWCR):                    37.97603  
 Decimal Latitude:                    37.97603                    Decim Long(OSWCR):                    -121.72319  
 Decimal Longitude:                    -121.72319

## Wells and Additional Sources Detail Report

Location:

Location(OSWCR): None

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR1980-000798

City(OSWCR): OAKLEY

City: OAKLEY

County(OSWCR): Contra Costa

County: Contra Costa

Decimal Lat(OSWCR): 37.97603

Decimal Latitude: 37.97603

Decim Long(OSWCR): -121.72319

Decimal Longitude: -121.72319

Location:

Location(OSWCR): None

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR2001-008484

City(OSWCR): OAKLEY

City: OAKLEY

County(OSWCR): Contra Costa

County: Contra Costa

Decimal Lat(OSWCR): 37.97603

Decimal Latitude: 37.97603

Decim Long(OSWCR): -121.72319

Decimal Longitude: -121.72319

Location: SE OF LAUREL AND EMPIRE

Location(OSWCR): SE OF LAUREL AND EMPIRE

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

WCR No: WCR0260950

City(OSWCR): None

City:

County(OSWCR): Contra Costa

County: Contra Costa

Decimal Lat(OSWCR): 37.97603

Decimal Latitude: 37.97603

Decim Long(OSWCR): -121.72319

Decimal Longitude: -121.72319

Location: O'HARA 1/4 MI SOUTH OF LAURETED

Location(OSWCR): O'HARA 1/4 MI SOUTH OF LAURETED

Original Source: California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports

<b>Map Key</b>	<b>Direction</b>	<b>Distance (mi)</b>	<b>Distance (ft)</b>	<b>Elevation (ft)</b>	<b>DB</b>
42	E	0.99	5,241.99	94.88	WATER WELLS

## Wells and Additional Sources Detail Report

WCR No:	WCR1980-003270	City(OSWCR):	BRENTWOOD
City:	BRENTWOOD	County(OSWCR):	Contra Costa
County:	Contra Costa	Decimal Lat(OSWCR):	37.97603
Decimal Latitude:	37.97603	Decim Long(OSWCR):	-121.72319
Decimal Longitude:	-121.72319		
Location:			
Location(OSWCR):	None		
Original Source:	California Department of Water Resources - OSWCR(Well Numbers); California Department of Water Resources - Well Completion Reports		

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## Radon Information

This section lists any relevant radon information found for the target property.

Federal EPA Radon Zone for *CONTRA COSTA* County: **2**

*Zone 1: Counties with predicted average indoor radon screening levels greater than 4 pCi/L*

*Zone 2: Counties with predicted average indoor radon screening levels from 2 to 4 pCi/L*

*Zone 3: Counties with predicted average indoor radon screening levels less than 2 pCi/L*

---

Federal Area Radon Information for *CONTRA COSTA* County

No Measures/Homes:	60
Geometric Mean:	0.4
Arithmetic Mean:	0.8
Median:	0.7
Standard Deviation:	0.9
Maximum:	4
% >4 pCi/L:	0
% >20 pCi/L:	0
Notes on Data Table:	

TABLE 1. Screening indoor radon data from the EPA/State Residential Radon Survey of California conducted during 1989-90. Data represent 2-7 day charcoal canister measurements from the lowest level of each home tested.

## Federal Sources

### FEMA National Flood Hazard Layer

FEMA FLOOD

The National Flood Hazard Layer (NFHL) data incorporates Flood Insurance Rate Map (FIRM) databases published by the Federal Emergency Management Agency (FEMA), and any Letters Of Map Revision (LOMRs) that have been issued against those databases since their publication date. The FIRM Database is the digital, geospatial version of the flood hazard information shown on the published paper FIRMs. The FIRM Database depicts flood risk information and supporting data used to develop the risk data. The FIRM Database is derived from Flood Insurance Studies (FISs), previously published FIRMs, flood hazard analyses performed in support of the FISs and FIRMs, and new mapping data, where available.

### Indoor Radon Data

INDOOR RADON

Indoor radon measurements tracked by the Environmental Protection Agency(EPA) and the State Residential Radon Survey.

### Public Water Systems Violations and Enforcement Data

PWSV

List of drinking water violations and enforcement actions from the Safe Drinking Water Information System (SDWIS) made available by the Drinking Water Protection Division of the US EPA's Office of Groundwater and Drinking Water. Enforcement sensitive actions are not included in the data released by the EPA. Address information provided in SWDIS may correspond either with the physical location of the water system, or with a contact address.

### Radon Zone Level

RADON ZONE

Areas showing the level of Radon Zones (level 1, 2 or 3) by county. This data is maintained by the Environmental Protection Agency (EPA).

### Safe Drinking Water Information System (SDWIS)

SDWIS

The Safe Drinking Water Information System (SDWIS) contains information about public water systems as reported to US Environmental Protection Agency (EPA) by the states. Addresses may correspond with the location of the water system, or with a contact address.

### Soil Survey Geographic database

SSURGO

The Soil Survey Geographic database (SSURGO) contains information about soil as collected by the National Cooperative Soil Survey at the Natural Resources Conservation Service (NRCS). Soil maps outline areas called map units. The map units are linked to soil properties in a database. Each map unit may contain one to three major components and some minor components.

### U.S. Fish & Wildlife Service Wetland Data

US WETLAND

The U.S. Fish & Wildlife Service Wetland layer represents the approximate location and type of wetlands and deepwater habitats in the United States.

### USGS Current Topo

US TOPO

US Topo topographic maps are produced by the National Geospatial Program of the U.S. Geological Survey (USGS). The project was launched in late 2009, and the term "US Topo" refers specifically to quadrangle topographic maps published in 2009 and later.

### USGS Geology

US GEOLOGY

Seamless maps depicting geological information provided by the United States Geological Survey (USGS).

### USGS National Water Information System

FED USGS

The U.S. Geological Survey (USGS)'s National Water Information System (NWIS) is the nation's principal repository of water resources data. This database includes comprehensive information of well-construction details, time-series data for gage height, streamflow, groundwater level, and precipitation and water use data.

## State Sources

### Oil and Gas Wells

OGW

A list of Oil and Gas well locations. This is provided by California's Department of Conservation Division of

## Appendix

Oil, Gas and Geothermal Resources.

### **Periodic Groundwater Level Measurement Locations**

Locations of groundwater level monitoring wells in the Department of Water Resources (DWR)'s Periodic Groundwater Levels dataset. The DWR Periodic Groundwater Levels dataset contains seasonal and long-term groundwater level measurements collected by the Department of Water Resources and cooperating agencies.

**MONITOR WELLS**

### **Well Completion Reports**

List of wells from the Well Completion Reports data made available by the California Department of Water Resources' (DWR) Online System for Well Completion Reports (OSWCR). Please note that the majority of well completion reports have been spatially registered to the center of the 1x1 mile Public Land Survey System section that the well is located in.

**WATER WELLS**

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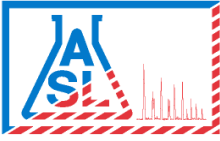
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# **Analytical Results**

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**AMERICAN SCIENTIFIC LABORATORIES, LLC**  
***Environmental Testing Services***

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

12 July 2022

Jennifer Woods

Apex Companies, LLC Pleasant Hill

2480 Buskirk Ave. Ste 210

Pleasant Hill, CA 94523

**Work Order #: 2206025**

**Project Name: Vacant Land**

**Project ID: [none]**

**Site Address: Laurel Road Antioch, CA**

Enclosed are the results of analyses for samples received by the laboratory on June 24, 2022. If you have any questions concerning this report, please feel free to contact us.

**Molky Brar**

**Laboratory Director**

American Scientific Laboratories, LLC (ASL) accepts sample materials from clients for analysis with the assumption that all of the information provided to ASL verbally or in writing by our clients (and/or their agents), regarding samples being submitted to ASL, is complete and accurate. ASL accepts all samples subject to the following conditions:

- 1) ASL is not responsible for verifying any client-provided information regarding any samples submitted to the laboratory.
- 2) ASL is not responsible for any consequences resulting from any inaccuracies, omissions, or misrepresentations contained in client-provided information regarding samples submitted to the laboratory.





Job# 2206025

## ASL Sample Receipt Form

Client: Apex Companies LLC - Pleasant Hill

Date: 6-24-2022

### Sample Information:

Temperature: 5.3 °C IR Gun # 1

Blank  Sample

Custody Seal:

Yes  No  Not Available

Received Within Holding Time:

Yes  No

### Container:

Proper Containers and Sufficient Volume:

Yes  No

Soil:  4oz  8oz  Sleeve  VOA

Water:  500AG  1AG  125PB  250PB  500PB  VOA  Other

Air:  Tedlar®

Sample Containers Intact:

Yes  No

Trip Blank

Yes  No

### Chain-of-Custody (COC):

Received:

Yes  No

Samplers Name:

Yes  No

Container Labels match COC:

Yes  No

COC documents received complete:

Yes  No

Proper Preservation Noted:

Yes  No

No preservation

Completed By: Janet Chin



AMERICAN SCIENTIFIC LABORATORIES, LLC

*Environmental Testing Services*

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Project:  
Project Number:  
Project Manager:

Work Order No:  
**Reported:**

**ANALYTICAL SUMMARY REPORT**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
-----------	---------------	--------	--------------	---------------

**CASE NARRATIVE**

Samples were subcontracted to Pace Analytical (BC Laboratories).

DRAFT

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Amolk Brar, Lab Director



Date of Report: 07/11/2022

Molky Brar

American Scientific Laboratories  
2520 North San Fernando  
Los Angeles, CA 90065

Client Project: 2206025  
BCL Project: Solid  
BCL Work Order: 2214820  
Invoice ID: B452410

Enclosed are the results of analyses for samples received by the laboratory on 6/27/2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval  
Client Service Rep

Stuart Buttram  
Operations Manager

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*  
All results listed in this report are for the exclusive use of the submitting party. Pace Analytical assumes no responsibility for report alteration, separation, detachment or third party interpretation.





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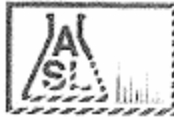
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AMERICAN SCIENTIFIC LABORATORIES, LLC  
Environmental Testing Services  
2520 N. San Fernando Road, LA, CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

**SUBCONTRACT ORDER**

American Scientific Laboratories

2206025


22-14820

**SENDING LABORATORY:**

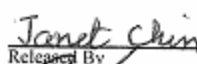

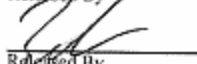

American Scientific Laboratories  
2520 N San Fernando Road  
Los Angeles, CA 90065  
Phone: (323) 223-9700  
Fax: (323) 223-9500  
Project Manager: Amolk Brar

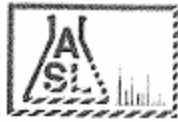
**RECEIVING LABORATORY:**

BC Laboratories, Inc.  
4100 Atlas Court  
Bakersfield, CA 93308  
Phone: (661) 327-4911  
Fax:

CHK BY	DISTRIBUTION
	<input checked="" type="checkbox"/> SUB IN <input type="checkbox"/> SUB OUT

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 2206025-01 <sup>1</sup>	Solid	Sampled:06/23/2022 11:00	[REDACTED]	
8081A Pesticides	07/01/2022 16:00	07/07/2022 11:00		
Containers Supplied:				
Sample ID: 2206025-02 <sup>2</sup>	Solid	Sampled:06/23/2022 11:30	[REDACTED]	
8081A Pesticides	07/01/2022 16:00	07/07/2022 11:30		
Containers Supplied:				
Sample ID: 2206025-03 <sup>3</sup>	Solid	Sampled:06/23/2022 11:47	[REDACTED]	
8081A Pesticides	07/01/2022 16:00	07/07/2022 11:47		
Containers Supplied:				
Sample ID: 2206025-04 <sup>4</sup>	Solid	Sampled:06/23/2022 12:00	[REDACTED]	
8081A Pesticides	07/01/2022 16:00	07/07/2022 12:00		
Containers Supplied:				
Sample ID: 2206025-05 <sup>5</sup>	Solid	Sampled:06/23/2022 12:17	[REDACTED]	
8081A Pesticides	07/01/2022 16:00	07/07/2022 12:17		
Containers Supplied:				

Released By: 	Date: 6-27-22 1825	Received By: 	Date: 6/27/22 1825
Released By: 	Date: 6/27/22 1830	Received By: 	Date: 6/27/22 1830



AMERICAN SCIENTIFIC LABORATORIES, LLC  
Environmental Testing Services  
2520 N. San Fernando Road, LA, CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

**SUBCONTRACT ORDER**

American Scientific Laboratories  
2206025

22-14820

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 2206025-06	-4 Solid	Sampled: 06/23/2022 12:35	[REDACTED]	
8081A Pesticides	07/01/2022 16:00	07/07/2022 12:35		
Containers Supplied:				

DRAFT

Released By	<u>Janet Chin</u>	Date	<u>6-27-22</u>	1325	Received By	<u>Zack</u>	Date	<u>6/27/22</u>	1325
Released By	<u>[Signature]</u>	Date	<u>6/27/22</u>	1830	Received By	<u>Zonia Castell</u>	Date	<u>6/27/22</u>	1830

PACE ANALYTICAL		COOLER RECEIPT FORM		Page <u>1</u> Of <u>1</u>								
Submission #: <u>22-14820</u>												
SHIPPING INFORMATION Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> GSO / GLS <input type="checkbox"/> Hand Delivery <input type="checkbox"/> Pace Lab Field Service <input checked="" type="checkbox"/> Other <input type="checkbox"/> (Specify) _____			SHIPPING CONTAINER Ice Chest <input checked="" type="checkbox"/> None <input type="checkbox"/> Box <input type="checkbox"/> Other <input type="checkbox"/> (Specify) _____		FREE LIQUID YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> (W) S							
Refrigerant: Ice <input checked="" type="checkbox"/> Blue Ice <input type="checkbox"/> None <input type="checkbox"/> Other <input type="checkbox"/> Comments: _____												
Custody Seals Ice Chest <input type="checkbox"/> Containers <input type="checkbox"/> None <input checked="" type="checkbox"/> Comments: _____												
All samples received? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All samples containers intact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Description(s) match COC? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>												
COC Received <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Emissivity: <u>0.98</u> Container: <u>Alu</u> Thermometer ID: <u>274</u>		Date/Time <u>6/27/22 1830</u>								
		Temperature: (A) <u>5.6</u> °C / (C) <u>5.8</u> °C		Analyst Init <u>PRE</u>								
SAMPLE CONTAINERS			SAMPLE NUMBERS									
			1	2	3	4	5	6	7	8	9	10
QT PE UNPRES												
4oz / 8oz / 16oz PE UNPRES												
2oz Cr <sup>6</sup>												
QT INORGANIC CHEMICAL METALS												
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz												
PT CYANIDE												
PT NITROGEN FORMS												
PT TOTAL SULFIDE												
2oz NITRATE / NITRITE												
PT TOTAL ORGANIC CARBON												
PT CHEMICAL OXYGEN DEMAND												
P1A PHENOLICS												
40ml VOA VIAL TRAVEL BLANK												
40ml VOA VIAL												
QT EPA 1664B												
PT ODOR												
RADIOLOGICAL												
BACTERIOLOGICAL												
40 ml VOA VIAL- SM												
QT EPA 505/505.3/5051A												
QT EPA 515.1/5151A												
QT EPA 525.2												
QT EPA 525.2 TRAVEL BLANK												
40ml EPA 547												
40ml EPA 531.1												
8oz EPA 548.1												
QT EPA 549.2												
QT EPA 801.5M												
QT EPA 8270C												
8oz / 16oz / 32oz AMBER												
8oz / 16oz / 32oz JAR			A	A	A	A	A	A				
SOIL SLEEVE												
PCB VIAL												
PLASTIC BAG												
TEDLAR BAG												
FERROUS IRON												
ENCORE												
SMART KIT												
SUMMA CANISTER												

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: PRE Date/Time: 6/27/22 2120  
 A = Actual / C = Corrected

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American Scientific Laboratories  
 2520 North San Fernando  
 Los Angeles, CA 90065

**Reported:** 07/11/2022 10:48  
 Project: Solid  
 Project Number: 2206025  
 Project Manager: Molky Brar

## Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2214820-01	<b>COC Number:</b> --- <b>Project Number:</b> --- <b>Sampling Location:</b> --- <b>Sampling Point:</b> 2206025-01 <b>Sampled By:</b> ---	<b>Receive Date:</b> 06/27/2022 18:30 <b>Sampling Date:</b> 06/23/2022 11:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Solids <b>Sample Type:</b> Soil		
2214820-02	<b>COC Number:</b> --- <b>Project Number:</b> --- <b>Sampling Location:</b> --- <b>Sampling Point:</b> 2206025-02 <b>Sampled By:</b> ---	<b>Receive Date:</b> 06/27/2022 18:30 <b>Sampling Date:</b> 06/23/2022 11:30 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Solids <b>Sample Type:</b> Soil		
2214820-03	<b>COC Number:</b> --- <b>Project Number:</b> --- <b>Sampling Location:</b> --- <b>Sampling Point:</b> 2206025-03 <b>Sampled By:</b> ---	<b>Receive Date:</b> 06/27/2022 18:30 <b>Sampling Date:</b> 06/23/2022 11:47 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Solids <b>Sample Type:</b> Soil		
2214820-04	<b>COC Number:</b> --- <b>Project Number:</b> --- <b>Sampling Location:</b> --- <b>Sampling Point:</b> 2206025-04 <b>Sampled By:</b> ---	<b>Receive Date:</b> 06/27/2022 18:30 <b>Sampling Date:</b> 06/23/2022 12:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Solids <b>Sample Type:</b> Soil		
2214820-05	<b>COC Number:</b> --- <b>Project Number:</b> --- <b>Sampling Location:</b> --- <b>Sampling Point:</b> 2206025-05 <b>Sampled By:</b> ---	<b>Receive Date:</b> 06/27/2022 18:30 <b>Sampling Date:</b> 06/23/2022 12:17 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Solids <b>Sample Type:</b> Soil		
2214820-06	<b>COC Number:</b> --- <b>Project Number:</b> --- <b>Sampling Location:</b> --- <b>Sampling Point:</b> 2206025-06 <b>Sampled By:</b> ---	<b>Receive Date:</b> 06/27/2022 18:30 <b>Sampling Date:</b> 06/23/2022 12:35 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Solids <b>Sample Type:</b> Soil		

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American Scientific Laboratories  
 2520 North San Fernando  
 Los Angeles, CA 90065

Reported: 07/11/2022 10:48  
 Project: Solid  
 Project Number: 2206025  
 Project Manager: Molky Brar

## Organochlorine Pesticides (EPA Method 8081A)

**BCL Sample ID:** 2214820-01      **Client Sample Name:** 2206025-01, 6/23/2022 11:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Aldrin	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
alpha-BHC	ND	mg/kg	0.00050	0.000038	EPA-8081A	ND		1
beta-BHC	ND	mg/kg	0.00050	0.000048	EPA-8081A	ND		1
delta-BHC	ND	mg/kg	0.00050	0.000037	EPA-8081A	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Chlordane (Technical)	ND	mg/kg	0.050	0.0010	EPA-8081A	ND		1
4,4'-DDD	ND	mg/kg	0.00050	0.000064	EPA-8081A	ND		1
<b>4,4'-DDE</b>	<b>0.0014</b>	<b>mg/kg</b>	<b>0.00050</b>	<b>0.000095</b>	<b>EPA-8081A</b>	ND		1
<b>4,4'-DDT</b>	<b>0.00037</b>	<b>mg/kg</b>	<b>0.00050</b>	<b>0.000040</b>	<b>EPA-8081A</b>	ND	J	1
Dieldrin	ND	mg/kg	0.00050	0.000036	EPA-8081A	ND		1
Endosulfan I	ND	mg/kg	0.00050	0.000020	EPA-8081A	ND		1
Endosulfan II	ND	mg/kg	0.00050	0.000034	EPA-8081A	ND		1
Endosulfan sulfate	ND	mg/kg	0.00050	0.000026	EPA-8081A	ND		1
Endrin	ND	mg/kg	0.00050	0.000065	EPA-8081A	ND		1
Endrin aldehyde	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Heptachlor	ND	mg/kg	0.00050	0.000086	EPA-8081A	ND		1
Heptachlor epoxide	ND	mg/kg	0.00050	0.000017	EPA-8081A	ND		1
Methoxychlor	ND	mg/kg	0.00050	0.000094	EPA-8081A	ND		1
Toxaphene	ND	mg/kg	0.050	0.0014	EPA-8081A	ND		1
TCMX (Surrogate)	78.3	%	20 - 130 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)	89.5	%	40 - 130 (LCL - UCL)		EPA-8081A			1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-8081A	07/01/22 10:30	07/08/22 03:08	HKS	GC-17	0.997	B143595	EPA 3550B

DCN = Data Continuation Number

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 2520 North San Fernando  
 Los Angeles, CA 90065

Reported: 07/11/2022 10:48  
 Project: Solid  
 Project Number: 2206025  
 Project Manager: Molky Brar

## Organochlorine Pesticides (EPA Method 8081A)

BCL Sample ID: 2214820-02	Client Sample Name: 2206025-02, 6/23/2022 11:30:00AM
---------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Aldrin	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
alpha-BHC	ND	mg/kg	0.00050	0.000038	EPA-8081A	ND		1
beta-BHC	ND	mg/kg	0.00050	0.000048	EPA-8081A	ND		1
delta-BHC	ND	mg/kg	0.00050	0.000037	EPA-8081A	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Chlordane (Technical)	ND	mg/kg	0.050	0.0010	EPA-8081A	ND		1
4,4'-DDD	ND	mg/kg	0.00050	0.000064	EPA-8081A	ND		1
<b>4,4'-DDE</b>	<b>0.00017</b>	mg/kg	<b>0.00050</b>	<b>0.000095</b>	<b>EPA-8081A</b>	ND	J	1
4,4'-DDT	ND	mg/kg	0.00050	0.000040	EPA-8081A	ND		1
Dieldrin	ND	mg/kg	0.00050	0.000036	EPA-8081A	ND		1
Endosulfan I	ND	mg/kg	0.00050	0.000020	EPA-8081A	ND		1
Endosulfan II	ND	mg/kg	0.00050	0.000034	EPA-8081A	ND		1
Endosulfan sulfate	ND	mg/kg	0.00050	0.000026	EPA-8081A	ND		1
Endrin	ND	mg/kg	0.00050	0.000065	EPA-8081A	ND		1
Endrin aldehyde	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Heptachlor	ND	mg/kg	0.00050	0.000086	EPA-8081A	ND		1
Heptachlor epoxide	ND	mg/kg	0.00050	0.000017	EPA-8081A	ND		1
Methoxychlor	ND	mg/kg	0.00050	0.000094	EPA-8081A	ND		1
Toxaphene	ND	mg/kg	0.050	0.0014	EPA-8081A	ND		1
TCMX (Surrogate)	87.3	%	20 - 130 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)	91.7	%	40 - 130 (LCL - UCL)		EPA-8081A			1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-8081A	07/01/22 10:30	07/08/22 03:25	HKS	GC-17	1.010	B143595	EPA 3550B

DCN = Data Continuation Number



American Scientific Laboratories  
 2520 North San Fernando  
 Los Angeles, CA 90065

Reported: 07/11/2022 10:48  
 Project: Solid  
 Project Number: 2206025  
 Project Manager: Molky Brar

## Organochlorine Pesticides (EPA Method 8081A)

BCL Sample ID: 2214820-03	Client Sample Name: 2206025-03, 6/23/2022 11:47:00AM
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Aldrin	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
alpha-BHC	ND	mg/kg	0.00050	0.000038	EPA-8081A	ND		1
beta-BHC	ND	mg/kg	0.00050	0.000048	EPA-8081A	ND		1
delta-BHC	ND	mg/kg	0.00050	0.000037	EPA-8081A	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Chlordane (Technical)	ND	mg/kg	0.050	0.0010	EPA-8081A	ND		1
4,4'-DDD	0.00017	mg/kg	0.00050	0.000064	EPA-8081A	ND	J	1
4,4'-DDE	0.0023	mg/kg	0.00050	0.000095	EPA-8081A	ND		1
4,4'-DDT	0.00048	mg/kg	0.00050	0.000040	EPA-8081A	ND	J	1
Dieldrin	ND	mg/kg	0.00050	0.000036	EPA-8081A	ND		1
Endosulfan I	ND	mg/kg	0.00050	0.000020	EPA-8081A	ND		1
Endosulfan II	ND	mg/kg	0.00050	0.000034	EPA-8081A	ND		1
Endosulfan sulfate	ND	mg/kg	0.00050	0.000026	EPA-8081A	ND		1
Endrin	ND	mg/kg	0.00050	0.000065	EPA-8081A	ND		1
Endrin aldehyde	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Heptachlor	ND	mg/kg	0.00050	0.000086	EPA-8081A	ND		1
Heptachlor epoxide	ND	mg/kg	0.00050	0.000017	EPA-8081A	ND		1
Methoxychlor	ND	mg/kg	0.00050	0.000094	EPA-8081A	ND		1
Toxaphene	ND	mg/kg	0.050	0.0014	EPA-8081A	ND		1
TCMX (Surrogate)	78.5	%	20 - 130 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)	82.1	%	40 - 130 (LCL - UCL)		EPA-8081A			1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-8081A	07/01/22 10:30	07/08/22 03:41	HKS	GC-17	1	B143595	EPA 3550B

DCN = Data Continuation Number



American Scientific Laboratories  
 2520 North San Fernando  
 Los Angeles, CA 90065

Reported: 07/11/2022 10:48  
 Project: Solid  
 Project Number: 2206025  
 Project Manager: Molky Brar

## Organochlorine Pesticides (EPA Method 8081A)

**BCL Sample ID:** 2214820-04      **Client Sample Name:** 2206025-04, 6/23/2022 12:00:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Aldrin	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
alpha-BHC	ND	mg/kg	0.00050	0.000038	EPA-8081A	ND		1
beta-BHC	ND	mg/kg	0.00050	0.000048	EPA-8081A	ND		1
delta-BHC	ND	mg/kg	0.00050	0.000037	EPA-8081A	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Chlordane (Technical)	ND	mg/kg	0.050	0.0010	EPA-8081A	ND		1
4,4'-DDD	ND	mg/kg	0.00050	0.000064	EPA-8081A	ND		1
4,4'-DDE	ND	mg/kg	0.00050	0.000095	EPA-8081A	ND		1
4,4'-DDT	ND	mg/kg	0.00050	0.000040	EPA-8081A	ND		1
Dieldrin	ND	mg/kg	0.00050	0.000036	EPA-8081A	ND		1
Endosulfan I	ND	mg/kg	0.00050	0.000020	EPA-8081A	ND		1
Endosulfan II	ND	mg/kg	0.00050	0.000034	EPA-8081A	ND		1
Endosulfan sulfate	ND	mg/kg	0.00050	0.000026	EPA-8081A	ND		1
Endrin	ND	mg/kg	0.00050	0.000065	EPA-8081A	ND		1
Endrin aldehyde	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Heptachlor	ND	mg/kg	0.00050	0.000086	EPA-8081A	ND		1
Heptachlor epoxide	ND	mg/kg	0.00050	0.000017	EPA-8081A	ND		1
Methoxychlor	ND	mg/kg	0.00050	0.000094	EPA-8081A	ND		1
Toxaphene	ND	mg/kg	0.050	0.0014	EPA-8081A	ND		1
TCMX (Surrogate)	78.4	%	20 - 130 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)	79.6	%	40 - 130 (LCL - UCL)		EPA-8081A			1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-8081A	07/01/22 10:30	07/08/22 03:58	HKS	GC-17	0.984	B143595	EPA 3550B

DCN = Data Continuation Number

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American Scientific Laboratories  
 2520 North San Fernando  
 Los Angeles, CA 90065

Reported: 07/11/2022 10:48  
 Project: Solid  
 Project Number: 2206025  
 Project Manager: Molky Brar

## Organochlorine Pesticides (EPA Method 8081A)

**BCL Sample ID:** 2214820-05      **Client Sample Name:** 2206025-05, 6/23/2022 12:17:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Aldrin	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
alpha-BHC	ND	mg/kg	0.00050	0.000038	EPA-8081A	ND		1
beta-BHC	ND	mg/kg	0.00050	0.000048	EPA-8081A	ND		1
delta-BHC	ND	mg/kg	0.00050	0.000037	EPA-8081A	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Chlordane (Technical)	ND	mg/kg	0.050	0.0010	EPA-8081A	ND		1
4,4'-DDD	ND	mg/kg	0.00050	0.000064	EPA-8081A	ND		1
4,4'-DDE	ND	mg/kg	0.00050	0.000095	EPA-8081A	ND		1
4,4'-DDT	ND	mg/kg	0.00050	0.000040	EPA-8081A	ND		1
Dieldrin	ND	mg/kg	0.00050	0.000036	EPA-8081A	ND		1
Endosulfan I	ND	mg/kg	0.00050	0.000020	EPA-8081A	ND		1
Endosulfan II	ND	mg/kg	0.00050	0.000034	EPA-8081A	ND		1
Endosulfan sulfate	ND	mg/kg	0.00050	0.000026	EPA-8081A	ND		1
Endrin	ND	mg/kg	0.00050	0.000065	EPA-8081A	ND		1
Endrin aldehyde	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Heptachlor	ND	mg/kg	0.00050	0.000086	EPA-8081A	ND		1
Heptachlor epoxide	ND	mg/kg	0.00050	0.000017	EPA-8081A	ND		1
Methoxychlor	ND	mg/kg	0.00050	0.000094	EPA-8081A	ND		1
Toxaphene	ND	mg/kg	0.050	0.0014	EPA-8081A	ND		1
TCMX (Surrogate)	86.4	%	20 - 130 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)	91.6	%	40 - 130 (LCL - UCL)		EPA-8081A			1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-8081A	07/01/22 10:30	07/08/22 05:20	HKS	GC-17	1.007	B143595	EPA 3550B

DCN = Data Continuation Number





American Scientific Laboratories  
 2520 North San Fernando  
 Los Angeles, CA 90065

Reported: 07/11/2022 10:48  
 Project: Solid  
 Project Number: 2206025  
 Project Manager: Molky Brar

## Organochlorine Pesticides (EPA Method 8081A)

**BCL Sample ID:** 2214820-06      **Client Sample Name:** 2206025-06, 6/23/2022 12:35:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Aldrin	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
alpha-BHC	ND	mg/kg	0.00050	0.000038	EPA-8081A	ND		1
beta-BHC	ND	mg/kg	0.00050	0.000048	EPA-8081A	ND		1
delta-BHC	ND	mg/kg	0.00050	0.000037	EPA-8081A	ND		1
gamma-BHC (Lindane)	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Chlordane (Technical)	ND	mg/kg	0.050	0.0010	EPA-8081A	ND		1
4,4'-DDD	ND	mg/kg	0.00050	0.000064	EPA-8081A	ND		1
4,4'-DDE	ND	mg/kg	0.00050	0.000095	EPA-8081A	ND		1
4,4'-DDT	ND	mg/kg	0.00050	0.000040	EPA-8081A	ND		1
Dieldrin	ND	mg/kg	0.00050	0.000036	EPA-8081A	ND		1
Endosulfan I	ND	mg/kg	0.00050	0.000020	EPA-8081A	ND		1
Endosulfan II	ND	mg/kg	0.00050	0.000034	EPA-8081A	ND		1
Endosulfan sulfate	ND	mg/kg	0.00050	0.000026	EPA-8081A	ND		1
Endrin	ND	mg/kg	0.00050	0.000065	EPA-8081A	ND		1
Endrin aldehyde	ND	mg/kg	0.00050	0.000018	EPA-8081A	ND		1
Heptachlor	ND	mg/kg	0.00050	0.000086	EPA-8081A	ND		1
Heptachlor epoxide	ND	mg/kg	0.00050	0.000017	EPA-8081A	ND		1
Methoxychlor	ND	mg/kg	0.00050	0.000094	EPA-8081A	ND		1
Toxaphene	ND	mg/kg	0.050	0.0014	EPA-8081A	ND		1
TCMX (Surrogate)	80.0	%	20 - 130 (LCL - UCL)		EPA-8081A			1
Decachlorobiphenyl (Surrogate)	86.8	%	40 - 130 (LCL - UCL)		EPA-8081A			1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-8081A	07/01/22 10:30	07/08/22 05:37	HKS	GC-17	1.010	B143595	EPA 3550B

DCN = Data Continuation Number

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American Scientific Laboratories  
 2520 North San Fernando  
 Los Angeles, CA 90065

Reported: 07/11/2022 10:48  
 Project: Solid  
 Project Number: 2206025  
 Project Manager: Molky Brar

## Organochlorine Pesticides (EPA Method 8081A)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B143595</b>						
Aldrin	B143595-BLK1	ND	mg/kg	0.00050	0.000018	
alpha-BHC	B143595-BLK1	ND	mg/kg	0.00050	0.000038	
beta-BHC	B143595-BLK1	ND	mg/kg	0.00050	0.000048	
delta-BHC	B143595-BLK1	ND	mg/kg	0.00050	0.000037	
gamma-BHC (Lindane)	B143595-BLK1	ND	mg/kg	0.00050	0.000018	
Chlordane (Technical)	B143595-BLK1	ND	mg/kg	0.050	0.0010	
4,4'-DDD	B143595-BLK1	ND	mg/kg	0.00050	0.000064	
4,4'-DDE	B143595-BLK1	ND	mg/kg	0.00050	0.000095	
4,4'-DDT	B143595-BLK1	ND	mg/kg	0.00050	0.000040	
Dieldrin	B143595-BLK1	ND	mg/kg	0.00050	0.000036	
Endosulfan I	B143595-BLK1	ND	mg/kg	0.00050	0.000020	
Endosulfan II	B143595-BLK1	ND	mg/kg	0.00050	0.000034	
Endosulfan sulfate	B143595-BLK1	ND	mg/kg	0.00050	0.000026	
Endrin	B143595-BLK1	ND	mg/kg	0.00050	0.000065	
Endrin aldehyde	B143595-BLK1	ND	mg/kg	0.00050	0.000018	
Heptachlor	B143595-BLK1	ND	mg/kg	0.00050	0.000086	
Heptachlor epoxide	B143595-BLK1	ND	mg/kg	0.00050	0.000017	
Methoxychlor	B143595-BLK1	ND	mg/kg	0.00050	0.000094	
Toxaphene	B143595-BLK1	ND	mg/kg	0.050	0.0014	
<b>TCMX (Surrogate)</b>	<b>B143595-BLK1</b>	<b>95.6</b>	<b>%</b>	<b>20 - 130 (LCL - UCL)</b>		
<b>Decachlorobiphenyl (Surrogate)</b>	<b>B143595-BLK1</b>	<b>99.5</b>	<b>%</b>	<b>40 - 130 (LCL - UCL)</b>		

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## Organochlorine Pesticides (EPA Method 8081A)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B143595</b>										
Aldrin	B143595-BS1	LCS	0.0042692	0.0049669	mg/kg	86.0		70 - 130		
gamma-BHC (Lindane)	B143595-BS1	LCS	0.0046738	0.0049669	mg/kg	94.1		60 - 140		
4,4'-DDT	B143595-BS1	LCS	0.0049311	0.0049669	mg/kg	99.3		60 - 140		
Dieldrin	B143595-BS1	LCS	0.0044887	0.0049669	mg/kg	90.4		70 - 130		
Endrin	B143595-BS1	LCS	0.0050599	0.0049669	mg/kg	102		60 - 140		
Heptachlor	B143595-BS1	LCS	0.0045738	0.0049669	mg/kg	92.1		60 - 140		
TCMX (Surrogate)	B143595-BS1	LCS	0.0089868	0.0099338	mg/kg	90.5		20 - 130		
Decachlorobiphenyl (Surrogate)	B143595-BS1	LCS	0.019298	0.019868	mg/kg	97.1		40 - 130		

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## Organochlorine Pesticides (EPA Method 8081A)

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab Quals
									RPD	Percent Recovery	
<b>QC Batch ID: B143595</b>		Used client sample: N									
Aldrin	MS	2214767-01	ND	0.0034851	0.0049669	mg/kg		70.2		50 - 140	
	MSD	2214767-01	ND	0.0026625	0.0050676	mg/kg	26.8	52.5	30	50 - 140	
gamma-BHC (Lindane)	MS	2214767-01	ND	0.00099702	0.0049669	mg/kg		20.1		50 - 140	Q03
	MSD	2214767-01	ND	0.0016527	0.0050676	mg/kg	49.5	32.6	30	50 - 140	Q02, Q03
4,4'-DDT	MS	2214767-01	0.0041023	0.0023467	0.0049669	mg/kg		-35.3		50 - 140	Q03
	MSD	2214767-01	0.0041023	0.0024824	0.0050676	mg/kg	5.6	-32.0	30	50 - 140	Q03
Dieldrin	MS	2214767-01	0.00023597	0.0021944	0.0049669	mg/kg		39.4		40 - 140	Q03
	MSD	2214767-01	0.00023597	0.0023270	0.0050676	mg/kg	5.9	41.3	30	40 - 140	
Endrin	MS	2214767-01	ND	0.0025152	0.0049669	mg/kg		50.6		50 - 150	
	MSD	2214767-01	ND	0.0026905	0.0050676	mg/kg	6.7	53.1	30	50 - 150	
Heptachlor	MS	2214767-01	ND	0.0025500	0.0049669	mg/kg		51.3		60 - 140	Q03
	MSD	2214767-01	ND	0.0029720	0.0050676	mg/kg	15.3	58.6	30	60 - 140	Q03
TCMX (Surrogate)	MS	2214767-01	ND	0.0037430	0.0099338	mg/kg		37.7		20 - 130	
	MSD	2214767-01	ND	0.0042912	0.010135	mg/kg	13.6	42.3		20 - 130	
Decachlorobiphenyl (Surrogate)	MS	2214767-01	ND	0.0094844	0.019868	mg/kg		47.7		40 - 130	
	MSD	2214767-01	ND	0.0095007	0.020270	mg/kg	0.2	46.9		40 - 130	

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**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- Q02 Matrix spike precision is not within the control limits.
- Q03 Matrix spike recovery(s) was(were) not within the control limits.

DRAFT